



Teacher Turnover in the United States

Who Moves, Who Leaves, and Why

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Acknowledgments

The authors thank our Learning Policy Institute (LPI) colleagues Linda Darling-Hammond, María Virginia Giani, Tara Kini, Stacy Loewe, and Charlie Thompson for their contributions to and review of our report. This report is made possible due to access to data and reviews from the U.S. Department of Education's National Center for Education Statistics. In addition, we thank the members of the LPI Communications team for their invaluable support in designing, producing, and disseminating this report.

Core operating support for LPI is provided by the Heising-Simons Foundation, William and Flora Hewlett Foundation, Raikes Foundation, Sandler Foundation, Skyline Foundation, and MacKenzie Scott. We are grateful to them for their generous support. The ideas voiced here are those of the authors and not those of our funders.

External Reviewers

This report benefited from the insights and expertise of two external reviewers: Helen (Sunny) F. Ladd, Professor Emerita at Duke University, and Kevin C. Bastian, Research Associate Professor at University of North Carolina at Chapel Hill. We thank them for the care and attention they gave the report.

Suggested citation: Tan, T., Wei, W., Carver-Thomas, D., & García, E. (2026). *Teacher turnover in the United States: Who moves, who leaves, and why*. Learning Policy Institute. <https://doi.org/10.54300/248.479>

This report can be found online at <https://learningpolicyinstitute.org/product/teacher-turnover-united-states>.

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Document last revised March 13, 2026

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Executive Summary

Teacher turnover remains a persistent challenge in the United States, straining schools; disrupting student learning; and undermining efforts to build a strong, stable, and diverse teacher workforce. Every school year, about 1 in 7 public school teachers moves schools or leaves the profession—a higher turnover rate than in the 1990s and in leading international education systems. When high turnover is paired with dwindling numbers of teachers entering the profession, schools face staffing challenges and unfilled teaching positions. Some schools then resort to hiring teachers who are not fully certified or increasing class sizes.

Research shows that these staffing challenges can leave remaining teachers overworked, with reduced time for planning, and are a source of job-related stress. These staffing challenges, more frequent in schools with larger shares of students of color and students from low-income backgrounds, diminish the overall quality of the education students receive and can also make it harder to retain teachers, fueling a cycle that is difficult to break. Teacher turnover is also costly, as replacing a teacher can cost approximately \$25,000 in a large district on average (in 2024 dollars), diverting resources away from investments that could benefit students and teachers.

This report describes the state of teacher turnover in the United States and examines individual- and school-level factors associated with turnover. It uses the most recent national-level data of public school teachers from the National Center for Education Statistics' National Teacher and Principal Survey (2020–21) and Teacher Follow-Up Survey (2021–22) to provide estimates of turnover across all teachers and by key teacher subgroups. The findings complement prior state-level research on COVID-19 pandemic-induced challenges, highlighting that the challenges teachers faced prior to the pandemic still mattered during this period. The report concludes with policy considerations to reduce turnover and suggestions for future research.

Key Findings

Teacher turnover remains high nationally. Between 2020–21 and 2021–22, 15.1% of U.S. teachers moved schools or left the profession: 8.0% moved schools, and 7.1% left teaching. Turnover rates have been largely stable over the past 2 decades but are now about 27% higher than in the early 1990s—an increase driven primarily because the rates of teachers leaving the profession increased by more than 50%.

Most teacher turnover was voluntary and preretirement. Nearly 3 in 4 teachers (74%) who moved or left did so voluntarily for reasons other than retirement. This percentage is higher than it was 10 years ago, when 67% of teachers left their schools voluntarily and preretirement.

Nearly half of teachers who moved schools stayed within the same district, and almost 40% of those who left teaching remained in the education sector. Among movers, 36.5% of teachers moved to a different district in the same state, while 17.3% moved to a different state. Of those who left teaching, 31.2% retired, whereas 13.1% took jobs in other sectors.

Teacher turnover rates vary across groups of teachers. This confirmed well-established evidence. Turnover rates varied by:

- **Certification.** Teacher turnover rates were higher among teachers with temporary, waiver, or emergency permits, or with no certification, as compared to teachers with regular or probationary

teaching certificates. Overall, 20.1% of those not fully certified left their schools, compared to 14.7% of those who were fully certified. The difference was even larger among teachers with 1–3 years of experience: The share of teachers who left their schools was about 40% higher among those not fully certified than among fully certified teachers (24% vs. 17%).

- **Subject Taught.** Teacher turnover rates were higher than average for teachers of English as a Second Language or bilingual education (19.0%), foreign languages (18.3%), career or technical education (17.5%), and special education (16.4%). These fields often require specialized expertise and, in many cases, additional certifications, targeted professional development, or other supports.
- **Type of School.** Turnover rates were higher in primary and middle schools (15.9% and 15.7%, respectively) than in high schools or schools that combine grade levels (14.1% and 12.6%, respectively). Teachers in city schools experienced higher turnover rates (17.7%) than teachers in rural (14.5%), suburban (13.9%), or town (13.7%) schools. Turnover rates were also higher in charter schools (17.8%) than in traditional public schools (14.9%).
- **School Composition.** Turnover rates were higher in schools serving larger concentrations of students of color and those from low-income backgrounds. Turnover rates were 35%–37% higher in schools with the largest concentrations of these students than in schools with the smallest concentrations of these students. These patterns are consistent with long-standing research on inequitable access to educational opportunities.
- **Race and Ethnicity.** Teachers of color had higher turnover rates than White teachers (16.6% vs. 14.7%). Teacher turnover was especially high among Black teachers, whose turnover rate was more than 20% higher than that of White teachers (18.1% vs. 14.7%). Teachers of color are more likely to work in schools with higher proportions of students of color and students from low-income backgrounds—schools that are the most underresourced, where working conditions are more challenging, and where vacancies are harder to fill.

Teacher compensation, school leadership, and job and workplace satisfaction are associated with teacher turnover. After accounting for teacher and school characteristics, teacher turnover was significantly associated with salaries, the degree to which teachers experienced effective and supportive school leadership, and teachers' job and workplace satisfaction.

- **Teachers with higher salaries are less likely to leave their schools.** For every \$1,000 increase in salaries (adjusted for cost of living), the probability of turnover decreased by about 0.34 percentage points, on average. For example, the probability of turnover decreased by nearly 40%—from 17.6% to 10.9%—when salaries increased from \$50,000 to around \$70,000. Furthermore, teachers working multiple jobs and holding student loans had higher turnover rates than others. These financial stress indicators were key drivers of preretirement teacher turnover.
- **Teachers who have more effective school leaders are less likely to leave their schools.** The predicted probability of turnover was reduced by half—from 18.7% to 9.0%—when comparing teachers who reported low versus high levels of leadership effectiveness and supports. Effective leaders are supportive of teachers, communicate a clear vision, and are effective at encouraging collaboration and promoting professional development. On average, teachers who had higher

levels of leadership effectiveness and supports indicated they had greater influence over school policy, fewer barriers to teaching and learning, higher levels of satisfaction, or greater access to the materials they needed.

- **Teachers with greater job and workplace satisfaction are less likely to leave their schools.** The predicted probability of turnover for teachers with high job and workplace satisfaction was less than half that of teachers with low job and workplace satisfaction (8.0% vs. 22.0%). High job and workplace satisfaction was measured based on teachers' reported experiences of positive school environments, lack of stress and burnout, and willingness to stay in teaching. On average, teachers who had higher levels of job satisfaction indicated they had greater support from their students' parents, greater classroom autonomy, and more effective and supportive school leadership. Conversely, teachers who reported lower levels of satisfaction had more paperwork and administrative duties, longer work hours, larger class sizes, or test-related job insecurity.

Policy Considerations

Turnover is a complex issue with no single cause. A multifaceted and mutually reinforcing policy approach—at the federal, state, and local levels—is necessary to create the conditions that encourage teachers to stay in the workforce. There are multiple avenues policymakers can pursue to reduce teacher turnover, including those that improve compensation, school leadership, and job satisfaction as well as those that can particularly benefit high-turnover groups of teachers.

Salaries and Compensation

- **Ensure that teacher salaries and total compensation are competitive with other professions requiring similar levels of education.** Teacher salaries are largely determined at the local and state levels. Many states—including Iowa, New Mexico, South Dakota, and Texas—have recently passed legislation to raise and equalize teacher pay. Federal policy can complement and incentivize these efforts by offering non-salary benefits, such as refundable tax credits or housing subsidies, for educators.
- **Expand access to loan forgiveness and service scholarship programs.** Expanding and improving federal and state loan forgiveness and service scholarship programs can lessen the amount of student loans teacher candidates take on, increasing the likelihood of individuals choosing to enter and stay in the profession by reducing their financial burden.
- **Provide compensation increases for teachers in high-need fields and locations, as well as for teacher expertise and leadership.** Policies can provide additional financial incentives and opportunities that complement teachers' salaries, such as when teachers earn advanced credentials (e.g., National Board certification), teach in high-need subjects or schools (e.g., special education, rural schools, high-poverty schools), work as mentors, or take on other roles within the school system. These policies also align with prior literature showing that career growth and advancement can enhance teacher satisfaction and may reduce turnover.

School Leadership

- **Ensure that school leaders are well prepared to support teachers and have access to high-quality professional learning.** Policies can support access to principal preparation programs that develop strong instructional leadership skills. States can leverage licensure requirements and program approval standards to ensure that preparation programs incorporate research-based practices for effective leader development. Leadership practices that support teachers' opportunities to collaborate and involvement in decision-making are associated with higher teacher retention. To enhance strong leadership, once school leaders are in their roles, federal, state, and district policies can provide them with access to high-quality coaching and mentoring that reinforce the foundations built during preparation.

Job and Workplace Satisfaction

- **Provide access to ongoing professional learning and supports for teachers.** Our study found that job and workplace satisfaction increased when school leadership or classroom autonomy improved. Conversely, job and workplace satisfaction decreased when teachers had additional jobs outside of the school system. School leaders and district policies can ensure that teachers are well supported and more satisfied by creating opportunities to continuously grow their professional capacities in the school.
- **Redesign schools to support collaboration and shared decision-making.** Policies can provide dedicated time during the school day for teachers to collaborate, such as conducting reciprocal peer observations, implementing lesson studies, and engaging in teacher action research. Simultaneously, policies to increase teachers' influence in the classroom and in decision-making can increase their job satisfaction and improve retention.

Additional Policies to Address Turnover Among High-Turnover Groups

- **Strengthen preparation and early-career supports for new teachers.** Investments that make strong preservice preparation more accessible and affordable for a wider range of teacher candidates are key to minimizing early-career turnover. Access to high-quality preservice preparation, such as teacher residencies, better equips teachers to meet classroom challenges and realities. In addition, broadly available, high-quality mentoring and induction opportunities can help mitigate early-career turnover.
- **Incentivize and underwrite the costs of earning high-need, advanced credentials.** Underwriting the costs of earning credentials in high-need subjects, for which shortages are the most acute, such as special education, improves access to these credentials.
- **Ensure equitable and adequate school funding and resources.** There is a need to address higher turnover rates in schools that are the most underresourced and that serve students who are furthest from opportunity. This requires revising state funding formulas to provide added resources for students with greater needs. Some of these resources can support targeted workforce preparation, recruitment, and retention investments to help create more equitable staffing conditions across schools.

Introduction

Building a well-prepared, stable, and diverse teacher workforce is critical to advancing student learning and development and ensuring that all children, regardless of background, have access to high-quality education. Yet in the United States, this goal remains elusive. The teaching profession faces long-standing and compounding challenges, including increasingly demanding working conditions that discourage teachers from staying in the classroom.¹ Despite the evidence demonstrating that teachers are the most important in-school factor in influencing students' learning, the teacher workforce is under serious strain amid significant teacher shortages, historically low prestige and dwindling interest in the profession, and worsening working conditions.²

For the past 2 decades, about 15% of U.S. public school teachers have moved schools or left the teaching profession—defined as teacher turnover in this report—annually.³ Although this turnover rate has remained largely unchanged since the 2000–01 school year, it is consistently higher than teacher turnover rates in other high-performing education systems, such as Singapore and Ontario, Canada.⁴ Despite a robust body of research identifying factors that contribute to teacher turnover, and many well-known strategies to address this issue, rates have remained persistently high in the United States. This disconnect highlights an opportunity to more effectively leverage research evidence and implement targeted and systems-level policy interventions to reduce teacher turnover.

Definition of Teacher Turnover

Teacher turnover has been defined in several ways in the literature. In this study, we define teacher turnover as all teacher movement out of schools or out of the profession from one school year to the next. It includes teachers who moved to a different school (**movers**) and teachers who left the profession (**leavers**) during the study period. Occasionally, for brevity, these teachers are referred to as teachers who “left their schools.” It is possible that some leavers might have stayed at the same school in a non-teaching role.

Consequences of Teacher Turnover

High and persistent teacher turnover, including teachers moving schools and leaving the profession altogether, not only signals challenges in the labor market for teachers, but also places strain on school systems and, ultimately, on students. Though some turnover is naturally expected, any form of turnover is disruptive. Excessive turnover and workforce instability are problematic, as they undermine teacher effectiveness, student learning, and district finances.⁵ Teacher turnover is an important source of the persistent teacher shortage problem, as most hiring needs are driven by the need to replace teachers who left the profession.⁶ When high turnover is paired with a dwindling number of teachers entering the profession, schools face staffing challenges.⁷ Some schools are left with unfilled teaching positions, hire teachers who are not fully certified, increase class sizes, or cut course offerings.⁸

Excessive turnover and workforce instability are problematic, as they undermine teacher effectiveness, student learning, and district finances.

Prior research shows that in schools where turnover is high and teaching positions remain unfilled, teachers may feel overworked, have limited time for planning, or experience greater job-related stress.⁹ These consequences from staffing challenges not only make it harder to retain teachers but can also diminish the overall quality of education students receive, fueling a cycle that is difficult to break.¹⁰ Overall, turnover impacts student achievement and the composition and qualifications of teachers in schools, and it further disrupts schools by undermining collegial relationships, collaboration, or the accumulation of institutional knowledge.¹¹ Importantly, these challenges are not evenly distributed across the education system. Students of color and students from low-income backgrounds disproportionately experience teacher turnover and bear the consequences.¹²

Prior research shows that larger proportions of students of color and students from low-income backgrounds attend relatively underresourced schools.¹³ In these schools, teachers are more likely to report challenging working conditions and to be uncertified and inexperienced, resulting in higher turnover in these schools—all of which further limits students' access to stable, high-quality instruction.¹⁴ In addition to consequences related to teachers and student learning, teacher turnover is costly to districts. Recent research shows that replacing a teacher can cost, on average, approximately \$25,000 in large districts and about \$12,000 in small districts (in 2024 dollars).¹⁵ These estimates capture costs related to outgoing teachers' separation processes and new teachers' recruitment, hiring, and training and onboarding.¹⁶ Other estimates find that the total annual cost of U.S. teacher turnover exceeds \$11 billion (in 2024 dollars).¹⁷

Factors That Influence Teacher Turnover

Addressing the factors that shape teachers' decisions to move schools or leave the profession is central to improving teachers' and students' experiences. A large body of literature has identified the primary factors that are associated with teacher turnover, whether by subgroups of teachers, at individual state levels, or on a national scale. These include preparation, compensation, and working conditions, and they occur at the individual, school, and institutional levels.¹⁸

Prior research has found that compensation and working conditions, including classroom autonomy, school leadership, and job satisfaction, are among the factors most frequently cited by teachers as influencing their decisions to move schools or leave teaching.¹⁹ For example, lower salaries have contributed to higher turnover, while teachers with supportive and effective principals have been found to leave their schools at lower rates.²⁰ Although there is evidence of these relationships, most findings at the national level are based on data from more than a decade ago. This study revisits these topics using more recent data to assess whether these conditions persist and to offer an update on the state of turnover and retention in the teacher workforce.

In addition, we build on prior work by examining how the factors influencing teacher turnover are interconnected.²¹ For instance, it is equally as important to understand how teachers' perception of school leadership is related to turnover as it is to examine whether teachers' satisfaction is higher with better school leadership. For policymaking, considering the interconnected nature of working conditions means that policy levers can target factors that directly influence turnover as well as those that indirectly improve other working conditions—which, in turn, can help to reduce turnover.

Study Overview

This report provides a comprehensive examination of turnover and retention among public school teachers in the United States using nationally representative data from the 2020–21 National Teacher and Principal Survey (NTPS) and the 2021–22 Teacher Follow-Up Survey (TFS). Administered by the U.S. Department of Education’s National Center for Education Statistics (NCES), the NTPS (alongside its previous version, the Schools and Staffing Survey) and the TFS have served as the main sources of data for analyses of teachers and teacher labor markets since the 1987–88 school year.

Both the NTPS and the TFS offer evidence about teachers who stay in their assignments, move schools but remain in teaching, and leave the teaching profession altogether. The surveys also provide information on teacher characteristics, compensation, and working conditions, among other factors known to influence teacher turnover (see details of the data in [Appendix A: Methodology](#)). The 2021–22 iteration of the TFS was the first in nearly a decade (since the 2012–13 survey). During this period, the country recovered from an economic recession that reduced the size of the teacher workforce. In addition, the COVID-19 pandemic swept the nation, impacting teaching and learning. (See details about the changes that teachers experienced and the shifts in the overall workforce during this time in [Appendix B: Contextualizing the Teacher Labor Market in 2020–21 and 2021–22.](#))²²

The report uses descriptive and regression analyses to offer the latest information on teacher turnover and retention rates in the United States, based on nationally representative data. The national approach allows us to provide estimates of teacher turnover across all teachers and by key teacher subgroups nationwide. While studies using state-level data offer valuable insights about teachers in the context of their specific states, only the national-level picture provides an understanding of the most prevalent and systemic challenges facing the profession overall. Given the timing of the data used, this report also complements prior state-level research on pandemic-induced challenges (e.g., remote instruction), highlighting that the main challenges teachers faced prior to the pandemic still mattered during this time period.

This report first descriptively analyzes patterns of teacher turnover and retention, broken down into the shares of teachers who move schools, leave the profession, and stay in the same school the following year. The report also examines how these patterns vary by teacher characteristics, teaching assignment, and school characteristics. In the next section, the report assesses teachers’ most commonly cited reasons for moving schools or leaving the profession. Then, the report examines how several individual- and school-level factors are associated with our main outcome of interest: teacher turnover. Analyses include individual associations with turnover (bivariate regressions). We then combine all the factors into a single model (multivariate regression) to investigate which factors are key drivers of teacher turnover, and show how compensation and various working conditions relate to teacher turnover. In this study, compensation includes teacher salaries and other financial factors (see [Figure 1](#)). Working conditions include measures of instructional factors and workload, working environment and leadership, accountability, and other instructional supports.

Once we determine the main drivers of turnover, we examine how other aspects of working conditions are related to these main drivers, emphasizing the interconnected nature of various working conditions. For full details on the report’s analytical approach and definitions of the variables used, see [Appendix A: Methodology](#) and this study’s companion [Technical Supplement](#).

Figure 1. Classification of Compensation and Working Conditions

Compensation and financial factors	Instructional factors and workload	Working environment and leadership	Accountability	Other instructional supports
<ul style="list-style-type: none"> • Base salary • Worked multiple jobs • Holding student loans 	<ul style="list-style-type: none"> • Class size • Contracted hours • Grade level • Field of teaching 	<ul style="list-style-type: none"> • Classroom autonomy • Influence over school policies • Lack of barriers to teaching and learning • Job and workplace satisfaction • Leadership effectiveness and supports 	<ul style="list-style-type: none"> • Test-related job insecurity (I worry about the security of my job because of the performance of my students.) 	<ul style="list-style-type: none"> • Necessary materials are available as needed by staff • Routine duties and paperwork interfere with teaching • Parental support (Receive a great deal of support from parents for the work I do.)

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

This report concludes with policy considerations aimed at reducing teacher turnover. Many of these considerations would also enhance the attractiveness of the teaching profession to prospective candidates and offer more supports to current teachers, ultimately improving student learning and development. We also provide suggestions for future research that aim to strengthen the evidence base on how to continue to build and retain a well-prepared, stable, and diverse teacher workforce.

Terminology

Teachers: Teachers are full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year. Public schools include traditional public schools and charter schools. Teachers in our sample are referred to as “**all teachers**” throughout this report.

Teacher turnover: All teacher movement out of schools or out of the profession. It includes:

- **Movers:** teachers who moved to a different school between 2020–21 and 2021–22
- **Leavers:** teachers who left the teaching profession between 2020–21 and 2021–22

Teacher retention: Represents teachers who remained teaching at the same school they taught in the year before (**stayers**).

Preretirement teacher turnover: All teacher movement out of schools or out of the profession between 2020–21 and 2021–22, excluding retirees.

Early-career teachers: Teachers in their first 5 years of teaching. In the National Teacher and Principal Survey, teachers whose first year of teaching was within the past 5 years received an “Early-Career Experiences” module, while all others skipped this section. Following this approach, we adopt the same 5-year threshold to identify early-career teachers in our analysis. Within this group of teachers, those in their first 3 years of teaching are referred to as **beginning teachers**.

Fully certified teachers: Teachers with a regular or standard teaching credential issued by their state, or a probationary credential that is typically issued to teachers who have completed all teacher credentialing requirements.

Not fully certified teachers: Teachers who hold temporary or provisional certificates, received a waiver or hold an emergency certificate, or hold no certification.

Teachers of color: Teachers who are Black, Latino/a, Asian American, Native American/Alaska Native, Native Hawaiian/Pacific Islander, or Multiracial. The race and ethnicity categories reflect those used in the original source. Teachers who identify as Black or African American in the original source are referred to as Black teachers for brevity. Similarly, teachers identified as Latino/a or Hispanic are referred to as Latino/a, and Asian or Asian American teachers are referred to as Asian American. If a teacher responded that they are of “Hispanic or Latino origin,” regardless of race, they are referred to as Latino/a; therefore, all other races and ethnicities only include non-Hispanic-identifying individuals.

Compensation: Teacher base salaries and other financial factors, such as working multiple jobs or holding student loans. In our study, teachers’ base salaries are adjusted by differences in cost of living across districts.

Working conditions: Individual- and school-level factors that influence teachers’ work and working environment. In our study, they are categorized into instructional factors and workload, school working environment and leadership, accountability, and other instructional supports (see [Figure 1](#)).

Most working condition variables were constructed from one survey item (e.g., grade level, hours worked). However, for five of them, because the survey asked multiple questions on related concepts, we follow prior literature and created indices that captured these broader themes; these include classroom autonomy over various aspects of planning and teaching, influence over school policy, lack of barriers to teaching and learning, job and workplace satisfaction, and leadership effectiveness and supports. See [Table A1](#) for descriptive statistics for all variables used in the analyses, and [Table A2](#) for full components underlying the five indices.

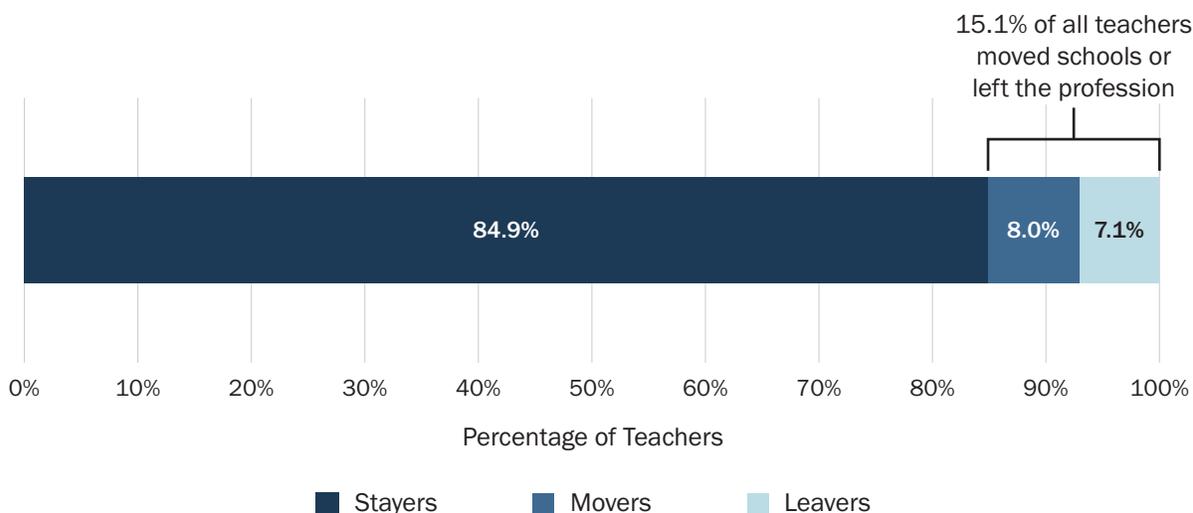
Trends in Teacher Turnover and Retention

This section of the report analyzes trends of teacher turnover—including both movers and leavers—and retention. We examine patterns across all teachers (full-time, part-time, and itinerant teachers in public schools) and explore disparities among groups of teachers, including by teacher certification, years of experience, field of main teaching assignment, and race and ethnicity. We also examine differences in teacher turnover and retention by school level, locale, type of public school (traditional public or charter school), and student composition in schools (i.e., concentration of students of color, students from low-income backgrounds).

National Trends in Teacher Turnover and Retention

Between 2020–21 and 2021–22, 15.1% of teachers moved schools or left the profession (see Figure 2). This turnover rate includes 8.0% of teachers who moved to teach in another school (movers) and 7.1% of teachers who left the profession altogether (leavers). On the flip side, close to 85% of teachers remained teaching at the same school they taught in the year before (stayers).

Figure 2. Share of Stayers, Movers, and Leavers in 2021–22



Note: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

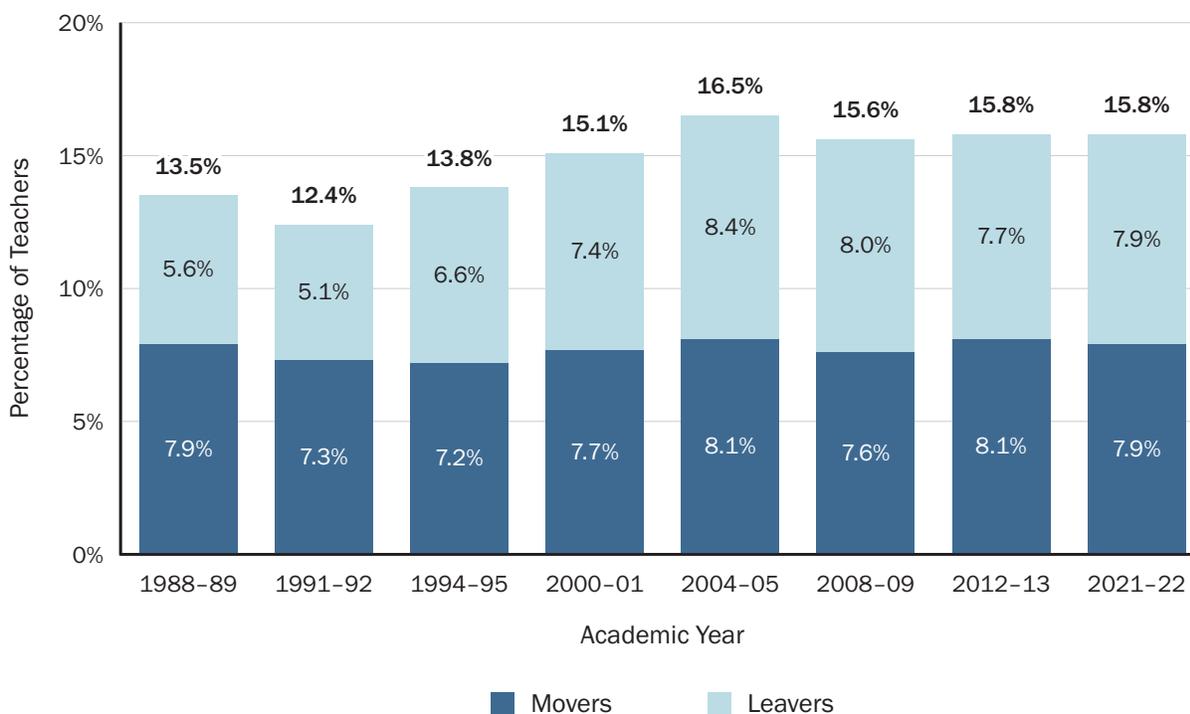
The national turnover rate was about as high in 2021–22 as it had been over the past 2 decades. However, historically, national turnover data had been made available every 4 years—2000, 2004, 2008, and 2012—until a nearly decadelong gap before the 2021–22 data collection. As a result, this latest figure may not reflect the ebbs and flows in turnover rates in the years between or years since,

particularly given the disruptions caused by the COVID-19 pandemic. (See [Appendix B: Contextualizing the Teacher Labor Market in 2020–21 and 2021–22](#) for more information on the teacher labor market in 2020–21 and 2021–22.)

To put these rates into broader historical context, overall turnover rates have remained approximately constant over the past 2 decades, hovering between 15.0% and 16.5% since the early 2000s (see [Figure 3](#)).²³ In contrast, turnover rates were as low as 12.4% in 1992, approximately 20% lower than in 2022. Most of the difference was due to the increase in the rate of leavers; at 5.1% in 1992, the rate of teachers leaving the profession was approximately 35% lower than in 2022.

Notably, during the 1990s, teacher salaries were much more comparable to those of other college-educated professionals. The weekly wage gap between public school teachers and comparable college graduates was relatively modest—at around 10% or less—with the smallest gap occurring in 1993, when teachers earned just 5.1% less than comparable college graduates. Throughout the 2000s, however, the teacher wage penalty began to widen, with the gap hovering between 12 and 15% throughout the 2000s. By 2022, the gap had grown substantially—to approximately 26%.²⁴

Figure 3. Teacher Turnover Rates Among Public School Teachers Over Time



Note: These rates are based on all public school teachers; this sample is different from the samples in all other analyses, which only include full-time, part-time, and itinerant teachers.

Source: Taie, S., & Lewis, L. (2023). *Teacher attrition and mobility: Results from the 2021–22 Teacher Follow-Up Survey to the National Teacher and Principal Survey*. U.S. Department of Education, National Center for Education Statistics.

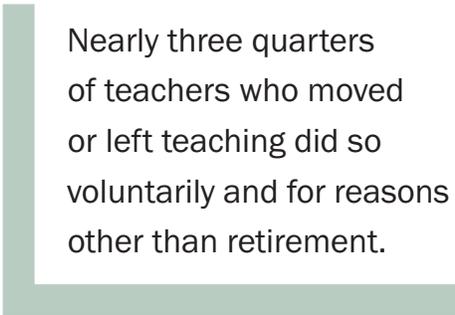
Even seemingly small shifts in turnover rates can carry large implications. For example, a 3 percentage point increase in the leaver rate equates to about 90,000 additional teachers nationwide that schools and districts need to hire each year. Moreover, even if the turnover rate stays constant, a growing teacher workforce—up nearly 2% between 2018–19 and 2022–23—means that a larger number of teachers are leaving and need to be replaced each year.²⁵

Regardless, these turnover rates—leaver rates in particular—are generally larger for teachers in the United States than the rates in other high-performing education systems, such as Finland; Ontario, Canada; and Singapore. In these places, the annual teacher leaver rates typically average as low as 3%–4%.²⁶ These comparisons highlight that low teacher turnover is achievable and suggest that policy and structural conditions can help curb turnover rates.

Do Teachers Switch Schools or Leave Teaching Voluntarily or Involuntarily?

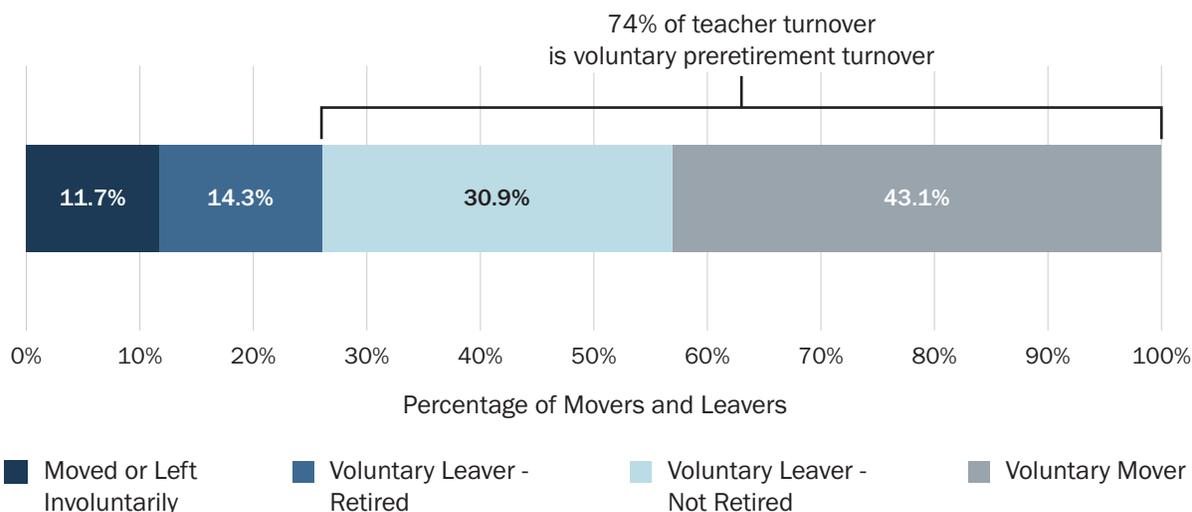
Understanding whether teachers are leaving their schools voluntarily or involuntarily is as important as knowing the overall turnover rate. When teachers move schools or leave the profession voluntarily—particularly for reasons other than retirement—it suggests there may be individual- or school-level factors that could be improved to help retain them. In contrast, involuntary turnover, such as turnover prompted by layoffs, budget cuts or shortfalls, or school closures, often reflects broader systemic pressures that may be more difficult to address. For example, during the Great Recession, widespread budget cuts resulted in increases in involuntary turnover. More recently, the COVID-19 pandemic brought on a new set of challenges for teachers that may have contributed to voluntary moves or decisions to leave the profession. These challenges included increased stress, greater workloads, staffing shortages, and shifting instructional demands.²⁷

Data show that between 2020–21 and 2021–22, most teachers left their schools for voluntary reasons before they reached retirement. [Figure 4](#) shows that nearly three quarters of teachers who moved or left teaching did so voluntarily and for reasons other than retirement (74%), slightly more than 14% of teachers retired, and nearly 12% moved schools or left the profession involuntarily. The proportion of voluntary, preretirement turnover is larger than it was 10 years ago, when around two thirds of teachers (67%) left their schools voluntarily for reasons other than retirement.²⁸



Nearly three quarters of teachers who moved or left teaching did so voluntarily and for reasons other than retirement.

Figure 4. Voluntary and Involuntary Teacher Turnover



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Where Do Teachers Who Move or Leave Go?

Many teachers who moved schools or left teaching remained in the education sector—either by continuing to teach in other schools or by bringing their expertise to non-teaching roles within the education sector. In fact, in 2021–22, more than half the turnover rate was accounted for by teachers who stayed in the profession and continued to teach, whereas close to 1 in 5 continued to work in the education sector in a non-teaching position (18.1%).²⁹

Among movers, nearly half of the teachers moved to a school in the same district (45.1% of movers) and a large share moved to a school in another district in the same state (36.5% of movers). Only a small percentage of teachers moved to teach in another state (17.3% of movers).

As mentioned, even among those who left teaching, a large share remained connected to the education field. Many transitioned into other roles within education rather than leaving the field entirely (nearly 40% of leavers). Only a small share of teachers who left teaching exited the workforce to work outside of education (13.1% of leavers). Others who left the profession retired (31.2% of leavers); were caring for family (6.4%); or returned to school, were unemployed, or left for other reasons.

Table 1. Share of Movers and Leavers by Current Working Status

Category	Share among teachers who moved to another school	Share among teachers who left teaching	Share among teachers who moved or left teaching
Mover, teaching in same district	45.1%	-	24.0%
Mover, teaching in same state (another district or private school)	36.5%	-	19.4%
Mover, teaching in another state	17.3%	-	9.2%
Leaver, working in education sector	-	38.6%	18.1%
Leaver, retired	-	31.2%	14.6%
Leaver, working outside of education	-	13.1%	6.1%
Leaver, caring for family	-	6.4%	3.0%
Leaver, unemployed	-	5.6%	2.6%
Leaver, in college	-	††	0.9% [†]
Leaver, other reasons	-	3.1% [†]	1.5% [†]
Total^a	100%	100%	100%

Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. The first column provides the share out of teachers who moved to another school between 2020–21 and 2021–22 (out of movers). The second column provides the share out of teachers who left the profession (out of leavers). The third column shows the breakdowns among all teachers who moved or left teaching between 2020–21 and 2021–22 (15.1% of all teachers). Estimates marked with [†] should be interpreted with caution (the coefficient of variation of the estimates is between 30% and 50%). Estimates marked with ^{††} are not reported because reporting standards are not met (the coefficient of variation of the estimates is higher than 50%).

^a The sum of each column does not add up to 100% due to categories not reported because reporting standards are not met (the coefficient of variation of the estimates is higher than 50%).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Differences in Turnover and Retention Rates Across Groups of Teachers

In addition to the overall patterns of turnover and retention (as shown in [Figure 2](#)), we found variation in turnover and retention rates by teacher certification, years of experience, teaching assignment, school context, and teacher demographic characteristics. Descriptive statistics reflect observed patterns for teacher turnover and retention; while not tested for significant differences, these play an important role in identifying broad patterns of where turnover is most concentrated. Our findings show that turnover is higher (and thus retention is lower) among teachers who: do not hold standard certification; are early-career; are teaching English as a Second Language (ESL), foreign languages, Career or Technical Education (CTE), or special education; are teaching at primary and middle school levels; are teaching in city schools; are teaching in charter schools; or are teaching in schools with larger concentrations of students from low-income backgrounds and students of color. In the discussion of this section, we primarily focus on rates of turnover and only occasionally point to rates of movers, leavers, or stayers. (See [Table C1](#) for full breakdowns of stayer, mover, and leaver rates by teacher and school characteristics.)

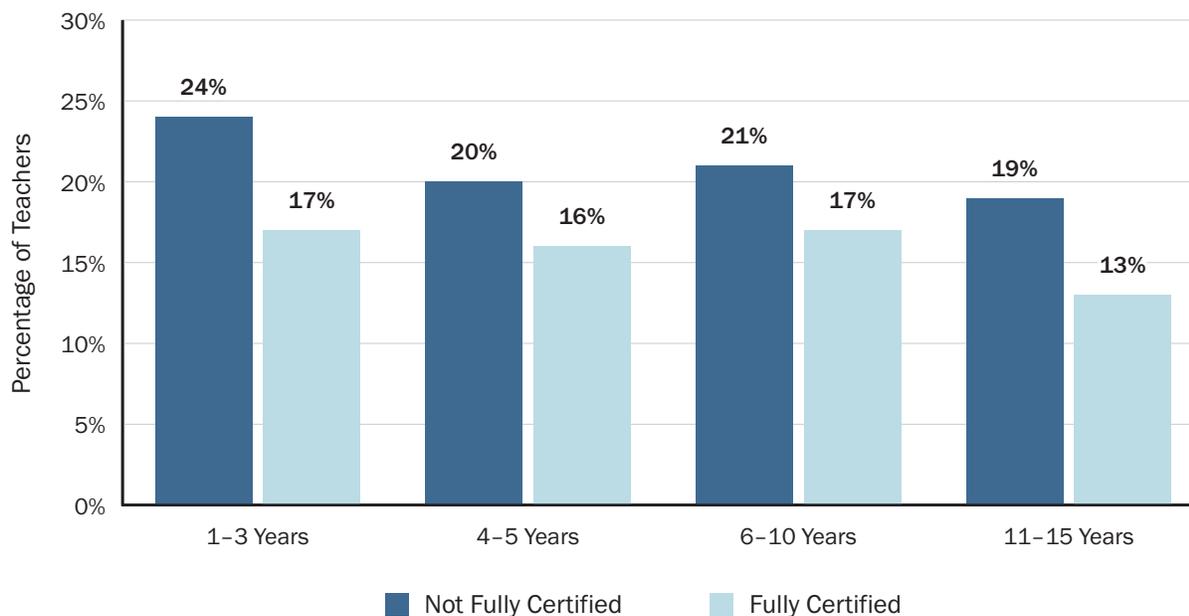
Turnover Rates by Teacher Certification and Experience

Prior literature has consistently found that fully certified teachers have lower turnover rates than teachers who are not fully certified, and this pattern continues to hold true in the current data.³⁰ Smaller shares of teachers with regular or probationary teaching certificates moved schools or left teaching between 2020–21 and 2021–22 compared to teachers with temporary, waiver or emergency, or no certification (14.7% vs. 20.1%). The difference in turnover based on certification was even larger among early-career teachers: The share of teachers with 1–3 years of experience who moved schools or left teaching was about 40% higher among teachers not fully certified than among fully certified teachers (see [Figure 5](#)).³¹

The share of teachers with 1–3 years of experience who moved schools or left teaching was about 40% higher among teachers not fully certified than among fully certified teachers.

These patterns illustrate the importance of upholding credentialing requirements for teacher hiring, rather than hiring teachers who are not fully certified, in response to ongoing teacher shortages.³² Although districts typically hire uncertified teachers as a last-resort solution to filling an immediate vacancy, these decisions can exacerbate teacher turnover, perpetuate teacher shortages, and prolong negative consequences on teaching and learning.³³

Figure 5. Teacher Turnover Rates by Years of Experience and Certification Status



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Fully certified teachers are teachers with a regular or standard teaching credential issued by their state or a probationary credential that is typically issued to beginning teachers who have completed all teacher credentialing requirements. Not fully certified teachers are those who hold a temporary or provisional certificate, received a waiver or hold an emergency certificate, or hold no certification. Years of experience in this graph ends at 15 years because this comparison is more meaningful for early- and mid-career teachers, as the share of uncertified teachers declines with years of experience.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Teachers’ years of experience also matters for retention. Mid-career teachers (teachers with 6–25 years of experience) stay in their teaching assignments at higher rates than both beginning teachers (teachers with 1–3 years of experience) and teachers approaching retirement. The type of turnover at earlier versus later years of teaching differs: Beginning teachers have higher mover rates (12.8% compared to the average of 8.0%; see [Table C1](#)), whereas teachers with more than 26 years of experience have higher leaver rates (13.7% compared to the average of 7.1%), with a significant portion of teachers leaving due to retirement. The higher turnover rates among beginning and early-career teachers support the “revolving door” phenomenon described by prior research—where large numbers of teachers leave the profession for reasons other than retirement, especially in the first few years in the profession. When the workforce cannot retain its youngest teachers long enough for them to gain experience and increase in effectiveness at the same time a larger share of older and most experienced teachers retire, the labor market is strained.³⁴

Turnover Rates by Teaching Assignment

Turnover also varies across teaching fields, with the highest turnover rates observed among teachers teaching ESL or bilingual education (19.0%), foreign languages (18.3%), CTE (17.5%), and special education (16.4%). (See [Table 2](#).) However, the type of turnover (movers vs. leavers) differs across these teaching fields. For ESL and CTE teachers, turnover is largely driven by teachers leaving the profession, while foreign languages and special education mover rates account for a greater share of turnover. Often, teachers in ESL or bilingual education, foreign languages, CTE, and special education are required to possess specialized expertise and, in many cases, additional certifications. While these teachers often receive targeted professional development and additional staffing supports (e.g., paraprofessionals), they still face unique working conditions. For example, high caseloads and extensive paperwork in special education, challenges with limited instructional resources in ESL, or high budget needs to maintain industry equipment in CTE settings can all present challenges that lead to turnover.³⁵ Other subjects, like science and mathematics, saw below-average turnover rates (12.4% and 13.5%, respectively).³⁶

Table 2. Share of Stayers, Movers, and Leavers by Field of Main Teaching Assignment

Variable	Stayer	Mover	Leaver	Turnover (mover or leaver)
English as a Second Language (ESL) or bilingual education	81.0%	7.4% [†]	11.6%	19.0%
Foreign languages	81.7%	11.1% [†]	7.2%	18.3%
Career or Technical Education (CTE)	82.5%	5.8% [†]	11.6%	17.5%
Special education	83.6%	9.6%	6.7%	16.4%
English language arts	84.3%	8.5%	7.2%	15.7%
Early childhood or general elementary	84.9%	8.3%	6.8%	15.1%
Social sciences	85.2%	7.0%	7.8%	14.8%
Arts or music	85.5%	9.4%	5.1%	14.5%
Mathematics	86.5%	6.1%	7.4%	13.5%
Natural sciences	87.6%	5.8%	6.6%	12.4%
Health education	88.3%	6.6%	5.1%	11.7%
All other	88.3%	4.6% [†]	7.1% [†]	11.7%

Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Percentages may not sum to 100% due to rounding. Estimates marked with [†] should be interpreted with caution (the coefficient of variation of the estimates is between 30% and 50%).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Turnover Rates by School Characteristics

Teacher turnover varies by school level, locale, type of public school, and student composition. Teachers in primary and middle schools have higher turnover rates (15.9% and 15.7%, respectively) than teachers in high school (14.1%) or schools that combine grade levels (12.6%), on average (see [Table 3](#), top panel). When examining turnover by school locale (see [Table 3](#), middle panel), teachers in city schools experience the highest turnover rates (17.7%), those in rural schools have lower turnover rates (14.5%), and teachers in suburban or town schools have the lowest turnover rates (13.9% and 13.7%, respectively).

Additionally, turnover rates are higher in charter schools (17.8%) than in traditional public schools (14.9%), driven largely by a greater share of teachers moving schools (10.3% vs. 8.0%) and a slightly higher rate of teachers leaving the profession (7.4% vs. 6.9%) in charter schools (see [Table 3](#), bottom panel). Prior literature states that teachers in charter schools are more likely to report that working conditions motivated their decisions to leave their schools, which might account for the higher mover rates than leaver rates; charter schools are also more likely to hire less experienced or uncertified teachers, who are less likely to stay in their teaching assignment.³⁷

Table 3. Share of Stayers, Movers, and Leavers by School Level, Locale, and Type of School

Variable category	Variable name	Stayer	Mover	Leaver	Turnover (mover or leaver)
Level of students taught by teacher	Primary	84.1%	8.8%	7.0%	15.9%
	Middle	84.3%	8.5%	7.2%	15.7%
	High	85.9%	7.0%	7.1%	14.1%
	Combined	87.4%	6.1%	6.5%	12.6%
Urbanicity/locale	City	82.3%	9.6%	8.1%	17.7%
	Suburb	86.1%	7.3%	6.6%	13.9%
	Town	86.3%	7.2%	6.6%	13.7%
	Rural	85.5%	7.8%	6.8%	14.5%
Type of public school	Traditional public	85.1%	8.0%	6.9%	14.9%
	Charter	82.2%	10.3%	7.4%	17.8%

Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Percentages may not sum to 100% due to rounding.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

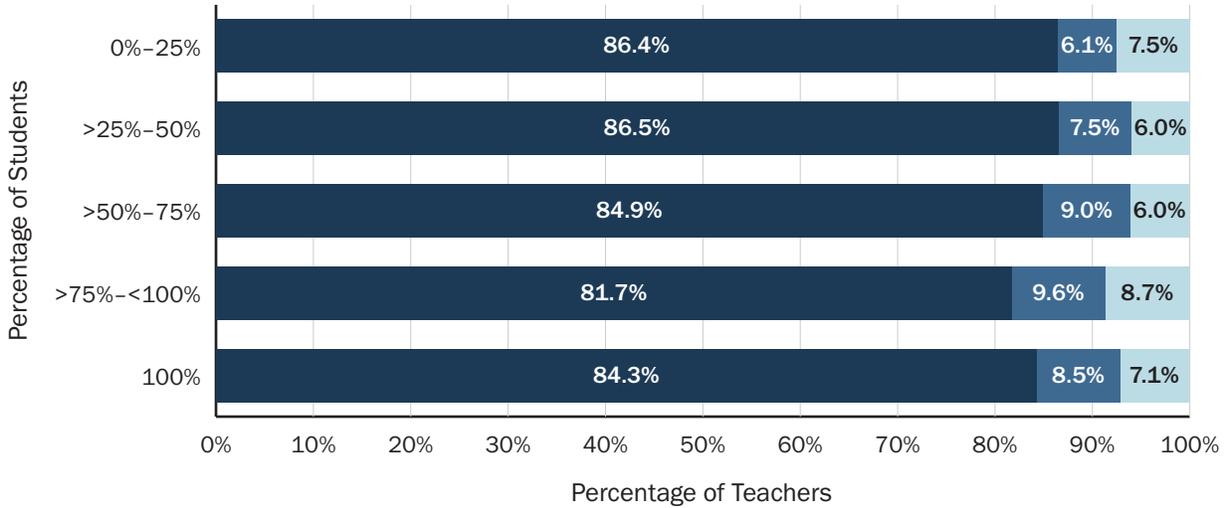
The composition of a school may also be an indicator of whether teachers stay or leave. In fact, prior research has found that turnover rates are typically higher in schools with larger shares of students from low-income backgrounds.³⁸ Our analyses find similar patterns: In schools where 25%–50% of the study body is eligible for the National School Lunch Program (NSLP), a proxy measure for students from low-income backgrounds, about 13.5% of teachers move schools or leave teaching altogether (top panel of [Figure 6](#)). When this percentage of students increases to 50%–75%, the turnover rate also increases (to 15.1%). Schools with the highest percentage of students eligible for NSLP have the highest teacher turnover rates: 18.3% of their teachers leave their position—about half of whom leave the profession altogether (8.7% among all teachers in those schools). This leaver rate is higher than that of teachers in schools with the lowest proportion of students eligible for NSLP (7.5%).

Similar patterns emerge when examining turnover rates for schools with larger concentrations of students of color (bottom panel of [Figure 6](#)). Teacher turnover is lower in schools with less than 50% of students of color, with turnover rates ranging between 12.4% and 14.2%. In schools where the majority of students are students of color, the turnover rate is approximately 17%.

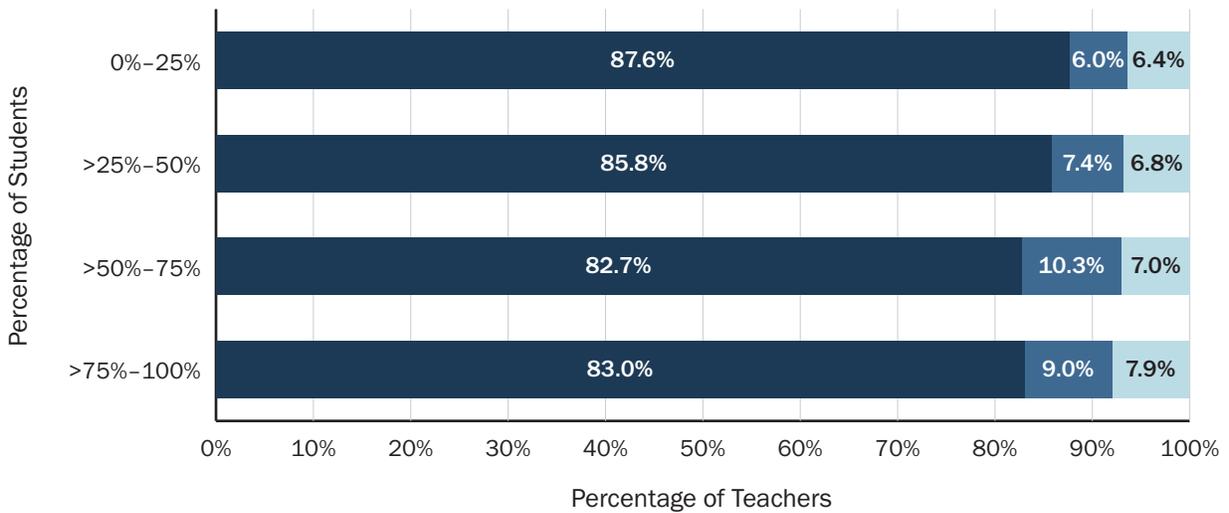
These trends are consistent with long-standing research on inequitable access to educational opportunities in high-poverty schools, which also often serve larger proportions of students of color.³⁹ With race and ethnicity being closely related to poverty, it is important to note that teachers in these schools may be more likely to move schools or leave the profession altogether because they work in underresourced schools, schools with more challenging working conditions, or schools that employ higher percentages of uncertified teachers or other groups of teachers with higher-than-average turnover rates.⁴⁰ In turn, these inequitable conditions can not only make it harder to retain teachers in these schools, but they can also undermine teaching, learning, and the overall quality of education students receive—fueling a cycle that is difficult to break.

Figure 6. Share of Stayers, Movers, and Leavers by School Student Body Composition

Percentage of Students Eligible for FRPL in the School



Percentage of Students of Color in the School



■ Stayers ■ Movers ■ Leavers

Notes: FRPL stands for free or reduced-price lunch. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Percentages may not sum to 100% due to rounding. Schools with missing data for school concentration of students of color or students eligible for NSLP are excluded. Schools reporting 100% eligibility for FRPL were categorized separately due to schools' ability to participate in the Community Eligibility Provision, where the entire school can be eligible for FRPL if at least 40% of the students are eligible, masking the true percentage of FRPL-eligible students. Schools reporting 100% eligibility can therefore range from 40% to 100% eligible.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Turnover Rates by Teacher Race and Ethnicity

Consistent with prior literature, our findings also show that teachers of color have higher turnover rates than White teachers (about 17% vs. 15%; see [Table C1](#)).⁴¹ Turnover is especially high among Black teachers, who had an 18.1% turnover rate, with 9.0% of Black teachers moving schools and 9.1% leaving the profession between 2020–21 and 2021–22. Teachers of color (those who are Black, Latino/a, Asian American, Native American/Alaska Native, Native Hawaiian/Pacific Islander, or Multiracial) were also more likely than White teachers to leave teaching, with a rate close to 2 percentage points higher (7.8% vs. 6.9%, respectively).

Teachers of color have higher turnover rates than White teachers. Turnover is especially high among Black teachers.

Many studies show that Black student achievement and attainment are strongly and positively affected by access to Black teachers, and other studies have demonstrated broader influences of Black and Latino teachers on improved school climate, classroom perceptions, and learning outcomes across student groups.⁴² Importantly, all students can benefit from having diverse role models who enrich the whole school environment.⁴³ However, teachers of color are more likely to work in schools with higher proportions of students of color and students who are eligible for FRPL—schools with higher turnover rates and where vacancies are harder to fill.⁴⁴ Teachers of color also face a higher wage penalty than White teachers do and have greater student loan burdens.⁴⁵

The findings presented thus far have highlighted descriptive patterns of turnover and retention across various teacher characteristics, teaching assignments, and school characteristics nationally. These descriptive statistics provide important context for understanding where turnover is most concentrated and whether rates are driven more by teachers moving schools or leaving the profession. In the next section, we build on these analyses and examine the reasons why teachers move schools or leave the profession.

Why Do Teachers Move Schools or Leave the Profession?

There are myriad reasons why teachers may choose to stay in or leave their school or the profession. These include reasons related to compensation and a range of working conditions, such as instructional factors, workload, accountability, and school working environment.⁴⁶ Teachers contend with multiple factors when deciding whether to stay, move, or leave, but some reasons stand out more than others.

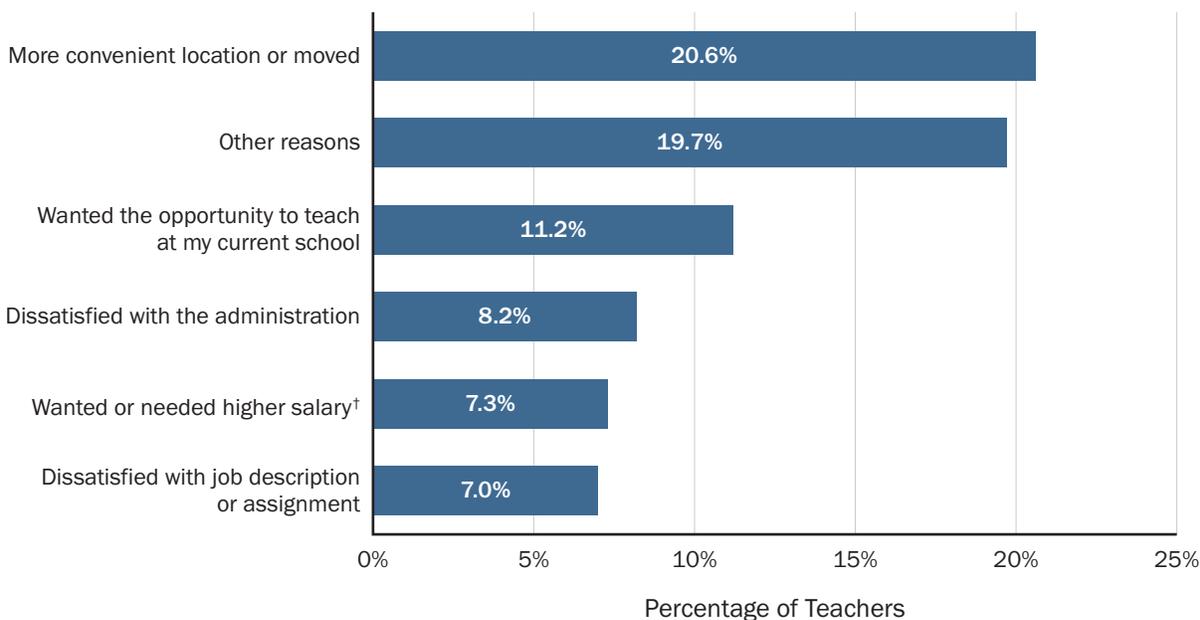
This section of the report first shows descriptive findings of the most frequently reported reasons for either moving schools or leaving the profession. Next, we explore the relationship between individual- and school-level factors and teachers' likelihood of leaving their school—first individually, using bivariate regression models, and then simultaneously, using multivariate regression models to identify the main drivers of turnover.

What Are the Most Important Reasons Why Teachers Move or Leave?

In the Teacher Follow-Up Survey, teachers who moved schools or left teaching were asked to select—from a list of roughly 25 options—the most important factor informing their decision. Options spanned personal life, salary and benefits, career considerations, classroom and assignment, school factors, and student performance.⁴⁷ The most important reasons teachers cited for moving schools or leaving teaching reflected a wide variety of factors, many of which mirror circumstances or characteristics faced in other professions.⁴⁸ However, many teachers reported a preference for their new assignment or dissatisfaction with their former school, job, or the profession itself as the most important reason for moving to another school or leaving teaching.

The reasons teachers most frequently selected as the “most important reason” for moving schools are listed in [Figure 7](#), and those for leavers are listed in [Figure 8](#). Relocation (“moved”) or seeking a “more convenient work location” was the most frequently selected reason among teachers who moved schools, with 20.6% selecting this option. For movers, this suggests that geographical and, likely, personal life changes play a large role in mobility.⁴⁹ Additionally, 11.2% of movers chose having the “opportunity to teach at their current school” as their most important reason for moving. This suggests that teachers may be also moving schools to pursue better working environments or more aligned school cultures—pointing to the importance of school working environments in reducing turnover.⁵⁰

Figure 7. Most Important Reasons Reported by Teachers as Influencing Their Decisions to Move Schools



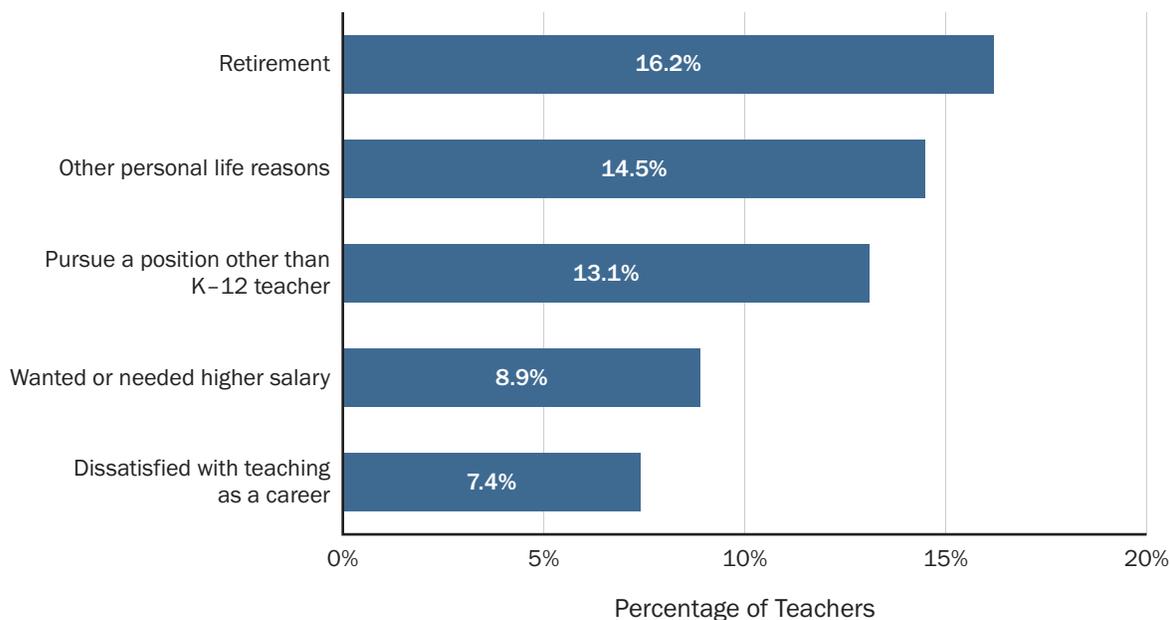
Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. This question was asked as part of the Teacher Follow-Up Survey in 2021–22, and therefore “current school” represents teachers’ new school in 2021–22. The reasons shown are the six selected as “most important” by the largest shares of teachers. Estimates marked with [†] should be interpreted with caution. The coefficient of variation for this estimate is between 30% and 50%.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Among teachers who left the profession, 16.2% selected “retirement” as their most important reason for leaving the profession, followed by 14.5% selecting “other personal life reasons (e.g., health, pregnancy, childcare, caring for family).” An additional 13.1% of leavers indicated pursuing positions outside the K–12 teaching sector, selecting the option of seeking “different professional opportunities” as their most important reason for leaving.

Taken together, a meaningful share of teachers who moved schools or left teaching selected reasons that reflected their dissatisfaction with their previous positions: Nearly a quarter of all teachers who moved schools (22.5%, shown by the last three bars in [Figure 7](#)) and more than 1 in 6 teachers who left teaching (16.3%, shown by the last two bars in [Figure 8](#)) referenced some form of dissatisfaction with their previous working conditions as the most important reasons for leaving their position.⁵¹ Movers frequently expressed dissatisfaction with their administration, salary, and job description and assignments. Leavers noted their dissatisfaction with their salaries and with teaching as a career.

Figure 8. Most Important Reasons Reported by Teachers as Influencing Their Decisions to Leave Teaching



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. The reasons shown are the five selected as “most important” by the largest shares of teachers.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

What Factors Correlate With Turnover? Results From Bivariate Regression Analysis

With a significant share of teachers noting some form of dissatisfaction with their workplace, job responsibilities, or the profession itself as an important reason to move schools or leave teaching, the findings thus far suggest the importance of compensation and working conditions in explaining teacher turnover. In this section, we use a bivariate regression framework that examines each individual- and school-level factor by itself, without controlling for other factors that might be associated with turnover. The findings are shown in [Table 4](#) for compensation and selected working conditions variables (see [Figure 1](#)). (All individual- and school-level results are shown in [Table D1](#), Column “Model Bivariate.”)

Overall, the findings align with the most frequently cited reasons for moving schools and leaving the profession described earlier. All compensation and financial factors were independently correlated with teacher turnover, without controlling for other factors. For example, on average, for each additional \$1,000 in salary (adjusted for cost of living), the probability of teacher turnover was reduced by about 0.4 percentage points, with the intensity of this relationship being larger at lower values of the pay scale (see [Table 4](#)).⁵² Additionally, teachers who had a second job and teachers who were holding student loans had higher probabilities of turnover (about 2.7 percentage points) compared to teachers who did not work second jobs and those who had no debt, respectively.

Similarly, all measures around the working environment and leadership were independently associated with lower turnover. These measures include classroom autonomy over various aspects of planning and teaching, influence on school policy, lack of barriers to teaching and learning, job and workplace satisfaction, and leadership effectiveness and supports—five indices that were constructed summarizing the information provided by teachers on groups of variables closely representing those aspects (see [What Do the Working Environment and Leadership Indices Represent?](#) and [Table A2](#)).

Table 4. Correlations Between Teacher Turnover and Compensation and Working Conditions

Variables	Coefficient from bivariate model
Compensation and financial factors	
Base salary (COLA, in \$1,000)	-0.004** (0.002)
Base salary (COLA, in \$1,000, squared)	0.000 (0.000)
Additional compensation from work outside of the school system	0.027* (0.015)
Holding student loans	0.027** (0.012)
Working environment and leadership	
Classroom autonomy (SD)	-0.037*** (0.010)
Influence on school policy (SD)	-0.029*** (0.011)
Lack of barriers to teaching and learning (SD)	-0.034*** (0.010)
Job and workplace satisfaction (SD)	-0.090*** (0.010)
Leadership effectiveness and supports (SD)	-0.072*** (0.009)
Accountability	
Test-related job insecurity (Agree)	0.023* (0.014)
Other instructional supports	
Necessary materials are available as needed by the staff (Agree)	-0.042** (0.018)
Receive a great deal of support from parents for the work I do (Agree)	-0.021 (0.012)
Paperwork and admin duties interfere with my job of teaching (Agree)	0.014 (0.009)

Variables	Coefficient from bivariate model
Instructional factors and workload	
Contract hours	-0.001 (0.002)
Class size (proxy)	0.001 (0.001)
Special ed, ESL, foreign languages, CTE	0.025** (0.012)
Primary	0.021* (0.012)
Middle	0.019 (0.013)

Notes: COLA stands for cost-of-living adjusted; SD stands for standard deviation; ESL stands for English as a Second Language; CTE stands for Career or Technical Education. Standard errors in parentheses. * $p < .1$. ** $p < .05$. *** $p < .01$. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. In this model, each variable is entered independently (i.e., one variable at a time). Salary amounts are adjusted for cost-of-living differences across the country and are expressed in 1,000 (quadratic term included). Reference categories: Financial factors: not receiving compensation for work done outside of the school system; teacher not repaying student loans; workload and instructional factors: field of main teaching assignment other than special education, ESL, foreign languages, or CTE; grade level: high or combined; other instructional supports: somewhat disagree or strongly disagree. When coefficients are multiplied by 100, they represent the percentage point difference in the probability of turnover associated with a 1 unit change in the predictor variables.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

What Do the Working Environment and Leadership Indices Represent?

In this report, we use five indices that represent teachers' assessments of the following facets of their work:

- 1. Classroom autonomy** represents the degree of control teachers have over various aspects of planning and teaching, including selecting textbooks and other instructional materials; selecting content, topics, and skills to be taught; selecting teaching techniques; evaluating and grading students; disciplining students; and determining the amount of homework assigned.
- 2. Influence over school policy** represents how much influence teachers report having over different areas of policy at their school, including setting performance standards for students, establishing curriculum, determining the content of in-service professional development, evaluating teachers, hiring new full-time teachers, setting discipline policy, and deciding how the school budget will be spent.
- 3. Lack of barriers to teaching and learning** represents the extent to which various issues that influence teaching and learning are absent in the school; these include student tardiness, student and teacher absenteeism, student cutting class, student dropping out, student apathy, lack of parental involvement, student coming to school unprepared to learn, student health, and students who have physically attacked or threatened teachers.

4. **Job and workplace satisfaction** represents teachers' levels of satisfaction with the job, including teachers' stress and disappointments involved in teaching at the school, lack of enthusiasm for teaching, thinking of staying home from school, liking their school and feeling satisfied being with other teachers in the school, liking how their schools are run, thinking about leaving teaching for a higher-paying job, thinking about transferring to a different school, and generally being satisfied as a teacher in their school.

5. **Leadership effectiveness and supports** represents teachers' reported agreement with whether the school administration's behavior toward the staff is supportive and encouraging, principals have clear expectations of the type of school they want, staff members are recognized for a job well done, and the degree of cooperative effort. It also includes teachers' perceptions of their school leaders' effectiveness in communicating respect for and value of teachers, encouraging teachers to change teaching methods as needed, working with staff to meet curriculum standards, encouraging teachers' collaboration, working with teachers to solve problems, encouraging staff to use assessment results in making instructional decisions, working to develop agreement among staff about the school's mission, and facilitating and encouraging professional development.

See [Appendix A](#) and the companion [Technical Supplement](#) for more information on these indices, including how they were created.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

The relationships between teacher turnover and the working environment and leadership indices were all statistically significant and mostly large in magnitude, reinforcing the important relationships between better working conditions and reduced turnover. For example, a 1 standard deviation increase in job and workplace satisfaction was associated with a 9.0 percentage point reduction in the probability of turnover (see [Table 4](#)). Similarly, a 1 standard deviation increase in leadership effectiveness and supports was associated with a 7.2 percentage point reduction in the probability of turnover. The other indices—classroom autonomy, influence over school policy, and lack of barriers to teaching and learning—were also negatively associated with turnover, albeit at smaller magnitudes.

Our analyses found that accountability-related pressures and other instructional supports were associated with turnover. There was a statistically significant difference in turnover between teachers who experienced test-related job insecurity and those who did not, by 2.3 percentage points. On the other hand, teachers who agreed that necessary materials are available as needed had a probability of turnover that was 4.2 percentage points lower than those who disagreed.

Finally, our analyses also found statistically significant relationships between turnover and other instructional factors and workload. These include differences between teachers teaching in special education, ESL, foreign languages, and CTE, compared with teachers in other fields (2.5 percentage points higher turnover probability for the former group, see [Table 4](#), bottom panel); as well as between teachers teaching in primary schools compared with teachers teaching in high schools or schools that combine grade levels (2.1 percentage points higher turnover probability for the former group).

Overall, while the bivariate regression framework is relatively simple and does not control for all factors influencing turnover at the same time, the results are indicative of important factors, such as compensation and working conditions, that can be considered to curb teacher turnover. On average,

the evidence shows statistically significant differences in turnover across teacher characteristics and in various settings. Though we do not describe these findings in full here, the results underscore the importance of teaching conditions (i.e., school poverty, school minority, school size) and the qualifications and characteristics of the workforce (i.e., type of certification, experience, teacher gender, and race and ethnicity), among others. These observable differences suggest that these factors are meaningful predictors of turnover in unadjusted models. Next, we examine these factors simultaneously to see which ones play more important roles in driving teachers' decisions to stay in or leave their positions.

Which Factors Matter Most for Teacher Turnover? Results From Multivariate Regression Analysis

To design effective policies that reduce teacher turnover, it is essential to understand which factors matter most in influencing turnover, while acknowledging the interconnections between factors. While our bivariate analyses identified multiple factors that are independently associated with teacher turnover, in practice, these factors are deeply interrelated and may influence one another in complex ways. We use multivariate regression analyses that serve two complementary purposes: to isolate each factor's unique association with turnover and to explore how these factors interact. This approach allows us to identify policies that can more effectively address teacher turnover.

First, we estimate the relationships between teacher turnover and teachers' compensation and working conditions, controlling for other individual- and school-level characteristics known to influence retention.⁵³ This analysis allows us to examine how the probability of teacher turnover changes as compensation and working conditions vary. Our analyses find that teacher turnover decisions are most influenced by three factors: salaries, effective and supportive leadership, and job and workplace satisfaction. After controlling

Teachers with higher salaries, more effective and supportive leadership, and higher job and workplace satisfaction had significantly lower probabilities of moving schools or leaving teaching compared to those with reported lower salaries, less supportive school leadership, or lower job satisfaction levels.

for many teacher and school characteristics, we found that teachers with higher salaries, more effective and supportive leadership, and higher job and workplace satisfaction had significantly lower probabilities of moving schools or leaving teaching compared to those with reported lower salaries, less supportive school leadership, or lower job satisfaction levels.⁵⁴ Selected results from this multivariate regression model are presented in [Table 5](#). (Full results are shown in [Table D1](#).)

Second, because there are many individual- and school-level factors that can be associated with these key drivers of turnover (salaries, school leadership, and job satisfaction), we next use them as dependent variables in separate models. This approach allows us to identify how other working conditions are associated with these main drivers of teacher turnover—and to note the possibility that the main drivers may be accounting for some of their influence. We found that other working conditions were significantly associated with salaries, leadership effectiveness, and job satisfaction. For example, reporting higher perceptions of classroom autonomy was associated with higher levels of job satisfaction, on average. Full results are shown in [Table D2](#). (See [Appendix A](#) and the [Technical Supplement](#) for more details on the methodology.)

Table 5. Association Between Teacher Turnover and Compensation and Selected Working Conditions

Variables	Coefficient from full model (multivariate regression)
Compensation and financial factors	
Base salary (COLA, in \$1,000)	-0.003* (0.002)
Base salary (COLA, in \$1,000, squared)	0.000 (0.000)
Additional compensation from work outside of the school system	0.021 (0.015)
Holding student loans	0.013 (0.013)
Working environment and leadership	
Classroom autonomy (SD)	-0.012 (0.011)
Influence on school policy (SD)	0.010 (0.012)
Lack of barriers to teaching and learning (SD)	0.007 (0.010)
Job and workplace satisfaction (SD)	-0.076*** (0.013)
Leadership effectiveness and supports (SD)	-0.053*** (0.012)
Observations	5,900
R-squared	0.076
Other predictors in the model	
Instructional factors and workload, other instructional supports, and accountability	Yes
Teacher characteristics: demographic, background and experience	Yes
School characteristics: student body composition, school type, school size, and locale	Yes
State FE	Yes

Notes: COLA stands for cost-of-living adjusted; SD stands for standard deviation; FE stands for fixed effects. Full results are shown in Table D1. Standard errors in parentheses. * $p < .1$. ** $p < .05$. *** $p < .01$. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Number of observations are rounded to the nearest 10. This model includes controls for all teacher characteristics, school characteristics, working conditions, and state fixed effects. Salary amounts are adjusted for cost-of-living differences across the country and are expressed in 1,000 (quadratic term included). Reference categories: Financial factors: not receiving compensation for work done outside of the school system; teacher not repaying student loans. When coefficients are multiplied by 100, they represent the percentage point difference in the probability of turnover associated with a 1 unit change in the predictor variables.

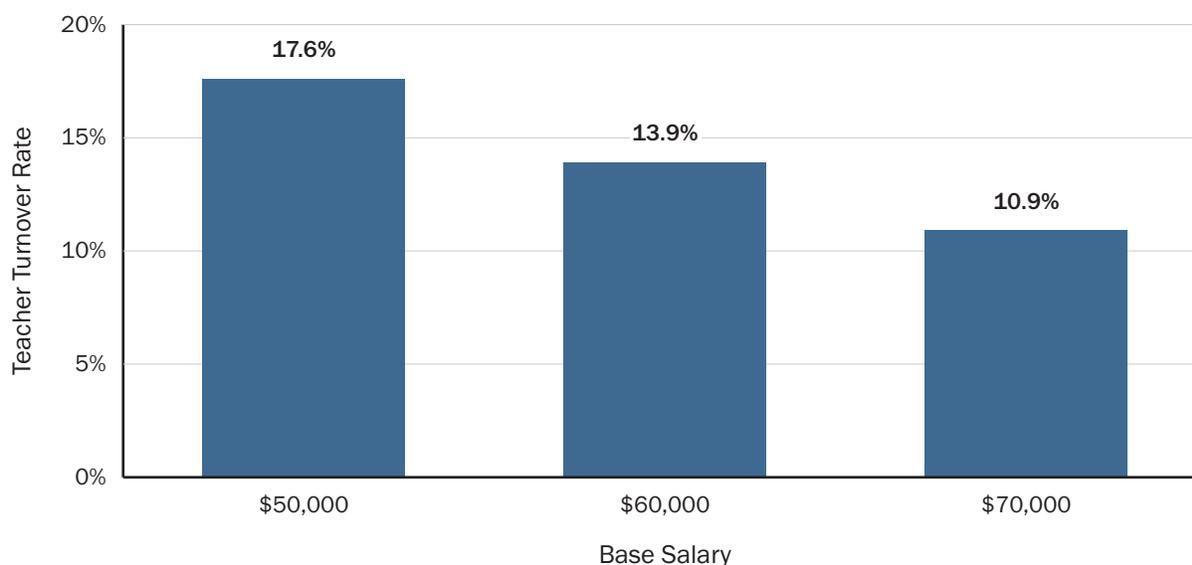
Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Salaries and Compensation

Prior research has demonstrated the importance of teachers' salaries in turnover decisions.⁵⁵ As described previously, a large share of both movers and leavers cited wanting or needing higher salaries as their most important reason for leaving their school. Our bivariate analyses also showed that earning lower salaries, working a second job, and having student loans were each significantly associated with turnover.⁵⁶

Because many factors related to compensation account for turnover differences, we included all of these factors in the fully specified multivariate model to examine the unique role of salary on turnover. In the full model, teachers with higher base salaries were less likely to move schools or leave teaching, even after controlling for teacher experience, school context, and other factors that may explain differences in salary.⁵⁷ For every \$1,000 increase in base salaries (adjusted for cost of living), the probability of turnover decreased by about 0.34 percentage points, on average (see [Table D1](#)). The changes were larger at lower levels of the salary range and smaller at higher levels of the salary range (captured by the quadratic term). As shown in [Figure 9](#), teachers receiving around \$70,000 in salary had a 3 percentage point lower probability of turnover than teachers making \$60,000, which is near the average salary for teachers in our sample. Similarly, turnover rates were higher for teachers who earn less than the average salary; for teachers earning around \$50,000, turnover rates were close to 4 percentage points higher than teachers making around the average salary. In other words, the predicted probability of turnover decreases by nearly 40% when teacher salaries increase from a salary around \$50,000 to around \$70,000.

Figure 9. Predicted Teacher Turnover Rate by Base Salary



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Salary amounts are adjusted for cost-of-living differences across the country and are expressed in 1,000 (quadratic term included). Predicted turnover rates calculated for salary values equal to \$50,000, \$60,000, and \$70,000 (adjusted for cost of living) and at mean values for the rest of the variables in our fully specified model (includes other compensation, working conditions, teacher characteristics, school characteristics, and state fixed effects).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Other financial factors are related to turnover. While base salary makes up the majority of a teacher's compensation, other financial factors can also impact it. For example, teachers may boost their income by working additional jobs, or their disposable income could be reduced if they are holding student loans. Prior research has also found that these other financial factors influence teachers' working conditions: Working multiple jobs leads to burnout due to higher workload levels, while the financial pressures associated with student loan debt lead to higher levels of stress.⁵⁸ Although working multiple jobs and holding student loans were not statistically significant in the full model, these two factors were independently related to turnover in our bivariate analyses above (see [Table 4](#)). (Note that they also do emerge as significant predictors in the fully specified model when looking only at preretirees; see [Key Factors Associated With Preretirement Turnover](#).) Indeed, they impact the amount of disposable income, suggesting that the base salaries included in our full model are likely accounting for the influence of these other financial factors.⁵⁹ Thus, while increasing base salaries themselves is a clear and direct policy lever for reducing turnover, our analyses show that other policy approaches may also affect teachers' total compensation.⁶⁰ For example, loan forgiveness and other financial supports could help teachers stay in the profession by easing the financial burdens they face.

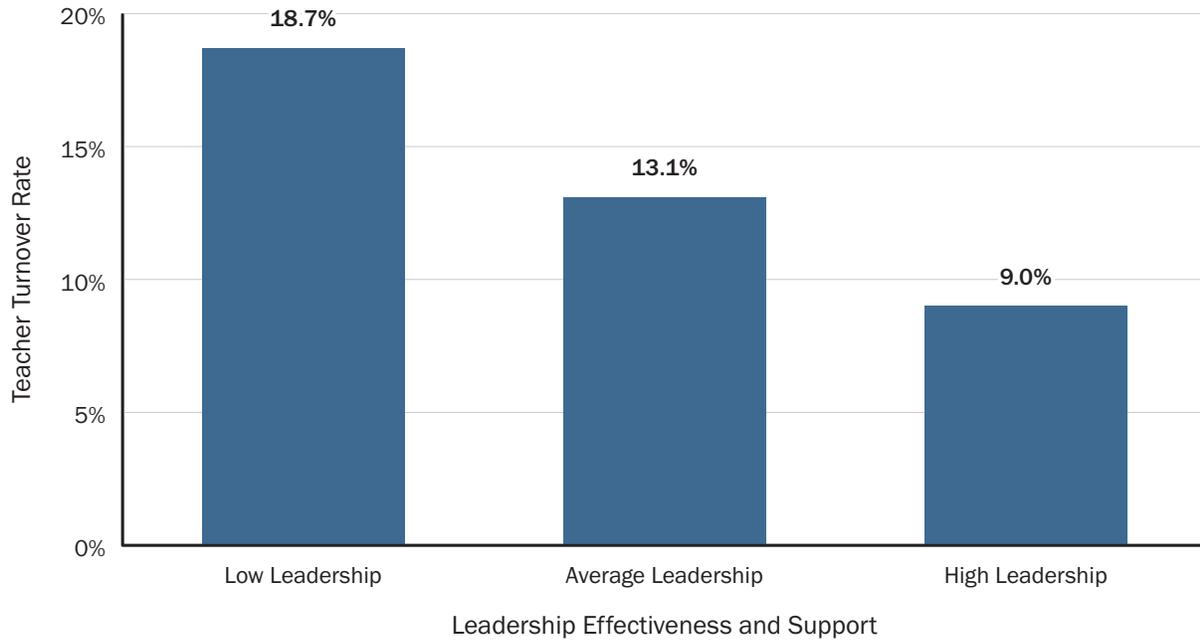
Leadership Effectiveness and Supports

Given the expansive role that school leaders play in most aspects of school operations, they strongly influence teachers' working conditions.⁶¹ Our index metric for school leadership effectiveness and supports captures teachers' perceptions on a broad set of school leadership responsibilities, with aspects ranging from principals' role in facilitating professional development to working with staff to resolve school or departmental problems. A more effective leader, in our data, is a leader who is supportive of teachers; communicates a clear vision; recognizes staff efforts; and is effectively encouraging collaboration, helping meet curriculum standards, promoting professional development, and using student assessments to improve instruction (see [What Do the Working Environment and Leadership Indices Represent?](#) and [Table A2](#)).

In our fully specified model, and as shown in [Figure 10](#), teachers who reported lower levels of leadership effectiveness and supports had a 5.6 percentage point higher predicted probability of turnover than those who reported levels of leadership effectiveness and supports near the average. Compared to a teacher who reported near average levels of leadership effectiveness and supports, a teacher who reported leadership effectiveness and supports on the high end of the scale had a 4.1 percentage points lower probability of turnover. In other words, the predicted probability of turnover is reduced by half when comparing teachers who report low versus high levels of leadership effectiveness and supports.

The predicted probability of turnover is reduced by half when comparing teachers who report low versus high levels of leadership effectiveness and supports.

Figure 10. Predicted Teacher Turnover Rate by Perceived Leadership Effectiveness and Supports



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Predicted turnover rates calculated for values of leader effectiveness and support values equal to -1 (“Low” leadership), 0 (“Average” leadership), and 1 (“High” leadership) in standard deviation units and at mean values for the rest of the variables in our fully specified model (includes compensation, other working conditions, teacher characteristics, school characteristics, and state fixed effects).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

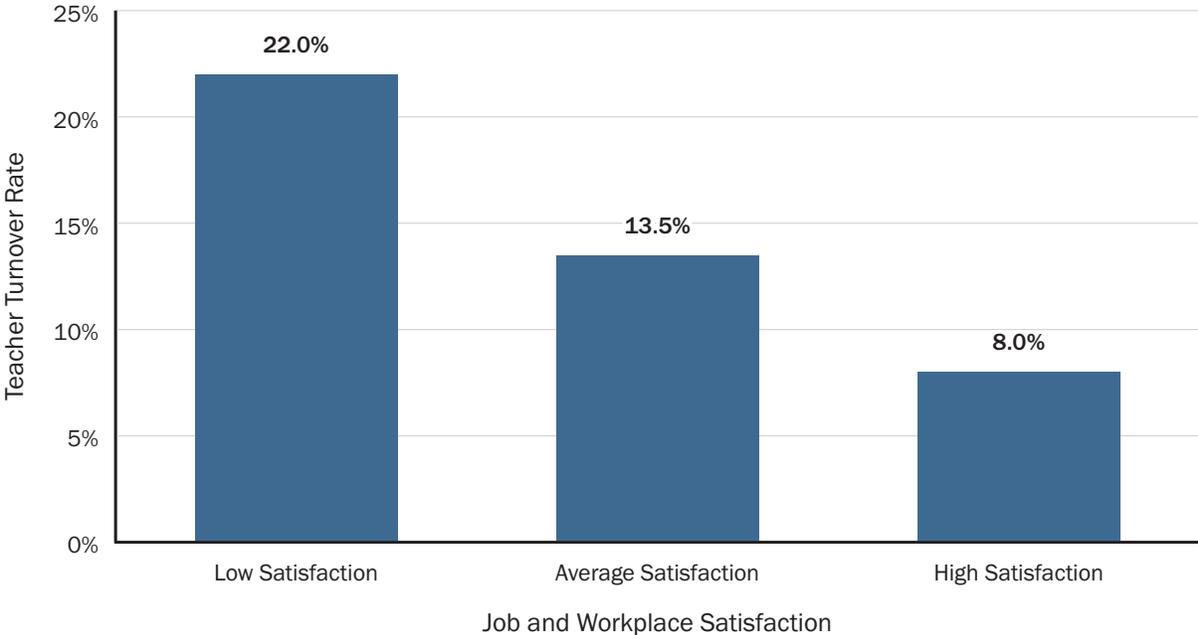
Other factors are related to leadership effectiveness and supports. Our analyses found that the leadership effectiveness and supports index appears to capture several aspects of teachers’ working conditions. When we examined the relationship between school leadership and other variables in our model, we found that teachers reported higher levels of leadership effectiveness and supports when they also reported greater influence over school policy, fewer barriers to teaching and learning, and higher levels of job and workplace satisfaction (see [Table D2](#)). Similarly, teachers who agreed that they had the materials they needed also reported higher levels of school leadership effectiveness and support than teachers who did not agree that they had those materials. These findings comport with prior literature showing that effective school leadership plays a key role in reducing teacher turnover.⁶² School leaders can directly support teachers as well as indirectly foster positive working conditions, such as by creating and maintaining safe and nurturing working environments, fostering collaboration between teachers, and providing teachers with necessary resources.⁶³

Job and Workplace Satisfaction

Prior research has elevated the importance of teacher satisfaction, well-being, and lower burnout in reducing turnover.⁶⁴ After accounting for all other factors, our analyses reinforced prior literature and found that teachers with greater job and workplace satisfaction—higher reported values on the index that represents

teachers’ perceptions of their satisfaction with the job, the school environment, a lack of stress and burnout, and their willingness to stay in teaching—were less likely to leave their positions or the profession. Specifically, as shown in [Figure 11](#), teachers who reported levels of job and workplace satisfaction on the lower end of the satisfaction scale had an 8.5 percentage points higher predicted probability of turnover compared to teachers who reported levels of job satisfaction near the average. Teachers who reported levels of job and workplace satisfaction on the higher end had a 5.5 percentage points lower probability of turnover.

Figure 11. Predicted Teacher Turnover Rate by Reported Job and Workplace Satisfaction



Notes: Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Predicted turnover rates calculated for values of job and workplace satisfaction equal to -1 (“Low” satisfaction), 0 (“Average” satisfaction), and 1 (“High” satisfaction) in standard deviation units and at mean values for the rest of the variables in our fully specified model (includes compensation, other working conditions, teacher characteristics, school characteristics, and state fixed effects).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Other factors are related to job and workplace satisfaction. Teachers’ reported level of job and workplace satisfaction serves as an overarching metric that captures teachers’ perceptions about several working conditions. Satisfaction also serves as an early indicator for teachers’ intention to move schools or leave teaching.⁶⁵ In our analyses, we found that teachers’ reported job satisfaction levels were higher when they reported receiving support from their students’ parents or when they had greater levels of classroom autonomy, greater influence over school policies, more effective and supportive school leadership, and fewer barriers to teaching and learning (see [Table D2](#)). Conversely, higher amounts of paperwork and administrative duties, more hours worked, teaching in a larger class, experiencing test-related job insecurity, or working outside of the school system were associated with lower levels of satisfaction.

Given the strong relationship between job satisfaction and the likelihood of turnover, it is especially important to identify the conditions that contribute to dissatisfaction.⁶⁶ Understanding the drivers associated with teachers' job and workplace satisfaction can help inform school- and system-level strategies aimed at improving working conditions and, ultimately, teacher retention.

Key Factors Associated With Preretirement Turnover

Existing evidence suggests that different groups of teachers experience different teaching assignments, compensation, and working conditions, and that they may respond to these differently depending on their own characteristics. One case of special interest is preretirement turnover, i.e., teachers who move schools or leave teaching for reasons other than retirement. Teachers who retire may have different motivations for leaving their position than all other teachers. Thus, including them in the same analyses as all other teachers may conflate some of the results. To explore this possibility and to offer more comparable results to studies that examined turnover among nonretirees, we examined preretirement teacher turnover and retention.

Our findings suggest that, by and large, teachers who move schools or leave teaching for reasons other than retirement respond to the same factors as all teachers do, with base salary, leadership effectiveness and supports, and job and workplace satisfaction being significantly associated with preretirement turnover (see results in [Table D1](#)). However, when examining the role of compensation and working conditions on turnover, some differences between the findings for nonretirees and all teachers emerge, including the following:

- Holding student loans and working multiple jobs emerged as statistically significant factors associated with turnover among preretirees, although they were not significant for all teachers (in addition to base salary). This may be because teachers nearing retirement tend to not hold student loans; earn higher salaries; and may be less compelled to take second jobs, as they are already planning to retire. Therefore, when including all teachers in the fully specified models, retirees' experiences may mask the experiences of nonretirees.
- Teachers' salaries played a slightly larger role in predicting turnover among nonretirees, while school leadership quality and job satisfaction indices played a slightly smaller role for this group, compared to the overall sample.
- Having the necessary materials available as needed was significantly associated with reduced turnover among nonretirees but was not significantly associated with turnover in the overall sample.

These results highlight that teachers in different stages of their careers seem to have many overlapping reasons, but also unique ones, for moving schools or leaving teaching. Separating analyses by subgroups, as done here, allows for a more nuanced understanding of the drivers of turnover.

Sources: Carver-Thomas, D., Leung-Gagné, L., & García, E. (2025). *Supporting and sustaining a diverse teacher workforce*. Learning Policy Institute; García, E., Wei, W., Patrick, S. K., Leung-Gagné, M., & DiNapoli, M. A., Jr. (2023). *In debt: Student loan burdens among teachers*. Learning Policy Institute.

Policy Considerations

In light of the ongoing challenges to building a strong and stable teaching profession—and the critical need to support student learning and development—the findings in this report highlight several avenues policymakers can pursue to reduce teacher turnover. Turnover is a complex issue with no single cause, and a multifaceted and mutually reinforcing policy approach—across federal, state, and local levels—is necessary to create the conditions that encourage teachers to stay. At the same time, each level of government may be better positioned to enact certain policies, given the structure of the U.S. education system.

Based on our findings about the key associations between teacher turnover and salaries and compensation, school leadership, and job satisfaction, this section begins by outlining policy considerations to strengthen each of these factors. While these levers broadly support the teaching profession, our analyses also showed that turnover is disproportionately high among certain groups of teachers, including uncertified and early-career teachers, those teaching typically hard-to-staff subjects, or those working in schools with large concentrations of students from low-income backgrounds and students of color. We therefore provide targeted strategies to improve retention for these groups—strategies that can also generate broader benefits across the entire profession.

Policies to Improve Compensation and Working Conditions

Salaries and Compensation

Our analyses show that higher salaries are associated with lower probabilities of teachers' moving schools or leaving the profession. Teachers' salaries are relatively lower than salaries of similarly educated professionals—and, on average, this wage penalty is even larger for teachers of color.⁶⁷ Teachers' total compensation is also shaped by whether they hold student loans or work multiple jobs, which were significant predictors of turnover among nonretirees. Given this evidence, policymakers can do the following:

- **Ensure that teachers' salaries and total compensation are competitive with other professions requiring similar levels of education.** Teacher salaries are largely determined at the local and state levels. A large number of states—including recently Iowa, New Mexico, South Dakota, and Texas—have taken legislative action to raise teacher pay and equalize salaries.⁶⁸ Federal action can also incentivize states and local education agencies to raise and equalize salaries, as recent federal legislation has sought to do.⁶⁹ Federal policies can also complement local and state salary investments by offering non-salary benefits, such as refundable tax credits or housing subsidies, to educators.⁷⁰
- **Expand access to loan forgiveness and service scholarship programs.** Loan forgiveness programs cancel accrued student loan debt, while service scholarship programs provide upfront aid that reduces or eliminates the need to borrow for teacher preparation; both types of programs are typically tied to requirements for service in high-need fields or locations. Research suggests that when the financial benefit of these programs meaningfully offsets the cost of a teacher's preparation, they support both teacher recruitment and retention.⁷¹ The federal government and many individual states have existing loan forgiveness and service scholarship programs targeted to or available to teacher candidates.⁷² These policies mitigate the amount of loan burden teacher candidates take on, lessening the financial burden.⁷³ However, per-candidate funding amounts

are often insufficient to cover most or all of the costs of preparation, and—particularly at the state level—program budgets are often not enough to cover all eligible candidates. These programs could be expanded and improved to reach more aspiring teachers.

- **Provide targeted salary or other compensation increases for teachers in high-need fields and locations, as well as for teacher expertise and leadership.** Policies can provide incentives and opportunities to earn advanced credentials, teach in high-need subjects or schools (e.g., special education, rural schools, high-poverty schools), work as mentors, or take other roles within the school system, which can supplement teachers' base salaries. These policies also align with prior literature showing that career growth and advancement can enhance teacher satisfaction and may reduce turnover.⁷⁴ For example, credentialing opportunities like National Board certification can help provide career advancement opportunities when teachers can build upon the research-based professional learning they have received.⁷⁵ As teachers grow and advance in their professions, they are better positioned to serve as teacher leaders for their teams or departments, or to serve as mentors during beginning teachers' induction.

School Leadership

This study reinforces findings from prior research showing that school leadership effectiveness and supports is a key predictor of teacher turnover.⁷⁶ School leaders play an important role in directly supporting teachers and sustaining positive working environments. As such, strengthening the effectiveness of school leaders and improving the supports they can offer to teachers and students may help reduce teacher turnover. To do so, policies could do the following:

- **Ensure that school leaders are well prepared to support teachers and have access to high-quality professional learning.** Leadership practices that support teachers' opportunities to collaborate and involvement in decision-making are associated with higher teacher retention.⁷⁷ Preparation and professional learning opportunities can help principals implement distributed leadership models in which they share decision-making with teachers in order to draw on the knowledge and expertise of the staff and create a collective commitment to improve teaching and learning.⁷⁸ Our study found teachers' classroom autonomy and involvement in school decision-making to be associated with more positive teacher perceptions of leadership effectiveness and support, which reduces turnover.

High-quality school leader preparation is key. Leadership academies and paid internships or residencies can help develop strong instructional leadership skills from the outset.⁷⁹ States can further strengthen leadership pipelines by leveraging licensure requirements and program approval standards to ensure that preparation programs incorporate research-based practices for effective leader development.⁸⁰

Once leaders are in their roles, sustained support matters. Federal, state, and district policies can strengthen school leadership by expanding access to high-quality coaching and mentoring. These supports can help leaders build environments of trust and collaboration and continue developing the skills laid during their preparation. More experienced school leaders can benefit from ongoing professional learning opportunities that contribute to coherence in leadership practice focused on how to lead in a way that enables teacher success and retention.⁸¹

Job and Workplace Satisfaction

Teacher job and workplace satisfaction serves as an overarching indicator of teachers' experiences, including their stress and burnout levels, perceptions of the school environment, and willingness to stay in teaching. Given that dissatisfaction and burnout are often early warning signs that a teacher may be considering leaving, policies that support teacher job satisfaction can play an important role in reducing turnover and encouraging teachers to stay in their roles.⁸² In addition, research has shown that factors such as lower levels of job-related stress, emotional exhaustion, and burnout are positively linked to student outcomes.⁸³ These findings suggest that improving teacher satisfaction not only supports retention in the field but also has broader benefits, including enhanced student performance and teachers' overall school experience.

Building on prior research, we also found that job and workplace satisfaction increases when other working conditions improve.⁸⁴ These include having greater classroom autonomy, more influence over school policy, more effective and supportive leadership, smaller class sizes, better parental support, fewer interferences from paperwork and administrative duties, and lower concerns about test-based accountability. Therefore, a wide range of policies can help improve teachers' job and workplace satisfaction. Considerations include the following:

- **Provide access to ongoing professional learning and supports for teachers.** Policies that create opportunities for teachers to continuously grow their professional capacities can help ensure that they are well prepared, supported, and more satisfied. Our study found that more effective leadership and support from principals—including leaders who facilitated and encouraged professional learning opportunities for their teachers and encouraged professional collaboration among teachers—was associated with reduced turnover. Conversely, job and workplace satisfaction decreased when teachers had additional jobs outside of the school system. High-quality professional development creates space for teachers to share ideas and collaborate in their learning, often in job-embedded contexts. Participating in mentoring and coaching opportunities, professional learning communities, and other educator networks can strengthen teachers' content knowledge, pedagogical practices, and learner-centered approaches.⁸⁵ These professional learning opportunities can also further equip teachers with the resources necessary to design student-centered curricula and provide authentic assessments that promote deeper learning.⁸⁶
- **Redesign schools to support collaboration and shared decision-making.** Extensive research demonstrates how positive working conditions enhance teacher satisfaction and retention.⁸⁷ Redesigning school structures to provide teachers with more opportunities to collaborate and work in teams and have greater influence over decision-making can positively influence teacher retention.⁸⁸ Our study also found that these collaborative aspects, which are part of our leadership effectiveness and supports index, are positively correlated with teacher satisfaction. For example, school- or district-level policies can provide dedicated time during the school day for teachers to collaborate (e.g., in grade-level or subject teams), conduct reciprocal peer observations, implement lesson studies, and engage in teacher action research.

The efficacy of these approaches to foster positive teacher outcomes is also well documented in prior research: Teachers rank collaboration time as among the most important variables for retention in the profession, and teachers who work in collegial settings grow more rapidly in

effectiveness.⁸⁹ Systematic and sustained collaboration among teachers requires changes in scheduling and resource allocation to create the time needed for productive collaboration. Therefore, strategic staffing approaches, including those integrated with high-quality preparation through the teacher residency model, discussed below, can be another policy approach to increasing teacher collaboration.⁹⁰

Simultaneously, policies that increase teachers' influence in the classroom and in school decision-making can increase their job satisfaction and improve retention.⁹¹ Conversely, policies that limit teachers' classroom autonomy over various aspects of planning and teaching, such as choosing what and how to teach, selecting instructional materials, evaluating and grading students, managing student behavior, and assigning homework, can undermine teacher satisfaction and lead to increased turnover. When considering policies that will impact teachers' ability to execute core aspects of their job, federal, state, district, and school leaders should carefully weigh the benefits of more standardized and prescriptive policy approaches alongside the benefits of relying on teachers' expertise and professional judgment.⁹²

Additional Policies to Address Turnover Among High-Turnover Groups

In addition to improving working conditions that can help curb teacher turnover overall, targeted efforts to retain teachers in the groups with the highest turnover rates can have an even greater effect on reducing overall turnover rates. As our analyses showed, these groups include uncertified teachers, early-career teachers, teachers in typically hard-to-staff subjects, teachers in schools with large concentrations of students from low-income backgrounds and students of color, and teachers of color. While all teachers can benefit from policy interventions, the existing evidence suggests that these groups of teachers are more likely to experience teaching conditions that are associated with higher rates of turnover and are thus more likely to be impacted by policies to mitigate turnover. For example, studies have shown that teachers of color, especially Black teachers, often have less access to the conditions that improve teacher retention, ranging from comprehensive teacher preparation to positive teaching conditions.⁹³

Research has also found that working conditions are more challenging for teachers in schools that are the most underresourced and that serve students who are furthest from opportunity, resulting in higher turnover.⁹⁴ Policies that mitigate higher turnover within these groups not only strengthen the overall educator workforce and improve students' learning experiences, but also enhance efforts to build and sustain the teacher workforce. Policies include the following:

- **Strengthen preparation and early-career support systems for new teachers, especially those who currently have the least access.** Our study found that early-career teachers, especially those who are uncertified, moved schools and left teaching at higher rates. Increasing their access to quality preparation in strong credential programs can help reduce their likelihood of turnover while supporting their effectiveness in their first few years in the classroom.
- **Make comprehensive preparation more accessible and affordable.** Investments that make strong preservice preparation more accessible and affordable for a wider range of teacher candidates are key to minimizing early-career turnover. High-retention pathways into teaching, in which teacher candidates receive comprehensive preparation and earn their state's certification to teach, can equip new teachers with the skills they need to succeed and to serve in the high-need communities

where they are most needed. Comprehensive teacher preparation models typically offer rigorous content and pedagogical coursework, integrated and supervised preservice clinical experiences, and frequent and embedded opportunities to practice teaching under the wing of an accomplished mentor teacher.⁹⁵

One strong model is teacher residencies—modeled after medical residencies—in which preparation programs partner with districts to recruit and pay candidates to work alongside expert teachers, often in high-need classrooms, while they complete highly integrated coursework from a partnering university. Residents repay these investments with several years of service to the partnering district, which helps to end the revolving door of underprepared teachers in high-need schools.

A growing body of evidence on the teacher residency programs—which nearly half of states are now supporting through state policy— suggests that residency program graduates tend to be retained in their districts longer than other candidates, on average, thereby lowering rates of new teacher attrition and reducing the need to hire more new teachers. This research also shows that teacher residencies have been successful in recruiting talented candidates into high-need fields and school districts in ways that also increase the diversity of the workforce.⁹⁶

- **Broaden access to induction, mentoring, and other professional learning supports during the early years of teaching.** Supporting early-career teachers with high-quality mentoring and induction while they gain experience can help them build the skills, competencies, and confidence to continue teaching.⁹⁷ Research shows that new teachers who receive little mentoring are twice as likely to leave the classroom as those who are well mentored by expert teachers and receive induction supports.⁹⁸ Broadly available, high-quality mentoring and induction opportunities, especially in underresourced districts and schools where novice teachers are disproportionately concentrated, can help mitigate early-career turnover.
- **Incentivize and underwrite the costs of earning high-need, advanced credentials.** Some teaching areas have consistently experienced teacher shortages and continue to be high-turnover areas, including special education, English as a Second Language, foreign languages, and career or technical education. Addressing higher turnover rates in these areas can help reduce overall teacher turnover.⁹⁹ One direct strategy is to incentivize current teachers to pursue credentials in and teach in high-need subjects, thereby expanding the pool of experienced and well-prepared teachers where shortages are most acute. Incentives can include underwriting the costs of earning these credentials to improve accessibility, as well as providing stipends, salary enhancements, professional development, and other targeted supports for teachers working in these areas.
- **Ensure equitable and adequate school funding and resources.** Our study showed that turnover is disproportionately higher among teachers in schools with higher concentrations of students from low-income backgrounds and students of color—where funding and resources are lower.¹⁰⁰ These findings suggest a need to address higher turnover rates in schools that are the most underresourced and that serve students who are furthest from opportunity. A foundational strategy is to revise state funding formulas to provide added resources for students with greater needs.¹⁰¹ Some of these resources can support targeted workforce preparation, recruitment, and retention investments to help create more equitable staffing conditions across schools.

Research Considerations

Future studies can build on this report’s findings to further answer relevant policy questions and inform policies that help build a strong, stable, and diverse teacher workforce. The following considerations mainly focus on quantitative analyses using national-level data, though some also stress the value of state-level research needed to explore many of the issues affecting the workforce in the context of specific state systems.

- **Examine the specific drivers of turnover among groups of teachers with high turnover rates.** While this report found differences in turnover rates among certain groups of teachers, it did not investigate how teaching conditions may differentially influence turnover among certain groups. Indeed, existing evidence shows how different groups of teachers experience different levels of supports and teaching conditions.¹⁰² However, less is known about how specific policies—such as those that may affect their compensation and working conditions—influence turnover decisions across different groups of teachers, especially using consistent and comparable data. Future subgroup analyses can offer new evidence to better tailor policy solutions for specific teacher labor markets, such as the ways in which early-career teachers may respond to some supports, what strategies can help diversify the profession, or how to retain teachers who are teaching in high-need subjects or schools.
- **Assess how recent policy changes affecting salaries, leadership, and satisfaction have influenced teacher turnover.** Further state- and national-level research around salaries and compensation, leadership, and satisfaction is recommended. For example, examining the impact of recent policy changes on teacher salaries could yield important lessons about the effectiveness and efficiency of various policies.¹⁰³ In addition, given the significant role that leadership plays in teacher turnover, further evidence on the relationship between principal turnover and teacher turnover could shed light on direct and indirect ways to support teacher retention.¹⁰⁴ In general, research around major state-level policies affecting the workforce (and the education system) is needed in order to understand their impact.¹⁰⁵
- **Further investigate how the COVID-19 pandemic impacted the teacher workforce.** An important caveat of our study is that the teacher workforce represented an unusual cohort due to the COVID-19 pandemic. Some teachers’ responses to the survey may be conditioned by how COVID-19 altered teaching, learning, and the stress and burnout that educators experienced.¹⁰⁶ (See [Appendix B: Contextualizing the Teacher Labor Market in 2020–21 and 2021–22](#) for full details.) Some teachers’ decisions to stay in their assignments, move schools, or leave the profession may have been affected due to these pandemic-induced factors (e.g., they might have left teaching prior to the creation of the roster for the sample) or may be unaccounted for due to our inability to account for within-year turnover.¹⁰⁷ To date, only a few states have recorded teacher-level turnover data longitudinally, which limits the ability to estimate the pandemic’s impact on the workforce across the nation. Future studies, especially those relying on longitudinal evidence, could be used to estimate the pandemic’s impact on the workforce, as well as how the workforce has evolved since the pandemic.

- **Expand theoretical frameworks of teacher turnover.** Although various meta-analyses around the influence of teaching conditions on turnover have been instrumental in shaping our understanding of teacher labor markets, these frameworks may benefit from more flexibility and a revision of the factors that influence teacher turnover. Emerging research suggests the need to account for a broader and evolving set of factors, such as school design and teachers' roles within school contexts—both as drivers of turnover and as conditions affecting teacher effectiveness.¹⁰⁸ For instance, new pressures on the teaching profession are likely to affect both retention and job satisfaction.

Teachers are increasingly expected to address rising student mental health challenges; adapt to new technologies and their impact on students and in the classroom (including artificial intelligence, social media, and cell phone policies); and navigate an era of increased scrutiny of and policies addressing curricular and instructional decisions.¹⁰⁹ At the same time, classroom staffing has changed to incorporate more support staff (e.g., psychologists, guidance counselors, teaching assistants), intended to improve instruction and student learning, but with the potential of also influencing teacher satisfaction or turnover. These developments highlight the importance of adapting turnover frameworks to better reflect the current sociopolitical and technological context of teaching, as well as aspects of teaching practice. This work could lead to expanded theoretical frameworks to understand teacher turnover and more nuanced examinations of the interdependence of factors and their sensitivity to policy action.

- **Allow for more comparable estimates and for a deeper examination of the complex interrelationships between factors.** Much of the existing evidence on teacher turnover relies on sources that are not directly comparable or on models that use different specifications (e.g., how turnover is defined, what working conditions are used in the model, which teachers are in the sample), making it difficult to synthesize findings across studies or translate findings into more compatible policy considerations. For policymakers, it is important to understand the interconnected nature of working conditions, as it opens the door to addressing multiple drivers of turnover through coordinated policy levers. For researchers, greater alignments in model specifications and more intentional attention to how key factors interact can help identify which conditions most strongly influence turnover. Establishing consistent analytic approaches across studies would enhance both the comparability and the usefulness of the evidence for shaping policy and practice.
- **Leverage longitudinal national data to track trends and inform policy.** Future analyses could draw on previous and future iterations of the surveys we used for our analyses. Collected by the U.S. Census Bureau on behalf of the National Center for Education Statistics, the National Teacher and Principal Survey (NTPS) and the Teacher Follow-Up Survey (TFS) and their predecessor, the Schools and Staffing Survey (SASS), have been producing valuable data on the teacher workforce in the United States for almost 4 decades. Further research could use these surveys, retrospectively, to assess whether and how the descriptive trends and the predictors of turnover have changed over time. Looking ahead, if made available, the 2023–24 NTPS and the 2024–25 TFS could offer more up-to-date and needed information on the state of the teaching profession and provide an additional year of comparison to previous waves.

- **Ensure continued investments in national datasets.**¹¹⁰ While some state-level data can provide timely examinations of local teacher labor markets and are needed to explore many of the issues raised in this report in the context of specific state systems, national-level data like the NTPS and the TFS are essential to examine the teaching profession. This information allows researchers to examine the teacher workforce across states; explain differences in turnover patterns and working conditions nationwide; and better include teachers working in smaller states, rural communities, and underrepresented groups—which may not be captured in state and local datasets in a comparable manner. To ensure this work continues, it is critical that federal policymakers sustain and strengthen funding for the collection and improvement of these national datasets.

Conclusion

This report reinforces that teacher turnover in the United States has remained persistently high over the past 2 decades—and that some of the most important factors of turnover are systemic issues that can be addressed with the right set of policy strategies. These teacher turnover rates are higher than turnover rates in other high-performing education systems. Turnover has negative repercussions for student learning, staff stability, and district finances, and it is one of the main causes of teacher shortages. As a start, reducing turnover can be seen as a cost-saving strategy, given that replacing a teacher who left can cost a district as much as \$25,000 (in 2024 dollars). Also, while short-term solutions may temporarily alleviate vacancies and shortages caused by excessive turnover, they may ultimately exacerbate the problem, highlighting the need for long-term and sustained policy solutions to reverse these patterns and support a stable, highly qualified teacher workforce.¹¹¹

This report provides an updated view of the teaching profession by examining who stays, who moves schools, and who leaves the profession, and which groups of teachers have higher rates of turnover. It also points to the significance of teacher salaries, job satisfaction, and school leadership effectiveness and supports in building a strong, stable, and diverse teacher workforce. Additionally, the report highlights how a wide range of factors—including financial factors, administrative burdens, parental support, classroom autonomy, accountability, and class size—shape some teachers' working conditions and compensation. These findings show that the main factors that have historically mattered for turnover are still the most relevant—even in the years following the onset of the COVID-19 pandemic. Together, these findings stress areas where systemic and targeted policy levers can reduce turnover; strengthen the teaching profession; and, ultimately, support our students' learning and development.

Appendix A: Methodology

For full details, see the companion [Technical Supplement](#).

Data Sources

This research builds on data from the 2020–21 National Teacher and Principal Survey (NTPS) and the 2021–22 Teacher Follow-Up Survey (TFS). Both are nationally representative surveys of public and private K–12 teachers in the 50 states and the District of Columbia.¹¹² These surveys are developed by the National Center for Education Statistics (NCES) of the Institute of Education Sciences within the U.S. Department of Education, and data are collected by the U.S. Census Bureau on behalf of NCES.¹¹³

- The 2020–21 NTPS public school teacher data include responses from a nationally representative sample of teachers (public school teachers and private school teachers), about 39,630 teachers in K–12 public schools (traditional and charter) in the 50 states and the District of Columbia. It includes information about teachers' background and multiple characteristics of their job and assignments. NCES conducted this NTPS from October 2020 to August 2021.
- The 2021–22 TFS is a longitudinal component of NTPS that followed a sample of public and private school teachers into their job assignments a year later to assess teachers' decisions regarding their teaching status (i.e., stayer, mover, or leaver). The 2021–22 TFS sampling frame consisted of teachers who completed a Teacher Questionnaire during the 2020–21 NTPS.¹¹⁴ The survey is nationally representative of the target population. Data collection activities with current and former teachers were conducted from January to July 2022.

For our analyses, we use the responses of public school teachers who participated in both the 2020–21 NTPS and the 2021–22 TFS. Our analytic sample includes respondents who identified themselves as regular full-time teachers, regular part-time teachers, or itinerant teachers in 2020–21. We exclude long-term substitutes, administrators, librarians, support staff, and other professional staff. Public schools include traditional public schools and charter schools. Restricting the sample to public school teachers who were full-time, part-time, or itinerant teachers in 2020–21 and who were surveyed a year later, the number of observations is approximately 5,900. In our analytic sample, 96.6% teachers are full-time, 2.2% are part-time, and 1.2% are itinerant teachers.

Analytical Approach

This study uses descriptive and regression analyses. We adhere to NCES's survey design recommendations and reporting requirements to weigh teacher observations by both the teacher and the replicate weights such that findings represent population statistics.¹¹⁵ In general, findings represent full-time, part-time, and itinerant public school teachers in 2020–21 who were followed into their job assignments in the following year. The variables used in these analyses are presented in [Table A1](#).

For **descriptive findings**, we describe the proportion of teachers who stayed at their schools, moved to another school, or left teaching. We describe where teachers who moved schools went or where teachers who left teaching are currently (e.g., working, retired, etc.), as well as what shares of teachers leave or move schools voluntarily for reasons other than retirement. We also examine how teacher

turnover and retention vary by numerous individual- and school-level characteristics, including teacher demographic characteristics (gender, race and ethnicity), educational background and experience (years of experience, preparation route, certification status), instructional factors and workload (level of students taught by teacher, field of main teaching assignment), their school's student body composition (school concentration of students eligible for free or reduced-price lunch under the National School Lunch Program, school concentration of students of color), school location, type of school, and school size. Finally, we examine the reasons teachers identify as the most important reason for their decisions to move schools or leave teaching.

In our results, values not reported or flagged with a caveat are to adhere to NCES's reporting requirements. Estimates marked with † should be interpreted with caution (the coefficient of variation of the estimates is between 30% and 50%). Estimates marked with †† are not reported because reporting standards are not met (the coefficient of variation of the estimates is higher than 50%).

For **regression analyses**, we estimate the relationship between teachers' working status (turnover vs. retention) in 2021–22, relative to 2020–21, and multiple individual- and school-level characteristics. These include teachers' demographic characteristics (gender, race and ethnicity), educational background and experience (years of experience, preparation route, certification status), compensation (salary and financial factors), working conditions (working environment and leadership, instructional factors and workload, additional instructional supports, and accountability), and school characteristics (share of students of color, share of students eligible for FRPL, type of school, locale, and school size). Our models also include a control for state-specific characteristics. The findings represent population statistics, and we adhere to survey design recommendations to estimate our models. Results should not be interpreted as causal.

We present results for our main dependent variable: teacher turnover, defined as both movers and leavers (vs. stayers).¹¹⁶ We also present the results from two types of models: a bivariate model and a fully specified, multivariate model. In the **bivariate model**, we estimate, for each independent variable in the fully specified model, their relationship with the dependent variable. This model allows us to detect unadjusted statistically significant relationships between turnover and each independent variable. Our **multivariate, fully specified model** is represented by the following equation, with state fixed effects (FE).

Full model with state FE: $Y_{is} = \beta_0 + \beta_1 \times \text{Compensation and Working_conditions}_{is} + \beta_2 \times \text{Demographic_characteristics}_{is} + \beta_3 \times \text{Educational_background and Experience}_{is} + \beta_4 \times \text{School_characteristics}_{is} + \beta_5 \times \text{Locale}_{is} + \lambda_s + e_{is}$, where Y is the dependent variable—turnover, subindices i and s represent the teacher and the state, respectively, and λ_s represents a state fixed effect to account for variation in policies and contexts affecting teachers across the country.

Results are obtained using linear probability models and estimated using ordinary least squares (estimated coefficients are displayed rounded to three decimal places).¹¹⁷ This equation reflects the framework used to model teacher supply in the literature; i.e., it models the relationship between teacher turnover and the full set of predictors suggested by the literature and available in our datasets, including teacher demographic characteristics, teachers' educational background and experience, school characteristics, and teachers' compensation and working conditions.¹¹⁸ See [Table A1](#) for the full list and definitions of our variables and their main descriptive statistics.

The primary variables of interest in the regression framework are teachers' compensation and working conditions (see coefficients β_1 in equation above). Teacher compensation includes base salary and other financial factors. Base salaries are adjusted for cost-of-living differences across districts using the American Community Survey Comparable Wage Index for Teachers (ACS-CWIFT).¹¹⁹ Working conditions include working environment and leadership, instructional factors and workload, accountability, and other instructional supports.

Additionally, also using regression analyses, we estimate the relationships between two of the key factors of turnover—job and workplace satisfaction and leadership effectiveness and supports—and the rest of the variables used in the analyses. This allows us to examine what other factors are related to these two drivers of turnover. To do that, these indices become the dependent variables in two separate models equivalent to “Full Model” above (one for job and workplace satisfaction and another for leadership effectiveness and supports). In this occasion, models do not include states' fixed effects. The estimated equations are:

Model Job Workplace Satisfaction: Job and Workplace Satisfaction Index $_{is} = \beta_0 + \beta_1 \times$ Compensation and Working conditions [Excludes Job and Workplace Satisfaction] $_{is} + \beta_2 \times$ Demographic_characteristics $_{is} + \beta_3 \times$ Educational_background and Experience $_{is} + \beta_4 \times$ School_characteristics $_{is} + \beta_5 \times$ Locale $_{is} + e_{is}$

Model Leadership Effectiveness and Supports: Leadership Effectiveness and Supports Index $_{is} = \beta_0 + \beta_1 \times$ Compensation and Working conditions [Excludes Leadership Effectiveness and Supports] $_{is} + \beta_2 \times$ Demographic_characteristics $_{is} + \beta_3 \times$ Educational_background and Experience $_{is} + \beta_4 \times$ School_characteristics $_{is} + \beta_5 \times$ Locale $_{is} + e_{is}$

Variables Describing Working Conditions

Most variables were constructed from one survey item from either the NTPS or TFS—either as categorical responses (e.g., race and ethnicity, grade level) or as continuous variables (e.g., class size, hours of work). However, several predictors in our model—all of which fall under the category of school working environment and leadership—were indices representing broader sets of items or questions included in the NTPS (the last index also uses some items included in the TFS). Indices were used because the survey asked multiple questions that captured different facets of a broader construct, many of which are multidimensional. The five index measures were:

1. Classroom autonomy
2. Influence over school policies
3. Lack of barriers to teaching and learning
4. Job and workplace satisfaction
5. Leadership effectiveness and supports

We used Cronbach's alpha to assess internal consistency and produce an index for each set of conceptually related variables. All indices have relatively high internal consistency (with alpha values well above 0.7), suggesting that the items are sufficiently correlated to be grouped together to represent a broader construct. In other words, each index “reflects the internal consistency, or how closely related a set of items are as a group.”¹²⁰ Given the focus of our study, this approach allowed us

to group multiple responses into a single index, rather than treating each response to each question independently. For example, we consider that teachers have a high level of job and workplace satisfaction when most of their responses to the components of the index are positive, rather than distinguishing teachers who provided a positive response to just one item and comparing them to those who provided a negative response to the same item—i.e., teachers who are generally satisfied with their job and workplace, relative to those who are not, rather than teachers who may be differently satisfied with their salary, exclusively.

We coded all indices in a way in which greater values represent a more positive index: Higher index values mean increased classroom autonomy over various aspects of planning and teaching, increased influence over school policies, fewer barriers to teaching and learning, improved job and workplace satisfaction, and increased leadership effectiveness and supports. All underlying factors that were negative (e.g., “I don’t seem to have as much enthusiasm now as I did when I began teaching”) were reverse coded so that each index captures a positive aspect. [Table A2](#) presents the survey items used to create the “working environment and leadership” indices.

Table A1. Descriptives for Each Variable Used in the Descriptive and Regression Analyses

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
Teaching status				
Working status	Stayer (retention)	%	84.9	
	Mover	%	8.0	
	Leaver	%	7.1	
	Turnover (mover or leaver)	%	15.1	
	Preretirement turnover (mover or leaver—excluding retirees)	%	12.9	
Information about decisions to move or leave				
Turnover by destination				
Movers	Moved to another school in same district	%	3.6	
	Moved to another district or in private schools (same state)	%	2.9	
	Moved to another state	%	1.4	
	Moved abroad ^{††}	%		

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
Leavers	Left teaching, retired	%	2.2	
	Left teaching, working in education sector (not teaching)	%	2.7	
	Left teaching, working outside education sector	%	0.9	
	Left teaching, unemployed	%	0.4	
	Left teaching, in college [†]	%	0.1	
	Left teaching, caring for family	%	0.5	
	Left teaching, other [†]	%	0.2	
Turnover by intention to move or leave (voluntary vs. involuntary)				
By intention to move	Moved or left voluntarily	%	88.3	
	Moved or left involuntarily	%	11.7	
By intention to move (detailed)	Moved involuntarily	%	10.0	
	Left involuntarily	%	1.7	
	Moved voluntarily	%	43.1	
	Left voluntarily, reasons other than retirement	%	30.9	
	Left voluntarily, retirement	%	14.3	
Reasons for move or leave (most important)^a				
Reasons for movers (6 most important)	More convenient location or moved	%	20.6	
	Wanted the opportunity to teach at my current school	%	11.2	
	Dissatisfied with the administration	%	8.2	
	Dissatisfied with job description or assignment	%	7.0	
	Wanted or needed higher salary [†]	%	7.3	
	Other reasons	%	19.7	
Reasons for leavers (5 most important)	Retirement	%	16.2	
	Other personal life reasons	%	14.5	
	Pursue a position other than K-12 teacher	%	13.1	
	Wanted or needed higher salary	%	8.9	
	Dissatisfied with teaching as a career	%	7.4	

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
Teacher demographic characteristics				
Gender	Female	%	76.4	
	Male	%	23.6	
Race and ethnicity ^b	White	%	80.8	
	Hispanic, regardless of race	%	9.0	
	Black or African American	%	5.9	
	Asian American	%	2.1	
	Native Hawaiian or Other Pacific Islander [†]	%	0.2	
	American Indian or Alaska Native	%	0.4	
	Multiracial	%	1.6	
	(Derived) Teachers of color	%	19.2	
Teacher educational background and experience				
Years of experience	1-3	%	11.8	
	4-5	%	9.2	
	6-10	%	19.8	
	11-15	%	16.6	
	16-20	%	17.9	
	21-25	%	12.7	
	26-30	%	6.7	
	31+	%	5.3	
	(Derived) 1-5 years	%	21.0	
	6-25 years	%	67.0	
	26 and over	%	12.0	
Teaching certificate	Regular	%	90.3	
	Probationary	%	3.1	
	Temporary	%	3.8	
	Waiver or emergency	%	1.2	
	Do not hold any of the above certifications	%	1.6	
	(Derived) Temporary, waiver or emergency, no certificate	%	6.6	
	Regular or probationary	%	93.4	
Route into teaching	Alternative certification program	%	18.8	
	Traditionally certified	%	81.2	

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
Teacher working conditions				
Compensation and financial factors				
Base salary (adjusted for cost of living) ^c	What is your base teaching salary for the entire school year?	1,000\$	\$63.8	\$28.8
Worked multiple jobs	Additional compensation from work outside of the school system	%	17.4	
Student loans	Holding student loans	%	36.5	
Working environment and leadership^d				
Classroom autonomy	Teachers' assessments of how much actual control they have in their classroom at this school over several planning and teaching areas	Index in SD units	0.027	1.151
Influence on school policy	Teachers' assessments of how much influence they think teachers have over different areas of school policy at this school	Index in SD units	0.019	1.136
Lack of barriers to teaching and learning	The extent to which various issues (e.g., student tardiness, absenteeism, apathy, lack of parental involvement, poverty, poor health) are absent in the school	Index in SD units	0.122	1.099
Job and workplace satisfaction	Teachers' opinions on their levels of satisfaction with the job, the school environment, lack of burnout, and willingness to stay in teaching	Index in SD units	0.030	0.926
Leadership effectiveness and support	Teachers' perceptions of school administration and leadership (including whether the administration is supportive, communicates a clear vision, recognizes staff efforts, and fosters collaboration), and whether the principal performs leadership tasks effectively (including supporting teachers, encouraging collaboration, helping meet curriculum standards, promoting professional development, and using student assessments to improve instruction)	Index in SD units	0.079	1.045
Instructional factors and workload				
Grade level of students taught by teacher	Primary	%	37.9	
	Middle	%	26.0	
	(Derived) High or combined grade	%	36.2	
Class size	Average number of students enrolled/you taught	#	20.2	22.6
Hours	Contracted hours	#	37.9	6.6

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
Field of main teaching assignment	Early childhood or general elementary	%	35.2	
	Special education	%	13.7	
	Arts or music	%	7.0	
	English language arts	%	9.6	
	ESL or bilingual education	%	2.0	
	Foreign languages	%	2.6	
	Health education	%	3.8	
	Mathematics	%	7.7	
	Natural sciences	%	6.8	
	Social sciences	%	6.4	
	Career or Technical Education	%	4.3	
	All other	%	0.8	
	(Derived) Special education, ESL, foreign languages, CTE (lower-retention subject)	%	22.7	
	(Derived) All other subjects (higher-retention subject)	%	77.3	
Accountability				
Test-related job insecurity (I worry about the security of my job because of the performance of my students.)	Strongly disagree or somewhat disagree	%	73.4	
	Somewhat agree or strongly agree	%	26.6	
Other instructional supports				
Necessary materials such as textbooks, supplies, and copy machines are available as needed by the staff.	Strongly disagree or somewhat disagree	%	14.3	
	Somewhat agree or strongly agree	%	85.7	
Routine duties and paperwork interfere with my job of teaching.	Strongly disagree or somewhat disagree	%	38.6	
	Somewhat agree or strongly agree	%	61.4	
Parental support (Receive a great deal of support from parents for the work I do.)	Strongly disagree or somewhat disagree	%	38.7	
	Somewhat agree or strongly agree	%	61.3	
School characteristics				
School concentration of students eligible for free or reduced-price lunch (FRPL) ^e	0–25%	%	19.1	
	>25%–50%	%	25.2	
	>50%–75%	%	19.5	
	>75% <100%	%	12.8	
	100%	%	19.8	
	Missing	%	3.5	

Variable category	Variable name/definition	Unit	Mean	Standard deviation (SD)
School concentration of students of color	0–25%	%	27.5	
	>25%–50%	%	24.4	
	>50%–75%	%	19.9	
	>75%–100%	%	26.7	
	Missing	%	1.6	
Urbanicity/locale	City	%	27.7	
	Rural	%	21.8	
	(Derived) Suburb or town	%	50.5	
Type of school	Public	%	93.6	
	Charter	%	6.6	
School size	(Derived) Small: 0–199	%	5.1	
	Medium: 200–499	%	32.9	
	Medium-large: 500–749	%	24.2	
	Large: 750+	%	37.6	
	Missing [†]	%	0.2	

Notes: COLA stands for cost-of-living adjusted; *SD* stands for standard deviation; ESL stands for English as a Second Language; CTE stands for Career or Technical Education. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Italics are used for variables that are recoded from original question. For additional descriptive statistics and additional variables, see [Technical Supplement](#). Estimates marked with [†] should be interpreted with caution (the coefficient of variation of the estimates is between 30% and 50%). Estimates marked with ^{††} are not reported because reporting standards are not met (the coefficient of variation of the estimates is higher than 50%).

^a The “most important” reasons why the teacher moved to a different school or left teaching selects the five options with the highest frequency among all the alternatives possible. For movers, six most important reasons are retained because one of the reasons is “other reasons.” The cumulative percentages of the reported five “most important” reasons do not add to 100%.

^b All races and ethnicities outside the category “Hispanic, regardless of race” only include non-Hispanic-identifying individuals of that race and ethnicity. Racial and ethnic categories reflect those used in the original source.

^c Salary amounts are rounded to the nearest \$1,000 and are adjusted for cost-of-living differences across the country (COLA) using the American Community Survey Comparable Wage Index for Teachers (ACS-CWIFT).

^d Indices in the “Working environment and leadership” category are standardized (units are standard deviations, or *SD*).

^e A separate indicator for schools with 100% students eligible for FRPL was created because descriptive findings showed a non-consistent behavior of variables for this value of school poverty and community eligibility can mask true % of FRPL-eligible students.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Table A2. Summary of Indices Components

Category	Question
<p>Classroom autonomy</p>	<p>How much actual control do you have in your classroom at this school over the following areas of your planning and teaching? <i>(Responses range from no control to a great deal of control.)</i></p> <ul style="list-style-type: none"> • Selecting textbooks and other instructional materials • Selecting content, topics, and skills to be taught • Selecting teaching techniques • Evaluating and grading students • Disciplining students • Determining the amount of homework to be assigned
<p>Influence over school policies</p>	<p>How much influence do you think teachers have over school policy at this school in the following areas? <i>(Responses range from no influence to a great deal of influence.)</i></p> <ul style="list-style-type: none"> • Setting performance standards for students at this school • Establishing curriculum • Determining the content of in-service professional development programs • Evaluating teachers • Hiring new full-time teachers • Setting discipline policy • Deciding how the school budget will be spent

Category	Question
<p>Lack of barriers to teaching and learning</p>	<p>To what extent is each of the following a problem in this school? <i>(Responses range from not a problem to serious problem.)</i></p> <ul style="list-style-type: none"> • Student tardiness • Student absenteeism • Student class cutting • Teacher absenteeism • Students dropping out • Student apathy • Lack of parental involvement • Poverty • Students come to school unprepared to learn • Poor student health
	<p>Has a student physically attacked you in the past 12 months?</p>
	<p>Has a student physically threatened you in the past 12 months?</p>
<p>Job and workplace satisfaction</p>	<p>To what extent do you agree or disagree with each of the following statements? <i>(Responses range from strongly disagree to strongly agree.)</i></p> <ul style="list-style-type: none"> • The stress and disappointments involved in teaching at this school aren't really worth it. • I don't seem to have as much enthusiasm now as I did when I began teaching. • I think about staying home from school because I'm just too tired to go. • The teachers at this school like being here; I would describe us as a satisfied group. • I like the way things are run at this school. • If I could get a higher-paying job I'd leave teaching as soon as possible. • I think about transferring to another school. • I am generally satisfied with being a teacher at this school.

Category	Question
Leadership effectiveness and supports	<p>To what extent do you agree or disagree with each of the following statements? <i>(Responses range from strongly disagree to strongly agree.)</i></p> <ul style="list-style-type: none"> • The school administration’s behavior toward the staff is supportive and encouraging. • The principal knows what kind of school they want and have communicated it to the staff. • In this school, staff members are recognized for a job well done. • There is a great deal of cooperative effort among the staff members. • I make a conscious effort to coordinate the content of my courses with that of other teachers.
	<p>Indicate how effectively your principal or school head performed each of the following. <i>(Responses range from not at all effectively to extremely effectively.)</i></p> <ul style="list-style-type: none"> • Communicated respect for and value of teachers • Encouraged teachers to change teaching methods if students were not doing well • Worked with staff to meet curriculum standards • Encouraged professional collaboration among teachers • Worked with teaching staff to solve school or department problems • Encouraged the teaching staff to use student assessment results in planning curriculum and instruction • Worked to develop broad agreement among the teaching staff about the school’s mission • Facilitated and encouraged professional development activities of teachers

Note: We coded these factors so that greater values indicate a more positive factor (a greater deal of perceived influence, a greater deal of control in the classroom, reduction of problems in the school, improved satisfaction, and increased leadership effectiveness and supports). To this end, all underlying factors that are negatively correlated with an index that captures a positive aspect are reversed.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Appendix B: Contextualizing the Teacher Labor Market in 2020–21 and 2021–22

Examining teacher labor markets in 2020–21 and 2021–22 presents unique challenges due to the unprecedented shocks teachers experienced before, during, and after the administration of the National Teacher and Principal Survey (NTPS) and Teacher Follow-Up Survey (TFS). These years were marked by widespread shocks to teaching and learning stemming from the COVID-19 pandemic and the policy context in the years preceding it, amid a context in which teacher shortages were recurrent.¹²¹

The COVID-19 Pandemic: Impacts on Teaching, Learning, and the Overall Workforce

Teachers who participated in the 2020–21 NTPS are teachers who remained in the profession following the COVID-19 pandemic outbreak in spring 2020, having endured considerable early stressors that were compounded by broader challenges in the field.¹²² These included shifting teaching, and thus student learning and development, from traditional in-person settings to virtual platforms; bridging the digital divide; maintaining student engagement; and addressing safety, learning, and socioemotional concerns.¹²³ During the 2020–21 school year, some teachers continued to face these challenges as instruction remained virtual in many places, while others were navigating the complexities of early school reopenings, addressing the effects of the pandemic on learning loss and student well-being, and managing their own health concerns and professional stress.

It is still difficult to understand teacher workforce trends during this period. Even more than 2 years after the official end of the pandemic in May 2023, a complete picture of the dynamics of teacher supply and demand has yet to emerge. Available data are often incomplete, lack comparability across states or over time periods, or do not offer the granularity needed to distinguish transitions of current individual teachers or candidates in and out of the workforce (i.e., longitudinal teacher-level) from broader aggregate trends. Although difficult to track, multiple factors may have influenced the pool of teachers participating in or represented by the NTPS and TFS surveys during this time.

During the early months of the pandemic, widespread concerns emerged about increased teacher burnout, early retirement, and turnover. News reports and emerging datasets documented the acute staffing challenges many schools faced.¹²⁴ For the most part, aggregate data suggested that the bulk of pandemic-related separations occurred during the summer of 2020.¹²⁵ However, state-level data suggested mixed evidence. In some states, relative to pre-pandemic turnover, turnover remained stable in the fall of 2020–21 and increased in the fall of 2021–22. For example, in Massachusetts, teacher turnover increased between fall 2019 and fall 2021, with the share of teachers leaving the state's teacher workforce growing from 8.2% to 9.4% and the share of teachers leaving their school growing from 15.0% to 17.5%. Both rates, however, remained stable in the fall of 2020–21.¹²⁶ In Washington state, total teacher turnover was lowest in 2020 and highest in 2022, over a period of time extending back to 2015.¹²⁷ In North Carolina, turnover increased sharply between fall 2020 and fall 2022.¹²⁸ Some

recent evidence points to a decline in educator turnover, slowly approaching pre-pandemic levels.¹²⁹ Notably, most districts and states did not collect within-year turnover data, leaving a gap in understanding transitions during the school year.¹³⁰

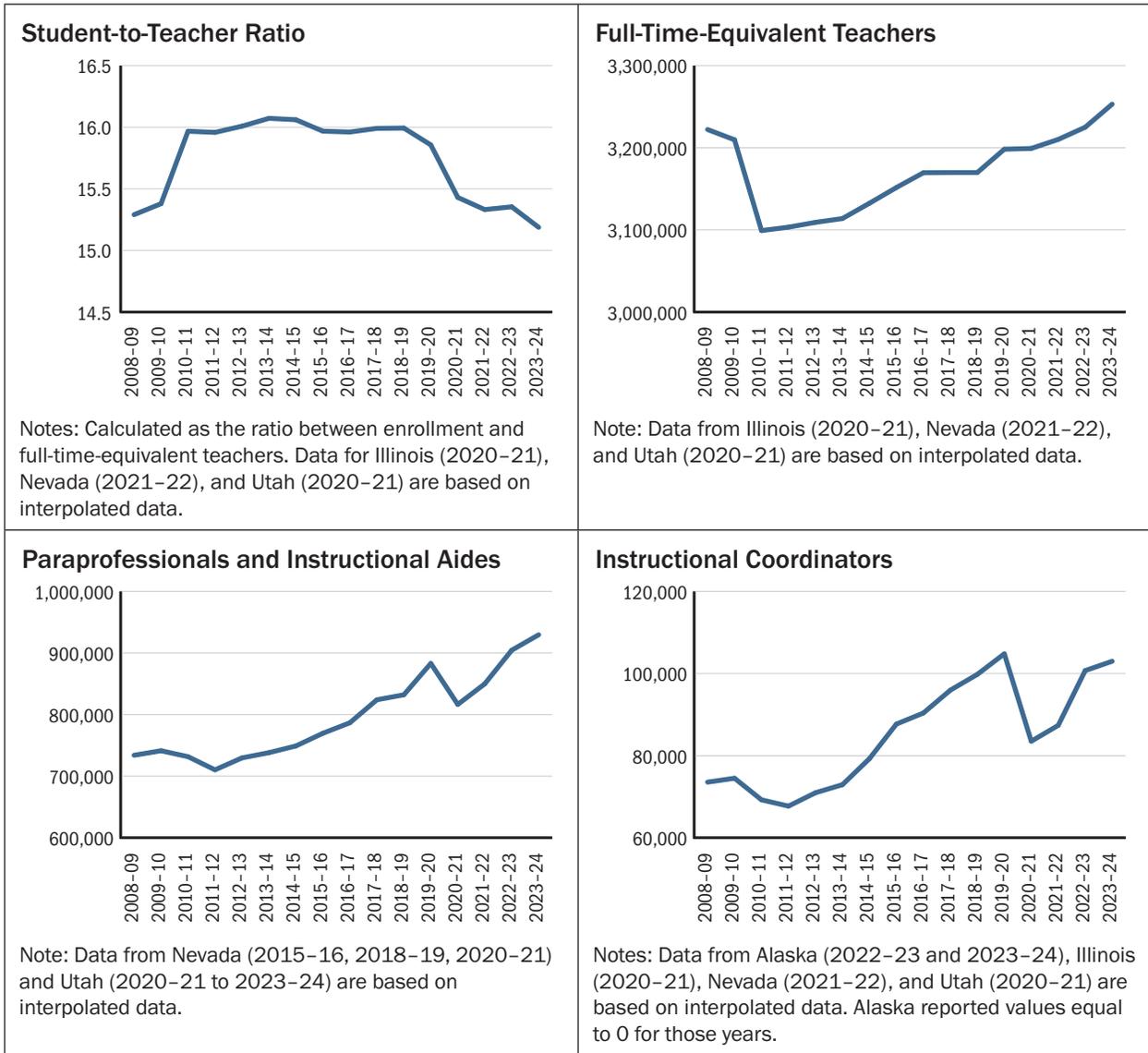
Meanwhile, demand for teachers increased following the unprecedented federal education investments through Elementary and Secondary School Emergency Relief (ESSER) funds. These funds were aimed at mitigating the impact of the coronavirus pandemic and learning loss. Specifically, ESSER included “hiring new staff and avoiding layoffs” as one of the uses of funds and reservations, allowing for new teachers or returning teachers to join the workforce.¹³¹ The increased funds boosted staffing opportunities for schools, especially in high-poverty schools,¹³² which increased teacher demand at the aggregate level.¹³³

Major Trends Around the Number of Teachers and Staff: 2008–09 to 2023–24

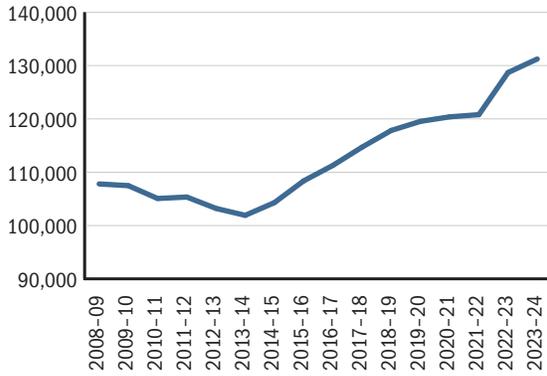
To contextualize the 2020–21 NTPS and 2021–22 TFS years, we summarize the existing data about national staffing trends before, during, and after the pandemic and the administration of the two surveys. We extend the analyses to teachers and other school staff, and present trends since the year prior to the Great Recession in the figures.

Overall, changes in total number of teachers, student-to-teacher ratios, and per-student expenditure had been exhibiting mostly positive trends in the years prior to the survey administration, having rebounded and surpassed their pre–Great Recession levels almost completely by the time the pandemic hit (see [Figure B1](#)).¹³⁴ The number of teachers in the country’s public schools over 5 years (2019–20 to 2023–24) increased by 1.7%.¹³⁵ The number of paraprofessionals and instructional aides, guidance counselors, and student support services’ staff increased by between 5.3 and 20.9% during the same period. The number of instructional coordinators slightly declined (by -1.7%). Finally, the student-to-teacher ratio declined from 16.0:1 to 15.2:1 (or by -4.2%), which allowed the ratio to bypass its pre–Great Recession level (15.3:1 in 2008–09). The results build on national-level, cross-sectional information from the National Center for Education Statistics’ Common Core of Data.

Figure B1. Changes in Different Staff Positions, Student-to-Teacher Ratio, and Student Enrollment, 2008–09 to 2023–24

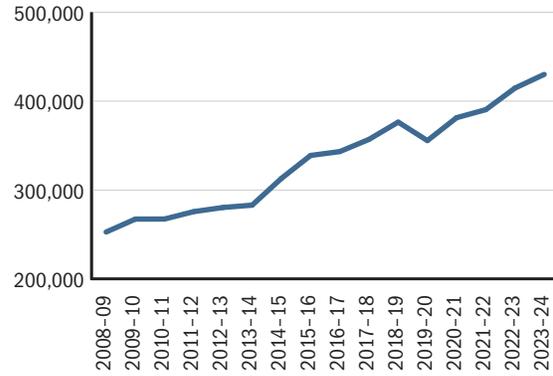


Guidance Counselors



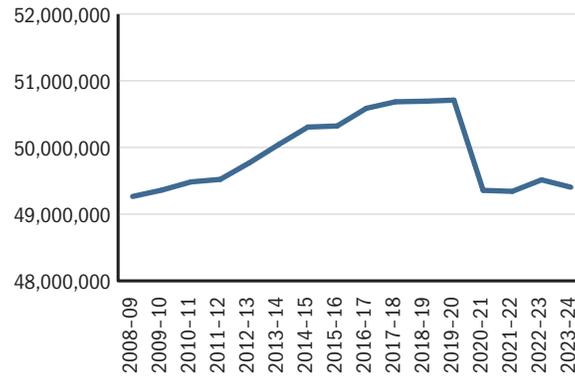
Note: Data for Illinois (2020–21), Nevada (2021–22), and Utah (2020–21) are based on interpolated data.

Student Support Services



Notes: Value for 2019–20 excludes psychologists; all other years include psychologists. Data from California (2019–20), Illinois (2020–21), Nevada (2021–22), Utah (from 2019–20 to 2023–24), and Virginia (2023–24) are based on interpolated data.

Enrollment



Notes: U.S. values are obtained from adding the values of the 50 states plus the District of Columbia. Interpolated data uses either the midpoint between the preceding and the following datapoints, when there is 1 year with missing information, or the last observed datapoint if there are multiple years with missing information. This approach was also applied to datapoints where the reported values were zeros.

Sources: ELSI (U.S. Department of Education, National Center for Education Statistics, Common Core of Data [CCD], “State Nonfiscal Public Elementary/Secondary Education Survey,” 2007–08 v.1b, 2008–09 v.1c, 2009–10 v.1b, 2010–11 v.1a, 2011–12 v.1a, 2012–13 v.1a, 2013–14 v.1a, 2016–17 v.1a, 2017–18 v.1a, 2018–19 v.1a, 2019–20 v.1a, 2020–21 v.1a, 2021–22 v.1a, 2022–23 v.1a, 2023–24 v.1a; “State Nonfiscal Public Elementary/Secondary Education Survey Membership Data,” 2014–15 v.1a, 2015–16 v.1a; “State Nonfiscal Public Elementary/Secondary Education Survey Staff Data,” 2014–15 v.1a, 2015–16 v.1a).

Appendix C: Descriptive Results

Table C1. Descriptive Analysis: Rates of Stayers, Movers, and Leavers, by Selected Individual- and School-Level Characteristics

Variable category	Variable name/definition	Unit	Stayer	Mover	Leaver	Turnover (mover or leaver)
All teachers						
All	Full-time, part-time, itinerant	%	84.9	8.0	7.1	15.1
Teacher demographic characteristics						
Gender	Female	%	84.4	8.2	7.4	15.6
	Male	%	86.7	7.3	6.0	13.3
Race and ethnicity ^a	Hispanic, regardless of race	%	84.5	9.4	6.0	15.5
	Black or African American	%	81.9	9.0	9.1	18.1
	Asian American	%	81.3	6.9 [†]	11.9 [†]	18.7
	Native Hawaiian or Other Pacific Islander	%	90.5	††	††	††
	American Indian or Alaska Native	%	78.5	††	††	21.5 [†]
	Multiracial	%	85.4	8.5	6.1	14.6
	White	%	85.3	7.8	6.9	14.7
	(Derived) Teachers of color	%	83.4	8.8	7.8	16.6
Teacher educational background and experience						
Years of experience	1–3	%	80.9	12.8	6.3	19.1
	4–5	%	83.3	10.4	6.3	16.7
	6–10	%	83.1	9.7	7.2	16.9
	11–15	%	86.7	7.9	5.4	13.3
	16–20	%	88.4	6.1	5.5	11.6
	21–25	%	88.0	5.8	6.2	12.0
	26–30	%	87.6	4.2	8.1	12.4
	31+	%	75.6	3.6	20.8	24.4
	(Derived) 1–5 years	%	82.0	11.7	6.3	18.0
	6–25 years	%	86.3	7.6	6.1	13.7
	26 and over	%	82.3	4.0	13.7	17.7

Variable category	Variable name/definition	Unit	Stayer	Mover	Leaver	Turnover (mover or leaver)
Teaching certificate	Regular	%	85.3	7.8	6.9	14.7
	Probationary	%	84.3	9.6	6.2 [†]	15.7
	Temporary	%	80.4	9.8	9.8	19.6
	Waiver or emergency	%	79.4	12.4	8.2 [†]	20.6
	Do not hold any of the above certifications	%	78.9	8.1 [†]	13.0 [†]	21.1 [†]
	<i>(Derived)</i> Temporary, waiver or emergency, no certificate	%	79.9	9.8	10.3	20.1
	Regular or probationary	%	85.3	7.9	6.8	14.7
Route into teaching	Alternative certification program	%	83.7	9.0	7.3	16.3
	Traditionally certified	%	85.2	7.8	7.0	14.8
Instructional factors and workload						
Level of students taught by teacher	Primary	%	84.1	8.8	7.0	15.9
	Middle	%	84.3	8.5	7.2	15.7
	High	%	85.9	7.0	7.1	14.1
	Combined grade	%	87.4	6.1	6.5	12.6
	<i>(Derived)</i> High or combined	%	86.2	6.8	7.0	13.8
Field of main teaching assignment	Early childhood or general elementary	%	84.9	8.3	6.8	15.1
	Special education	%	83.6	9.6	6.7	16.4
	Arts or music	%	85.5	9.4	5.1	14.5
	English language arts	%	84.3	8.5	7.2	15.7
	ESL or bilingual education	%	81.0	7.4 [†]	11.6	19.0
	Foreign languages	%	81.7	11.1 [†]	7.2	18.3
	Health education	%	88.3	6.6	5.1	11.7
	Mathematics	%	86.5	6.1	7.4	13.5
	Natural sciences	%	87.6	5.8	6.6	12.4
	Social sciences	%	85.2	7.0	7.8	14.8
	Career or Technical Education (CTE)	%	82.5	5.8 [†]	11.6	17.5
	All other	%	88.3	4.6 [†]	7.1 [†]	11.7
	<i>(Derived)</i> Special education, ESL, foreign languages, CTE (lower-retention subject)	%	83.0	8.9	8.2	17.0
	<i>(Derived)</i> All other subjects (higher-retention subject)	%	85.5	7.8	6.7	14.5

Variable category	Variable name/definition	Unit	Stayer	Mover	Leaver	Turnover (mover or leaver)
School characteristics						
School concentration of students eligible for free or reduced-price lunch ^b	0–25%	%	86.4	6.1	7.5	13.6
	>25%–50%	%	86.5	7.5	6.0	13.5
	>50%–75%	%	84.9	9.0	6.0	15.1
	>75%–<100%	%	81.7	9.6	8.7	18.3
	100%	%	84.3	8.5	7.1	15.7
	Missing	%	80.9	7.6	11.5	19.1
School concentration of students of color	0–25%	%	87.6	6.0	6.4	12.4
	>25%–50%	%	85.8	7.4	6.8	14.2
	>50%–75%	%	82.7	10.3	7.0	17.3
	>75%–100%	%	83.0	9.0	7.9	17.0
	Missing	%	86.3	5.6	8.1 [†]	13.7 [†]
Urbanicity/locale	City	%	82.3	9.6	8.1	17.7
	Suburb	%	86.1	7.3	6.6	13.9
	Town	%	86.3	7.2	6.6	13.7
	Rural	%	85.5	7.8	6.8	14.5
	<i>(Derived)</i> Suburb or town	%	86.2	7.3	6.6	13.8
Type of school	Public	%	85.1	8.0	6.9	14.9
	Charter	%	82.2	10.3	7.4	17.8
School size	<i>(Derived)</i> Small: 0–199	%	77.2	11.0	11.8	22.8
	Medium: 200–499	%	84.1	8.1	7.8	15.9
	Medium-large: 500–749	%	85.5	7.8	6.7	14.5
	Large: 750+	%	86.4	7.6	6.0	13.6
	Missing	%	82.4	††	††	††

Notes: ESL stands for English as a Second Language. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Percentages may not sum to 100% due to rounding. Italics are used for variables that are recoded from original question. See [Technical Supplement](#) for additional statistics.

Estimates marked with [†] should be interpreted with caution (the coefficient of variation of the estimates is between 30% and 50%). Estimates marked with ^{††} are not reported because reporting standards are not met (the coefficient of variation of the estimates is higher than 50%).

^a All races and ethnicities outside the category “Hispanic, regardless of race” only include non-Hispanic-identifying individuals of that race and ethnicity. Racial and ethnic categories reflect those used in the original source. Differences between rates reported in this study and others are due to rounding. ^b A separate indicator for schools with 100% students eligible for FRPL was created because descriptive findings showed a non-consistent behavior of variables for this value of school poverty and community eligibility can mask true % of FRPL-eligible students (see [Technical Supplement](#) for more details).

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Appendix D: Regression Results

Table D1. Associations of Compensation, Working Conditions, and other Individual- and School-Level Factors With Teacher Turnover

Variables	All teachers <i>Teachers who moved schools or left teaching compared with teachers who stayed in the same school</i>		Preretirement turnover <i>Teachers who moved schools or left teaching for reasons other than retirement compared with teachers who stayed in the same school</i>	
	Model bivariate	Model fully specified with state FE	Model bivariate	Model fully specified with state FE
Compensation and financial factors				
Base salary (COLA, in \$1,000)	-0.004** (0.002)	-0.003* (0.002)	-0.005*** (0.002)	-0.004** (0.002)
Base salary (COLA, in \$1,000, squared)	0.000 (0.000)	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)
Additional compensation from work outside of the school system	0.027* (0.015)	0.021 (0.015)	0.037** (0.015)	0.031* (0.016)
Holding student loans	0.027** (0.012)	0.013 (0.013)	0.052*** (0.012)	0.023* (0.013)
Working environment and leadership				
Classroom autonomy (SD)	-0.037*** (0.010)	-0.012 (0.011)	-0.035*** (0.010)	-0.009 (0.010)
Influence over school policy (SD)	-0.029*** (0.011)	0.010 (0.012)	-0.028** (0.010)	0.010 (0.012)
Lack of barriers to teaching and learning (SD)	-0.034*** (0.010)	0.007 (0.010)	-0.036*** (0.009)	0.002 (0.011)
Job and workplace satisfaction (SD)	-0.090*** (0.010)	-0.076*** (0.013)	-0.093*** (0.010)	-0.075*** (0.012)
Leadership effectiveness and supports (SD)	-0.072*** (0.009)	-0.053*** (0.012)	-0.070*** (0.009)	-0.047*** (0.012)
Instructional factors and workload				
Contract hours	-0.001 (0.002)	-0.002 (0.002)	0.001 (0.002)	-0.001 (0.002)
Class size (proxy)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)

Variables	All teachers <i>Teachers who moved schools or left teaching compared with teachers who stayed in the same school</i>		Preretirement turnover <i>Teachers who moved schools or left teaching for reasons other than retirement compared with teachers who stayed in the same school</i>	
	Model bivariate	Model fully specified with state FE	Model bivariate	Model fully specified with state FE
Special education, ESL, foreign languages, CTE	0.025** (0.012)	0.043*** (0.015)	0.019 (0.012)	0.033** (0.014)
Primary	0.021* (0.012)	0.015 (0.017)	0.025** (0.011)	0.020 (0.017)
Middle	0.019 (0.013)	0.024 (0.016)	0.022* (0.013)	0.024 (0.016)
Other instructional supports				
Necessary materials are available as needed by the staff (Agree)	-0.042** (0.018)	0.010 (0.018)	-0.039** (0.016)	-0.025** (0.011)
Receive a great deal of support from parents for the work I do (Agree)	-0.021 (0.012)	0.023* (0.013)	-0.024** (0.012)	0.008 (0.017)
Paperwork and admin duties interfere with my job of teaching (Agree)	0.014 (0.009)	-0.024** (0.011)	0.011 (0.009)	0.023* (0.012)
Accountability				
Test-related job insecurity (Agree)	0.023* (0.014)	-0.007 (0.014)	0.023* (0.013)	-0.010 (0.013)
School characteristics				
Share of SOC >25%–50%	0.018 (0.013)	0.008 (0.015)	0.020 (0.012)	0.009 (0.015)
Share of SOC >50%–75%	0.049*** (0.016)	0.040** (0.020)	0.055*** (0.016)	0.045** (0.018)
Share of SOC >75%–100%	0.045*** (0.013)	0.029 (0.019)	0.043*** (0.013)	0.022 (0.018)
Share of FRPL >25%–50%	-0.001 (0.015)	-0.006 (0.016)	-0.001 (0.015)	-0.012 (0.015)
Share of FRPL >50%–75%	0.015 (0.018)	-0.013 (0.019)	0.019 (0.017)	-0.015 (0.018)
Share of FRPL >75%– <100%	0.047** (0.022)	0.002 (0.025)	0.045** (0.021)	-0.001 (0.024)
Share of FRPL = 100%	0.021 (0.016)	-0.009 (0.018)	0.024 (0.016)	-0.007 (0.018)

Variables	All teachers <i>Teachers who moved schools or left teaching compared with teachers who stayed in the same school</i>		Preretirement turnover <i>Teachers who moved schools or left teaching for reasons other than retirement compared with teachers who stayed in the same school</i>	
	Model bivariate	Model fully specified with state FE	Model bivariate	Model fully specified with state FE
Charter school	0.029 (0.018)	-0.007 (0.022)	0.041** (0.018)	-0.003 (0.022)
City	0.039*** (0.014)	0.022 (0.016)	0.040*** (0.013)	0.023 (0.015)
Rural	0.007 (0.011)	-0.004 (0.013)	0.010 (0.010)	0.001 (0.013)
Small: 0–199	0.069** (0.027)	0.071** (0.028)	0.049* (0.028)	0.051* (0.028)
Medium-large: 500–749	-0.014 (0.012)	-0.015 (0.014)	-0.013 (0.012)	-0.013 (0.012)
Large: 750+	-0.023* (0.012)	-0.036* (0.018)	-0.024* (0.012)	-0.031* (0.018)
Demographic characteristics				
Female	0.023* (0.012)	0.008 (0.011)	0.023** (0.012)	0.008 (0.011)
Teachers of color	0.019 (0.014)	-0.011 (0.015)	0.027* (0.014)	-0.001 (0.015)
Educational background and experience				
Experience 1–5 years	0.044*** (0.015)	0.018 (0.016)	0.054*** (0.015)	0.024 (0.017)
Experience 26 years and over	0.040** (0.016)	0.079*** (0.018)	-0.051*** (0.012)	-0.005 (0.015)
Regular or probationary	-0.054** (0.026)	-0.020 (0.023)	-0.055** (0.025)	-0.013 (0.023)
Traditionally certified	-0.015 (0.012)	0.004 (0.013)	-0.024** (0.012)	0.001 (0.013)
Constant	NA	0.297** (0.112)	NA	0.249** (0.106)
Observations	5,900	5,900	5,360	5,360
R-squared	NA	0.076	NA	0.085

Variables	All teachers <i>Teachers who moved schools or left teaching compared with teachers who stayed in the same school</i>		Preretirement turnover <i>Teachers who moved schools or left teaching for reasons other than retirement compared with teachers who stayed in the same school</i>	
	Model bivariate	Model fully specified with state FE	Model bivariate	Model fully specified with state FE
Predictors included				
Teacher characteristics: demographic, background and experience	NA	Yes	NA	Yes
School characteristics: student body composition, school type, school size, and locale	NA	Yes	NA	Yes
Other instructional supports	NA	Yes	NA	Yes
State FE	NA	Yes	NA	Yes

Notes: COLA stands for cost-of-living adjusted; SD stands for standard deviation; ESL stands for English as a Second Language; CTE stands for Career or Technical Education; SOC stands for students of color; FRPL stands for free or reduced-price lunch; FE stands for fixed effects. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 school year; public schools include traditional public schools and charter schools. Standard errors in parentheses. * $p < .1$. ** $p < .05$. *** $p < .01$. Number of observations are rounded to the nearest 10. Salary amounts are adjusted for cost-of-living differences across the country and are expressed in 1,000 (quadratic term included). Controls for missing share of SOC, share of students eligible for FRPL, and school size are included. In the **Model Bivariate**, each variable is entered independently (i.e., one variable at a time). The **Model Fully Specified With State FE** includes controls for teacher characteristics, compensation, working conditions, school characteristics, and state fixed effects. Reference categories: Financial factors: not receiving compensation for work done outside of the school system; teacher not repaying student loans; workload and instructional factors: field of main teaching assignment other than special education, ESL, foreign languages, or CTE; grade level: high or combined; other instructional supports and accountability: somewhat disagree or strongly disagree; share of SOC: schools with up to 25% of students of color; share of students eligible for FRPL: schools with up to 25% of students from low-income backgrounds (as proxied by FRPL eligibility); locale: town or suburb; type of school: traditional noncharter public school; school size: medium, 200–499; demographic characteristics: male; White teachers; background and experience: middle-experience; certification: temporary, waiver or emergency, or no certificate; route into teaching: alternative certification program.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey and the 2020–21 Teacher Follow-Up Survey. (2024).

Table D2. Associations of Other Individual- and School-Level Factors With Job and Workplace Satisfaction and With Leadership Effectiveness and Support

Variables	Job and workplace satisfaction	Leadership effectiveness and supports
Compensation and financial factors		
Base salary (COLA, in \$1,000)	0.003 (0.002)	0.002 (0.005)
Base salary (COLA, in \$1,000, squared)	0.000 (0.000)	-0.000 (0.000)
Additional compensation from work outside of the school system	-0.061** (0.025)	0.013 (0.033)
Repaying loan (all)	-0.019 (0.025)	-0.019 (0.028)
Working environment and leadership		
Classroom autonomy (SD)	0.095*** (0.019)	-0.003 (0.024)
Influence over school policy (SD)	0.129*** (0.020)	0.166*** (0.019)
Lack of barriers to teaching and learning (SD)	0.158*** (0.022)	0.099*** (0.022)
Job and workplace satisfaction (SD)		0.472*** (0.022)
Leadership effectiveness and supports (SD)	0.389*** (0.016)	
Instructional factors and workload		
Contract hours	-0.005* (0.003)	0.003 (0.003)
Class size (proxy)	-0.003** (0.002)	0.001 (0.001)
Special education, ESL, foreign languages, CTE	-0.001 (0.023)	0.036 (0.033)
Primary	-0.036 (0.031)	0.095*** (0.029)
Middle	-0.025 (0.025)	0.021 (0.035)

Variables	Job and workplace satisfaction	Leadership effectiveness and supports
Other instructional supports		
Paperwork and admin duties interfere with my job of teaching (Agree)	-0.162*** (0.016)	-0.022 (0.028)
Necessary materials are available as needed by the staff (Agree)	0.042 (0.034)	0.155*** (0.036)
Receive a great deal of support from parents for the work I do (Agree)	0.107*** (0.025)	0.017 (0.031)
Accountability		
Test-related job insecurity (Agree)	-0.163*** (0.020)	0.112*** (0.027)
School characteristics		
Share of SOC >25%-50%	0.049* (0.029)	0.010 (0.037)
Share of SOC >50%-75%	0.027 (0.033)	0.086** (0.042)
Share of SOC >75%-100%	0.048 (0.040)	0.040 (0.045)
Share of FRPL >25%-50%	0.033 (0.026)	0.063** (0.028)
Share of FRPL >50%-75%	0.011 (0.035)	0.052 (0.035)
Share of FRPL >75%-<100%	0.032 (0.041)	0.093* (0.049)
Share of FRPL = 100%	0.083** (0.034)	0.050 (0.033)
Small: 1-199	-0.007 (0.047)	0.072 (0.066)
Medium-large: 500-749	-0.007 (0.026)	0.088*** (0.027)
Large: 750+	0.022 (0.028)	0.035 (0.030)
Charter school	-0.046 (0.037)	0.035 (0.052)
City	-0.014 (0.028)	0.026 (0.032)
Rural	0.019 (0.028)	-0.024 (0.028)

Variables	Job and workplace satisfaction	Leadership effectiveness and supports
Demographic characteristics		
Female	-0.056* (0.028)	0.032 (0.033)
Teachers of color	-0.079** (0.030)	0.027 (0.033)
Educational background and experience		
Experience 1–5 years	0.051 (0.031)	-0.032 (0.036)
Experience 26 years and over	0.088*** (0.028)	0.085** (0.034)
Regular or probationary	-0.024 (0.043)	0.026 (0.060)
Traditionally certified	0.000 (0.036)	-0.018 (0.042)
Constant	0.241* (0.139)	-0.459*** (0.170)
Observations in sample	5,900	5,900
R-squared	0.465	0.380

Notes: COLA stands for cost-of-living adjusted; SD stands for standard deviation; ESL stands for English as a Second Language; CTE stands for Career or Technical Education; SOC stands for students of color; FRPL stands for free or reduced-price lunch. Results are based on full-time, part-time, and itinerant teachers in public schools in the United States in 2020–21 who were followed into the 2021–22 the school year. Standard errors in parentheses. * $p < .1$. ** $p < .05$. *** $p < .01$. Number of observations is rounded to the nearest 10. Salary amounts are adjusted for cost-of-living differences across the country and are expressed in 1,000 (quadratic term included). Controls for missing share of SOC, share of students eligible for FRPL, and school size are included. Reference categories: Financial factors: not receiving compensation for work done outside of the school system; teacher not repaying student loans; workload and instructional factors: field of main teaching assignment other than special education, ESL, foreign languages, or CTE; grade level: high or combined; other instructional supports and accountability: somewhat disagree or strongly disagree; share of SOC: schools with up to 25% of students of color; share of students eligible for FRPL: schools with up to 25% of students from low-income backgrounds (as proxied by FRPL eligibility); locale: town or suburb; type of school: traditional noncharter public school; school size: medium, 200–499; demographic characteristics: male; White teachers; background and experience: middle-experience; certification: temporary, waiver or emergency, or no certificate; route into teaching: alternative certification program.

Source: Learning Policy Institute analysis of the 2020–21 National Teacher and Principal Survey, and the 2020–21 Teacher Follow-Up Survey. (2024).

Endnotes

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6. According to Carver-Thomas and Darling-Hammond (2017), 90% of open teaching positions are created by teachers who leave the profession. Hiring needs may arise when class size changes, the curriculum is broadened, or other factors. Shortages occur when schools are unable to staff vacancies at current wages with individuals qualified to teach in the fields needed. See Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute. <https://doi.org/10.54300/454.278>
7. Between 2017–18 and 2021–22, the number of enrollees from teacher preparation programs declined by 0.6% nationally, while the number of completers increased by 4.1%. These rates vary significantly by state. See Learning Policy Institute. (2024). *The state of the teacher workforce: A state-by-state analysis of the factors influencing teacher shortages, supply, demand, and equity* [Interactive map]. <https://learningpolicyinstitute.org/product/state-of-teacher-workforce-interactive>

8. For example, national surveys have shown that over 20% of schools reported increasing class size, 30% of schools reported staffing their current teachers outside of their intended duties, and 11% reported offering fewer student services. See National Center for Education Statistics. (2024). *School Pulse Panel: Surveying high-priority, education-related topics*. <https://nces.ed.gov/surveys/spp/results.asp>; Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Learning Policy Institute. <https://learningpolicyinstitute.org/product/coming-crisis-teaching>; Tan, T. S., Arellano, I., & Patrick, S. K. (2024). *State teacher shortages 2024 update: Teaching positions left vacant or filled by teachers without full certification*. Learning Policy Institute. <https://learningpolicyinstitute.org/product/state-teacher-shortages-vacancy-2024>
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21. See metaanalyses above in endnote 18. See also Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute. <https://doi.org/10.54300/454.278>. Both teacher salaries and gap between teacher salaries and non-teacher salaries affect teacher turnover; see also García, E., & Han, E. S. (2022). Teachers' base salary and districts' academic performance: Evidence from national data. *SAGE Open*, 12(1). <https://doi.org/10.1177/21582440221082138>; García, E., Han, E., & Weiss, E. (2022). Determinants of teacher attrition: Evidence from district-teacher matched data. *Education Policy Analysis Archives*, 30(25). <https://doi.org/10.14507/epaa.30.6642>; García, E., & Weiss, E. (2020). How teachers view their own professional status: A snapshot. *Phi Delta Kappan*, 101(6), 14–18. <https://doi.org/10.1177/0031721720909581>; Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499–534. <https://journals.sagepub.com/doi/10.3102/00028312038003499>; Ingersoll, R., Merrill, L., & May, H. (2014). *What are the effects of teacher education and preparation on beginning teacher attrition?* Consortium for Policy Research in Education, University of Pennsylvania. https://cpre.org/sites/default/files/researchreport/2018_prepeffects2014.pdf; Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80(3), 44–70. https://doi.org/10.1207/s15327930pje8003_4; Nguyen, T. D., Bettini, E., Redding, C., & Gilmour, A. F. (2024). Comparing teacher turnover intentions to actual turnover: Cautions and lessons for the field. *Educational Evaluation and Policy Analysis*, 47(3). <https://doi.org/10.3102/01623737241249459>; Redding, C., & Nguyen, T. D. (2020). Recent trends in the characteristics of new teachers, the schools in which they teach, and their turnover rates. *Teachers College Record*, 122(7), 1–36. <https://doi.org/10.1177/016146812012200711>
22. It is important to note that the teacher workforce represented in our study reflects a unique period shaped by the COVID-19 pandemic. Teachers' responses to these survey questions may have been influenced by the shifts in instruction, heightened stress, and burnout that occurred during this time. In the [Research Considerations](#) section, we further discuss how future research could uncover how the COVID-19 pandemic impacted the teacher workforce.
23. Taie, S., & Lewis, L. (2023). *Teacher attrition and mobility. Results from the 2021–22 Teacher Follow-Up Survey to the National Teacher and Principal Survey* [NCES 2024-039]. U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2024039>
24. Allegretto, S. (2024). *Teacher pay rises in 2023—but not enough to shrink pay gap with other college graduates*. Economic Policy Institute. <https://www.epi.org/publication/teacher-pay-in-2023/>
25. For variation across states, see Learning Policy Institute. (2024). *The state of the teacher workforce: A state-by-state analysis of the factors influencing teacher shortages, supply, demand, and equity* [Interactive map]. <https://learningpolicyinstitute.org/product/state-of-teacher-workforce-interactive>
26. Darling-Hammond, L., Burns, D., Campbell, C., Goodwin, A. L., Hammerness, K., Low, E. L., McIntyre, A., Sato, M., & Zeichner, K. (2017). *Empowered educators: How leading nations design systems for teaching quality*. Jossey-Bass.
27. See [Appendix B: Contextualizing the Teacher Labor Market in 2020–21 and 2021–22](#) for more details.
28. Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute. <https://doi.org/10.54300/454.278>

29. While the results show the shares of teachers who moved and continued to teach in a different school, district, or state, it is unclear if these teachers moved to traditional public schools or a charter school.
30. Generally, certification accounts for teachers' knowledge and skills that are positively linked with teacher effectiveness and their own sense of efficacy in the classroom, which make them more engaged with teaching and more likely to stay in the classroom. With certification, teachers acquire "knowledge of the subject matter content to be taught and knowledge of how to teach that content to a wide range of learners, as well as the ability to manage a classroom, design and implement instruction, and work skillfully with students, parents, and other professionals." Certified teachers are also often required to pass tests related to teaching and knowledge, and many others that support them while they do their work. See Darling-Hammond, L., Holtzman, D. J., Gatlin, S. J., & Vasquez Heilig, J. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives*, 13, 42. <https://doi.org/10.14507/epaa.v13n42.2005>
31. The turnover-age profiles by certification status shift after teachers stay in teaching more than 5 years, though it is due to the fact that the proportion of uncertified teachers declines with years of experience (whether because teachers become certified or because uncertified teachers quit teaching) as well as to the U-shape of the turnover rates by age. For reference, the share of uncertified teachers with 15 or more years of experience is less than approximately 3%. We report selected experience categories for these reasons. For a detailed analysis of teacher certification status by age and others, see: NCES (2024). *Data point: Changes in public school teachers' certification type* [NCES 2024-088]. U.S. Department of Education. <https://nces.ed.gov/pubs2024/2024088.pdf>. Overall, leaver rates among teachers who are not fully certified are much higher than among certified teachers (10.3% vs. 6.8%, respectively, or over 50% larger among uncertified teachers). Teacher mover rates are higher among uncertified teachers than among certified teachers, although the difference is less acute (9.8% vs. 7.9%, respectively, or about 24% larger among uncertified teachers). See [Table C1](#) for more values by certification status.
32. See discussion in Nguyen, T. D., Lam, C. B., & Bruno, P. (2024). What do we know about the extent of teacher shortages nationwide? A systematic examination of reports of US teacher shortages. *AERA Open*, 10. <https://doi.org/10.1177/23328584241276512>
33. García, E., Kraft, M. A., & Schwartz, H. L. (2022, August 26). *Are we at a crisis point with the public teacher workforce? Education scholars share their perspectives* [Commentary]. Brookings Institute. <https://www.brookings.edu/articles/are-we-at-a-crisis-point-with-the-public-teacher-workforce-education-scholars-share-their-perspectives/>
34. In our study, about 6.5% of teachers are 61 years of age or more, and are approaching retirement. There is a larger share of beginning teachers—11.8% of teachers are in the first 3 years in their careers. See also Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499–534. <https://doi.org/10.3102/0002831203800349>; Ingersoll, R. (2007). Revolving doors and leaky buckets. *Letters to the Next President: What We Can Do About the Real Crisis in Public Education, 2008 Election Edition*, 141–147. <https://core.ac.uk/download/pdf/231833967.pdf>
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36. See Darling-Hammond, L., DiNapoli, M. A., Jr., & Kini, T. (2023). *The federal role in ending teacher shortages*. Learning Policy Institute. <https://doi.org/10.54300/649.892>. A decade ago, the lowest turnover rates were found among general elementary teachers and humanities teachers. Mathematics, science, and special education teachers had higher turnover rates, exceeding 13% annually. Teachers who primarily teach English to speakers of other languages had an even higher turnover rate, of about 19%. See also Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute. <https://doi.org/10.54300/454.278>. It is important to note that lower turnover rates do not necessarily imply that there are no teacher shortages in science and mathematics. For instance, other indicators of shortages—including not filling vacancies, deciding to not offer courses at all, or staffing classes with long-term substitute teachers—would not be reflected in our turnover data.
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45. The teacher wage penalty refers to the gap in wages between teachers and other college graduates. In recent years (2016–2020), all teachers, on average, earned just 73% of what the average non-teacher college graduate earned, after adjusting for state cost-of-living differences. In contrast, teachers of color earned from as little as 61% of non-teacher wages for Native American/Alaska Native teachers to 72% for Latino/a teachers, while White teachers earned just above the average (74%). Carver-Thomas, D., Leung-Gagné, L., & García, E. (2025). *Supporting and sustaining a diverse teacher workforce*. Learning Policy Institute. <https://doi.org/10.54300/216.666>; García, E., Wei, W., Patrick, S. K., Leung-Gagné, M., & DiNapoli, M. A., Jr. (2023). *In debt: Student loan burdens among teachers*. Learning Policy Institute. <https://doi.org/10.54300/497.986>
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47. The list of reasons are different for leavers (see Questions 18 and 19 on pp. 9–11, https://nces.ed.gov/surveys/ntps/pdf/2022/2021-22_TFS2_Questionnaire.pdf) than for movers (see Questions 24 and 25 on pp. 15–17, https://nces.ed.gov/surveys/ntps/pdf/2022/2021-22_TFS3_Questionnaire.pdf). The two groups are analyzed separately due to this fact.
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51. From [Figure 7](#), 23% is the share resulting from adding 8.2% (“Dissatisfied with the administration”) +7.3% (“Wanted or needed a higher salary”) +7.0% (“Dissatisfied with job description or assignment”). From [Figure 8](#), 16.3% is the share resulting from adding 8.9% (“Wanted or needed a higher salary”) +7.4% (“Dissatisfied with teaching as a career”).
52. This is modeled through the introduction of a squared term for salaries. Although the coefficients associated with the squared term of the salary variable are rounded to zero and are not statistically significant in the models presented in [Table 4](#), the unrounded coefficients are larger than zero and their statistical significance varied across models and samples. The specification allows a better fit of the data—a more accurate identification of the relationship between teacher turnover and base salaries. More information on the internal steps of the analytic process about this and additional results for other samples are available in the Technical Supplement. The salary variable captures the variation in teacher base salaries adjusted for cost-of-living differences at the district level. This variable is not a relative metric of teacher salaries compared with wages of similarly educated professionals or others, but we acknowledge that competitive wages play a role in teacher turnover, and they also differ across states. See discussion of how both changes in teacher salaries and changes in the gap between teacher and non-teacher salaries influence turnover in [García, E., & Han, E. S. \(2022\). Teachers’ base salary and districts’ academic performance: Evidence from national data. *SAGE Open*, 12\(1\). <https://doi.org/10.1177/21582440221082138>](#)
53. Individual-level characteristics include teachers’ demographic characteristics (gender, race and ethnicity), educational background and experience (years of experience, preparation route, certification status), compensation (salary and financial stressors), and working conditions (working environment and leadership, instructional factors and workload, additional instructional supports, and accountability). School-level characteristics include share of students of color, share of students participating in the NSLP, type of school, locale, and school size. For more details, see [Appendix A: Methodology and Technical Supplement](#).
54. In the full model, three additional working conditions variables were statistically significant. Two of these variables—whether teachers received a great deal of support from parents for the work they do and whether paperwork and administrative duties interfered with their job—are not discussed in this section for two main reasons: They were marginally statistically significant in the fully specified model, and their coefficients changed largely across models and samples (for the bivariate regressions, the fully specified model, and in samples using all teachers and excluding retirees). See [Key Factors Associated With Preretirement Turnover](#) for more details on the analysis excluding retirees. In the full model, teachers who reported receiving parental support had higher probabilities of turnover, while those who reported interference from paperwork had lower probabilities of turnover—patterns that are unexpected. But in the fully specified model with state fixed effects, when retirees are excluded from the sample, the relationship with parental support becomes not statistically significant and teachers who agree with paperwork interference now have higher probabilities of turnover (see [Table D1](#)). We also estimated a model excluding the instructional supports variables (results are available upon request). The third variable—teachers teaching in higher-turnover subjects—is statistically significant in the bivariate model and in all models and samples using the multivariate model. Given that we discussed this group of teachers in detail in the descriptive section and the bivariate analyses, we discuss in the policy considerations ways to better support this group of teachers.
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56. Adamson, F., & Darling-Hammond, L. (2011). *Speaking of salaries: What it will take to get qualified, effective teachers in all communities?* Center for American Progress. <https://eric.ed.gov/?id=ED536080>; Baugh, W. H., & Stone, J. A. (1982). Mobility and wage equilibration in the educator labor market. *Economics of Education Review*, 2(3), 253–274. [https://doi.org/10.1016/0272-7757\(82\)90032-2](https://doi.org/10.1016/0272-7757(82)90032-2); Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80(3), 44–70. https://doi.org/10.1207/s15327930pje8003_4; Murnane, R. J., & Olsen, R. J. (1990). The effects of salaries and opportunity costs on length of stay in teaching: Evidence from North Carolina. *Journal of Human Resources*, 25(1), 106–124. <https://doi.org/10.2307/145729>; Ondrich, J., Pas, E., & Yinger, J. (2008). The determinants of teacher attrition in upstate New York. *Public Finance Review*, 36(1), 112–144. <https://doi.org/10.1177/1091142106294716>
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59. These two variables are simple binary indicators in our analyses; using amount of debt or number of hours worked would yield more precise estimates. Still, on average, both variables are statistically significant drivers of preretirement turnover, as shown in [Key Factors Associated With Preretirement Turnover](#).
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