The Effects of Teacher Turnover



Ed Fuller
Penn State University

Liz Hollingworth
University of Iowa

December 2026

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 3, 2026

National Education Policy Center

School of Education
University of Colorado Boulder
nepc.colorado.edu

Acknowledgements

NEPC Staff

Faith Boninger
Publications Manager

Margaret Balch-Gonzalez
Academic Editor

Elaine Duggan
Production Design

Alex Molnar
NEPC Director

Kevin Welner
NEPC Director

UNEDITED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 3, 2026

Suggested Citation: Fuller, E. & Hollingworth, L. (2026). *The effects of teacher turnover*. Boulder, CO: National Education Policy Center. Retrieved [date] from http://nepc.colorado.edu/publication/turnover

Funding: This policy brief was made possible in part by funding from the Great Lakes Center for Educational Research and Practice.

Peer Review: *The Effects of Teacher Turnover* was double-blind peer-reviewed.

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

This publication is provided free of cost to NEPC's readers, who may make non-commercial use of it as long as NEPC and its author(s) are credited as the source. For inquiries about commercial use, please contact NEPC at nepc@colorado.edu.

The National Education Policy Center (NEPC), a university research center housed at the University of Colorado Boulder School of Education, sponsors research, produces policy briefs, and publishes expert third-party reviews of think tank reports. NEPC publications are written in accessible language and are intended for a broad audience that includes academic experts, policymakers, the media, and the general public. Our mission is to provide high-quality information in support of democratic deliberation about education policy. We are guided by the belief that the democratic governance of public education is strengthened when policies are based on sound evidence and support a multiracial society that is inclusive, kind, and just. Visit us at: http://nepc.colorado.edu

NEPC
NATIONAL EDUCATION POLICY CENTER

The Effects of Teacher Turnover

Ed Fuller
Penn State University

Liz Hollingworth
University of Iowa

December 2026

EMBARGOED UNTIL 12:01AM - DECEMBER 3, 2026

I. Executive Summary

Teacher turnover has become one of the most persistent and consequential challenges facing U.S. public education. School districts have reported rising attrition rates that spiked in 2023 and increased reliance on under-credentialed or short-term staff. Although teacher turnover has long been treated primarily as a human resources issue, these staffing disruptions are not merely administrative concerns. A growing body of research suggests that the disruptions carry substantial academic and fiscal consequences that ripple across districts and schools, shaping the stability of instructional environments, the quality of teaching students receive, and the financial health of school systems.

The overall body of teacher-turnover-effect research is most developed and robust in showing negative impacts on students' test scores. The research is less developed with respect to students' non-academic outcomes, but the available evidence suggests that teacher turnover has a negative effect on students in this domain as well—impacting students' social competence, self-regulation, attachment with adults, initiative for learning, engagement in learning, and student disciplinary referrals and suspensions. In almost all cases, the effect on district finances is negative. Further, research suggests that turnover most harms economically disadvantaged students and schools, minoritized students, and moderately performing students.

This body of research paints a compelling picture, whereby losing teachers can affect the entire school, not just the departing teachers' immediate students and colleagues. Once a school begins to lose teachers, a vicious cycle begins in which student behavior worsens, teaching becomes more difficult, turnover continues to grow,

experienced teachers are replaced by inexperienced ones who require more support from principals and colleagues, student achievement worsens, administrative costs increase, parents who are able to move their children to other schools begin to do so, and experienced teachers and principals are ever harder to recruit. High turnover and low student achievement become chronic and nearly inescapable.

Retaining teachers is, of course, the first line of defense against the negative impacts of turnover on students. While beyond the scope of this brief, the larger body of research points to two major turnover factors: salaries and working conditions. Both of these factors can and should be addressed by, for instance, increasing teacher salaries—especially in high-turnover schools—and conducting a statewide teacher working conditions survey.

While such approaches can help retain teachers, the below recommendations are instead designed to help ameliorate the harms of teacher turnover. Schools, districts, state departments of education, and lawmakers can take steps to buffer the effects of turnover when it does occur. Particularly important will be the adoption of practices to carefully hire, integrate, and reassign teachers when losses occur, and to reinforce school culture in ways that foster teacher retention and support students, families, and the remaining teaching staff.

State Policymakers

- Adequately fund high-quality principal preparation programs to strengthen school leadership. Ensure that such programs include discussions of teacher turnover and teacher working conditions.

District Leaders

- Invest in high-turnover schools by reducing class sizes and hiring extra staff (paraprofessionals, tutors, teacher mentors, and extra counselors) to facilitate the development of stable relationships over time among adults and between adults and students.
- Ensure there are enough adults on a campus to help with the added documentation needed to maintain knowledge about each student even if a teacher leaves the school.
- Prioritize keeping educators at the same school over time and minimize the transfer of principals and teachers between schools as much as possible, even when student population counts may shift during the school year.
- Provide extra professional learning days dedicated to educators' development, and maintain information about the strengths, weaknesses, and academic

EMBARGOED DRAFT–HOLD FOR RELEASE 2 P.M. MT–DECEMBER 3, 2024

progress of each student.

- Ensure that all schools and teachers rely on the same shared high-quality curriculum and curricular materials so that teachers changing positions in the district are already knowledgeable about these areas.
- Hire teachers early rather than late in the hiring season and pay the newly hired teachers to onboard early and meet with existing educators at their new school as a way to develop shared understandings of school culture and students.
- Promote equitable hiring policies to ensure that the same students are not repeatedly assigned to new teachers.

School Leaders

- Create a strong school culture that proactively supports teachers, students, and families, fosters relationships between adults and students throughout the school, and minimizes the negative effects of shifting assignments.
- Develop a pool of long-term substitutes who often work at the school, know the school culture, and develop relationships with the school community.
- Develop common pacing guides, shared lesson banks and shared assessments, and establish Professional Learning Communities, grade-level teams or subject-matter teams.
- Create data collection systems that provide teachers with access to a holistic view of students, so that teachers can rapidly learn about, for instance, students' strengths and weaknesses and their friendships.
- Proactively provide parents with a personal contact at the school, upon whom they can rely in case of future turnover.
- Establish onboarding activities and mentorship programs to engage newly hired teachers in the culture of the school and help them build trusting relationships with other teachers.

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01 AM - DECEMBER 9, 2015

EMBARGOED DRAFT - NOT FOR RELEASE 12:01AM - DECEMBER 3, 2026

The Effects of Teacher Turnover

Ed Fuller
Penn State University

Liz Hollingworth
University of Iowa

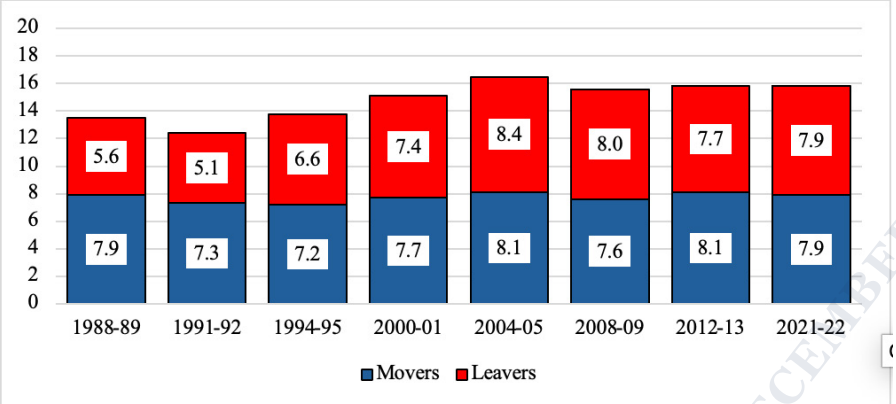
December 2026

II. Introduction

Teacher turnover is one of the most persistent and consequential challenges facing U.S. public education systems. In recent years, school districts have reported rising attrition rates (spiking in 2023) and increased reliance on under-credentialed or short-term staff to fill teaching positions.[1] These staffing disruptions shape the quality of instruction and the financial health of school systems. A growing body of research suggests turnover carries substantial academic and fiscal consequences that ripple across schools and districts.

Prior to the dramatic increase in teacher turnover in the years immediately following Covid,[2] teacher turnover was relatively high and fairly steady over the most recent two decades for which we have data as shown in Figure 1. Specifically, the turnover rates—composed of leavers (teachers leaving the teaching profession) and movers (teachers moving to a new school)—ranged between 15.1% in 2000-2001 to 15.8% in 2021-2022.[3]

Figure 1: National Percentage of Teacher Leavers and Movers for Selected Years



Source: Number and percentage distribution of public school teacher stayers, movers, and leavers: 1988-89 through 2012-13 (https://nces.ed.gov/surveys/sass/tables/TFS1213_2014077_cf1n_001.asp) *Teacher Turnover: Stayers, Movers, and Leavers (https://nces.ed.gov/programs/coe/indicator/slc/teacher-turnover)*

The turnover rate, however, varies across states, state geographic areas, districts, schools, and teachers. This variation is important because schools enrolling greater percentages of students living in poverty and minoritized children often experience higher turnover rates.[4] Research also suggests that turnover can vary between early childhood education (ECE) and K–12 education. For example, Bassok and colleagues[5] found that more than one-third of ECE teachers leave their program every year and that most of them do not remain in the teaching profession. This is far greater than the approximately 16% turnover at the K–12 level.

This brief reviews research on the effect of turnover on student academic outcomes, student non-academic outcomes such as socio-emotional learning and behavior, and fiscal effects on districts. It also examines some of the mechanisms by which turnover affects students, schools, and districts, and briefly mentions the causes of teacher turnover. Understanding these effects and their mechanisms is essential for developing policies and practices that promote teacher retention, ensure equitable access to effective educators, and sustain positive learning environments. This is particularly important given the widening gap between high- and low-performing students,[6] increasing student absenteeism,[7] and student mental health issues.[8]

III. Review of the Literature—Effects of Teacher Turnover

This review examines research on how turnover[9] affects student academic and non-academic outcomes as well as district finances. To examine the effect of turnover on student outcomes, we reviewed quantitative studies published from 2010 through 2026, finding 12 high-quality studies.[10] Academic outcomes focus on standardized state test scores while non-academic outcomes vary by educational level.

EMBARGOED DRAFT—NOT FOR PRESS OR PUBLICATION—DECEMBER 3, 2026

Early childhood education (ECE) studies of non-academic outcomes cover problem behaviors, social competence, socio-emotional development, emotional regulation, positive adjustment, self-control, adult attachment, and cooperation with instructions, while the sole K–12 study focuses on referrals and suspensions. We also examined the fiscal costs incurred by schools and districts from turnover, finding five high-quality studies published 2000-2026.[11]

Effects on Student Academic Outcomes

The research on academic outcomes, examined rates of turnover by subject area, grade level, school, district, and employment as a teacher. Most of the studies focused on three categories: subject area, grade level, and school. All but one of the studies focused on between-year turnover, which is when a teacher departs a specific grade level at the end of year one and does not return to that grade level in year two.[12] One study[13] examined the effects of within-year turnover, which is when a teacher leaves their subject area, grade level, or school in the middle of the academic year.

Nine of the 12 studies found that turnover had a statistically significant negative effect on the academic achievement of at least some students (see Appendix A). For K–12, studies found a statistically significant relationship between turnover and academic outcomes, with all but one study concluding turnover has a negative effect on outcomes. The effects are more pronounced in math. The three studies that did not find any statistically significant effect on student academic outcomes were in ECE settings and measured the vocabulary skills of three-year-olds.[14]

The lone study finding a statistically significant positive effect was an evaluation of the DC IMPACT system in Washington DC,[15] which was designed, in part, to identify low-performing teachers, remove them from teaching in DC public schools, and replace them with more effective teachers. The evaluation of the system found that the effort was likely successful in improving student achievement, partially as a result of the increased turnover of ineffective teachers from DC public schools. Because of the unique circumstances that arguably led to the positive finding,[16] many researchers consider this finding not to be generalizable to other settings.[17]

Overall, we found that high-quality, rigorous studies conclude that rates of turnover analyzed by subject area, grade level, and school have important, statistically significant, negative effects on student achievement. Moreover, the researchers argue that the effects are large enough to be of concern to policymakers and education leaders.

Within- and Between-Year Turnover

One might suspect that within-year turnover is more disruptive to students than between-year turnover because losing a teacher in the middle of a year means that

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01 AM - DECEMBER 3, 2026

one of the following occurs: (1) students are distributed to other teachers who teach the same class, (2) students have a new teacher who leads the class for the remainder of the year, or (3) students are subjected to a string of substitute teachers for the remainder of the year unless a suitable replacement can be found. In any case, all three options sever the relationship that a student had with a teacher, as well as the student's understanding of the classroom rules and procedures, grading system, style of teaching, and other features of the classroom.

Henry & Redding's 2018 research found that within-year turnover has a negative effect on student achievement.[18] Although their study found little, if any, effect of between-year turnover on student achievement, all the other K–12 studies we reviewed found that between-year turnover harms student achievement.

Different Rates of Turnover by Category of Analysis

Turnover occurs at the individual classroom level. But the replacement for a departing teacher can be new to teaching and, thus, new not only to her class, but also to her subject area, grade level, school, and district. Or a teacher could transfer from another position within the school and be new to none of the above, any one of the above, or some of the above. Thus, turnover can be at the grade level or subject area within a school. One study found that 41% of teachers switch positions every year—including teachers new to the profession who "switch" into teaching.[19] Switching roles within a school was far more prevalent than people "switching into teaching" from another profession.[20]

Atteberry and colleagues found that all types of turnover—switching subject areas, grade levels, schools, or districts—harmed student achievement. Moreover, they found that the more "unfamiliar"[21] a teacher is to her assignment, the more negative the impact of the new assignment on student outcomes. The more categories a beginning teacher is new to—teaching itself, as well as her district, school, subject area, and grade level— the more negative the effect on student learning. Correspondingly, the fewer of these categories that are unfamiliar to a teacher, the lower the negative impact on student learning. For example, a teacher who changes subject areas within a grade level in the same school and district has the least negative impact on student learning, while a beginning teacher who is new to teaching has the most consequential effects on students.

School leaders should be most concerned about the negative effect of beginning teachers on student achievement, but they should also be concerned about the number of teachers switching assignments within the school, because even internal movement of teachers between grade levels or subject areas has a negative effect on student achievement. Switching roles within a school was far more prevalent than hiring a new teacher, and the relatively small negative effects on achievement of these with-

EMBARGOED DRAFT - HOLD FOR RELEASE 11:31AM - DECEMBER 3, 2020

in-school switches added up to a substantial impact when aggregated across the entire school.[22]

Differential Effects on Different Characteristics and Performance Levels of Students and Schools

Turnover may have different effects on students based on their academic ability. To address this question, different groups of researchers examined low-, moderate-, and high-performing students based on the students' performance on either achievement tests or classroom grades. Gibbons, who studied end-of-year turnover in the UK, found that students at the moderate ability level were most affected by turnover.[23] Similarly, Henry and Redding found that within-year turnover had the greatest negative impact on students with moderate levels of performance.[24]

Student Personal Characteristics: The effects of turnover can also differ across student personal characteristics such as age, gender, disability, economically disadvantaged status, and race/ethnicity. While we found some differences by student characteristics in our review, we did not find any consistent patterns. One ECE study found a more negative effect for Black students and boys,[25] while another study found that the effect of turnover differed by race/ethnicity and subject area. For English Language Arts (ELA), the negative effect was greatest for White students for both school levels. For math, the negative effect was greatest for Black students in elementary schools and Hispanic students in middle schools.[26] In the same study, within-year turnover had a negative effect on elementary and middle school student achievement in both ELA and mathematics for economically disadvantaged students.[27]

Performance Level of Classroom or School: Three studies[28] found that turnover has a greater effect on student achievement in lower-performing schools than in higher-performing schools. This is the most consistent finding regarding potential differential effects of turnover and is extremely important given that most research finds that lower-performing schools have greater rates of turnover. The exception to this rule was the one study in Washington DC, in which the district purposefully removed low-performing teachers in order to replace them with more effective teachers.[29] In this unusual case of intentional turnover, turnover had the most positive effect on students in lower-performing schools.

School Characteristics: The effects of turnover can vary by the student characteristics of a given school. Examined characteristics include the percentage of economically disadvantaged students and percentage of students from various racial/ethnic groups or by combined racial/ethnic groups (e.g., students of color). Three studies suggested turnover had a greater negative effect on students enrolled in schools with greater percentages of economically disadvantaged students or schools enrolling greater percentages of students of color—in particular, Black students.[30]

ENDORSED DRAFT - HOLD FOR RELEASE 12:01 AM - DECEMBER 3, 2026

Effects on Student Non-Academic Outcomes

Turnover can impact both academic and non-academic outcomes, including important behaviors such as social competence, self-regulation, attachment with adults, initiative for learning, engagement in learning, and student disciplinary referrals and suspensions.[31] All but one of the five studies examining the link between turnover and student behaviors were at the ECE level. We review these studies[32] first and then review the lone secondary-level study.[33]

All four ECE studies surveyed teachers and parents about children's behaviors, and one[34] also used external observers to assess student behaviors. Two of the four studies found a statistically significant and negative effect of turnover on at least one non-academic outcome examined.[35] In one study,[36] teachers rated children who experienced turnover as having worse behaviors and lower social competence than children who did not experience turnover. In another study,[37] teachers observed that children who experienced turnover showed less growth in fine motor skills, gross motor skills, initiative for learning, and attachment/closeness to an adult. This was more the case for Black compared to White children and boys compared to girls. A third study[38] found suggestive, but not significant, evidence of a negative relationship between within-year turnover and student behavioral outcomes such as emotional regulation, social withdrawal, aggressive behavior, and relationship building with others.[39]

The lone study that explored the effects of turnover on secondary level students examined district administrative data on referrals and suspensions of students. Rodriguez and Redding found that higher turnover was associated with a greater likelihood of students receiving a disciplinary referral or suspension, especially for Black students.[40] This was the case regardless of whether the teacher left between academic years or during the academic year.[41]

Further, Rodriguez and Redding also found that the greater the teaching experience of the teachers departing during the school year, the greater the odds that Black, American Indian/Alaskan Native, and multi-race students would be suspended or expelled.[42] Two issues explain this result. First, teachers hired during midyear are likely to be inexperienced teachers with little training, such as substitute teachers or teachers on an emergency permit.[43] Such teachers are less likely to have the knowledge and skills to effectively manage student behavior.[44] Second, the teacher-student relationship is severed when a teacher leaves.[45] This can increase the likelihood that a student will misbehave,[46] but more importantly, a new teacher would not have the time to establish the type of relationship with a student that can preempt poor behavior or collaboratively deescalate the situation.

Finally, the researchers also found that within-year turnover in the first few months of the second half of the year had greater negative effects than within-year turnover

EMBARGOED DRAFT—NOT FOR RELEASE 12:01 A.M. DECEMBER 13, 2016

at other points in the year. This is explained by standardized tests being administered in the spring. Turnover immediately before taking these tests can disrupt the preparation for the tests.[47]

Fiscal Effects on Districts

Turnover functions as a recurring cost driver that can strain district budgets and divert resources away from classrooms. We identified five high-quality studies that examined the fiscal effects on school districts. Three studies focused on only one district,[48] one study examined a small district and a large district in Florida,[49] and another study focused on five different districts.[50]

The researchers who conducted all five of these studies worked directly with district personnel to identify the costs associated with turnover. They all attempted to examine both the direct and indirect costs of turnover. Direct costs include separation costs (exit interviews, exit surveys, administrative tasks) and hiring costs (e.g., recruiting, interviews, background checks, reference checks, administrative tasks, bonuses). Indirect costs include training costs (orientation, mentoring, induction, new teacher training) and student learning (changes in teacher productivity related to student learning). While all the studies attempted to estimate indirect costs, only two studies attempted to include learning issues as part of the estimate of indirect costs.

The cost estimates varied dramatically across studies, sites, and methodologies (see Appendix B). In 2026 dollars, the lowest estimate was for a small district that incurred costs of $7,900 per year. This district had very high turnover and did not have any training or support programs in place, which explains the low cost but high turnover. Two high-end estimates were more than $55,000 per teacher. Unfortunately, there is no realistic way to provide an accurate estimate of the average costs of turnover. As all the authors argue, some data are typically missing when making calculations, the choice of methodologies can yield very different results, and costs vary greatly across contexts. Moreover, school costs are distinct from district costs and costs can vary greatly across schools, even within the same district.

However, authors agreed that turnover costs are substantial and reducing turnover could redirect expenditures towards improving student outcomes. The authors also agreed that high-need schools and districts—those serving high proportions of economically disadvantaged students and minoritized students—often suffer greater fiscal harms from turnover than other schools or districts.

Finally, the authors of the two studies[51] that included the cost of lost productivity due to turnover in their estimates of indirect costs arrived at two important conclusions. First, they found that the indirect costs (training costs and lost productivity costs) were substantially greater than the direct costs. Second, the costs from only

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM DECEMBER 3, 2026

lost teacher productivity are quite substantial by themselves—as much as 40% of the total cost per teacher. Thus, studies excluding productivity costs are likely severely underestimating the true costs of turnover.

IV. Recent Developments

The most important recent development regarding turnover was the large increase in attrition and turnover rates following the pandemic years of 2020 and 2021.[52] While attrition, when teachers leave the profession, is only one cause of turnover, it typically accounts for roughly one-half of the overall turnover rate.[53] Teacher attrition rates peaked in 2022 and 2023. Although they have been slowly trending downwards ever since, they have yet to return to pre-pandemic levels.[54]

V. Discussion

Thus far, we have established that turnover significantly influences student achievement growth and some student non-academic outcomes. Without specific programs in place such as IMPACT in Washington DC, coupled with a sufficient supply of well-qualified teachers who are willing to replace departing teachers, turnover negatively affects student outcomes. In addition, turnover is more likely to have adverse effects on students in lower-performing schools, high-poverty schools, and schools with greater percentages of minoritized students.[55]

The greater adverse effects likely result from several factors. First, lower-performing schools, high-poverty schools, and schools serving high percentages of minoritized students tend to have greater turnover rates than other schools.[56] Greater turnover rates mean that more teacher-student relationships are cut short, deepening the effect on students.[57] Further, students in such schools are more likely to lose access to experienced and effective teachers and to be taught by inexperienced and less effective teachers. Such schools also often have weaker working conditions and fewer fiscal and other resources, thus the loss of a teacher, especially a teacher with years of experience in the school, can result in a larger disruption to instruction and school culture.[58]

In this section, we explore the ways in which turnover impacts student achievement and other student outcomes. This discussion points to policies and strategies that may mitigate the impact of turnover on student outcomes.

There are two competing perspectives about how turnover affects student outcomes: (1) turnover changes the quality of teachers and (2) turnover disrupts the relationships in schools and lowers organizational effectiveness. Below, we review each of these perspectives and then provide our own perspective about how turnover affects

EMBARGOED DRAFT - NOT FOR RELEASE 12:01AM - DECEMBER 3, 2026

student outcomes.

Change in Teacher Quality

Turnover systematically reshapes who is teaching in a school, and some researchers contend that this reshaping lowers the overall quality of teachers which, in turn, lowers student achievement.[59] Departing teachers, especially those leaving in the middle of the school year, are often replaced by substitute teachers, lateral entry teachers,[60] teachers from alternative certification programs, or teachers on a probationary license.[61] These teachers are often less experienced and effective than fully certified teachers from standard preparation programs, especially in the case of substitute teachers and teachers on probationary licenses.[62] This tends to be true even though most research finds that inexperienced and less effective teachers are more likely to depart than their more experienced and effective peers.[63]

For example, suppose a fourth-year teacher departs from a school. Assuming the school can find a suitable teacher to replace the departing teacher, the replacement teacher is likely to have less teaching experience than the departing teacher. Because teacher effectiveness rises steeply in the first few years of experience,[64] replacing a fourth-year teacher with a first-year teacher typically lowers average instructional quality and student learning.[65]

Thus, the *change in teacher quality* proponents argue that the change in the qualifications and effectiveness from departing to replacement teachers explains the effect of turnover on student outcomes. When replacement teachers have lower qualifications and effectiveness than departing teachers, turnover has a negative effect on student outcomes. If there were no difference in the qualifications and effectiveness between departing and replacement teachers, then turnover would not have any effect on students. If, as seen in the study of Washington DC, replacement teachers are better qualified and more effective than departing teachers, then turnover can have a positive effect on student outcomes.[66]

Students other than those directly taught by the departing teacher still can be affected directly by the chain of further reassignments caused by the departure of one teacher. For example, when a teacher leaves a school, districts often cannot find an appropriate replacement teacher for the type of students in the class, subject area of the class, and/or grade level of the class. In many of these cases, districts choose to move existing teachers from one assignment to another until all assignments are filled by the most appropriate teacher possible.[67] This cascading movement of teachers harms student outcomes because the shifting of teachers changes the quality of even more teachers—even if only one actual replacement teacher is hired.[68] Even when moving from one assignment to another within the same school, a teacher switching subject areas or grade level is likely less effective than a teacher with prior

EMBARGOED DRAFT - HOLD FOR RELEASE 11:01AM - DECEMBER 3, 2026

experience in the subject area or grade level.[69]

Relationships and Organizational Effectiveness

The proponents of change in teacher quality as an explanation argue that only students directly impacted by turnover are harmed by the turnover.[70] This claim, however, is not supported by evidence.

Three studies in this review found that turnover had "disruptive effects" that negatively impacted the achievement of students taught by teachers who were not involved in turnover.[71] This perspective holds that turnover affects the entire ecosystem of the school which, in turn, affects teachers and students, including students' academic achievement.[72]

For example, in their longitudinal qualitative study, Jabbar and Holme found that turnover can disrupt the "social fabric of a school organization."[73] More specifically, turnover can affect the "networks of relationships, trust, shared norms, and mutual support that exist among students, teachers, families, and the wider community—and how these relationships help people work together and succeed."[74]

Jabbar and Holme identify three dimensions of social capital that are affected by turnover: relational, cognitive, and intellectual. [75]

The relational dimension refers to the degree to which teachers develop trusting relationships, and interact and work with one another. This relational trust is critical to school improvement and overall school effectiveness.[76] Turnover decreases relational trust, especially when veteran teachers are replaced by inexperienced and ineffective teachers.[77] Turnover also disrupts the development and strengthening of any new relationships, as teachers are unsure of how long new relationships with their colleagues will last.[78]

The cognitive dimension refers to "the creation and maintenance of shared meaning in an organization, such as a common vision and mission among staff."[79] Shared meanings are important to developing effective schools focused on learning.[80] Turnover disrupts the meanings and understandings shared by faculty and makes it harder to sustain improvement efforts over time. New teachers need to be taught the meanings and understandings shared by teachers who have worked at the school longer.

Similar to the cognitive dimension, the intellectual dimension refers to what people in the school collectively know and believe and how that shared understanding supports school improvement.[81] Jabbar and Holme contend that the intellectual dimension also includes teachers' knowledge of past practices, students, families, and their communities.[82] Further, they note that turnover removes institutional knowledge

MARGOLIS DRAFT - HOLD FOR RELEASE 12 AM - DECEMBER 3, 2026

about what has been past practice, what works and what does not, the strengths and weaknesses of students, and the outside support for students. These losses make school improvement much more difficult, especially for schools with high turnover every year.[83]

Relationships between students and teachers over time are incredibly important, especially for economically disadvantaged and minoritized students. Early childhood education (ECE) centers serving economically disadvantaged communities experience caregiver turnover rates of 25% or greater, which is substantially greater than ECE centers serving more advantaged communities.[84] Evidence also suggests that compared to non-minoritized students, minoritized students are enrolled in ECE settings that have greater rates of turnover.[85] Two studies found that caregiver turnover negatively affected student engagement, social competence, emotional regulation, initiative for learning, and attachment/closeness to adults.[86] All of these social dimensions are important for learning, including later learning in K–12 settings.

As ECE children transition to elementary school, many economically disadvantaged and minoritized students enroll in elementary schools with high turnover.[87] As was the case in ECE settings, these children are more likely than their more economically advantaged and White peers to see teachers and other adults leave them every year. Feeling abandoned by any trusted adult such as a teacher or coach deeply impacts children, leading to attachment issues, anxiety, and a diminished sense of safety that can trigger long-term trust, self-worth, and attachment issues.[88] Children who have experienced abandonment are also more likely to either withdraw or act out.[89] Not only does this impede their ability to learn,[90] but an increase in the number of students who are disengaged and/or acting out negatively impacts the learning of the other students in the school[91] and increases the likelihood of even further turnover.[92]

Thus, turnover disrupts both the organizational functioning of schools and the relationships among individuals within a school. This disruption can negatively affect student outcomes above and beyond any effect of the change in teacher qualifications and effectiveness brought about by a change in teachers. In fact, the effects of turnover can ripple throughout the school and affect all the students *and* adults in the school, not only those who work or study with that teacher directly.

Combined Effect

Given that evidence exists for both the teacher quality explanation and the organizational disruption explanation, we propose that the effect of turnover on student outcomes occurs through changes in the composition of teachers in a school *and* disruption of organizational effectiveness of the school.

Some evidence, albeit limited, suggests an interaction between organizational effectiveness and teacher effectiveness. For example, Atteberry and colleagues found

EMBARGOED DRAFT - HOLD FOR RELEASE 2:01AM DECEMBER 3, 2020

that organizational effectiveness[93] influences how effective individual teachers at a school are in improving student achievement.[94] In addition, Rodriguez and Redding concluded that losing experienced teachers, especially, may lead to greater disruption in school dynamics and greater struggle for remaining teachers to manage students' behavior.[95] This happens because experienced teachers have more expertise in effectively managing student behavior than do novice teachers.[96] When experienced teachers leave, not only are the students left behind likely to be taught by an inexperienced teacher with less expertise in managing student behavior,[97] but the remaining inexperienced teachers have fewer experienced peers to help them improve their own management of student behavior.

District Costs

Schools with persistent vacancies often rely on substitutes, emergency-certified teachers, or short-term contractors, which can increase per-day staffing costs while reducing instructional stability.[98] High-turnover schools may require additional spending on professional development, instructional coaching, and school improvement efforts to address declining performance or morale.[99] Moreover, instability can contribute to lower student achievement[100] and enrollment losses, particularly in open-enrollment or choice environments, [101] reducing state aid tied to attendance[102] and increasing the need to fund remediation efforts.[103] For districts already operating with tight budgets, these costs can reduce investments that might increase achievement[104] and also improve retention. Thus, turnover can actively contribute to fiscal stress and can sometimes create a vicious cycle in which financial constraints and turnover reinforce one another.

Why Action Is Urgently Needed

Robust evidence shows that teacher turnover typically has negative effects on student academic outcomes.[105] An understanding of the mechanisms by which turnover has this impact suggests policies to mitigate the negative effects when turnover happens. At the classroom level, replacement teachers are often less qualified and less effective in improving student outcomes than departing teachers.[106] This change in qualifications and effectiveness typically has a negative effect on a variety of student outcomes.[107] Moreover, the change in teachers disrupts instructional continuity and weakens relationships that support student engagement and achievement.[108] Students benefit from stable teacher–student relationships, accumulated teacher knowledge of curriculum and local context, and the gradual development of teacher effectiveness through experience.[109] When teachers leave, these forms of human capital are lost.[110] Further, replacement teachers often require time to reach levels of effectiveness that are comparable to those of departing teachers, thus producing short-term declines in instructional quality.[111] For schools, turnover can erode

ENHANCED DRAFT - HOLD FOR RELEASE 12:00 AM - DECEMBER 3, 2025

collegial trust, reduce collaboration, and undermine collective efficacy, all of which are associated with stronger student outcomes.[112] Frequent staffing changes also increase administrative burdens and reduce leaders' capacity to focus on instructional improvement.[113] Finally, turnover can also have substantial financial costs, which can drain resources needed for improving student learning.[114]

While the research is less developed with respect to student non-academic outcomes, the available evidence does suggest that teacher turnover has a negative effect on students in this domain as well. Particularly significant is that losing a teacher can affect the entire school, not only just the departing teacher's immediate students and colleagues.[115]

Once a school begins to lose teachers, the effects can spiral out of control as turnover often negatively affects student behavior,[116] which can make teaching at the school more difficult[117] and lower the achievement of other students.[118] This, in turn, can create more turnover.[119] As the proportion of inexperienced and underqualified teachers grows, experienced teachers often become overwhelmed and overstressed with addressing student needs and trying to help newly hired teachers navigate their difficult job.[120] At the same time, the principal can become overwhelmed by the increase in student misbehavior[121] and the need to provide intense instructional leadership to an ever-growing number of newly hired teachers who are inexperienced and underqualified[122]. As principals and experienced teachers choose to leave, the school is often caught in a vicious cycle of turnover, inferior instruction, poor classroom management, student misbehavior, underachievement, increased stress, and more turnover. Moreover, the district may have to divert money into recruiting, hiring, and supporting all the new employees.[123] With chronic turnover of teachers and principals, the school and district can find it increasingly difficult to hire any experienced educators to work at the school.[124] At this point, a school can be caught in a vicious cycle of high turnover, less experienced teachers, lower achievement, and a more chaotic school climate.

What Can Be Done?

There is no single cause of teacher turnover. Rather, the consensus is that turnover is caused by a combination of multiple factors, but especially salaries and working conditions. With respect to working conditions, research suggests the most important aspect is leadership behaviors,[125] teacher workload, and job-related stress.[126] Retaining teachers is, of course, the first line of defense against the negative impacts on students of losing them. A large literature explores actions that states, districts, and schools can take in order to retain good teachers. These include research by the Learning Policy Institute and their researchers,[127] research on reducing turnover in high-needs schools,[128] research on improving leadership and support for teachers,[129] and general research on reducing teacher turnover.[130]

UNDER PEER REVIEW - DRAFT - NOT FOR DISTRIBUTION - DECEMBER 3, 2018

Additionally, and importantly, the research we have reviewed about the effects of turnover points to steps that schools and districts can take to buffer those effects when turnover happens. These efforts include creating strong school cultures of trust and respect within the school and larger community to help create and sustain relationships and the flow of communication when personnel shift. Because school culture is built from the top, state and district investment in hiring and retaining effective principals is important, as is providing extra financial support to high-turnover schools. Districts can further support high-turnover schools by reducing class sizes and hiring paraprofessionals to reduce the deleterious effect of turnover, support students and teachers, and increase the number of adults upon whom students can rely.

Led by strong principals, schools can systematically develop frameworks to build relationships between teachers (including a regular pool of substitutes), students, and parents. Common pacing guides, shared lesson banks and assessment can support teachers through change. Likewise, building Professional Learning Communities, grade-level teams, and subject matter teams can provide stability to support the community through change, at the same time as they support relationships among teachers in the school and provide opportunity for teachers to share information about students' strengths, weaknesses, challenges, friendships, etc. Data collection and sharing systems can also help teachers throughout the school know the students better. Parents will feel more connected if the school proactively provides them with a personal contact with whom they can discuss their child's needs. All these efforts both reinforce the school culture and prepare teachers for reassignment in the case of turnover.

When reassignment and hiring are necessary, schools can integrate new teachers with onboarding activities and mentorship that immerse newly hired teachers in the culture of the school and help them build trusting relationships with other teachers. They can also take care to thoughtfully place new teachers and reassign veterans in ways that minimize student harm.

EMBARGOED DRAFT – NOT FOR RELEASE – FINAL DECEMBER 5, 2016

VI. Recommendations

We recommend that policymakers take the following actions to ameliorate the wide-ranging negative effects of teacher turnover:

State Policymakers

- Adequately fund high-quality principal preparation programs to strengthen school leadership. Ensure that such programs include discussions of teacher turnover and teacher working conditions.

District Leaders

- Invest in high-turnover schools by reducing class sizes and hiring extra staff (paraprofessionals, tutors, teacher mentors, and extra counselors) to facilitate the development of stable relationships over time among adults and between adults and students.
- Ensure there are enough adults on a campus to help with the added documentation needed to maintain knowledge about each student even if a teacher leaves the school.
- Prioritize keeping educators at the same school over time and minimize the transfer of principals and teachers between schools as much as possible, even when student population counts may shift during the school year.
- Provide extra professional learning days dedicated to educators' development, and maintain information about the strengths, weaknesses, and academic progress of each student.
- Ensure that all schools and teachers rely on the same shared high-quality curriculum and curricular materials so that teachers changing positions in the district are already knowledgeable about these areas.
- Hire teachers early rather than late in the hiring season and pay the newly hired teachers to onboard early and meet with existing educators at their new school as a way to develop shared understandings of school culture and students.
- Promote equitable hiring policies to ensure that the same students are not repeatedly assigned to new teachers.

School Leaders

- Create a strong school culture that proactively supports teachers, students, and families, fosters relationships between adults and students throughout the school, and minimizes the negative effects of shifting assignments.
- Develop a pool of long-term substitutes who often work at the school, know the school culture, and develop relationships with the school community.
- Develop common pacing guides, shared lesson banks and shared assessments, and establish Professional Learning Communities, grade-level teams or subject-matter teams.
- Create data collection systems that provide teachers with access to a holistic view of students, so that teachers can rapidly learn about, for instance, students' strengths and weaknesses and their friendships.

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - SEPTEMBER 3, 2014

- Proactively provide parents with a personal contact at the school, upon whom they can rely in case of future turnover.
- Establish onboarding activities and mentorship programs to engage newly hired teachers in the culture of the school and help them build trusting relationships with other teachers.

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 3, 2016

Appendix A1:
Overview of Effects on Student Academic Outcomes

Study	Location	Early Childhood Education		Elementary School		Middle School		High School		Student Personal Characteristics	School Characteristics
		Math	ELA	Math	ELA	Math	ELA	Math	ELA		
Choi, et al. (2019)	National	N/A	No Effect								N/A
Tran & Winsler (2011)	Miami-Dade FL	N/A	No Effect							More Neg Effect for Boys than Girls	N/A
Horm, et al. (2018)	9 US cities	N/A	No Effect							N/A	N/A
Markowitz (2021)	National	N/A	Neg Effect							N/A	N/A
Ronfeldt, et al. (2013)	New York City			Neg Effect	Neg Effect	Neg Effect	Neg Effect			N/A	Neg Effect for Low-Performing Schools and Majority Black Schools
Henry & Redding (2020)	North Carolina			Neg Effect	Neg Effect	Neg Effect	Neg Effect			Neg Effect for Moderate-Performing Students for Within-Year Turnover	N/A
Kaler, et al. (2026)	Wash State			Neg Effect	Neg Effect	Neg Effect	Neg Effect			Neg Effects for Econ Dis-advantaged and Moderate-Performing Students; Varies by Race and School Level	N/A
Atteberry, et al. (2017)	New York City			Neg Effect	Neg Effect	Neg Effect	Neg Effect			N/A	N/A
Adnot et al. (2017)	Wash DC			Pos Effect	Pos Effect	Pos Effect	Pos Effect			N/A	Pos Effect for High-Performing Schools
Hanushek, et al. (2016)	Texas District			Neg Effect	Neg Effect	Neg Effect	Neg Effect			N/A	Neg Effect for Low-Performing Schools

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 10 2026

Sorensen & Ladd (2020)	North Carolina					Neg Effect	Neg Effect			Not included in study	Neg Effect for High-Performing Schools
Gibbons (2021)	United Kingdom							Neg Effect	Neg Effect	Neg Effect for Moderate-Performing Students	N/A

Key	
N/A	Not applicable. Was not included in the study
Neg Effect	Statistically significant finding of lower achievement following turnover
No Effect	No statistically significant finding of an effect of turnover
Pos Effect	Statistically significant finding of greater achievement following turnover

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01 AM - DECEMBER 15, 2020

Appendix B:
Overview of Effects on District Finances

Study	Estimated Reported Cost Per Teacher	Estimated Cost Per Teacher in 2026 Dollars**	Does the Estimated Cost Include Productivity Measures?***
Synar & Maiden (2003)			
	$10,000	$18,200	Yes
Barnes, et al. (2005)			
Low Estimate	$4,400	$10,000	No
Calculated Average*	$11,100	$19,046	
High Estimate	$17,800	$30,500	No
Milanowski & Odden (2006)			
Beginning Teacher			
Low Estimate	$9,100	$15,100	Yes
Calculated Average*	$16,100	$26,763	Yes
High Estimate	$23,100	$38,400	Yes
5th year teacher			
Low Estimate	$6,800	$11,300	Yes
Calculated Average*	$20,100	$33,412	Yes
High Estimate	$33,400	$55,521	Yes
Shockley, et al. (2006)			
Low Estimate	$4,600	$7,900	No
Calculated Average*	$8,600	$14,295	Yes
High Estimate	$12,600	$21,700	No
Levy, et al. (2011)			
All Teachers	$19,500	$32,300	No
Science Teachers	$39,200	$58,400	No

* We averaged the low and high estimates reported in each study to create a "calculated average."
** We calculated the costs in 2026 dollars using an online calculator that relied on the Consumer Price Index to estimate the worth of money over time. In making this calculation, we valued the monetary amount using the year in which the data of the study was collected.
*** This column indicates if the research attempted to capture the costs of turnover on teacher effectiveness and student learning.

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 2, 2026

Notes and References

1 DiNicola, S.E., Keskin, A., & Master, B.K. (2026, March 24). *Educator turnover rates stabilize after the pandemic*. RAND. Retrieved October 21, 2026, from https://www.rand.org/pubs/research_reports/RRA4737-1.html

Goldhaber, D. & Theobald, R. (2023). Teacher attrition and mobility in the pandemic. *Educational Evaluation and Policy Analysis, 45*(4), 682-687. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737221139285

Bacher-Hicks, A., Chi, O.L., & Orellana, A. (2023). Two years later: How COVID-19 has shaped the teacher workforce. *Educational Researcher, 52*(4), 219-229. Retrieved October 21, 2026, from https://doi.org/10.3102/0013189X231153659

Camp, A., Zamarro, G., & McGee, J. (2025). Looking back and moving forward: COVID-19's impact on the teacher labor market and implications for the future. *Educational Evaluation and Policy Analysis, 47*(4), 983-1009. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241258184

2 In the remainder of this brief, we use the term *turnover* to reference teacher turnover.

3 See this page to access multiple NCES reports that document the teacher attrition and turnover rates. Retrieved October 21, 2026, from https://nces.ed.gov/programs/digest/

4 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. Retrieved October 20, 2026, from https://learningpolicyinstitute.org/product/teacher-turnover-united-states-report

5 Bassok, D., Markowitz, A. J., Bellows, L., & Sadowski, K. (2021). New evidence on teacher turnover in early childhood. *Educational Evaluation and Policy Analysis*, *43*(1), 172-180. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373720985340

6 Wyckoff, J.H. (2025). *Puzzling over declining academic achievement*. EdWorkingPaper No. 25-1197. Annenberg Institute for School Reform at Brown University. Retrieved October 21, 2026, from https://doi.org/10.26300/kjaa-ec47

7 Dee, T.S. (2024). Higher chronic absenteeism threatens academic recovery from the COVID-19 pandemic. *Proceedings of the National Academy of Sciences*, *121*(3), e2312249121. Retrieved October 21, 2026, from https://doi.org/10.1073/pnas.2312249121

8 Naff, D., Williams, S., Furman-Darby, J., & Yeung, M. (2022). The mental health impacts of COVID-19 on PK–12 students: A systematic review of emerging literature. *AERA Open*, *8*. Retrieved October 21, 2026, from https://journals.sagepub.com/doi/full/10.1177/23328584221084722

9 The research in this review focuses primarily on turnover by subject area, grade level, and school. Most of the studies focus solely on school-level turnover. By school-level turnover, we mean the percentage of teachers leaving teaching positions in a specific school from one academic year to the next academic year. The reasons why a teacher left a position do not alter the fact that a teacher left a position. Any teacher who retires, leaves teaching for another profession, or moves to another district is identified as part of teacher turnover at the school. This is different than teacher attrition which is when a teacher leaves the teaching profession. Thus, teacher turnover from the 2024-25

EMBARGOED DRAFT - DO NOT POST OR PRINT UNTIL 12:01AM, DECEMBER 3, 2026

school year to the 2025-26 school year would include any teacher employed in a specific school in the 2024-25 school year who did not return to a teaching position in that same school for the 2025-26 school year.

10 To examine the effect of turnover on student outcomes, we reviewed quantitative studies published from 2010 through 2026. We searched Google Scholar, then expanded our search using reference lists from identified studies. We excluded studies not published in peer-reviewed journals and used Scimago to assess journal quality, removing any study not published in a top-quartile journal. Scimago is one of the most trusted ranking systems of academic journals. The website (https://www.scimagojr.com/) provides rankings for all journals and places them into four quartiles. Of these quartiles, quartile 1 includes the top-ranked journals and quartile 4 includes the lowest-ranked journals. These methods yielded a final set of 12 studies.

We chose 2010 through 2026 for turnover studies because large-scale student data matched to teachers for a larger number of grades at this time due to full implementation of the No Child Left Behind Act. There were far fewer comprehensive studies prior to 2010. The first studies on the effect of teacher turnover on district finances appeared in 2000. Thus, our review covers all of the existing studies on this topic.

11 To examine the effect of turnover on district finances, we used Google Scholar to identify studies from 2000 through 2026 that directly captured school or district costs from turnover. Again, we used the initially identified studies to find other studies. Ultimately, we found five high-quality studies. In this case, we defined high-quality as being published in a peer-reviewed journal or authored by scholars with a long history of publishing in peer-reviewed journals.

12 The studies used two primary methods of measuring between-year turnover. The first method examined the percentage of teachers employed at a specific level in year one and who did not return to that particular level in year two. So, for example, if there were 25 teachers in school A in year one and only 20 of those 25 teachers continued to teach in school A in year two, then the turnover rate is calculated as 5 divided by 25 which yields 20% turnover rate.

The second method examined the percentage of teachers who were new to a specific level in year two compared to year one. For example, suppose school B employed 50 teachers in year two and only 40 of them were teaching in school B in year one. Thus, 10 of the 50 teachers were new to the school. Thus, the "turnover" rate in this case would also be 20%.

Some studies employed both methods and found that the results between the two methods did not substantially differ from one another.

13 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy, 15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

14 Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

Horm, D.M., File, N., Bryant, D., Burchinal, M., Raikes, H., Forestieri, N., Encinger, A., & Cobo-Lewis, A. (2018). Associations between continuity of care in infant-toddler classrooms and child outcomes. *Early Childhood Research Quarterly*, *42*, 105-118. Retrieved October 21, 2026, from https://doi.org/10.1016/j.ecresq.2017.08.002

EMBARGOED DRAFT - DO NOT RELEASE BEFORE 9:01AM - DECEMBER 3, 2026

Tran, H. & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review*, *33*(11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.childyouth.2011.07.008

The inconsistent findings across the ECE studies might stem from the use of different measures of learning, different ages of the children included in the study, and the different contexts included in the studies.

15 Adnot, M., Dee, T., Katz, V., & Wyckoff, J. (2017). Teacher turnover, teacher quality, and student achievement in DCPS. *Educational Evaluation and Policy Analysis*, *39*(1), 54-76. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716663646

16 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

17 The DC IMPACT plan was well-funded and, importantly, the school district had access to a fairly large pool of teachers in the DC area from which the district could choose to replace departing teachers. While the study suggests that increasing teacher turnover of low-performing teachers can actually help to improve student outcomes, the plan is regarded as not generalizable to other sites for several reasons. First, the overall plan was quite costly and included the hiring of additional individuals to conduct teacher observations and the development of a complex data analysis and reporting system. Second, Washington DC had access to a large pool of experienced and well-qualified teachers to choose from when replacing those teachers identified for removal. Many districts do not necessarily have access to a pool of high-quality/effective teachers from which they can select.

18 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

19 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

20 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

21 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30; p. 18. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

22 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

23 Gibbons, S., Scrutinio, V., & Telhaj, S. (2021). Teacher turnover: Effects, mechanisms and organisational responses. *Labour Economics*, *73*, 102079. Retrieved October 21, 2026, from https://doi.org/10.1016/j.labeco.2021.102079

EMBARGOED DRAFT - NOT FOR RELEASE 2 AM ET - DECEMBER 3, 2026

24 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

25 Tran, H. & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review, 33(*11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.childyouth.2011.07.008

26 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

27 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

28 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

29 Adnot, M., Dee, T., Katz, V., & Wyckoff, J. (2017). Teacher turnover, teacher quality, and student achievement in DCPS. *Educational Evaluation and Policy Analysis*, *39*(1), 54-76. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716663646

30 Kaler, L., Theobald, R., Jones, N., & Bettini, E. (2026). Impacts of staff turnover on test scores for students with and without disabilities. *Journal of Research on Educational Effectiveness*, 1-25. https://doi.org/10.1080/19345747.2026.2636075

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

31 Bassok, D., Markowitz, A. J., Bellows, L., & Sadowski, K. (2021). New evidence on teacher turnover in early childhood. *Educational Evaluation and Policy Analysis*, *43*(1), 172-180. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373720985340

Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

Horm, D.M., File, N., Bryant, D., Burchinal, M., Raikes, H., Forestieri, N., Encinger, A., & Cobo-Lewis, A. (2018). Associations between continuity of care in infant-toddler classrooms and child outcomes. *Early Childhood Research Quarterly*, *42*, 105-118. Retrieved October 21, 2026, from https://doi.org/10.1016/j.ecresq.2017.08.002

Markowitz, A.J. (2024). Within-year teacher turnover in Head Start and children's school readiness. *AERA Open*, *10*, 23328584241245094. Retrieved October 21, 2026, from https://doi.

EMBARGOED DRAFT - HOLD FOR RELEASE 11:01 AM - DECEMBER 3, 2026

org/10.1177/23328584241245094

Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

Tran, H. & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review*, *33*(11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.childyouth.2011.07.008

32 Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

Horm, D.M., File, N., Bryant, D., Burchinal, M., Raikes, H., Forestieri, N., Encinger, A., & Cobo-Lewis, A. (2018). Associations between continuity of care in infant-toddler classrooms and child outcomes. *Early Childhood Research Quarterly*, *42*, 105-118. Retrieved October 21, 2026, from https://doi.org/10.1016/j.ecresq.2017.08.002

Markowitz, A.J. (2024). Within-year teacher turnover in Head Start and children's school readiness. *AERA Open*, *10*, 23328584241245094. Retrieved October 21, 2026, from https://doi.org/10.1177/23328584241245094

Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

Tran, H. & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review*, *33*(11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.childyouth.2011.07.008

33 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

34 Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

35 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

36 Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

37 Tran, H., & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review, 33*(11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.

EMBARGOED DRAFT - NOT FOR RELEASE UNTIL SEPTEMBER 2, 2026

childyouth.2011.07.008

38 Markowitz, A.J. (2024). Within-year teacher turnover in Head Start and children's school readiness. *AERA Open*, *10*, 23328584241245094. Retrieved October 21, 2026, from https://doi.org/10.1177/23328584241245094

39 The difference in results across studies is likely explained by different data, different methods, and different strategies used to capture caregiver turnover.

40 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

41 Consistent with this finding, Choi and colleagues found that children experiencing at least one teacher change over a two-year period had worse behavioral outcomes than children with no teacher changes.

Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

42 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

43 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

44 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

45 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

46 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

47 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

48 Levy, A.J., Joy, L., Ellis, P., Jablonski, E., & Karelitz, T.M. (2012). Estimating teacher turnover costs: A case study. *Journal of Education Finance, 38*(2), 102-129. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503885

Synar, E. & Maiden, J. (2012). A comprehensive model for estimating the financial impact of teacher turnover. *Journal of Education Finance, 38*(2), 130-144. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503886

EMBARGOED DRAFT NOT FOR RELEASE 9:01 AM - DECEMBER 3, 2026

Milanowski, A. & Odden, A. (2007). *A new approach to the cost of teacher turnover* (Vol. 13). School Finance Redesign Project, Center on Reinventing Public Education. Retrieved October 21, 2026, from https://crpe.org/a-new-approach-to-the-cost-of-teacher-turnover/

49 Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance, 36*(1), 22-37. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.0.0028

50 Barnes, G., Crowe, E., & Schaefer, B. (2007). National Commission on Teaching and Americas Future. *The cost of teacher turnover in five school districts: A pilot study*. Retrieved October 26, 2026, from https://eric.ed.gov/?id=ED497176

51 Milanowski, A. & Odden, A. (2007). *A new approach to the cost of teacher turnover* (Vol. 13). School Finance Redesign Project, Center on Reinventing Public Education. Retrieved October 21, 2026, from https://crpe.org/a-new-approach-to-the-cost-of-teacher-turnover/

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance, 36*(1), 22-37. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.0.0028

52 DiNicola, S.E., Keskin, A., & Master, B.K. (March 24, 2026). *Educator turnover rates stabilize after the pandemic*. RAND. Retrieved October 21, 2026, from https://www.rand.org/pubs/research_reports/RRA4737-1.html

Goldhaber, D. & Theobald, R. (2023). Teacher attrition and mobility in the pandemic. *Educational Evaluation and Policy Analysis, 45*(4), 682-687. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737221139285

Bacher-Hicks, A., Chi, O. L., & Orellana, A. (2023). Two years later: How COVID-19 has shaped the teacher workforce. *Educational Researcher, 52*(4), 219-229. Retrieved October 21, 2026, from https://doi.org/10.3102/0013189X231153659

Camp, A., Zamarro, G., & McGee, J. (2025). Looking back and moving forward: COVID-19's impact on the teacher labor market and implications for the future. *Educational Evaluation and Policy Analysis, 47*(4), 983-1009. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241258184

53 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. Retrieved October 26, 2026, from https://learningpolicyinstitute.org/product/teacher-turnover-united-states-report

54 DiNicola, S.E., Keskin, A., & Master, B.K. (March 24, 2026). Educator turnover rates stabilize after the pandemic. RAND. Retrieved October 26, 2026, from https://www.rand.org/pubs/research_reports/RRA4737-1.html

55 Kaler, L., Theobald, R., Jones, N., & Bettini, E. (2026). Impacts of staff turnover on test scores for students with and without disabilities. *Journal of Research on Educational Effectiveness*, 1-25. Retrieved October 21, 2026, from https://doi.org/10.1080/19345747.2026.2636075

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

EMBARGOED DRAFT - NOT FOR RELEASE IN ANY FORM - DECEMBER 3, 2026

Simon, N. & Johnson, S.M. (2015). Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record*, *117*(3), 1-36.

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

56 Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). Explaining the short careers of high-achieving teachers in schools with low-performing students. *American Economic Review, 95*(2), 166-171. Retrieved October 21, 2026, from https://doi.org/10.1257/000282805774669628

Hanushek, E.A., Kain, J.F., & Rivkin, S.G. (2004). Why public schools lose teachers. *Journal of Human Resources, 39*(2), 326-354. Retrieved October 21, 2026, from https://doi.org/10.3368/jhr.XXXIX.2.326

Loeb, S., Kalogrides, D., & Béteille, T. (2012). Effective schools: Teacher hiring, assignment, development, and retention. *Education Finance and Policy, 7*(3), 269-304. Retrieved October 21, 2026, from https://doi.org/10.1162/EDFP_a_00068

Scafidi, B., Stinebrickner, T., & Sjoquist, D. L. (2003). The relationship between school characteristics and teacher mobility. Manuscript submitted for publication.

Simon, N. & Johnson, S.M. (2015). Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record, 117*(3), 1-36. Retrieved October 21, 2026, from https://doi.org/10.1177/016146811511700305

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open, 6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

57 Menzies, L. (2023). Continuity and churn: Understanding and responding to the impact of teacher turnover. *London Review of Education*, *21*(1), 1-13. Retrieved October 21, 2026, from https://doi.org/10.14324/LRE.21.1.20

58 Carver-Thomas, D. & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Palo Alto, CA: Learning Policy Institute. Retrieved October 21, 2026, from https://learningpolicyinstitute.org/product/teacher-turnover-report

Simon, N. & Johnson, S.M. (2015). Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record*, *117*(3), 1-36.

59 In this review, we use the term teacher quality to mean the qualifications and teaching effectiveness of teachers. While objective measures of teacher quality do not necessarily translate fully into teaching effectiveness in improving learning, there is a relationship.

60 A lateral entry teacher is an individual entering teaching from another career without attending and completing a traditional teacher preparation program.

61 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

62 Backes, B., Cowan, J., Goldhaber, D., & Theobald, R. (2024). Four years of pandemic-era

EMBARGOED DRAFT - HOLD FOR RELEASE 8:30AM DECEMBER 2, 2026

emergency licenses: retention and effectiveness of emergency-licensed Massachusetts teachers over time. *Economics of Education Review*, *101*, 102562.

Sorensen, L.C., & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

63 Goldhaber, D., Gross, B., & Player, D. (2011). Teacher career paths, teacher quality, and persistence in the classroom: Are public schools keeping their best? *Journal of Policy Analysis and Management, 30*(1), 57-87. Retrieved October 21, 2026, from https://doi.org/10.1002/pam.20549

Hanushek, E.A. & Rivkin, S.G. (2010). *Constrained job matching: Does teacher job search harm disadvantaged urban schools?* Working Paper 42. National Center for Analysis of Longitudinal Data in Education Research. Retrieved October 21, 2026, from https://doi.org/10.3386/w15816

Hanushek, E.A., Rivkin, S.G., & Schiman, J.C. (2016). Dynamic effects of teacher turnover on the quality of instruction. *Economics of Education Review, 55,* 132-148. Retrieved October 21, 2026, from https://doi.org/10.1016/j.econedurev.2016.08.004

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open, 6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

64 Podolsky, A., Kini, T., & Darling-Hammond, L. (2019). Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community*, *4*(4), 286-308. Retrieved October 21, 2026, from https://doi.org/10.1108/JPCC-12-2018-0032

65 When a teacher leaves a position, four things can happen: The district hires a more qualified teacher than the teacher who left, the district hires a teacher who is less qualified than the teacher who left, the district hires a teacher who has about the same quality as the teacher who left, or the district chooses to not replace the teacher at all and eliminates the position. Complicating these transitions is the finding that the loss of a teacher and assignment of a replacement teacher may also involve the movement of teachers across grade levels and/or subject areas to fill the vacated position. In fact, in most studies, movement of teachers across classes, subject areas, grade levels, and schools can occur even for a single open position. The greater the number of replacement teachers hired, the more likely that remaining teachers are shuffled across classes or grade levels.

66 Adnot, M., Dee, T., Katz, V., & Wyckoff, J. (2017). Teacher turnover, teacher quality, and student achievement in DCPS. *Educational Evaluation and Policy Analysis*, *39*(1), 54-76. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716663646

67 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

Levy, A.J., Joy, L., Ellis, P., Jablonski, E., & Karelitz, T.M. (2012). Estimating teacher turnover costs: A case study. *Journal of Education Finance, 38*(2), 102-129. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503885

Synar, E. & Maiden, J. (2012). A comprehensive model for estimating the financial impact of teacher turnover. *Journal of Education Finance, 38*(2), 130-144. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503886

EMBARGOED DRAFT - NOT FOR RELEASE 12:01 AM ET OCTOBER 3, 2026

68 When a teacher leaves a school, that teacher is often replaced by the school. Suppose School A loses a 4th grade teacher who specializes in math. Because that may be a difficult position to fill with an applicant who has experience, requisite qualifications, and fits the school context, the school decides to move a 5th grade teacher into the 4th grade math specialist role. This leaves a 5th grade position open. One of the 3rd grade teachers is selected to move into that position and then the school hires a beginning teacher for the now vacant 3rd grade position. This is an example of how one departing teacher can cascade into 3 different classrooms that have teachers new to the subject area, grade level, and/or school. The study by Atteberry and colleagues concludes that each of these new assignments will have a negative effect on student outcomes. In some schools, teachers switch grade levels and specialty areas even when none of the teachers leave. Thus, even when there are no departing teachers, schools can experience within-school turnover which harms student outcomes.

69 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis, 39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

70 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 7. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

71 Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332-356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

72 Carver-Thomas, D. & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives, 27*(36). Retrieved October 21, 2026, from https://doi.org/10.14507/epaa.27.3699

Ingersoll, R.M. (2001). *Teacher turnover, teacher shortages, and the organization of schools*. Center for the Study of Teaching and Policy, University of Washington. Retrieved October 21, 2026, from https://www.education.uw.edu/ctp/content/teacher-turnover-teacher-shortages-and-organization-schools

Guin, K. (2004). Chronic teacher turnover in urban elementary schools. *Education Policy Analysis Archives, 12*(42). Retrieved October 21, 2026, from https://doi.org/10.14507/epaa.v12n42.2004

73 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292, 3. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

74 Bryk, A. & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. Russell Sage Foundation.

75 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How

EMBARGOED DRAFT - HOLD FOR RELEASE 12:01AM - DECEMBER 8, 2026

instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292, 5. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

76 Bryk, A. & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. Russell Sage Foundation.

77 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

78 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

79 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

80 Hargreaves, D.H. (1995). School culture, school effectiveness and school improvement. *School effectiveness and school improvement*, *6*(1), 23-46. Retrieved October 21, 2026, from https://doi.org/10.1080/0924345950060102

81 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

82 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

83 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

84 Grunewald, R., Nunn, R., & Palmer, V. (2022). *Examining teacher turnover in early care and education*. Available at Federal Reserve Bank of Minneapolis. Retrieved October 26, 2026, from https://www.minneapolisfed.org/article/2022/examining-teacher-turnover-in-early-care-and-education

85 Bryant, D., Yazejian, N., Jang, W., Kuhn, L., Hirschstein, M., Hong, S.L.S., & Wilcox, J. (2023). Retention and turnover of teaching staff in a high-quality early childhood network. *Early Childhood Research Quarterly, 65*, 159-169. Retrieved October 21, 2026, from https://doi.org/10.1016/j.ecresq.2023.06.002

86 Choi, J.Y., Horm, D., Jeon, S., & Ryu, D. (2019). Do stability of care and teacher–child interaction quality predict child outcomes in early head start? *Early Education and Development*, *30*(3), 337-356. Retrieved October 21, 2026, from https://doi.org/10.1080/10409289.2018.1546096

Tran, H. & Winsler, A. (2011). Teacher and center stability and school readiness among low-income, ethnically diverse children in subsidized, center-based child care. *Children and Youth Services Review*, *33*(11), 2241-2252. Retrieved October 21, 2026, from https://doi.org/10.1016/j.childyouth.2011.07.008

EMBARGOED DRAFT - FOR EMBARGOED RELEASE 12:01 AM - DECEMBER 2, 2026

87 Guin, K. (2004). Chronic teacher turnover in urban elementary schools. *Education Policy Analysis Archives, 12*(42), 1–30. Retrieved October 21, 2026, from https://doi.org/10.14507/epaa.v12n42.2004

Hanushek, E.A., Kain, J.F., & Rivkin, S.G. (2004). Why public schools lose teachers. *Journal of Human Resources, 39*(2), 326–354 Retrieved October 21, 2026, from https://doi.org/10.3368/jhr.XXXIX.2.326

Simon, N.S. & Johnson, S.M. (2015). Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record, 117*(3), 1–36. Retrieved October 21, 2026, from https://doi.org/10.1177/016146811511700305

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. Retrieved October 26, 2026, from https://learningpolicyinstitute.org/product/teacher-turnover-united-states-report

88 Ashton, K., Davies, A.R., Hughes, K., Ford, K., Cotter-Roberts, A., & Bellis, M.A. (2021). Adult support during childhood: A retrospective study of trusted adult relationships, sources of personal adult support and their association with childhood resilience resources. *BMC Psychology, 9*, 101. Retrieved October 21, 2026, from https://doi.org/10.1186/s40359-021-00601-x

Bellis, M.A., Hardcastle, K., Ford, K., Hughes, K., Ashton, K., Quigg, Z., & Butler, N. (2017). Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences: A retrospective study on adult health-harming behaviours and mental well-being. *BMC Psychiatry, 17*(1), 110. Retrieved October 21, 2026, from https://doi.org/10.1186/s12888-017-1260-z

Roorda, D.L., Koomen, H.M.Y., Spilt, J.L., & Oort, F.J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research, 81*(4), 493–529. Retrieved October 21, 2026, from https://doi.org/10.3102/0034654311421793

89 Fearon, R.P., Bakermans-Kranenburg, M.J., Van IJzendoorn, M.H., Lapsley, A.M., & Roisman, G.I. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: A meta-analytic study. *Child Development, 81*, 435–456. Retrieved October 26, 2026, from https://doi.org/10.1111/j.1467-8624.2009.01405.x

Lei, H., Cui, Y. & Chiu, M.M. (2016). Affective teacher-student relationships and students' externalizing behavior problems: A meta-analysis. *Frontiers in Psychology, 7*, 1311. Retrieved October 26, 2026, from https://doi.org/10.3389/fpsyg.2016.01311

Roorda, D.L. & Koomen, H.M.Y. (2021). Student–teacher relationships and students' externalizing and internalizing behaviors: A cross-lagged study in secondary education. *Child Development, 92*(1), 174–188. Retrieved October 26, 2026, from https://doi.org/10.1111/cdev.13394

Turner, M., Beckwith, H., Duschinsky, R., Forslund, T., Foster, S.L., Coughlan, B., Pal, S., & Schuengel, C. (2019). Attachment difficulties and disorders. *InnovAiT, 12*(4), 173. Retrieved October 26, 2026, from https://doi.org/10.1177/1755738018823817

90 Kessels, U. & Heyder, A. (2020). Not stupid, but lazy? Psychological benefits of disruptive classroom behavior from an attributional perspective. *Social Psychology of Education, 23*(3), 583–613. Retrieved October 21, 2026, from https://doi.org/10.1007/s11218-020-09550-6

EMBARGOED DRAFT – HOLD FOR RELEASE 11 AM DECEMBER 3, 2026

91 Carrell, S.E., Hoekstra, M., & Kuka, E. (2018). The long-run effects of disruptive peers. *American Economic Review, 108*(11), 3377–3415. Retrieved October 21, 2026, from https://doi.org/10.1257/aer.20160763

Figlio, D.N. (2007). Boys named Sue: Disruptive children and their peers. *Education Finance and Policy, 2*(4), 376–394. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp.2007.2.4.376

Kristoffersen, J.H.G., Krægpøth, M.V., Nielsen, H.S., & Simonsen, M. (2015). Disruptive school peers and student outcomes. *Economics of Education Review, 45*, 1–13. Retrieved October 21, 2026, from https://doi.org/10.1016/j.econedurev.2015.01.004

92 Barone, A. (2024, December). *Student behavior & teacher turnover in post-pandemic classrooms*. EdPolicyForward, George Mason University. Retrieved October 26, 2026, from https://era.cehd.gmu.edu/resources/student-behavior-and-teacher-turnover-in-post-pandemic-classrooms

Tsouloupas, C.N., Carson, R.L., Matthews, R., Grawitch, M.J., & Barber, L.K. (2010). Exploring the association between teachers' perceived student misbehavior and emotional exhaustion: The importance of teacher efficacy beliefs and emotion regulation. *Educational Psychology, 30*(2), 173–189. . Retrieved October 21, 2026, from https://doi.org/10.1080/01443410903494460

93 With respect to teachers, organizational effectiveness includes a school's capacity to utilize leadership, culture, structures, and professional relationships to create conditions that enable teachers to deliver effective instruction and improve student learning.

94 Atteberry, A., Loeb, S., & Wyckoff, J. (2017). Teacher churning: Reassignment rates and implications for student achievement. *Educational Evaluation and Policy Analysis*, *39*(1), 3-30. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716659929

95 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

96 Wolff, C.E., van den Bogert, N., Jarodzka, H., & Boshuizen, H.P. (2015). Keeping an eye on learning: Differences between expert and novice teachers' representations of classroom management events. *Journal of teacher education*, *66*(1), 68-85. Retrieved October 21, 2026, from https://doi.org/10.1177/0022487114549810

Sabers, D.S., Cushing, K.S., & Berliner, D.C. (1991). Differences among teachers in a task characterized by simultaneity, multidimensional, and immediacy. *American Educational Research Journal*, *28*(1), 63-88. Retrieved October 21, 2026, from https://doi.org/10.3102/00028312028001063

97 Hirsch, S.E., Randall, K., Bradshaw, C., & Lloyd, J.W. (2021). Professional learning and development in classroom management for novice teachers: A systematic review. *Education and Treatment of Children, 44*, 291–307. Retrieved October 21, 2026, from https://doi.org/10.1007/s43494-021-00042-6

Wolff, C.E., Jarodzka, H., & Boshuizen, H.P.A. (2021). Classroom management scripts: A theoretical model contrasting expert and novice teachers' knowledge and awareness of classroom events. *Educational Psychology Review, 33*, 131–148. Retrieved October 21, 2026, from https://doi.org/10.1007/s10648-020-09542-0

EMBARGOED DRAFT – NOT FOR RELEASE UNTIL DECEMBER 3, 2026

98 Milanowski, A. & Odden, A. (2007). *A new approach to the cost of teacher turnover* (Vol. 13). School Finance Redesign Project, Center on Reinventing Public Education. Retrieved October 21, 2026, from https://crpe.org/a-new-approach-to-the-cost-of-teacher-turnover/

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance, 36*(1), 22-37. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.0.0028

99 Tan, T.S. & Patrick, S.K. (2024). *2024 Update: What's the cost of teacher turnover? Technical supplement*. Learning Policy Institute. Retrieved October 21, 2026, from https://learningpolicyinstitute.org/2024-whats-cost-teacher-turnover-technical-supplement

100 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4–36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

101 Carlson, D., Lavery, L., & Witte, J. F. (2011). The determinants of interdistrict open enrollment flows: Evidence from two states. *Educational Evaluation and Policy Analysis*, *33*(1), 76-94. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373710388643

102 Lee, M. H.,& Scafidi, B. (2026). Enrollment, fiscal, and resource changes in American public school districts, 1998 to 2019. *Education Finance and Policy*, 1-58. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp.a.478

103 Dietrichson, J., Bøg, M., Filges, T., & Klint Jørgensen, A.M. (2017). Academic interventions for elementary and middle school students with low socioeconomic status: A systematic review and meta-analysis. *Review of Educational Research*, *87*(2), 243-282. Retrieved October 21, 2026, from https://doi.org/10.3102/0034654316687036

104 Jackson, C.K., Wigger, C., & Xiong, H. (2021). Do school spending cuts matter? Evidence from the Great Recession. *American Economic Journal: Economic Policy*, *13*(2), 304-335. Retrieved October 21, 2026, from https://doi.org/10.1257/pol.20180674

105 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

Henry, G.T. & Redding, C. (2020). The consequences of leaving school early: The effects of within-year and end-of-year teacher turnover. *Education Finance and Policy*, *15*(2), 332–356. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00274

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, *50*(1), 4–36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

106 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

EMBARGOED DRAFT - NOT FOR RELEASE TO MEDIA - DECEMBER 3, 2026

107 Gibbons, S., Scrutinio, V., & Telhaj, S. (2021). Teacher turnover: Effects, mechanisms and organisational responses. *Labour Economics*, *73*, 102079. Retrieved October 21, 2026, from https://doi.org/10.1016/j.labeco.2021.102079

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. American Educational Research Journal, *50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

108 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

109 Kraft, M.A., Marinell, W.H., & Shen-Wei Yee, D. (2016). School organizational contexts, teacher turnover, and student achievement: Evidence from panel data. *American Educational Research Journal*, *53*(5), 1411-1449.

110Gibbons, S., Scrutinio, V., & Telhaj, S. (2021). Teacher turnover: Effects, mechanisms and organisational responses. *Labour Economics*, *73*, 102079. Retrieved October 21, 2026, from https://doi.org/10.1016/j.labeco.2021.102079

111 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

112 Kraft, M.A., Marinell, W.H., & Shen-Wei Yee, D. (2016). School organizational contexts, teacher turnover, and student achievement: Evidence from panel data. *American Educational Research Journal, 53*(5), 1411-1449.

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal, 50*(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

113 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

114 Levy, A.J., Joy, L., Ellis, P., Jablonski, E., & Karelitz, T.M. (2012). Estimating teacher turnover costs: A case study. *Journal of Education Finance, 38*(2), 102-129. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503885

Synar, E. & Maiden, J. (2012). A comprehensive model for estimating the financial impact of teacher turnover. *Journal of Education Finance, 38*(2), 130-144. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503886

115 Jabbar, H. & Holme, J.J. (2026). Teacher turnover, social capital, and improvement: How instability disrupts schools. *Educational Evaluation and Policy Analysis*, *48*(1), 268-292. Retrieved October 21, 2026, from https://doi.org/10.3102/01623737241311304

Menzies, L. (2023). Continuity and churn: Understanding and responding to the impact of teacher turnover. *London Review of Education*, *21*(1), 1-13. Retrieved October 21, 2026, from https://doi.org/10.14324/LRE.21.1.20

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement.

EMBARGOED PAPER. NOT FOR RELEASE UNTIL DECEMBER 3, 2026

American educational research journal, 50(1), 4-36. Retrieved October 21, 2026, from https://doi.org/10.3102/0002831212463813

Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

116 Menzies, L. (2023). Continuity and churn: Understanding and responding to the impact of teacher turnover. *London Review of Education*, *21*(1), 1-13. Retrieved October 21, 2026, from https://doi.org/10.14324/LRE.21.1.20

Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

117 Allensworth, E., Ponisciak, S., & Mazzeo, C. (2009). *The schools teachers leave: Teacher mobility in Chicago Public Schools*. Consortium on Chicago School Research.

Aloe, A.M., Shisler, S.M., Norris, B.D., Nickerson, A.B., & Rinker, T.W. (2014). A multivariate meta-analysis of student misbehavior and teacher burnout. *Educational Research Review*, *12*, 30-44. Retrieved October 21, 2026, from https://doi.org/10.1016/j.edurev.2014.05.003

118 Carrell, S.E., Hoekstra, M., & Kuka, E. (2018). The long-run effects of disruptive peers. *American Economic Review, 108*(11), 3377–3415. Retrieved October 21, 2026, from https://doi.org/10.1257/aer.20160763

119 Allensworth, E., Ponisciak, S., & Mazzeo, C. (2009). *The schools teachers leave: Teacher mobility in Chicago Public Schools*. Consortium on Chicago School Research.

Tsouloupas, C.N., Carson, R.L., Matthews, R., Grawitch, M.J., & Barber, L.K. (2010). Exploring the association between teachers' perceived student misbehaviour and emotional exhaustion: The importance of teacher efficacy beliefs and emotion regulation. *Educational Psychology*, *30*(2), 173-189. Retrieved October 21, 2026, from https://doi.org/10.1080/01443410903494460

120 Lampert, J., McPherson, A., Casanueva Baptista, A., & Hawkins, A. (2025). The hidden work of incidental mentoring in the hardest-to-staff schools. *Education Sciences*, *15*(7), 809. Retrieved October 21, 2026, from https://doi.org/10.3390/educsci15070809

Menzies, L. (2023). Continuity and churn: Understanding and responding to the impact of teacher turnover. *London Review of Education*, *21*(1), 1-13. Retrieved October 21, 2026, from https://doi.org/10.14324/LRE.21.1.20

Sass, D.A., Seal, A.K., & Martin, N.K. (2011). Predicting teacher retention using stress and support variables. *Journal of Educational Administration*, *49*(2), 200-215. Retrieved October 21, 2026, from https://doi.org/10.1108/09578231111116734

121 Rodriguez, L.A. & Redding, C. (2025). Teacher turnover and student disciplinary infractions: Evidence from New York City. *American Journal of Education*, *132*(1), 29-57. Retrieved October 21, 2026, from https://doi.org/10.1086/737522

122 Hunter, S.B., Kho, A., & Bowser, K.M. (2025). Policy-assigned teacher observations, their implementation, and student discipline outcomes: Main, mediated, and moderated relationships. *American Educational Research Journal*, *62*(6), 1173-1206. Retrieved October 21, 2026, from

EMBARGOED DRAFT - HOLD FOR RELEASE 2:30 AM - DECEMBER 9, 2026

https://doi.org/10.3102/00028312251360923

Scallon, A.M., Bristol, T.J., & Esboldt, J. (2023). Teachers' perceptions of principal leadership practices that influence teacher turnover. *Journal of Research on Leadership Education*, *18*(1), 80-102. Retrieved October 21, 2026, from https://doi.org/10.1177/19427751211034214

123 Levy, A.J., Joy, L., Ellis, P., Jablonski, E., & Karelitz, T.M. (2012). Estimating teacher turnover costs: A case study. *Journal of Education Finance, 38*(2), 102-129. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503885

Synar, E. & Maiden, J. (2012). A comprehensive model for estimating the financial impact of teacher turnover. *Journal of Education Finance, 38*(2), 130-144. Retrieved October 21, 2026, from https://doi.org/10.1353/jef.2012.a503886

Milanowski, A. & Odden, A. (2007). *A new approach to the cost of teacher turnover* (Vol. 13). School Finance Redesign Project, Center on Reinventing Public Education. Retrieved October 21, 2026, from https://crpe.org/a-new-approach-to-the-cost-of-teacher-turnover/

124 Sorensen, L.C. & Ladd, H.F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1), 2332858420905812. Retrieved October 21, 2026, from https://doi.org/10.1177/2332858420905812

125 Leithwood, K. & McAdie, P. (2007). Teacher working conditions that matter. *Education Canada*, *47*(2), 42-45. Retrieved October 21, 2026, from https://www.edcan.ca/articles/teacher-working-conditions-that-matter/

126 Collie, R.J. & Mansfield, C.F. (2022). Teacher and school stress profiles: A multilevel examination and associations with work-related outcomes. *Teaching and Teacher Education*, *116*, 103759. Retrieved October 21, 2026, from https://doi.org/10.1016/j.tate.2022.103759

127 Carver-Thomas, D. & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives, 27*(36). Retrieved October 21, 2026, from https://doi.org/10.14507/epaa.27.3699

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators*. Learning Policy Institute. Retrieved October 21, 2026, from https://learningpolicyinstitute.org/product/solving-teacher-shortage

Podolsky, A., Kini, T., Darling-Hammond, L., & Bishop, J. (2019). Strategies for attracting and retaining educators: What does the evidence say? *Education Policy Analysis Archives, 27*, 38. Retrieved October 21, 2026, from https://doi.org/10.14507/epaa.27.3722

128 Feng, L. & Sass, T.R. (2018). The impact of incentives to recruit and retain teachers in "hard-to-staff" subjects. *Journal of Policy Analysis and Management, 37*(1), 112-135. Retrieved October 21, 2026, from https://doi.org/10.1002/pam.22037

See, B.H., Morris, R., Gorard, S., & El Soufi, N. (2020). What works in attracting and retaining teachers in challenging schools and areas? *Oxford Review of Education, 46*(6), 678-697. Retrieved October 21, 2026, from https://doi.org/10.1080/03054985.2020.1775566

Grillo, M. & Kier, M. (2021). Why do they stay? An exploratory analysis of identities and commitment factors associated with teaching retention in high-need school contexts. *Teaching and Teacher Education, 105*, 103423. Retrieved October 21, 2026, from https://doi.org/10.1016/j.

EMBARGOED DRAFT - NOT FOR RELEASE 8:00AM DECEMBER 3, 2026

tate.2021.103423

129 Bailey, J.A. (2025). *A blueprint for teacher retention: Leading schools that teachers don't want to leave*. Taylor & Francis. Retrieved October 21, 2026, from https://doi.org/10.4324/9781003628767

Burkhauser, S. (2017). How much do school principals matter when it comes to teacher working conditions? *Educational Evaluation and Policy Analysis, 39*(1), 126-145. Retrieved October 21, 2026, from https://doi.org/10.3102/0162373716668028

Johnson, S.M., Kraft, M.A., & Papay, J.P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record, 114*(10), 1-39. Retrieved October 21, 2026, from https://doi.org/10.1177/016146811211401004

Larkin, D.B. & Patzelt, S.P. (2026). *The reasons teachers stay: Lessons from high-retention schools, districts, and communities*. Harvard Education Press. Retrieved October 21, 2026, from https://hep.gse.harvard.edu/9798895570425/the-reasons-teachers-stay/

Shuls, J.V. & Flores, J.M. (2020). Improving teacher retention through support and development. *Journal of Educational Leadership and Policy Studies, 4*(1). Retrieved October 21, 2026, from https://eric.ed.gov/?id=EJ1282763

Smith, T.M. & Ingersoll, R.M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41*(3), 681-714. Retrieved October 21, 2026, from https://doi.org/10.3102/00028312041003681

Tompkins, A. (2023). Breaking the cycle of teacher attrition: Suggested policies and practice for retention. *Journal of School Administration Research and Development, 8*(1), 24-35. Retrieved October 21, 2026, from https://doi.org/10.32674/jsard.v8i1.3960

130 Doughty, M. (2024). Making sense of teacher turnover: A mixed-methods exploration of why teachers leave. *Teachers College Record, 126*(8), 32-62. Retrieved October 21, 2026, from https://doi.org/10.1177/01614681241276954

Hur, E.H., Ardeleanu, K., Satchell, T.W., & Jeon, L. (2023). Why are they leaving? Understanding associations between early childhood program policies and teacher turnover rates. *Child & Youth Care Forum, 52*(2), 417-440. Retrieved October 21, 2026, from https://doi.org/10.1007/s10566-022-09693-x

Fuchsman, D., Sass, T.R., & Zamarro, G. (2023). Testing, teacher turnover, and the distribution of teachers across grades and schools. *Education Finance and Policy, 18(*4), 654-675. Retrieved October 21, 2026, from https://doi.org/10.1162/edfp_a_00376

Young, S. (2018). Teacher retention and student achievement: How to hire and retain effective teachers. *Delta Kappa Gamma Bulletin, 84*(3), 16-21. Retrieved October 21, 2026, from https://openurl.ebsco.com/contentitem/gcd%3A131118252?id=ebsco%3Agcd%3A131118252

EMBARGOED DRAFT - NOT FOR RELEASE 12:01 AM DECEMBER 3, 2026