

## CHAPTER 3

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# EDUCATORS' JOB BURNOUT AND INTENTIONS TO LEAVE DURING THE COVID-19 PANDEMIC

Andrew M. Camp, Gema Zamarro, and Josh McGee

*University of Arkansas*

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The 2020–2021 academic year was trying for educators. We use nationally representative samples of teachers and school leaders from the RAND American Educator Panels to document K–12 teachers' and leaders' levels of concern about job-related burnout and stated consideration of leaving the profession. We also study factors associated with teachers' and administrators' high concerns about job burnout and teachers' considerations to leave their jobs. Approaching retirement age (being 55 or older), having to change instruction modes, hybrid teaching, COVID-19 related health concerns, and high levels of job burnout all appear to be important predictors of teachers' probability of considering leaving or retiring from teaching. Health concerns and switching instruction modes were also associated with higher levels of concern about teacher burnout. Interestingly, our results indicate a potential disconnect between factors that affect administrators and those that affect teachers. Leaders, especially those in larger education systems, may not be acutely aware of the

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impacts that shifting modes of instruction have on teachers and thus underestimate the stress doing so puts on teachers. Overall, our analysis from the first full academic year in the pandemic raises concerns about potential increases in teacher turnover as a result of high levels of job burnout during the pandemic, which aligns with recent reports of increased teacher turnover entering the third academic year of the pandemic. Surveys like ours could be used to monitor teachers' considerations to leave and levels of job burnout during times of crisis and help inform timely strategies for better-retaining teachers.

## INTRODUCTION

Throughout the COVID-19 pandemic, challenges associated with K–12 school staffing and changes in instructional mode received considerable attention from the media and public officials. Following nationwide school closures in the early months of the pandemic, schools reopened in the fall of 2020 using combinations of in-person, hybrid, and remote learning models. Teachers were challenged to adapt their curricula to allow for social distancing in the classroom and provide synchronous or asynchronous remote instruction for students to engage with at home. Administrators had to manage complicated logistics, such as contact tracing, to comply with COVID-19 health guidelines. Even for those teachers and administrators returning to in-person instruction, unexpected quarantines and necessary mitigation measures represented a substantial deviation from schools' normal operations. As a result of these unexpected and challenging working conditions, educators' levels of stress and burnout appeared high throughout the first pandemic school year (Diliberti & Kaufman, 2020; Diliberti et al., 2021; Zamarro et al., 2022), raising concerns about a potential increase in turnover and future teacher shortages (Goldberg, 2021; Lavery, 2020).

Teacher turnover often has negative effects on students (Hanushek et al., 2016), and a teacher shortage might be particularly disruptive in certain subjects, such as STEM and Special Education, or districts (e.g., rural districts) that already struggled to find qualified teachers (Goldhaber, 2021; Nguyen et al., 2020). In addition, higher levels of job dissatisfaction and intentions to leave could harm educators' effectiveness, students' academic progress, and student motivation even if educators do not leave their positions (Madigan & Kim, 2021). Given the large learning losses students experienced during the pandemic, promoting the stability and quality of the teaching workforce is of particular social importance and policy relevance. Therefore, it is important for policymakers and educational leaders to better understand why teachers considered leaving their teaching positions and what factors appear to contribute to burnout of educators so that we might find ways to better support teachers and administrators during current and future challenging times.

We examine this issue using three nationally representative surveys administered through the RAND's American Teacher Panel (ATP) and the American School Leader Panel (ASLP).

## LITERATURE REVIEW

### *Teacher Burnout*

Pre-pandemic studies of teacher burnout have characterized the phenomenon as a combination of emotional exhaustion, depersonalization, and decreased professional efficacy (Hakanen et al., 2006; Skaalvik & Skaalvik, 2010). Researchers have typically sought to understand burnout using the Job Demands-Resources model (Demerouti et al., 2001; Hakanen et al., 2006) wherein burnout is the result of increased job demands (e.g., time pressures and low student motivation) without corresponding increases in job resources (e.g., professional autonomy and support from administrators). Importantly, research has found that changes in job demands and resources affect teachers' emotional states and motivations to quit almost exclusively through burnout, indicating that identifying burnout in teachers may be crucial in predicting these responses (Skaalvik & Skaalvik, 2020).

Identifying which teachers may be experiencing burnout has important implications for students. Studies of teacher burnout have documented that students with teachers experiencing burnout may have worse academic and behavioral outcomes (Herman et al., 2018) and that burnout is negatively and meaningfully associated with teacher health (Hakanen et al., 2006).

### *Teaching in the Pandemic*

Given that teaching was a high-stress profession before the pandemic, it is concerning that the COVID-19 crisis appears to have exacerbated teachers' levels of stress and burnout. Diliberti et al. (2021) survey a sample of former teachers from the ATP in December 2020. Their sample included both teachers who left the profession in the two years leading up to the COVID-19 pandemic as well as those who left during the first nine months of the pandemic. They find that stress was the most common reason given by public school teachers for leaving the profession both before and during the pandemic, but the COVID-19 crisis appears to have added to that stress. Almost half of the public school teachers who voluntarily left the profession between March and December 2020 said it was because of the COVID-19 pandemic (Diliberti et al., 2021).

According to a separate ATP survey from January 2021, teachers' intentions to leave also appeared elevated early in the pandemic. Steiner and Woo (2021) find that nearly one-quarter of teachers indicated they were likely to leave their jobs by the end of the school year. If realized, this would have represented a 7 percentage point increase in teacher turnover compared with an average national turnover rate of 16% pre-pandemic (NCES, 2019) and lead to significant instability in the teacher workforce.

To some extent, these survey results stand in contrast with the experiences of teachers early in the pandemic. Herman et al. (2021) find that, relative to the fall of 2019, teachers in May 2020 reported lower levels of stress and that teachers who reported confidence in and satisfaction with school leadership in the fall were more

likely to report lower levels of stress in the spring. Similarly, [Kraft et al., \(2021\)](#) document the protective role that positive working conditions played in sustaining teachers' sense of success during the spring of 2020. Entering the 2020–21 school year, many teachers continued to report somewhat lower levels of stress during the first month of the school year ([Pressley et al., 2021](#)) before increases in stress and burnout later in the fall of 2020 ([Diliberti et al., 2021](#); [Steiner & Woo, 2021](#)).

Together, these findings indicate that teachers' level of stress and burnout declined during the first few months of the pandemic followed by sharp increases once the 2020–21 school year was fully underway. While contradictory at face value, this trend is consistent with the job demands-resources model of burnout ([Demerouti et al., 2001](#)) which proposes that increasing job demands (e.g., teaching during a pandemic) without corresponding increases in job resources (e.g., supports, planning time, etc.) leads to higher levels of exhaustion and burnout. In this framework, the initial improvement in ([Herman et al., 2021](#)) or buffering of ([Kraft et al., 2021](#)) teacher's psychological well-being during the spring of 2020 might be understood to some extent as the result of decreasing job demands due to lowered expectations for teachers and students during these initial pandemic months ([Malkus, 2020](#)). Once the first pandemic school year was underway and teachers had to provide for in-person and virtual learning alongside pandemic-related health concerns and preventative measures, job demands would likely have increased to levels above that of the pre-pandemic period. In this way, increasing job demands during the 2020–21 school year were accompanied by increased levels of stress and burnout ([Diliberti et al., 2021](#); [Steiner & Woo, 2021](#); [Zamarro et al., 2022](#)).

### *Teacher Turnover During COVID-19*

As state-level administrative data became available, an emerging literature documented actual teacher turnover during and after the COVID-19 pandemic. Although evidence from Arkansas, Massachusetts, North Carolina, South Carolina, and Washington indicated stable teacher turnover during the first full school year in the pandemic (2020–2021) and only a slight increase in turnover entering the second pandemic school year (2021–2022) ([Bacher-Hicks et al., 2023](#); [Bastian & Fuller, 2023](#); [Camp et al., 2022](#); [Goldhaber & Theobald, 2022](#)), reports show an increase in turnover entering the third pandemic school year (2022–2023). In North Carolina, teacher turnover increased by 4.4 percentage points (39%) during the third pandemic school year, relative to the 2019–20 school year, and much of this increase appears to be driven by teachers leaving mid-year ([Bastian & Fuller, 2023](#)), potentially due to high levels of job-related stress. Similarly, teacher turnover in Washington and Arkansas is at its highest levels observed in available administrative data ([Camp et al., 2023](#); [Goldhaber & Theobald, 2023](#)).

### *Post-Pandemic Instability*

While less attention has been paid to turnover and staffing challenges in non-instructional positions (e.g., [Bruno, 2025](#); [Camp et al., 2023](#); [Goldhaber & Gratz,](#)

2022), there are early indications that these individuals may also have experienced high levels of burnout and fatigue which may result in staffing shortages. Using a nationally representative survey of principals, [Woo and Steiner \(2022\)](#) find that approximately 80% of secondary school principals experienced frequent job-related stress during the first pandemic school year, leading some to suggest an impending crisis among school leaders ([DeMatthews, 2021](#)).

The prospect of increased teacher and principal turnover is concerning for schools and students. Replacing teachers is costly and can drain school resources ([Barnes et al., 2007](#); [Birkeland & Curtis, 2006](#); [Milanowski & Odden, 2007](#)). Additionally, teacher turnover negatively affects student achievement which could make it more difficult for students to recover from any learning losses experienced during the pandemic ([Ronfeldt et al., 2013](#)). While the effects of principals on student outcomes are not as established as the effects of teachers, increased principal turnover may also lead to negative impacts on students' outcomes ([Bartanen et al., 2019, 2022](#)).

## METHODS

### *Data*

We use three surveys from the ATP and ASLP to study teachers' and principals' considerations to leave the classroom and levels of burnout during the first academic year (2020–21) of the COVID-19 pandemic.

To examine teachers' intentions to leave, we included questions on a 15-minute survey administered to the nationally representative RAND ATP<sup>1</sup> from March 22 to March 31, 2021. Our sample contained 1,045 teachers. [Table 3.1](#) presents descriptive statistics for this nationally representative sample of teachers. Following the composition of the nation's teaching labor force, most teachers in our sample (73%) are female and 86% are white. 29% of teachers in our sample teach in an urban area, 39% teach in the suburbs, and 31% teach in a town or rural area. The ATP and ASLP additionally provide an indicator variable for whether more than 50% of students in each school are from minoritized racial/ethnic groups or qualify for free or reduced-price lunches. In our sample, 49% of teachers work in schools serving a majority of minoritized students or students living in poverty (as indicated by receiving free or reduced-priced lunches).

Using these data, we identify teachers who are approaching retirement age as those who are 55 years old or older<sup>2</sup> (N=170; 16%). Among teachers in our

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<sup>1</sup> <https://www.rand.org/education-and-labor/projects/aep/about.html>. RAND American Educator Panels, American Teacher Panel, 2021 ATP Module on Finances, Retirement, and Job Preferences, UAR0421T, RAND Corporation, Santa Monica, CA, April, 2021.

<sup>2</sup> Each state and several municipalities operate their own teacher retirement plans where retirement eligibility ages vary across and frequently within plans. This makes it difficult to determine which age would truly be a teachers first retirement eligibility age. However, although few plans allow teachers to retire at age 55 with full benefits, the full retirement age is not far off in most plans. For more information, see [Fuchsman et al. \(2023\)](#).

TABLE 3.1. Descriptive Statistics for ATP Survey Data (March 2021)

	N	Mean	SD	Min	Max
Female	1024	0.73	0.44	0.00	1.00
Not White	1024	0.14	0.35	0.00	1.00
Age	1022	43.92	10.26	24.00	74.00
Ages 35-44	1045	0.30	0.46	0.00	1.00
Ages 45-54	1045	0.30	0.46	0.00	1.00
Ages 55+	1045	0.16	0.37	0.00	1.00
Elem. Teacher	1045	0.44	0.50	0.00	1.00
Middle Sch. Teacher	1045	0.30	0.46	0.00	1.00
Pr(Infection)	1021	16.37	20.11	0.00	100.00
Pr(Hosp/Die Infection)	1020	11.81	19.78	0.00	100.00
Has been vaccinated	1029	0.76	0.43	0.00	1.00
Switch Modality	1034	0.71	0.45	0.00	1.00
Number of Mode Switches	1034	2.31	2.95	0.00	20.00
Remote Instruction	1045	0.30	0.46	0.00	1.00
Hybrid Instruction	1045	0.49	0.50	0.00	1.00
Urban	1045	0.29	0.45	0.00	1.00
Suburban	1045	0.39	0.49	0.00	1.00
Town/Rural	1045	0.31	0.46	0.00	1.00
Minoritized/High-Poverty School	1045	0.49	0.50	0.00	1.00
High Job Burnout	1045	0.51	0.50	0.00	1.00
High Outside Burnout	1045	0.14	0.35	0.00	1.00
High Care Responsibilities Burnout	1045	0.27	0.45	0.00	1.00
Did Not Consider Leaving	1024	0.59	0.49	0.00	1.00
Considered Leaving for Any Reason	1024	0.41	0.49	0.00	1.00
Considered Leaving Due to COVID	1024	0.22	0.42	0.00	1.00
Considered Leaving for Other Reasons	1024	0.19	0.39	0.00	1.00

sample, 309 (30%) reported teaching fully remote to most of their students for most of the 2020–21 school year, 509 (49%) reported they taught in a hybrid model, and 220 (22%) reported teaching fully in person. Finally, 71% of teachers in our sample reported they had to switch instructional modes (e.g., transitioning to in-person learning or temporarily switching to remote learning) at least once during the 2020–2021 school year, and the average teacher switched modes twice.

At the time of our survey, teachers were also asked other questions designed by the RAND ATP team that we use in our analysis. We use teachers' responses to a series of questions about burnout. Teachers rated the following challenges on a scale from 1 ("Not a concern right now") to 4 ("A major concern"):

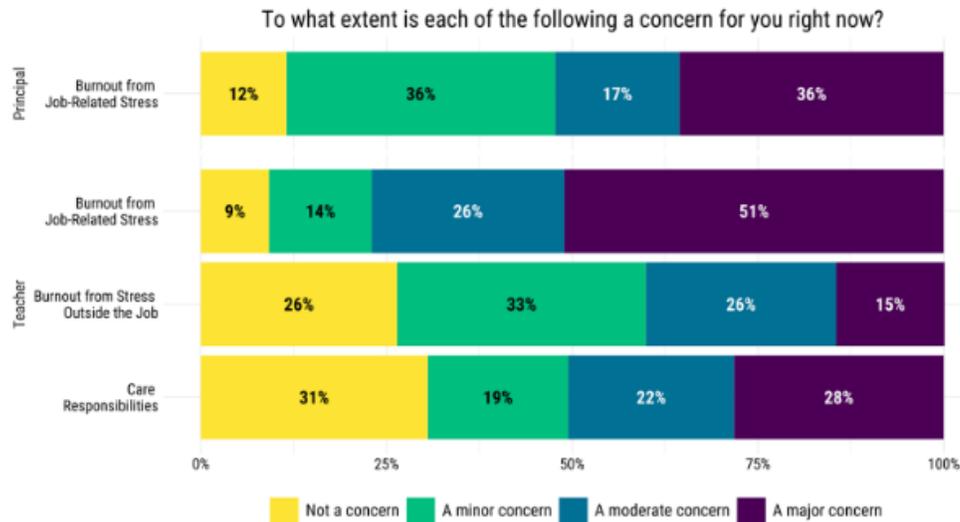


FIGURE 3.1. Teachers' Levels of Concern About Burnout from Job-Related Stress, Burnout from Stress Outside the Job, and Care Responsibilities. Note: Results weighted using ATP-provided sampling weights

- feelings of burnout associated with stress from the job;
- feelings of burnout associated with stress outside the job; and
- responsibilities to care for her children or other loved ones.

For each of these, we created a dummy variable representing high levels of concern if the respondent answered they were a major concern. Teachers who reported they preferred not to say were coded as missing values in our analysis. Figure 3.1 presents the distribution of teachers' responses to these questions. In our sample, 51% of teachers reported that feelings of burnout associated with stress from the job were a major concern, compared with 14% who reported that feelings of burnout outside the job were a major concern and 28% who reported high levels of concern about responsibilities for taking care of their children or other loved ones.

Additionally, we use responses to a pre-pandemic survey of 5,464 teachers<sup>3</sup>. Administration of this survey took place from February 10th to March 16th, 2020, and focused on teachers' retirement knowledge and preferences. Several questions on the 2020 survey were repeated on the 2021 survey, allowing us to study how teachers' attitudes may have changed through the pandemic.

Finally, we examine differences between teachers' and principals' reported levels of concern about job burnout using a similar survey of 1,183 school-level

<sup>3</sup> RAND American Educator Panels, American Teacher Panel, 2020 ATP Survey on Finances, Retirement, and Job Preferences, UAR0120T, RAND Corporation, Santa Monica, CA, April 2020.

TABLE 3.2. Descriptive Statistics for ASLP Survey Data (March 2021)

	N	Mean	SD	Min	Max
Has been vaccinated	1141	0.84	0.37	0.00	1.00
Switch Modality	1164	0.76	0.43	0.00	1.00
Number of Mode Switches	1164	2.08	2.01	0.00	20.00
Remote Instruction	1183	0.20	0.40	0.00	1.00
Hybrid Instruction	1183	0.56	0.50	0.00	1.00
Urban	1183	0.27	0.44	0.00	1.00
Suburban	1183	0.32	0.47	0.00	1.00
Town/Rural	1183	0.39	0.49	0.00	1.00
Minoritized/High-Poverty School	1159	0.55	0.50	0.00	1.00
High Job Burnout	1183	0.34	0.47	0.00	1.00

leaders (e.g. principals) administered through the ASLP from March 22<sup>nd</sup> through March 26<sup>th</sup>, 2021<sup>4</sup>. Table 3.2 presents descriptive statistics for this nationally representative sample. Due to data limitations, we are unable to match gender, race, or age information for principals in this sample, as this information is not provided by RAND in the publicly available files. However, we are still able to examine the relationship between principals' feelings of job-related burnout, considerations of leaving their position, vaccination status, urbanicity, primary learning mode, and if their school had to change mode of instruction during the 2020–21 school year.

For both teachers and principal survey responses, we construct variables indicating considerations of leaving their current position or the profession during the 2020–21 academic year. For teachers, our survey asked if they had “considered leaving or retiring from your current position as a teacher in the last year” with separate options available to indicate if they had considered due to COVID, for other reasons, or not at all. For principals, the closest question available asks them to indicate whether it was likely they would “leave [their] job by the end of the current school year (2020–21).” Variable definitions are summarized in the supplementary table located at the end of this chapter.

### *Empirical Approach*

We first present descriptive trends on the teachers' commitment to remaining in the profession during the first academic year of the pandemic as well as teachers' and principals' concerns about job burnout. We then use statistical logit

<sup>4</sup> RAND American Educator Panels, American School Leader Panel, 2021 Spring COVID-19 Distance Learning Survey, CRS0421S, RAND Corporation, Santa Monica, CA, Spring 2021. <https://www.rand.org/education-and-labor/projects/aep/surveys/items/COVID-19-response-survey-crs-spring-2021.html>

models to study factors associated with the overall probability of teachers and principals having considered leaving or retiring from the profession in the last year with a logistic regression model following specification (A):

$$\begin{aligned}
 & \text{Prob}(\text{ConsiderLeaving}_i) \\
 &= \Lambda(\beta_0 + \beta_1 \text{Vaccinated}_i + \beta_2 \text{SwitchedMode}_i \\
 &+ \beta_3 \text{TeachingMode}_i + \beta_4 \text{Urbanicity}_i \\
 &+ \beta_5 \text{MinoritizedHighPovSchool}_i \\
 &+ \beta_6 \text{HighJobBurnout}_i)
 \end{aligned} \tag{A}$$

Where our outcome variable, *ConsiderLeaving*, takes value 1 if the teacher reports having considered leaving or retiring from their current position during the past year or if the principal indicates they are likely to leave their position by the end of the year at the time of the March 2021 survey.

Explanatory variables in this specification include a binary variable which takes a value of 1 if the respondent indicates having received at least one dose of a COVID-19 vaccine at the time of the survey, as it may capture an increased sense of personal safety from that vaccination. Additionally, we include three indicator variables capturing the instructional modes used in each school. The first, *SwitchedMode*, indicates if a respondent reports having changed instructional mode at least once during the school year, while *Remote* and *Hybrid* represent if a respondent has taught primarily via a remote or hybrid modality. We additionally include variables to account for differences by urbanity<sup>5</sup> and the student body (majority minoritized or high-poverty) of the school. The final variable in this specification indicates if respondents report high levels of job-related burnout as described in the previous section. We estimate (A) separately for principals and teachers.

Next, we study factors associated with the separate probabilities of teachers' considering leaving or retiring because of COVID, for other reasons, or not considering leaving at all using a statistical multinomial logit model. This analysis builds upon the logit model specification (A) and includes additional explanatory variables to account for demographic differences, grade-level differences, differences in perceived health risk, and high concerns about other forms of burnout. Specifically, the set of controls includes self-reported gender, whether the teacher identifies as non-White, and three dummies for teacher age ranges (ages 35–44, ages 45–54, and ages 55+). We also include two dummies to capture the grade

<sup>5</sup> We use NCES classifications for urbanity. See [https://nces.ed.gov/programs/edge/docs/LOCALE\\_CLASSIFICATIONS.pdf](https://nces.ed.gov/programs/edge/docs/LOCALE_CLASSIFICATIONS.pdf) for more details.

level of teaching (elementary grades, middle grades), with high school grades as the reference category.

$$\begin{aligned}
 \text{Prob}(Y_i = j | X_i) &= \Lambda(\beta_0 + \beta_1 \text{Vaccinated}_i + \beta_2 \text{SwitchedMode}_i \\
 &+ \beta_3 \text{TeachingMode}_i + \beta_4 \text{Urbanicity}_i \\
 &+ \beta_5 \text{MinoritizedHighPovSchool}_i \\
 &+ \beta_6 \text{HighJobBurnout}_i + \beta_7 \text{Demographics}_i \\
 &+ \beta_8 \text{GradeLevel}_i + \beta_9 \text{CovidRisk}_i \\
 &+ \beta_{10} \text{HighNonJobBurnout}_i \\
 &+ \beta_{11} \text{HighJobBurnout}_i \times \text{HighNonJobBurnout}_i \\
 &+ \beta_{12} \text{HighCareBurnout}_i)
 \end{aligned} \tag{B}$$

where

$$j = \begin{cases} 1 & \text{Considered Leaving Because of COVID} \\ 2 & \text{Considered Leaving for Other Reasons} \\ 3 & \text{Did Not Consider Leaving} \end{cases}$$

We use two variables to capture teachers' reported COVID risks (*CovidRisk<sub>i</sub>*). First, we include the average of teacher-reported probabilities that they will get COVID, either at their job or outside of that job, in the next three months. Second, we also include the teacher's reported probability that, if infected, they will end up in the hospital because of COVID or die. To explore if self-reported burnout captures a distinct factor from these other controls, we first estimate (B) without any burnout variables before estimating with variables representing high levels of job burnout, non-job burnout, and burnout stemming from care responsibilities, as previously described. To explore the additive effects of job and non-job burnout, we also include the interaction of these variables in this extended specification.

While we expect burnout to explain a large portion of considerations or intention to leave, we also expect that other factors, such as perceived health risks, may also explain these outcomes independently of burnout. Similarly, factors distinct from those related to intending to leave could explain reported burnout. As teacher burnout may have negative effects on student outcomes regardless of actual turnover, we explore the relationship between factors and reported job burnout using logit models with control variables as in specifications (A) and (B) and with *HighJobBurnout* as the outcome variable.

In all models, we use sampling weights included with the ATP to maintain a nationally representative sample of educators. To aid interpretation, we present our estimates as average marginal effects.

## RESULTS

### *Teachers' Intentions to Leave Have Increased*

Using surveys from March 2020 and 2021, we compared responses to questions asking teachers about their long- and short-term commitment to the profession. In March 2020, 74.2% of teachers indicated that they planned to work as a teacher until retirement while 16.5% of respondents were unsure and 9.3% of respondents indicated that they did not plan to do so. In March of 2021, a year after the start of the pandemic, teachers' commitment to the profession decreased as 69% of teachers indicated that they planned to work as a teacher until retirement. Teachers appear to have become more uncertain as only 9.5% of respondents indicated that they would not work as a teacher until retirement while 21.5% indicated that they were uncertain.

As illustrated in [Figure 3.2](#), teachers' reported probability of leaving their current state or the profession within the next 5 years increased from 24% on average in March 2020 to 30% in March 2021. This change was due to a reduction in the percentage of teachers reporting a zero-percent probability. We observe similarly reported probabilities regardless of instructional mode.

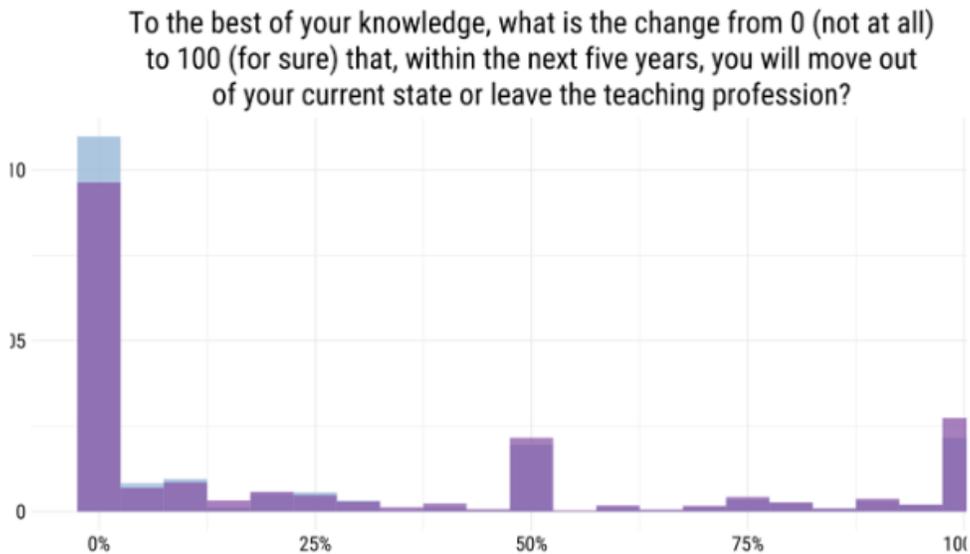


FIGURE 3.2. Teachers' Reported Probability of Leaving their Current State or the Profession in the Next Five Years. Note: Results weighted using ATP provided sampling weights

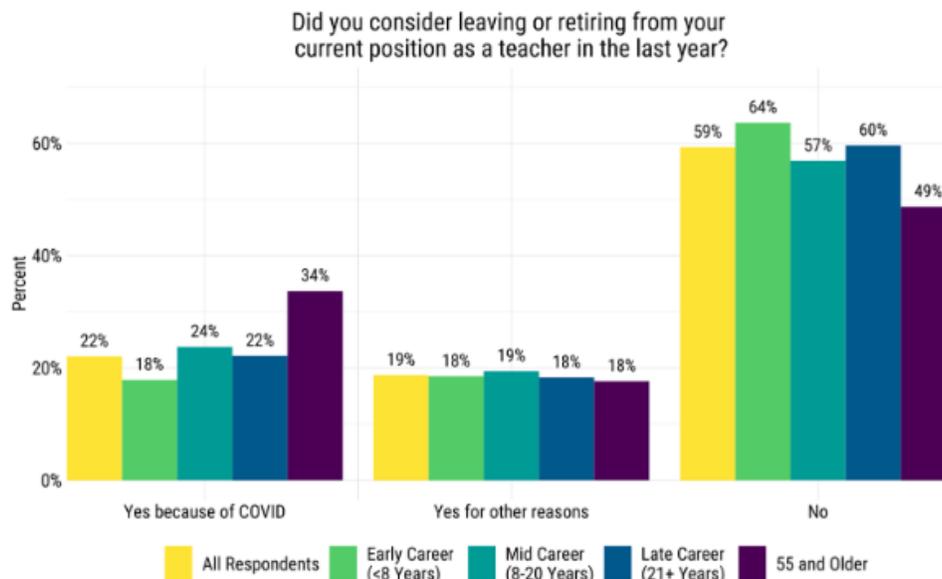


FIGURE 3.3. Teachers' Consideration of Leaving or Retiring from their Current Position. Note: Results weighted using ATP-provided sampling weights

We also asked teachers if they considered leaving their current positions within the last year and, if they did, whether the COVID-19 pandemic was motivating this decision. Teachers' responses to this question are presented in Figure 3.3. Overall, 41% of teachers declared that they have considered leaving or retiring from their current position during the last year. Of these, 22% indicated that the COVID-19 pandemic was the primary reason for their consideration while 19% of respondents indicated that the consideration was caused by other reasons. While we do not observe significant differences in responses to this question by the level of teacher experience, those approaching retirement considered leaving at higher rates. 34% of teachers aged 55 and older declared they were considering leaving or retiring because of COVID-19 as compared to 18–24% of respondents across experience levels.

### *Multiple Factors Predict Intending to Leave*

We further investigated factors associated with the probability of teachers' consideration to leave their current position within the last year. Our estimates following the empirical models described in (A) and (B) above are presented in Table 3.3. Examining the results from specification (A), reported in columns 1 and 2, we see that high levels of job-related burnout are the largest predictors of considerations of leaving for both teachers and principals. All else equal, reporting that job-related burnout was a major concern was associated with a 23 and 31 percentage point increase in reporting considerations of leaving for principals

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TABLE 3.3. Factors Related to the Probability of Considering Leaving or Retiring

	(A)		(B)		
	Principal	Teacher	Because COVID	Other Reasons	Did Not Consider
Has been vaccinated	-0.036 (0.029)	-0.053 (0.036)	0.002 (0.033)	-0.061** (0.029)	0.059 (0.038)
Switch Modality	0.003 (0.028)	0.093** (0.036)	0.032 (0.033)	0.058* (0.031)	-0.090** (0.036)
Remote Instruction	0.061 (0.038)	-0.037 (0.046)	0.063 (0.043)	-0.108*** (0.038)	0.045 (0.047)
Hybrid Instruction	0.055* (0.030)	-0.023 (0.040)	0.079** (0.037)	-0.100*** (0.031)	0.021 (0.041)
Suburban	0.013 (0.028)	-0.047 (0.038)	-0.021 (0.032)	-0.017 (0.034)	0.037 (0.038)
Town/Rural	0.011 (0.029)	0.004 (0.041)	-0.006 (0.035)	0.021 (0.033)	-0.016 (0.041)
Minoritized/High-Poverty School	-0.026 (0.023)	0.007 (0.032)	-0.032 (0.027)	0.035 (0.027)	-0.003 (0.032)
High Job Burnout	0.234*** (0.022)	0.310*** (0.024)	0.195*** (0.029)	0.111*** (0.027)	-0.306*** (0.029)
Female			0.023 (0.032)	-0.031 (0.030)	0.008 (0.037)
Not White			0.060 (0.039)	-0.068 (0.043)	0.008 (0.049)
Ages 35-44			-0.009 (0.036)	-0.032 (0.033)	0.041 (0.041)
Ages 45-54			-0.003 (0.036)	-0.018 (0.034)	0.021 (0.042)
Ages 55+			0.115*** (0.041)	0.006 (0.041)	-0.121** (0.052)
Elem. Teacher			-0.054* (0.030)	0.016 (0.029)	0.038 (0.035)
Middle Sch. Teacher			-0.043 (0.030)	0.013 (0.030)	0.030 (0.036)
Pr(Infection)			0.000 (0.001)	0.001 (0.001)	-0.001 (0.001)
Pr(Hosp/Die Infection)			0.002** (0.001)	-0.001 (0.001)	-0.000 (0.001)
High Outside Burnout			0.076 (0.077)	0.077 (0.077)	-0.153* (0.083)
Job X Outside Burnout			-0.112 (0.085)	-0.029 (0.085)	0.141 (0.096)
Care Burnout			0.044 (0.030)	-0.013 (0.030)	-0.031 (0.036)
Observations	1,118	1,024	1,020	1,020	1,020
Pseudo R <sup>2</sup>	0.158	0.102	0.116	0.116	0.116

Note: .01 - \*\*\*; .05 - \*\*; .1 - \*; Results displayed as average marginal effects. Heteroskedastic robust standard errors reported. ATP-provided sampling weights used.

and teachers, respectively. These estimates are significant at the 99% confidence level. Interestingly, having switched modalities, as compared with teaching using the same instructional mode all year, was associated with a 9 percentage point increase in the likelihood of teachers' considering leaving their position but no statistically significant effect for principals. This indicates that the experiences, and stressors, of principals and teachers, may have been substantially different from each other during the 2020–21 school year.

The results of our multinomial logit<sup>6</sup>, reported in columns 3–5 of Table 3.3, highlight significant differences in how factors in our model are associated with teachers' reasons for considering leaving their position or the profession. Interestingly, teachers aged 55 or higher, as compared with teachers ages 34 and lower, were 12 percentage points more likely to report considerations of leaving due to COVID but no more likely to report considerations of leaving for other reasons. Relatedly, having been vaccinated is associated with a 6-percentage point reduction in the probability of teachers reporting that they considered leaving for reasons other than the COVID-19 pandemic, significant at the 99% confidence level. Looking at teachers' health concerns, compared to teachers who report a zero percent chance of being hospitalized or dying because of COVID-19, those who think they have a 50% chance are 10 percentage points more likely to have considered leaving or retiring because of COVID.

We also find evidence that instructional modality is associated with teachers' considerations of leaving. All else equal, teachers who report having taught most of the school year via a hybrid modality were 8 percentage points more likely to report having considered leaving due to COVID and 10 percentage points less likely to report having considered leaving for other reasons as compared to teachers who taught the majority of the year in-person. These estimates are significant at the 99% confidence level. Similarly, teachers who taught primarily via a remote modality were 11 percentage points less likely to report having considered leaving as compared to teachers who taught the majority of the year in-person. Switching modality appears to have been particularly difficult for teachers as teachers who switch modality at least once during the year, as compared to those who taught via the same modality for the whole year, were 9 percentage points less likely to report that they did not consider leaving and 6 percentage points more likely to report considering leaving for other reasons. These estimates are significant at the 99% and 90% confidence levels.

Consistent with the results reported in columns 1 and 2, the largest factor associated with teachers' considerations of leaving their position appears to be self-reported job-related burnout. All else equal, reporting high levels of concern about job-related burnout, as compared with reporting lower levels of concern,

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<sup>6</sup> We have also examined the relationships between these factors and any considerations of leaving using a logit model, however we prefer the multinomial model to highlight statistically significant differences in how each factor relates to different reasons for having considered leaving their position. Logit regression results available upon request from the authors.

was associated with a 20 percentage point increase in the likelihood of having considered leaving due to COVID, an 11 percentage point increase in the likelihood of having considered leaving for other reasons, and a 31 percentage point decrease in the likelihood of not having considered leaving. These estimates are significant at the 99% confidence level.

### *Differences Between Teachers' and School Leaders' Experiences*

As self-reported burnout both captures unique variation in teachers' considerations to leave and is the largest single factor explaining these considerations, we next examine factors associated with teachers' and administrators' reported level of burnout. Additionally, we believe that a comparison of teachers' and administrators' feelings of burnout may reveal important differences in the experiences of these two roles. We first estimate two separate logit models for teachers and administrators that have the same dependent variable and shared explanatory variables similar to specification (A). Second, we estimate a logit model using high levels of teacher concern about job-related burnout as our dependent variable, following the more extensive model described in (B) above. Results for these analyses are shown in [Table 3.4](#).

Beginning with the paired analysis of teacher and school leader burnout, we see that urbanity levels are the only factors that are significant at the 95% confidence level or higher for both teachers and school leaders. All else equal, suburban and town/rural school leaders were between 9 and 11 percentage points less likely to report high levels of concern about job-related burnout. While switching mode of instruction is a significant predictor of high levels of job burnout for teachers in our model in column (2), this does not seem to be the case for administrators. Mostly teaching in a hybrid mode appears associated with high concerns about job burnout among administrators with an increased probability of about 8 percentage points. But this effect is only marginally statistically significant at the 90% confidence level.

Examining the results in column 3, we see that multiple factors appear to be significant predictors of teachers' high levels of concern about job burnout. Holding all else constant, female teachers are 18 percentage points more likely to report that job-related burnout was a major concern than male teachers. This estimate is significant at the 99% confidence level. Although teachers approaching retirement age (Age 55+) were more likely to consider leaving or retirement as reported in [Table 3.3](#), we do not find a positive association between approaching retirement age and higher concerns about job burnout. While the perceived risk of serious COVID-19 complications is only marginally significant, the perceived risk of infection appears to predict teachers' high concerns about job burnout. Teachers who think they have a 50% chance of getting infected with COVID are 15 percentage points more likely to report high levels of concern about job burnout than teachers perceiving a zero chance of getting COVID.

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TABLE 3.4. Factors Related with High Concern about Feelings of Job Burnout

	(A)		(B)
	Principal Burnout	Teacher Burnout	Teacher Burnout
Has been vaccinated	-0.020 (0.044)	0.029 (0.038)	0.060 (0.039)
Switch Modality	-0.013 (0.038)	0.083** (0.037)	0.076** (0.036)
Remote Instruction	0.079 (0.054)	-0.048 (0.051)	-0.059 (0.051)
Hybrid Instruction	0.077* (0.042)	0.049 (0.044)	0.040 (0.044)
Suburban	-0.088** (0.042)	-0.045 (0.041)	-0.041 (0.040)
Town Rural	-0.107** (0.042)	-0.107** (0.044)	-0.095** (0.044)
Minoritized/High-Poverty School	-0.049 (0.033)	-0.000 (0.034)	-0.010 (0.034)
Female			0.177*** (0.037)
Not White			0.011 (0.047)
Ages 35-44			-0.017 (0.045)
Ages 45-54			0.006 (0.046)
Ages 55+			-0.052 (0.053)
Elem. Teacher			-0.065* (0.036)
Middle Sch. Teacher			-0.013 (0.037)
Pr(Infection)			0.003*** (0.001)
Pr(Hosp/Die Infection)			0.001 (0.001)
Observations	1,118	1,029	1,020
Pseudo R <sup>2</sup>	0.012	0.015	0.054

Note: .01 - \*\*\*; .05 - \*\*; .1 - \*

Results displayed as average marginal effects. Heteroskedastic robust standard errors reported. ATP-provided sampling weights used.

Having to switch modes of instruction is associated with higher levels of teacher concern about job burnout. Holding all else constant, teachers who have switched modes of instruction at least one time are 7.6 percentage points more likely to report high levels of concern for job burnout than those who have consistently taught via the same mode of instruction. This estimate is significant at the 95% confidence level. Interestingly, teaching in a town or rural school, as compared with a city school, is associated with a 9.5 percentage point decreased probability of reporting high levels of concern for job burnout. This estimate is significant at the 95% confidence level.

## CONCLUSIONS

The 2020–2021 academic year was a trying year for teachers and, as a result, teachers reported large increases in stress and burnout along with a diminished sense of success (Diliberti et al., 2021; Kraft et al., 2021; Steiner & Woo, 2021). In our analysis, we find that teachers also conveyed high concerns about job burnout and an increased self-reported probability that they may leave the profession relative to before the pandemic. Importantly, these increases were not uniform across all teachers. We find four factors that are possible explanations of these results. First, a larger proportion of those approaching retirement age reported having considered leaving or retiring because of COVID, independently of concerns about job burnout. These increased considerations of leaving the profession are understandable given the elevated risk that the pandemic posed to older individuals. However, the loss of these more experienced teachers would be problematic for schools as they might lose their more effective teachers (Harris & Sass, 2011; Wiswall, 2013).

Secondly, we find that most teachers had to change instructional mode at least once and many experienced multiple disruptions during the year. Having to change instructional modes was associated with both an increased probability of considering leaving or retiring and, according to studies of administrative data, increases in actual teacher turnover (Camp et al., 2023). Third, teaching in a hybrid model appeared to be especially challenging for teachers as it was associated with increased consideration of leaving because of COVID, potentially due to the added stress that teachers faced when managing both synchronous and asynchronous classes. Finally, COVID health concerns were also an important factor associated with an increased probability of considering leaving and reporting high levels of concern about job burnout. Although these health concerns probably declined with the availability of vaccines, such vaccines were unavailable for much of the 2020–21 school year and this lack of effective prophylactics may have contributed to the stress teachers felt.

Comparing concerns about job burnout among teachers and administrators, as reported in Table 3.3, our results indicate that administrators may have been relatively less affected by the factors we considered and that affected teachers' concerns about job burnout. For instance, changes such as shifting instructional

modes were associated with higher levels of concern about job burnout for teachers but not administrators. Leaders, especially those in larger education systems, may not be acutely aware of the impacts that shifting modes of instruction have on teachers and thus underestimate the stress doing so puts on teachers. Alternatively, leaders who are actively involved in the decision-making process could feel some sense of control over these factors which attenuates the stress that teachers felt. Together, our results provide evidence that teachers and administrators not only had different experiences during the COVID-19 pandemic but also that the working conditions and characteristics of teachers are predictive of both intentions to leave and self-reported burnout. These findings have important implications going forward as the teaching profession may face increased turnover due to lasting impacts of the COVID-19 pandemic.

Our analysis of the first full academic year of the pandemic raises concerns about a potential increase in teacher turnover because of high levels of job burnout during the pandemic. Although teacher turnover remained relatively stable during the first two pandemic school years, recent reports for several states show an uptick in teacher turnover entering the third pandemic academic year 2022–2023 (Bacher-Hicks et al., 2023; Bastian & Fuller, 2023; Camp et al., 2022, 2024; CERRA, 2022; Goldhaber & Theobald, 2022, 2023). The lasting impacts of any changes in teacher turnover are yet to be seen; however, even small rates of teacher turnover could be problematic if concentrated in areas with teacher shortages (e.g., rural areas or in certain fields like math, science, or special education) (Dee & Goldhaber, 2017). Finally, higher levels of job dissatisfaction could affect teacher effectiveness and could harm student academic progress even if teachers decide not to leave (Madigan & Kim, 2021).

Teachers are the largest school-based factor contributing to students' academic success (Gershenson, 2021). Teachers are also the school personnel most often tasked with implementing interventions and new programs. Throughout the pandemic, American students experienced significant learning losses relative to what we would have expected them to learn (Goldhaber et al., 2022). Given the importance of teachers in ensuring student's academic success and emerging evidence that limited staff capacity may be hampering efforts to address COVID-19 related learning losses (Carbonari et al., 2024), the uncertainty surrounding the stability of the teacher workforce documented in existing research is concerning.

### IMPLICATIONS FOR THE FUTURE

Our results highlight the importance of considering how different working conditions might relate to the experiences of individuals within the education sector. Individuals who perceive themselves to be more at risk, such as older teachers in the context of COVID-19, may be more likely to report high levels of burnout or increased considerations of leaving the profession. Similarly, the disconnect between administrator's and teacher's feelings of burnout may be found in contexts other than the COVID-19 pandemic. While our analysis does not directly

examine teacher turnover, these findings do inform efforts by educational leaders and policymakers seeking to address turnover stemming from educator stress and burnout. Given the disconnect between administrator's and teacher's feelings of burnout, it will be important that any efforts to address the specific concerns of teachers include the voices of teachers themselves so that their input, informed by the specific job demands and resources they face, can be considered.

Moving forward with continued uncertainty, our results indicate that educational leaders should be attuned to these differing individual experiences and that targeted efforts, such as additional instructional support for teachers, may be needed to address these concerns and promote both teacher and principal retention. The use of surveys, like ours, to monitor teachers' considerations to leave and levels of job burnout, and factors associated with those considerations, could be a timely source of information for school leaders, districts, and policy makers, to help inform the design of timely potential interventions and strategies to help retain teachers in those circumstances.

In this respect, research has highlighted the importance of supporting working conditions to help retain teachers. [Kraft et al. \(2021\)](#) document how schools with strong communication, targeted training, meaningful collaboration, fair expectations, and authentic recognition for their teachers helped them maintain their sense of success during the beginning of this pandemic. Finding ways to help close the disconnect between what affects teachers' levels of job burnout and what affects administrators, using for example surveys like ours, could help administrators find ways to develop supportive work environments that would help retain teachers.

## SUMMARY

Educators faced many challenges during the COVID-19 pandemic. We use nationally representative samples of teachers and school leaders from the RAND American Educator Panels to document K–12 teachers' and leaders' levels of concern about job-related burnout and stated consideration of leaving the profession. We also study factors associated with teachers' and administrators' high concerns about job burnout and teachers' considerations to leave their jobs. Approaching retirement age (being 55 or older), having to change instruction modes, hybrid teaching, COVID-19 related health concerns, and high levels of job burnout all appear to be important predictors of teachers' probability of considering leaving or retiring from teaching. Health concerns and switching instruction modes were also associated with higher levels of concern about teacher burnout.

Interestingly, our results indicate a potential disconnect between factors that affect administrators and those that affect teachers. As a result, leaders (especially those in larger education systems) may not be acutely aware of the impacts that shifting modes of instruction have on teachers and thus underestimate the stress doing so puts on teachers. Overall, our analysis from the first full academic year in the pandemic raises concerns about potential increases in teacher turnover stem-

ming from high levels of job burnout during the pandemic, which aligns with recent reports of increased teacher turnover entering the third academic year of the pandemic.

Despite the importance of the teaching profession, there is a shocking lack of ongoing efforts to monitor teachers' working conditions and perceptions. The lack of data surrounding teachers' experiences early in the pandemic presented a significant challenge for policymakers and educational leaders attempting to prevent increased school staffing challenges. Our analysis complements studies of realized teacher turnover by identifying factors associated with teachers' increased concerns about burnout and considerations of leaving their position or profession. Surveys like ours could be used to monitor teachers' considerations to leave and levels of job burnout during times of crisis, might be helpful to close the disconnect between teachers' and principals, and help inform and tailor timely strategies to better retain teachers.

#### SUPPLEMENTARY TABLE: VARIABLE DEFINITIONS

Variable	Description
<i>ConsiderLeaving<sub>i</sub></i>	A binary indicator variable that takes a value of one if respondents indicate that they considered leaving or retiring from their current position in the past year (teachers) or if they stated it was likely they would leave their job by the end of the 2020-21 school year (leaders) and zero otherwise.
<i>Vaccinated<sub>i</sub></i>	A binary variable taking a value of one if respondents report having received at least one dose of a COVID-19 vaccine and zero otherwise.
<i>SwitchedMode<sub>i</sub></i>	A binary variable taking a value of one if respondents report having switched modes of instruction (e.g., from remote to hybrid) at least once during the 2020-21 school year and zero otherwise.
<i>TeachingMode<sub>i</sub></i>	A set of two binary indicator variables taking values of one if a respondent reports teaching the majority of the school year via remote or hybrid instruction (with majority in-person instruction as the omitted reference category) and zero otherwise.
<i>Urbanicity<sub>i</sub></i>	A set of two binary indicator variables taking values of one if a respondent teaches in a suburban or rural/town school (with urban school as the omitted reference category) and zero otherwise. Urbanicity classifications are made by the National Center for Education Statistics (NCES).
<i>MinoritizedHighPovSchool<sub>i</sub></i>	A binary indicator variable taking a value of one if a respondent teaches in a majority non-white school or teaches in a school where more than 50% of students qualify for free or reduced-priced lunch and zero otherwise.
<i>HighJobBurnout<sub>i</sub></i>	A binary indicator variable taking a value of one if a respondent indicates that "feelings of burnout associated with stress from [their] job," is "a major concern," and zero otherwise.
<i>HighNonJobBurnout<sub>i</sub></i>	A binary indicator variable taking a value of one if a respondent indicates that "feelings of burnout associated with stress outside of [their] job," is "a major concern," and zero otherwise.

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Variable	Description
<i>HighCareBurnout<sub>i</sub></i>	A binary indicator variable taking a value of one if a respondent indicates that “responsibilities to care for [their] own children or other loved ones,” is “a major concern,” and zero otherwise.
<i>CovidRisk<sub>i</sub></i>	A set of two continuous variables that represent (1) respondent’s self-reported probability of being infected with COVID-19 in the next three months and (2) respondent’s self-reported probability that, if infected, they will be hospitalized or die.
<i>GradeLevel<sub>i</sub></i>	A set of two binary indicator variables that take a value of one if a respondent teaches elementary (K-5th grade) or middle school (6-8th grade) with high school (9-12th grade) as the omitted reference category.
<i>Demographics<sub>i</sub></i>	A set of five binary indicator variables that take a value of one if (1) a respondent reports their gender as female, (2) if a respondent identifies as non-white, (3) if a respondent is aged 35-44 years old, (4) if a respondent is aged 45-54 years old, and (5) if a respondent is aged 55 or older with respondents under the age of 35 serving as the reference category.

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Correspondence should be directed to: Andrew M. Camp, Annenberg Institute at Brown University, Box 1985, Providence, RI, United States. Email: [andrew\\_camp@brown.edu](mailto:andrew_camp@brown.edu)

### REFERENCES

- Bacher-Hicks, A., Chi, O. L., & Orellana, A. (2023). Two years later: How COVID-19 has shaped the teacher workforce. *Educational Researcher*, (52)4, 0013189X2311536. <https://doi.org/10.3102/0013189X231153659>
- Barnes, G., Crowe, E., & Schaefer, B. (2007). *The cost of teacher turnover in five school districts: A pilot study*. National Commission on Teaching and America’s Future. <https://eric.ed.gov/?id=ED497176>
- Bartanen, B., Grissom, J. A., & Rogers, L. K. (2019). The impacts of principal turnover. *Educational Evaluation and Policy Analysis*, 41(3), 350–374. <https://doi.org/10.3102/0162373719855044>
- Bartanen, B., Husain, A. N., & Liebowitz, D. D. (2022). *Rethinking principal effects on student outcomes*. <https://doi.org/10.26300/R5SF-3918>
- Bastian, K. C., & Fuller, S. (2023). *Educator attrition and hiring in North Carolina Public Schools During the COVID-19 pandemic* (EPIC Insights). Education Policy Initiative at Carolina. <https://epic.unc.edu/wp-content/uploads/sites/1268/2023/02/Educator-Attrition-and-Hiring-in-NC.pdf>
- Birkeland, S. E., & Curtis, R. E. (2006). *Ensuring the support and development of new teachers in the Boston Public Schools: A proposal to improve teacher quality and retention*. Boston Public Schools.

## 50 • ANDREW M. CAMP, GEMA ZAMARRO, &amp; JOSH MCGEE

- Bruno, P. (2025). Pandemic-era school staff shortages: Evidence from unfilled position data in Illinois. *Education Finance and Policy*, 1–45. [https://doi.org/10.1162/edfp\\_a\\_00450](https://doi.org/10.1162/edfp_a_00450)
- Camp, A., Zamarro, G., & McGee, J. B. (2022). *Changes in teachers' mobility and attrition in Arkansas during the first two years of the COVID-19 pandemic*. (EdWorkingPaper: 22-589). Annenberg Institute at Brown University. <https://doi.org/10.26300/KHRG-KF39>
- Camp, A., Zamarro, G., & McGee, J. (2024). Looking back and moving forward: COVID-19's impact on the teacher labor market and implications for the future. *Educational Evaluation and Policy Analysis*, 01623737241258184. <https://doi.org/10.3102/01623737241258184>
- Carbonari, M. V., Davison, M., DeArmond, M., Dewey, D., Dizon-Ross, E., Goldhaber, D., Hashim, A. K., Kane, T. J., McEachin, A., Morton, E., Muroga, A., Patterson, T., & Staiger, D. O. (2024). The impact and implementation of academic interventions during COVID-19: Evidence from the Road to Recovery Project. *AERA Open*, 10, 23328584241281286. <https://doi.org/10.1177/23328584241281286>
- CERRA. (2022). *South Carolina annual educator supply & demand data tables, 2022–23*. Winthrop University. [https://www.cerra.org/uploads/1/7/6/8/17684955/supply\\_demand\\_data\\_tables\\_2022-23.pdf](https://www.cerra.org/uploads/1/7/6/8/17684955/supply_demand_data_tables_2022-23.pdf)
- Dee, T., & Goldhaber, D. (2017). *Understanding and addressing teacher shortages in the United States* (Policy Proposal No. 2017–05; The Hamilton Project). Brookings Institution. [https://www.brookings.edu/wp-content/uploads/2017/04/es\\_20170426\\_understanding\\_and\\_addressing\\_teacher\\_shortages\\_in\\_us\\_pp\\_dee\\_goldhaber.pdf](https://www.brookings.edu/wp-content/uploads/2017/04/es_20170426_understanding_and_addressing_teacher_shortages_in_us_pp_dee_goldhaber.pdf)
- DeMatthews, D. E. (2021, October 21). We're facing a looming crisis of principal burnout. *Education Week*. <https://www.edweek.org/leadership/opinion-were-facing-a-looming-crisis-of-principal-burnout/2021/10>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Diliberti, M. K., & Kaufman, J. H. (2020). *Will this school year be another casualty of the pandemic?: Key findings from the American Educator Panels Fall 2020 COVID-19 Surveys*. [https://www.rand.org/pubs/research\\_reports/RRA168-4.html](https://www.rand.org/pubs/research_reports/RRA168-4.html)
- Diliberti, M. K., Schwartz, H. L., & Grant, D. (2021). *Stress topped the reasons why public school teachers quit, even before COVID-19*. RAND Corporation. <https://doi.org/10.7249/RRA1121-2>
- Fuchsman, D., McGee, J. B., & Zamarro, G. (2023). Teachers' willingness to pay for retirement benefits: A national stated preferences experiment. *Economics of Education Review*, 92, 102349. <https://doi.org/10.1016/j.econedurev.2022.102349>
- Gershenson, S. (2021). *Identifying and producing effective teachers*. (EdWorkingPaper: 21–351). Annenberg Institute at Brown University. <https://doi.org/10.26300/RZSY-7158>
- Goldberg, E. (2021, April 7). As pandemic upends teaching, fewer students want to pursue it. *The New York Times*. <https://www.nytimes.com/2021/03/27/us/covid-school-teaching.html>
- Goldhaber, D. (2021, May 18). Analysis: COVID-19 raised fears of teacher shortages. But the situation varies from state to state, school to school & subject to subject. *The 74 Million*. <https://www.the74million.org/article/analysis-COVID-19-raised-fears->

- of-teacher-shortages-but-the-situation-varies-from-state-to-state-school-to-school-subject-to-subject/
- Goldhaber, D., & Gratz, T. (2022). *School district staffing challenges in a rapidly recovering economy* (CALDER Flash Brief No. 29–0122; CALDER Flash Brief). National Center for Analysis of Longitudinal Data in Education Research. <https://caldercenter.org/publications/school-district-staffing-challenges-rapidly-recovering-economy>
- Goldhaber, D., Kane, T., McEachin, A., Morton, E., Patterson, T., & Staiger, D. (2022). *The consequences of remote and hybrid instruction during the pandemic* (No. 30010). National Bureau of Economic Research. <https://doi.org/10.3386/w30010>
- Goldhaber, D., & Theobald, R. (2022). Teacher attrition and mobility in the pandemic. *Educational Evaluation and Policy Analysis*, 016237372211392. <https://doi.org/10.3102/01623737221139285>
- Goldhaber, D., & Theobald, R. (2023). *Teacher turnover three years into the pandemic era: Evidence from Washington State* (No. 32–0223; CALDER Policy Brief). Center for Analysis of Longitudinal Data in Education Research. <https://caldercenter.org/sites/default/files/CALDER%20Policy%20Brief%2032-0223.pdf>
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, 43(6), 495–513. <https://doi.org/10.1016/j.jsp.2005.11.001>
- 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. <https://doi.org/10.1016/j.econedurev.2016.08.004>
- Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, 95(7–8), 798–812. <https://doi.org/10.1016/j.jpubeco.2010.11.009>
- Herman, K. C., Hickmon-Rosa, J., & Reinke, W. M. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, 20(2), 90–100. <https://doi.org/10.1177/1098300717732066>
- Herman, K. C., Sebastian, J., Reinke, W. M., & Huang, F. L. (2021). Individual and school predictors of teacher stress, coping, and wellness during the COVID-19 pandemic. *School Psychology*, 36(6), 483–493. <https://doi.org/10.1037/spq0000456>
- Kraft, M. A., Simon, N. S., & Lyon, M. A. (2021). Sustaining a sense of success: The protective role of teacher working conditions during the COVID-19 pandemic. *Journal of Research on Educational Effectiveness*, 14(4), 727–769. <https://doi.org/10.1080/19345747.2021.1938314>
- Lavery, L. (2020, December 19). The pandemic is causing teachers to flee the profession. *Salon*. <https://www.salon.com/2020/12/19/the-pandemic-is-causing-teachers-to-flee-the-profession/>
- Madigan, D. J., & Kim, L. E. (2021). Does teacher burnout affect students? A systematic review of its association with academic achievement and student-reported outcomes. *International Journal of Educational Research*, 105, 101714. <https://doi.org/10.1016/j.ijer.2020.101714>
- Malkus, N. (2020). *Too little, too late: A hard look at spring 2020 remote learning*. American Enterprise Institute. <https://www.aei.org/wp-content/uploads/2020/10/Malkus-Too-Little-Too-Late.pdf?x91208>

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- Milanowski, A. T., & Odden, A. R. (2007). *A new approach to the cost of teacher turnover* (Working Paper No. 13). School Finance Redesign Project, Center on Reinventing Public Education.
- NCES. (2019). Table 210.30. Mobility of public elementary and secondary teachers, by selected teacher and school characteristics: Selected years, 1987–88 through 2012–13. In *Digest of Education Statistics*. [https://nces.ed.gov/programs/digest/d19/tables/dt19\\_210.30.asp](https://nces.ed.gov/programs/digest/d19/tables/dt19_210.30.asp)
- Nguyen, T. D., Pham, L. D., Crouch, M., & Springer, M. G. (2020). The correlates of teacher turnover: An updated and expanded meta-analysis of the literature. *Educational Research Review*, 31, 100355. <https://doi.org/10.1016/j.edurev.2020.100355>
- Pressley, T., Ha, C., & Learn, E. (2021). Teacher stress and anxiety during COVID-19: An empirical study. *School Psychology*, 36(5), 367–376. <https://doi.org/10.1037/spq0000468>
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4–36. <https://doi.org/10.3102/0002831212463813>
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*, 26(4), 1059–1069. <https://doi.org/10.1016/j.tate.2009.11.001>
- Skaalvik, E. M., & Skaalvik, S. (2020). Teacher burnout: Relations between dimensions of burnout, perceived school context, job satisfaction and motivation for teaching. A longitudinal study. *Teachers and Teaching*, 26(7–8), 602–616. <https://doi.org/10.1080/13540602.2021.1913404>
- Steiner, E. D., & Woo, A. (2021). *Job-related stress threatens the teacher supply: Key findings from the 2021 State of the U.S. Teacher Survey*. RAND Corporation. <https://doi.org/10.7249/RRA1108-1>
- Wiswall, M. (2013). The dynamics of teacher quality. *Journal of Public Economics*, 100, 61–78. <https://doi.org/10.1016/j.jpubeco.2013.01.006>
- Woo, A., & Steiner, E. D. (2022). *The well-being of secondary school principals one year into the COVID-19 pandemic*. RAND Corporation. <https://doi.org/10.7249/RRA827-6>
- Zamarro, G., Camp, A., Fuchsman, D., & McGee, J. B. (2022). *Understanding how COVID-19 has changed teachers' chances of remaining in the classroom*. (Ed-WorkingPaper: 22-542). Annenberg Institute at Brown University. <https://doi.org/10.26300/2Y0G-BW09>