



OPEN ACCESS

EDITED BY

Nicole Jacqueline Albrecht,
Flinders University, Australia

REVIEWED BY

Maria Lidia Mascia,
University of Cagliari, Italy
Simona Nicolosi,
Kore University of Enna, Italy

*CORRESPONDENCE

Alexandra LaTronica-Herb
✉ herb.alexandra@gmail.com

RECEIVED 13 March 2023

ACCEPTED 18 August 2023

PUBLISHED 12 September 2023

CITATION

LaTronica-Herb A and Karalis Noel T (2023)
Understanding the effects of COVID-19 on
P-12 teachers: a review of scholarly research
and media coverage.
Front. Educ. 8:1185547.
doi: 10.3389/feduc.2023.1185547

COPYRIGHT

© 2023 LaTronica-Herb and Karalis Noel. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Understanding the effects of COVID-19 on P-12 teachers: a review of scholarly research and media coverage

Alexandra LaTronica-Herb* and Tiffany Karalis Noel

Department of Learning and Instruction, Graduate School of Education, University at Buffalo, Buffalo, NY, United States

This qualitative content analysis explores the multi-dimensional challenges faced by P-12 teachers amid the seismic shifts caused by the COVID-19 pandemic. Analyzing 49 academic literature and news reports from 2020 to 2022, the study identifies personal and professional stressors experienced by teachers. Personal factors, such as diminished self-efficacy, work-life balance issues, health and safety concerns, and secondary trauma, emerged as significant stressors during the pandemic. Additionally, professional factors, including heightened workload, ambiguous responsibilities, and inadequate support, have contributed to increased burnout and contemplation of leaving the profession. Strategic interventions proposed to address these issues include enhanced administrative support, increased professional agency, stress reduction measures, promotion of work-life balance, and technical training opportunities. The study calls for renewed societal respect for the teaching profession and ongoing research into the evolving needs and challenges of educators, especially in underserved communities. The aim is to provide valuable insights and potential solutions to support teachers during and beyond the pandemic, ultimately benefiting both educators and students as they navigate the changing landscape of education.

KEYWORDS

COVID-19, pandemic, teachers, burnout, attrition, self-efficacy

1. An examination of pandemic-driven teacher attrition

In spring 2020, the COVID-19 pandemic caused abrupt societal changes. Non-essential businesses closed, leaving educators and policymakers grappling with how to maintain educational services amid these unforeseen circumstances and insufficient preparedness. UNESCO (2020) reported that 160 schools globally were closed, affecting over one billion students and 63 million teachers. This situation was declared a global crisis for teaching and learning, with notable technology deficits for students and lack of adequate resources and training for teachers. Consequently, teachers had to rapidly modify their instructional strategies and curricula, often with limited experience, resources, or preparation time. In parallel, students also had to adapt their learning strategies to the novel requirements of online instruction.

The pandemic also introduced numerous personal and professional stressors for teachers. Pre-pandemic data indicated that 30–46% of new teachers quit within their first 5 years (Ingersoll, 2001, 2002; Darling-Hammond and Sykes, 2003; Cochran-Smith, 2004; Gouldring et al., 2014; Karalis Noel, 2020; Karalis Noel, 2021; Winkelsas et al., 2022). With the increased

responsibilities and expectations brought on by the pandemic, and often without adequate resources, time, training, and compensation, it is reasonable to hypothesize that current teacher attrition rates may be higher than those observed pre-pandemic (Barnum, 2021; Carver-Thomas et al., 2021; Goldhaber and Theobald, 2021).

Sokal et al. (2020) defined stress as “the result of the appraised mismatch between job demands and resources” (p. 68). The extreme disparity between the unique, COVID-19-influenced teaching expectations and the shortage of resources, time, and support to manage the transition has led more teachers to reconsider their professional commitment (Christine, 2021; Loewus, 2021; Pressley and Ha, 2021; Santamaría et al., 2021; Maxouris and Zdanowicz, 2022). A 2021 study by the Rand Corporation (Diliberti and Schwartz, 2021) indicated that, by the end of the 2021 school year, 25% of US teachers contemplated leaving their positions, an increase from the pre-pandemic rate of 17%. The rate was higher among Black, Indigenous, and People of Color (BIPOC) teachers (Carver-Thomas et al., 2020; Steiner and Woo, 2021). A 2021 survey by the Brookings Institute, involving 1,045 teachers, found that only 69% planned to work until retirement, down 5% from the 74% pre-pandemic figure. Furthermore, 30% of teachers, up 24% from the previous year, reported a high likelihood of exiting the profession within the next 5 years. The impact was most pronounced among teachers over 55 and under 35 (Zamarro et al., 2021). In their 2021 mixed-methods study of 151 elementary teachers, Chan et al. (2021) discovered that the high levels of job ambiguity and task stress during the pandemic’s initial wave resulted in teachers feeling overwhelmingly emotionally exhausted.

A National Public Radio (NPR) article from 2021 portrayed teachers in the winter of that year as more exhausted and overwhelmed than ever before, with the emergence of the Omicron variant exacerbating issues encountered in previous waves of the pandemic. As one teacher articulated, “We’re trying the best we can, but we are imploding within” (Chang et al., 2021, p. 3). Suzen Polk-Hoffes, a Pre-K teacher from Millbridge, Maine, conveyed teachers’ disillusionment and disappointment with the profession. Despite the availability of vaccines, the academic year of 2021–2022 did not alleviate the challenges teachers had faced in earlier stages of the pandemic, including enforcing distancing measures, managing student quarantines, and alternating between virtual and in-person instruction. Polk-Hoffes reflected a common sentiment among teachers nationwide when she stated, “And this has become a nightmare where teachers here in the state of Maine are saying, I’m done. I’ve got to get out. It’s horrendous. It truly is” (Chang et al., 2021, p. 2).

The COVID-19 pandemic has significantly impacted not only active teachers but also new teachers entering the profession (King, 2021; Maxouris and Zdanowicz, 2022). Goldberg (2021) reported a 22% decline in the overall number of education degrees awarded by American colleges and universities between 2006 and 2019. This trend has worsened due to the pandemic. A February 2022 survey by American Association of Colleges for Teacher Education (2022) revealed that, in both the fall of 2020 and 2021, enrollment dropped by 20% in undergraduate-level teaching programs.

An additional survey conducted by the AACTE in 2021 underscored the COVID-19-related shifts in teacher preparation programs. Alongside a reported 11% or greater decline in teacher education programs at 20% of AACTE member colleges during the fall semesters of 2020 and 2021, most colleges also faced staff reductions. Almost half of the member colleges (44%) reported suspending some or all in-person field placements in the spring of 2020. This resulted in a gap in practicum experiences for beginning teachers, exacerbating the already declining teacher workforce.

The absence of inadequacy of these practical experiences may produce less experienced early-career teachers. Consequently, the limited practical exposure could increase the likelihood of “transition shock” among new teachers. This phenomenon arises when the realities of the profession do not align with their expectations, potentially causing frustration and leading to early career teacher attrition (Karalis Noel and Finocchio, 2022; LaTronica-Herb and Karalis Noel, 2022).

2. Methodology

To gain a comprehensive understanding of the pandemic’s impact on teachers’ lives and their future professional plans, we employed a qualitative content analysis approach. This methodology is recognized for its ability to handle large volumes of textual information effectively, allowing for the extraction of important insights and identification of pertinent themes. Moreover, it aids in discerning trends and patterns across documents (Krippendorff, 2018).

Content analysis is particularly useful in assessing the prevalence of specific themes or concepts within texts. It provides a systematic and objective means of quantifying phenomena by transforming qualitative data into manageable text categories (Bryman, 2016). Applying content analysis in this study allowed us to form a holistic view of teachers’ experiences during the pandemic and its implications on their professional lives. By adhering to Roller (2019) guidelines, we were able to identify recurring patterns such as an increased workload among teachers, shifting roles and responsibilities, lack of administrative and community support, resulting in burnout, decreased self-efficacy, and higher attrition rates.

Table 1 provides a visual representation of the methodology we employed to understand the impacts of the COVID-19 pandemic on P-12 teachers in the United States.

2.1. Data sources and search methodology

The information used in this study was gathered through an extensive review of academic literature and news reports focused on the United States. We navigated through several established academic scholarship databases including ERIC, Education Source, and The Chronicle of Higher Education and focused primarily on articles published between 2020 and 2022. This targeted search approach, specifically centered on P-12 teachers within the United States, enabled us to gain comprehensive insights into this group’s experiences during the pandemic.

We incorporated specific terms such as “women teachers COVID-19,” “impact on women teachers during COVID-19,” “teacher burnout COVID-19,” “NY Times teachers COVID-19,” “COVID-19 and teachers,” “COVID-19 and teacher attrition,” and “COVID-19 and United States teachers” into our search strategy. We initially identified 53 sources from various scholarly journals and news publications released between March 2020 and Spring 2022.

2.2. Inclusion and exclusion criteria

The data sources for our study were selected based on well-defined inclusion and exclusion criteria. These criteria were integral in ensuring

TABLE 1 Overview of methodology for analyzing COVID-19's impact on P-12 teachers.

1. Starting point	Understanding the pandemic's impact on P-12 teachers.
2. Methodology choice	→Qualitative content analysis.
3. Data sources and search methodology	→Use of academic databases: ERIC, Education Source, The Chronicle of Higher Education. Timeframe: articles published between 2020 and 2022. Keywords for search: e.g., "women teachers COVID-19," "teacher burnout COVID-19," "COVID-19 and teacher attrition," etc.
4. Selection of sources	→Inclusion criteria: published between March 2020 and Spring 2022, focuses on P-12 teachers in the United States, includes information related to the impacts of COVID-19 on teachers, is an academic journal or reputable news publication. Exclusion criteria: focuses solely on higher education professionals or working women without specific reference to Pre-K-12 teachers, studies focusing on teachers outside the United States. Application of criteria led to the selection of 49 sources.
5. Data analysis	→Coding (using Quirkos software): Application of <i>a priori</i> and descriptive coding. Phase 1: Identify themes within the titles and contents. Phase 2: Consolidation of categories based on overlap. Phase 3: Transition to thematic analysis; grouping of themes into subheadings.
6. Final thematic structure	→Personal factors: teacher self-efficacy and burnout, work-life balance, health and safety concerns, secondary trauma. Professional factors: increased workload, shifting roles and responsibilities, challenges with administration and community support.
7. Verification	→Peer cross-check methodology, comparing, discussing, and reconciling results for a comprehensive, reliable analysis.

that the sources were relevant to our study's aim: to examine the impacts of the COVID-19 pandemic on P-12 teachers in the United States.

For inclusion, the source had to be published between March 2020 and Spring 2022, aligning with the onset and ongoing period of the pandemic. The source also needed to focus on P-12 teachers in the United States, enabling us to gain insights specific to the U.S. educational context. Furthermore, it had to contain information related to the impacts of COVID-19 on teachers, which we identified using specific search terms. Lastly, the source had to be an academic journal or reputable news publication to ensure the information's validity and credibility. Alternatively, for exclusion, sources that focused solely on higher education professionals or working women without a specific reference to Pre-K-12 teachers were not considered. Similarly, studies focusing on teachers outside the United States were excluded as our focus was specific to the U.S. context.

Applying these criteria, we initially identified 53 sources. Upon implementing the exclusion criteria, we eliminated four sources, leaving us with 49 relevant sources for our analysis.

2.3. Data analysis

Our analysis of the source materials was conducted systematically using a qualitative coding approach and Quirkos qualitative coding software. The coding process unfolded in three distinct phases, involving the application of both *a priori* and descriptive coding.

In the initial phase, we employed *a priori* coding, which involved the use of predetermined codes based on established literature and theory. This process allowed us to identify relevant overarching themes within the article titles and contents. We focused on key terms like "burnout," "attrition," "student behavior," "work-life balance," and "health," serving as foundational concepts to structure our exploration of the data. In addition, we employed descriptive coding, which allowed us to develop codes directly from the data, offering an in-depth, grounded analysis of the materials. Through this process, we were able to uncover nuanced concepts, such as "financial

pressure," "administrative pressure," and "challenges of hybrid or remote teaching."

In the second phase of coding, we began the process of category consolidation. For example, we identified that "personal factors," which initially included "work-life balance," overlapped significantly with the category of "psychological capital," which included facets like "burnout," "stress," and "self-efficacy." This understanding led to a fusion of these categories, enabling a more comprehensive interpretation of the interplay between these factors.

During the final phase, we moved from coding to thematic analysis. Initial themes were discerned, classified, and grouped according to keywords and phrases. These initial themes were then organized under descriptive subheadings, as depicted in Table 2, to provide a clear and coherent representation of the findings.

At this point, we also integrated projected data on attrition post-COVID-19 into our analysis to ensure a thorough consideration of the pandemic's implications on teacher attrition rates. To encapsulate the complexity of teachers' experiences, we introduced a category specifically focused on teacher interactions with parents and the wider community.

As we progressed toward the concluding stages of the analysis, themes were refined into two broad categories, capturing personal and professional factors that contributed to teacher burnout and attrition. Under "personal factors," themes included "teacher self-efficacy and burnout," "work-life balance," "health and safety concerns," and "secondary trauma." "Professional factors" encapsulated themes such as "increased workload," "shifting roles and responsibilities," and "challenges with administration and community support."

2.4. Verification

The verification process involved a peer cross-check methodology, a measure used to enhance the reliability and validity of our coding process and emergent themes (Roller, 2019). This involved the researchers independently coding the data and then coming together

TABLE 2 Impact of COVID-19 on P-12 teachers: initial themes, descriptions, and examples.

Initial themes	Description	Example
Teachers resigning due to mistreatment from administrators during the pandemic	Studies and news articles emphasized how administrators and school district policy during the COVID-19 pandemic impacted teachers' sense of agency and self-efficacy, leading them to consider leaving the profession.	Pressley and Ha (2021)
Teachers resigning due to financial pressure during the pandemic	Due to pandemic-related financial issues such as family layoffs and health expenses, many teachers experienced financial pressures that had negatively impacted their personal and professional wellbeing.	Whiteleather (2021)
Teachers' experiences with work-life balance during the pandemic	Increased childcare responsibilities due to schools and daycares closing, caring for sick family-members, and being responsible for online or hybrid teaching, left many teachers (especially women) in crisis while they attempted to balance family and professional responsibilities.	Goldberg (2021)
Teachers' perspectives on remote/hybrid teaching and learning during the pandemic	At the start of the pandemic most teachers had little, if any, experience, tools, or preparation in conducting online instruction. As districts modified policies and procedures, teachers struggled to adapt instruction to meet expectations.	Singer (2020)
Overall psychological factors due to multiple factors	Due to COVID-19-related personal and professional challenges, many teachers experienced high levels of stress and burnout.	Cardoza (2021)
Teachers' perspectives on student outcome and students' behavioral/social-emotional factors due to COVID-19	Due to students' pandemic-related social-emotional issues, teachers had to adapt behavioral expectations for students and support techniques both during and after the pandemic.	Chang et al. (2021)
How teacher burnout/attrition due to COVID-19 is being addressed	High stress levels during the pandemic have resulted in burnout that led many teachers to consider resigning.	Carver-Thomas et al. (2021)
Teachers' perspective on vaccine mandates	For teachers who did not wish to be vaccinated, their decision became a barrier to return to the classroom. For others who were forced to return to the classroom before vaccination, health became a significant concern.	Balevic (2020)
Aspiring educators changing their minds COVID-19 health risks to teachers	Many preservice teachers missed essential preparation opportunities and witnessed challenges to the field which impacted their decision to not enter teaching.	VanLone et al. (2022)

to compare, discuss, and reconcile their results. This collaborative effort ensured that our analysis was comprehensive, reliable, and accurately reflected the data.

2.5. Final themes

The objective of this content analysis was to explore both personal and professional factors that, due to the transitions triggered by the COVID-19 pandemic, emerged as significant stressors causing burnout among P-12 teachers in the United States. Through our analysis, we identified emergent themes, which we organized according to personal and professional factors. Several factors related to COVID-19 have led teachers to experience high stress levels and burnout. The following section provides an analysis of published news stories and pertinent literature that revealed personal factors attributable to the COVID-19 pandemic. These include teacher self-efficacy and burnout, work-life balance, health and safety concerns, and secondary trauma.

Subsequently, we will describe professional factors related to the pandemic that are affecting teachers, such as increased professional workload, ambiguous and shifting professional responsibilities, and challenges arising from the lack of administrative and community support. We will conclude this content analysis with recommendations

for supporting in-service teachers and attracting new educators to the field.

2.6. Personal factors

The persistent uncertainty, feelings of professional inadequacy, and the strain of juggling personal and professional responsibilities have left teachers throughout the United States reaching their breaking point ([Cardoza, 2021](#); [Santamaría et al., 2021](#)). A 2021 article from NPR echoed these pandemic-induced sentiments among teachers. Leah Juelke, an English teacher from North Dakota who was awarded several accolades including the 2018 Teacher of the Year, stated: "The level of stress is exponentially higher. It's like nothing I've experienced before" (p. 2). She confided that these ongoing stressors made her contemplate leaving the teaching profession.

Lisa Sanetti, a psychology professor at the University of Connecticut, remarked that chronic stress makes teachers less effective in the classroom, leading to burnout and exacerbating the already significant teacher turnover problem in the United States ([Cardoza, 2021](#)). Personal factors, including teacher self-efficacy and burnout, work-life balance, health and safety concerns, and secondary trauma, have created persistent stress for both new and experienced teachers nationwide. These factors have triggered burnout in many, leading them to contemplate early retirement or leaving the profession.

2.7. Teacher self-efficacy and burnout

Self-efficacy, the belief in one's capability to achieve success in a given task, can influence performance (Bandura and Walters, 1977). Specifically, teacher self-efficacy is a teacher's belief in their ability to accomplish teaching-related tasks (Karalis Noel, 2020). It is negatively correlated with teacher burnout and positively associated with commitment to teaching (Pressley and Ha, 2021). High levels of stress and anxiety can decrease self-efficacy (Karalis Noel and Shoffner, 2019; Karalis Noel, 2020). Pressley and Ha (2021) reported, citing Sokal et al. (2020), that teacher self-efficacy was negatively correlated with teacher burnout during the COVID-19 pandemic. Challenges related to the pandemic, such as blurred work and personal boundaries, compassion fatigue, health fears, extended work hours, and lack of support, have dealt a heavy blow to teachers' sense of self-efficacy.

Heidi Crumrine, a teacher from New Hampshire, described a common sentiment of diminished self-efficacy among teachers in a 2021 NPR article: "I feel this sense of guilt that I'm not a good enough teacher for my students, and I'm not a good mother for my kids. It just feels like a constant wave of never feeling like I can do what I know I'm good at" (Cardoza, 2021, para. 26).

Two years of ongoing uncertainty, coupled with insufficient resources and training, left many teachers feeling incapable of addressing students' instructional needs. This further contributed to their diminished self-efficacy, pushing many into later stages of burnout. The unprecedented challenges and shifting dynamics between in-person and online schooling, brought about by COVID-19, created substantial professional hurdles for teachers throughout the United States. This resulted in diminished self-efficacy, which in turn may lead to burnout, potentially causing teachers to leave the profession (Winkelsas et al., 2022).

Chan et al. (2021) reported a marked decline in teachers' professional confidence after the first wave of the pandemic, attributing it to job ambiguity, emotional exhaustion, and an unmanageable workload. Additionally, Kraft and Simon (2020) noted a drop in the number of teachers who felt successful, from a pre-pandemic rate of 96–73%, due to COVID-19-related challenges. The perceived success rate among early-career teachers dropped by 29 points.

While the full effect of the pandemic on the teaching workforce may not be fully felt for some time, there is significant potential for wider educational gaps, teacher shortages, and exacerbated socioeconomic disparities (Dugger, 2021). Both teacher engagement and self-efficacy have notably declined, especially among elementary teachers (Pressley, 2021). Furthermore, pandemic-related conditions have impacted teacher engagement and efficacy at all experience levels, not just among beginning teachers (Dolighan and Owen, 2021; Pressley, 2021).

In addition to impacting engagement and long-term commitment, decreased teacher self-efficacy negatively affects student achievement. Teachers with higher self-efficacy are more open to experimenting with new teaching strategies and show resilience in the face of challenges (Pressley and Ha, 2021). Pressley (2021) cited several studies that identified teacher self-efficacy as a predictor of student engagement, instructional quality, and a supportive learning environment. Furthermore, teachers with higher self-efficacy tend to set higher expectations for their students increasing potential for enhanced student achievement.

2.8. Work-life balance

Diminished self-efficacy was not the only thing leading teachers toward feelings of burnout; the COVID-19 pandemic also caused an imbalance between personal and professional responsibilities. The blurred boundaries between work and home, coupled with the challenges of juggling familial responsibilities and teaching, became a significant source of stress for many during this time (Hendrix, 2020; Hermann and Gorlewski, 2020; Kraft and Simon, 2020; Robinson, 2020; Singer, 2020; Diaz, 2021). Overall, 41% of teachers reported that caretaking responsibilities during the pandemic made their jobs more challenging, and over half of these respondents were mid-career professionals with young families (Kraft and Simon, 2020).

Hermann and Gorlewski (2020) highlighted the detrimental effects of the pandemic on teachers, particularly those who were mothers of school-age and preschool children, stating that these dual roles led to "unprecedented levels of anxiety and uncertainty" (p. 3). The researchers described the pressures faced by these teacher-mothers in supporting their own children's remote instruction while also teaching their own students. Their analysis underscored the dual role of being a teacher and a mother in "establishing and maintaining positive, growth-producing relationships in their classrooms and their homes" (p. 2). This task became even more challenging as demands at home and school increased while resources personal and institutional dwindled. Furthermore, Hermann and Gorlewski noted heightened inequality among teacher-mothers belonging to historically marginalized populations.

Stone (2020) shared the experiences of Anna, a fifth-grade teacher and mother in Pittsburgh, who depicted the mental and emotional overload of juggling parenting and teaching roles during the pandemic:

I worry about my own children and their mental health and also physical health through all of this as I am having to send them to daycare. And at school, the majority of my day is spent dealing with technical issues with students' computers/internet connection. I feel none is getting my 100% attention. (Stone, 2020, para. 3)

Being stretched between work and caretaking responsibilities, female teachers tended to take on more of the "second-shift" home care responsibilities than their male counterparts. This observation, reflected by Robinson (2020), echoed the sentiments of Hermann and Gorlewski (2020), emphasizing that mothers typically shoulder more of the "second-shift" parenting and household chores. This further exacerbated the stress on teacher-mothers. Robinson (2020) summarized Gorlewski's observation that teacher-mothers now spend more time with their children than stay-at-home mothers of the 1960s. This discrepancy amplified the stressful pandemic-related effects on the role of teacher-mothers.

2.9. Health and safety concerns

Just as low self-efficacy, burnout, and an unhealthy work-life balance during the pandemic, concerns for personal and family health and safety were significant factors that diminished teachers' sense of personal agency, leading many to consider leaving the profession. Teachers' health concerns were a significant predictor of their

likelihood to consider leaving or retiring (Zamarro et al., 2021). Teachers who estimated a 10% chance of contracting COVID-19 were 50% more likely to consider leaving or retiring compared to those who reported a 0% chance (Zamarro et al., 2021). Furthermore, numerous teachers who returned to in-person teaching during the 2020–2021 academic year expressed concerns for their health and their family members' health. Alford (2021), in a CNN opinion article, narrated how her mother, a 27-year veteran of the Syracuse School District, struggled to prepare lesson plans while battling COVID-19, like many educators prioritizing students' needs over their health.

Goldberg (2020) noted that many school districts, throughout the pandemic, struggled to balance the risks of in-person learning against the drawbacks of virtual learning. As local COVID-19 cases varied, teachers had to adapt their teaching modes and strategies. Several news stories spotlighted the challenges school districts faced in reopening schools, maintaining health measures, and ensuring a safe learning environment for students and staff. These reports underscored the health risks teachers and their families faced upon returning to work (Alford, 2021; Ozamiz-Etxebarria et al., 2021; Fallert, 2022). Fallert (2022) described the ongoing struggle between parents and teachers to keep children in the classroom while protecting teachers and their families' safety. A teacher and mother of two preschoolers lamented, "We, as teachers, have to sacrifice the health of our own children to accommodate other people's children" (Fallert, 2022, para. 4).

Several reports outlined the challenges working parents, particularly teachers, faced as schools reopened. These included finding childcare and managing professional responsibilities alongside their children's school closures. Stone (2020) referenced statistics from the Center for American Progress, which suggested that 4.5 million childcare spots nationwide may be permanently lost due to the pandemic. This lack of childcare disproportionately affected women, who are often primary caregivers, and forced many to leave their jobs to care for their children.

Teachers over 55, nearing retirement age, also cited health concerns as a significant factor when considering retirement. The loss of experienced teachers can negatively impact learning and student success (Zamarro et al., 2021). The tension between providing in-person instruction and maintaining personal and family health led many teachers to leave the profession. Fallert (2022) highlighted the critical need to protect veteran teachers in the debate around school reopening, emphasizing the need to ensure the health, safety, and needs of all education stakeholders. One teacher summed up the complexities: "A lot of these considerations are getting intertwined with labor relations" (Fallert, 2022, para. 5).

The same teacher added that some districts justified decisions such as salary cuts or benefit changes for those working remotely for safety reasons. Moreover, local school district regulations presented challenges for parents who taught in one district and had children attending school in a different district with distinct protocols. Such parents could face the predicament of teaching in-person while their child learned remotely at home, necessitating the need for spontaneous childcare arrangements as local policies and case numbers fluctuated (Fallert, 2022).

2.10. Secondary trauma

Much like the tension between providing in-person instruction and maintaining personal and family health, many teachers felt overwhelmed by the inability to adequately support their students

through pandemic-induced crises, which included emotional, financial, and health-related challenges. The strain of offering intensive emotional support during the pandemic led to elevated levels of stress among teachers. Feeling incapable of meeting their students' emotional needs often resulted in teacher burnout and affected their overall sense of self-efficacy. A 2020 report by John Hopkins suggested that because teachers have served extensively as "clinical mediators" (p. 2) during students' and families' times of crisis throughout the pandemic, many have experienced secondary traumatic stress (STS), a condition akin to compassion fatigue. The report further elaborated how STS can impact teachers' wellbeing and job performance, potentially leading to high turnover rates if not addressed properly.

Sarah Pamprin, a bilingual teacher from Green Bay, Wisconsin, recounted the emotional toll of supporting her students through the trauma of COVID-19-related family deaths arising from meat-packing outbreaks: "Those were some of the darkest weeks of my life" (Goldberg, 2020, para. 27). As a mother of two toddlers, one with autism, Pamprin spoke of her struggle to care for her own children while also supporting her students' emotional wellbeing in the early stages of the pandemic.

As the pandemic continues, teachers are increasingly encountering challenges that can lead to STS. Davis et al. (2021) summarized a statement from Peter Faustion, a board member of the National Association of School Psychologists, explaining that the first 3 months of the 2021–2022 school year saw as many mental health issues as the entire first year of the pandemic. Moreover, there have not been sufficient school personnel to effectively address the growing needs of students and families (Singer, 2020; Chan et al., 2021; Goldberg, 2021).

In addition to supporting students' psychological wellbeing, teachers have had to handle significant discipline issues resulting from COVID-19-related family issues and learning disruptions, further adding to their sense of overwhelm. With many districts returning to in-person instruction, teachers have faced substantial classroom management challenges. Disciplinary issues, such as Tik-Tok challenges (online challenges urging students to vandalize school property), and students' pandemic-related emotional crises have left teachers struggling to provide sufficient support. Even passionate and dedicated teachers have reported feeling constantly overwhelmed due to these behavioral challenges. Amber Wilson, a high school English teacher from Denver, Colorado, described the developmental impacts of online or hybrid learning as students missed crucial developmental experiences in middle school. Wilson explained that her ninth-graders had last been in a traditional school setting in the middle of their seventh-grade year, resulting in them exhibiting middle-school behaviors in high school (Chang et al., 2021).

Polk-Hoffses, a teacher with 21 years of experience, highlighted the impact of the lack of administrative support in addressing students' behavioral challenges: "I can barely keep it together myself. So, there are problems with education, and this has just compounded it. It's [Omicron] put a magnifying glass, and we are like ants. And we are all getting burned up, and they are saying do the best you can" (Chang et al., 2021, para. 16).

2.11. Professional factors

In addition to personal concerns, teachers have faced pandemic-related professional challenges that have affected their self-efficacy and commitment to teaching long-term. These evolving professional stressors

include an increased workload due to varied instructional formats and changing policies, shifting and often unclear roles and responsibilities, and a lack of administrative, parental, or community support.

2.12. Increased workload

One of the most pervasive professional factors resulting from COVID-19 mitigation measures has been the substantial increase in workload. The overwhelming work demands have significantly impacted teachers' sense of self-efficacy, work-life balance, and have contributed to burnout.

Singer (2020) summarized sentiments from a teacher discussion board called "Anonymous Teacher Speaks," capturing the feeling of demoralization among teachers who expressed feelings of being "defeated," "overloaded," "terrified," "ignored and frustrated," and "on the brink of quitting." One anonymous teacher shared, "I work until midnight each night trying to lock and load all of my links, lessons, etc. I never get ahead" (Singer, 2020, para. 15).

Terry McDaniel, an educational leadership professor at Indiana State University, highlighted the impact of an extraordinary workload from a 2020 survey of Indiana teachers. He reported, "We have seen teachers start the school year and then back out because of the workload, or because of the bouncing back and forth" (Singer, 2020, para. 15).

Regardless of the instructional format—face-to-face, online, or hybrid—all forms of teaching require extensive preparation. In hybrid instruction, teachers present material simultaneously in-person and live, which requires intensive planning and preparation. A lack of technical support left many teachers frustrated and defeated, leading to burnout ultimately. Fully online teachers reported the lowest engagement and efficacy scores, followed closely by online and face-to-face teaching (Dolighan and Owen, 2021; Pressley and Ha, 2021).

At the beginning of the 2021–2022 school year, when districts transitioned back to in-person instruction, teachers faced even greater responsibilities. These included the increased hours required for in-person or hybrid learning, disinfecting classrooms and supplies, maintaining distancing measures, and monitoring students' attendance and quarantine schedules. Chan et al. (2021) confirmed the impact of pandemic-related professional challenges on teachers, reporting that the tremendous workload, job ambiguity due to ongoing policy and technology changes left teachers emotionally exhausted. Nearly half of the teachers surveyed reported high uncertainty and feelings of ambiguity about their role. Participants expressed a need for greater autonomy and flexibility in their teaching approach, scheduling, materials, and evaluation measures (Chan et al., 2021).

Goldberg (2020) highlighted the work of Jardy Sardana, a fourth-grade teacher at a Bronx Charter School. Like many teachers across the country, Sardana exceeded her typical role to meet her students' needs. She supported families and students by delivering meals, dictating writing exercises by phone to those students without internet access, and engaging students in virtual instruction through activities like crazy hair day. Simultaneously, Sardana balanced the instruction of her third-grade son.

2.13. Shifting roles and responsibilities

With fluctuating instructional formats and rapidly changing policies, teachers have been faced with pervasive ambiguity and a lack

of autonomy, similar to the effects of increased workload. The challenge of meeting the demands of these often-unclear roles has been a significant stressor. Reports surveyed for this analysis depict teachers going beyond their standard duties to meet their students' learning needs. The Manning and Jeon (2020) described teachers dropping off materials to their students and calling students to ensure they were up in time for virtual learning sessions. While conducting online instruction, teachers grappled with maintaining student attention, especially those in underserved communities lacking the appropriate technology for instruction.

Alongside adapting to changing technologies, teachers have had to adapt to the uncertainty surrounding their roles. Chan et al. (2021) found that during the 2020 school year, teachers experienced stress related to ambiguous job demands. The frequently changing policies and shifting formats exacerbated stress levels for teachers at all levels. In a 2020 New York Times article, Singer emphasized that hybrid programs requiring both online and in-person instruction were unsustainable for most teachers. Many districts fluctuated between live and online instruction, forcing teachers to adjust instructional formats multiple times in one grading period.

A study involving 329 elementary teachers at the beginning of the 2020–2021 school year revealed that even teachers with high communication and self-management skills experienced anxiety transitioning to virtual teaching environments (Pressley et al., 2021). Pressley and Ha (2022) referred to Rabaglietti et al. (2021), finding that self-efficacy decreased when teachers encountered difficulties with distance learning. Kraft and Simon (2020) noted that veteran teachers were over three times more likely than less-experienced colleagues to struggle with virtual learning tools. Additionally, teachers reported that only about 60% of students engaged in virtual learning. This gap was more significant among students along racial and socioeconomic lines.

Heidi Crumrine, an English teacher from New Hampshire, illustrated the challenges of transitioning back and forth from live to virtual teaching. She said, "We started the year remote. Then back to school in October; then we were remote again in November, December. We went back hybrid [in early February]." She added, "It feels like we are building the plane while we are flying it, and the destination keeps changing on us" (Cardoza, 2021, para. 22).

In addition to the lack of resources, students and teachers of color have more directly endured the impacts of COVID-19-related illnesses and racial violence. In a 2020 New York Times article, Dwayne Reed, a Chicago elementary teacher, underscored the difficulties educators and students of color faced due to the dual threats of the pandemic and racial violence. Reed, as a teacher of color, stated, "You're so exhausted after 1 day—after one class. My kids are literally living through the disease of the coronavirus and the disease of racism, and they are experiencing it as 11-year-olds, as 10-year-olds" (Singer, 2020, para. 12).

2.14. Challenges with administration and community support

Parallel to the feelings of burnout and diminished self-efficacy associated with increased workload and shifting roles, a lack of support from administrators, parents, and the community has significantly affected teachers' agency, efficacy, and

commitment to the field. [Pressley et al. \(2021\)](#) emphasized the pivotal role of teacher-parent relationships in teacher stress and burnout. In a subsequent study, [Pressley and Ha \(2022\)](#) discovered that lower administrative support correlated negatively with teacher self-efficacy and positively with higher stress and anxiety levels. The [Manning and Jeon \(2020\)](#) cited instances where teachers made more than 60 phone calls and sent 300 emails to parents at the onset of virtual instruction. The Institute stressed that when school leadership communicated frequently with staff, educators were more inclined to prioritize students' health and wellbeing. [Kraft and Simon \(2020\)](#) noted that in schools where teachers reported supportive working conditions, their perceived success rate only dropped by 6% due to COVID-19. Conversely, teachers who reported unsupportive working conditions perceived a dramatic 42% drop in their success rate due to the pandemic.

A 2022 New York Times article underscored tensions between teachers, unions, and parents. Unions in large school districts, like Chicago Public Schools, refused to work in person, citing unsafe classrooms due to the Omicron variant. Meanwhile, national unions continued to advocate for in-person learning, setting a precedent and creating pressure for many districts to follow. [Goldstein and Schreiber \(2022\)](#) highlighted the stance of parents and community members rallying for in-person schooling, which placed teachers at the center of the controversy. Additionally, vaccine mandates further complicated matters and elicited concerns from teachers on both sides of the debate ([Balevic, 2020](#)). [Goldstein and Schreiber \(2022\)](#) pointed out these palpable tensions were also present in conservative states like Kentucky, where unions rallied for the flexibility to transition to remote learning as infection rates surged. Despite their efforts, Kentucky's Republican-controlled state legislature allowed for no more than 10 remote school days. Caught in the crossfire of the conflict between in-person and online schooling, teachers found themselves vilified by the community and media. Nevertheless, they remained at the crux of the debate among labor unions, politicians, and administrators.

2.15. Recommendations

As this content analysis reveals, the COVID-19 pandemic has brought about unprecedented personal and professional challenges for teachers, leading to impassable obstacles, diminished agency, and feelings of inadequacy. Consequently, a high number of teachers are contemplating resignation or retirement. Teachers' wellbeing, self-efficacy, and commitment to the profession directly impact student learning outcomes. While potential COVID-19 variants may induce fluctuations in case counts, may lead to new mitigation measure for teachers, policymakers and administrators can take action to support and retain their teaching staff. [Pressley and Ha \(2022\)](#) emphasized that in order to combat low self-efficacy, stress, and burnout, teachers need to feel supported by districts, administrators, students, and parents.

Supporting teachers' wellbeing is vital to mitigating burnout. Districts and administrators must monitor teachers' stress and wellbeing, offering support such as time off ([St George, 2021](#)) and

increased planning time for staff ([Xun et al., 2021](#); [Wright, 2022](#)). Additional measures, like smaller class sizes, reduced workloads, and increased compensation, can also help to maintain the teaching workforce. Schools can prioritize a work-life balance for teachers by establishing work hour boundaries. Interventions such as mindfulness training, exercise, stress awareness education, and psychological interventions could prove beneficial ([Hermann and Gorlewski, 2020](#); [Manning and Jeon, 2020](#); [Chan et al., 2021](#); [Pressley et al., 2021](#); [Pressley and Ha, 2021, 2022](#)). Schools and districts can also explore sustainable approaches to managing teachers' workloads, fostering a healthy work-life balance.

A 2020 analysis of teacher burnout during the COVID-19 pandemic identified administrative support as one of the most significant factors in all stages of teacher burnout ([Sokol et al., 2020](#)). The study also indicated that teachers at the burnout's final stages, experiencing feelings of low accomplishment, benefited most from supportive relationships with parents and use of self-care practices. To alleviate teacher anxiety and bolster teachers' self-efficacy, administrators should provide flexibility, foster open communication, and offer consistent feedback ([Manning and Jeon, 2020](#); [Chan et al., 2021](#); [Pressley et al., 2021](#); [Pressley and Ha, 2021, 2022](#)). To enhance educators' self-efficacy, opportunities to increase their agency in instructional and school-wide decision-making should be provided. Furthermore, clearly defined expectations can help mitigate teacher exhaustion and improve their wellbeing.

Besides strategies to increase professional agency and administrative support, administrators can offer opportunities for peer support and enhanced technical training. [Pressley and Ha \(2022\)](#) stress the need for administrators to enable teachers to collaborate in learning new technology and sharing instructional strategies in line with these new tools. These measures might help to curb educators' attrition decisions. Reflecting on existing administrative practices and policies can aid administrators and policymakers in identifying opportunities and reprioritizing professional development goals to ensure these opportunities genuinely enhance teaching and learning.

Several studies suggest that teachers should focus on building relationships with peers, students, and families, and set achievable goals to regain a sense of mastery ([Pressley and Ha, 2021, 2022](#)). [Hermann and Gorlewski \(2020\)](#) urge mother-teachers to renegotiate second-shift responsibilities and recalibrate unrealistic societal expectations. To retain teachers and avert teaching shortages, we must reimagine a societal vision for respect and appreciation for teachers and put these values into action.

2.16. Limitations and directions for future research

Most news stories and studies surveyed for this commentary were conducted during the early and middle stages of the COVID-19 pandemic. There is a need for ongoing study and analysis of teacher stress, efficacy, burnout, and attrition as the future evolves. Further investigation could address effective measures to support teachers, particularly those in underserved communities and those with fewer available resources. Studies that elevate teachers' voices and their struggles could enhance

their collective wellbeing and draw attention from policymakers and administrators to the restorative needs of teachers.

3. Conclusion

This content analysis has highlighted the impact of the COVID-19 pandemic on the teaching profession, emphasizing the significant personal and professional challenges teachers have had to contend with. Teachers have navigated shifting responsibilities, new technologies, ambiguous policies, and increased workloads, often under conditions of high stress and low support. These conditions have raised concerns about teacher burnout, reduced self-efficacy, and increased attrition, which have consequential implications for student learning outcomes.

Nevertheless, through an exploration of these challenges, we have also identified several avenues for intervention and support. Key among these are a renewed emphasis on teacher wellbeing, with measures for stress reduction, work-life balance, and self-care. Administrative support and clear communication are also pivotal, as is the provision of technical training and opportunities for collaboration among teachers. Moreover, fostering a sense of agency and respect for teachers in society at large is an imperative that cannot be overemphasized.

While the COVID-19 pandemic has indeed imposed considerable difficulties on the teaching profession, it has also illuminated the resilience, commitment, and adaptability of educators. It has underscored the critical importance of teachers in our society and the urgency for effective support structures and policies. As we continue to navigate these turbulent times, the need for ongoing research into

teacher stress, efficacy, burnout, and attrition is clear, especially to create measures that more adequately support our teachers and, in turn, our students. The future of education depends on our collective ability to listen, learn, and adapt in the face of adversity, ensuring that teachers are supported and valued for the critical role they play in shaping our world.

Author contributions

AL-H and TKN conceptualized the research, co-authored the manuscript, and reviewed and verified the findings. Data collection and analysis was done collaboratively. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Alford, N. (2021). My mom's a teacher who recovered from Covid. Educating kids shouldn't involve a risk of dying. *CNN* Available at: <https://www.cnn.com/2021/02/12/opinions/school-reopenings-protect-teachers-cdc-guidelines-alford/index.html>
- American Association of Colleges for Teacher Education. (2022). *Survey shows positive trends and lingering effects of COVID in educator preparation*. Available at: <https://aacte.org/2022/02/survey-shows-positive-trends-and-lingering-effects-of-covid-in-educator-preparation/>
- Balevic, K. (2020). Unvaxxed teachers who've been barred from school property or put on unpaid leave say they won't be 'bullied' into taking Covid-19 vaccine. *Insider* Available at: <https://www.insider.com/new-york-city-teachers-oppose-bullied-into-covid-19-vaccine-2021-10>
- Bandura, A., and Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice Hall: Englewood cliffs.
- Barnum, M. (2021). *Despite pandemic, there's little evidence of rising teacher turnover—yet Chalkbeat Colorado* Available at: <https://patch.com/colorado/across-co/despite-pandemic-theres-little-evidence-rising-teacher-turnoveryet>.
- Bryman, A. (2016). *Social research methods* Oxford University Press.
- Bryman, A. (2016, 2020). "Social research methods Oxford University Press" in *Sharpening the Divide: How California's Teacher Shortages Expand Inequality*. eds. D. Carver-Thomas, T. Kini and D. Burns Learning Policy Institute
- Cardoza, K. (2021). *'We need to be nurtured, too': many teachers say they're reaching a breaking point* NPR Available at: <https://www.npr.org/2021/04/19/988211478/we-need-to-be-nurtured-too-many-teachers-say-theyre-reaching-a-breaking-point>.
- Carver-Thomas, D., Kini, T., and Burns, D. (2020). *Sharpening the divide: how California's teacher shortages expand inequality* Learning Policy Institute.
- Carver-Thomas, D., Leung, M., and Burns, D. (2021). *California teachers and COVID-19: how the pandemic is impacting the teacher workforce* Learning Policy Institute.
- Chan, M. K., Sharkey, J. D., Lawrie, S. I., Arch, D. A. N., and Nylund-Gibson, K. (2021). Elementary school teacher well-being and supportive measures amid COVID-19: an exploratory study. *Sch. Psychol.* 36, 533–545. doi: 10.1037/spq0000441
- Chang, A., Zamora, K., and Doring, C. (2021). *Teachers are drowning' as they deal with students acting out, low staff and Covid* NPR Available at: <https://www.npr.org/2021/12/22/1067024858/teachers-are-drowning-as-they-deal-with-students-acting-out-low-staff-and-covid>.
- Christine, A. (2021). *Teaching is a woman: why I closed my classroom door*. Available at: <https://www.arichristine.com/home/2021/8/24/teaching-is-a-woman-why-i-closed-my-classroom-door>
- Cochran-Smith, M. (2004). Stayers, leavers, lovers, and dreamers: insights about teacher retention. *J. Teach. Educ.* 55, 387–392. doi: 10.1177/0022487104270188
- Darling-Hammond, L., and Sykes, G. (2003). Wanted, a national teacher supply policy for education: the right way to meet the "highly qualified teacher" challenge. *Educ. Policy Anal. Arch.* 11, 1–55. doi: 10.14507/epaa.v11n33.2003
- Davis, W., Chang, A., Zamora, K., and Doring, C. (2021). *Teachers thought 2021 would be better. Instead, some say it's their toughest year yet* NPR Available at: <https://www.npr.org/2021/12/23/1067077413/teachers-pandemic-school-classroom-return-to-in-person-learning>.
- Diaz, J. (2021). *Are teachers disrespected because most are women* Texas Standard Available at: <https://www.edweek.org/leadership/to-keep-teachers-from-quitting-address-these-5-key-issues/2021/12>.
- Diliberti, M. K., and Schwartz, H. L. (2021). The K-12 Pandemic Budget and Staffing Crises Have Not Panned Out-Yet: Selected Findings from the Third American School District Panel Survey. Data Note: Insights from the American Educator Panels. Research Report. RR-A956-3. RAND Corporation.
- Dolighan, T., and Owen, M. (2021). Teacher efficacy for online teaching during the COVID-19 pandemic. *Brock Educ. J.* 30, 95–116. doi: 10.26522/brocked.v30i1.851
- Dugger, S. (2021). COVID-19 and the risk of teacher attrition in the united states (Doctoral dissertation, Austin Peay State University, Clarksville, TN).
- Fallert, N. (2022). Parents who also teach are freaking out over Covid exposure as parents push to keep classrooms open. *BuzzFeed News* Available at: <https://www.buzzfeednews.com/article/nicolefallert/covid-school-teachers-parents>

- Goldberg, E. (2020). What it's like to be a teacher in 2020 America. *The New York Times* Available at: <https://www.nytimes.com/2020/10/05/us/teachers-covid-schools-pandemic.html>
- Goldberg, E. (2021). As pandemic upends teaching, fewer students want to pursue it. *The New York Times* Available at: <https://www.nytimes.com/gate.lib.buffalo.edu/2021/03/27/us/covid-school-teaching.html>
- Goldhaber, D., and Theobald, R. (2021). Teacher attrition and mobility over time. *Educ. Res.* 88. doi: 10.1177/00144029211010162
- Goldstein, D., and Schreiber, N. (2022). As more teachers' unions push for remote schooling, parents worry. So do democrats. *New York Times* Available at: <https://www.nytimes.com/2022/01/08/us/teachers-unions-covid-schools.html>
- Gouldring, R., Taie, S., and Riddles, M. (2014). *Teacher attrition and mobility: results from the 2012–2013 teacher follow-up survey. First look. NCES 2014–007. National Center for education statistics*. Washington, DC: National Center for Education Statistics.
- Hendrix, L. (2020). *Being a parent, teacher, and professional during the pandemic [audio podcast episode]*. In Vital Record News from Texas A&M Health. Texas A&M. Available at: <https://vitalrecord.tamhsc.edu/podcast/tips-for-balancing-being-a-parent-teacher-and-professional-during-the-pandemic/>
- Hermann, M., and Gorlewski, J. (2020). Endless work, endless love: teaching and mothering during a pandemic. *Teachers College Record* Available at: <https://files.eric.ed.gov/fulltext/ED610882.pdf>
- Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: an organizational analysis. *Am. Educ. Res. J.* 38, 499–534. doi: 10.3102/00028312038003499
- Ingersoll, R. M. (2002). The Teacher Shortage: A Case of Wrong Diagnosis and Wrong Prescription. *NASSP Bulletin* 86, 16–31. doi: 10.1177/019263650208663103
- Karalis Noel, T. (2020). Narrative inquiry: Examining the self-efficacy of content area teacher candidates. *Journal of Teacher Education and Educators* 9, 23–60.
- Karalis Noel, T. (2021). Identity tensions: understanding a previous practitioner's decision to pursue and depart the teaching profession. *Frontiers in Education* 6, 1–10.
- Karalis Noel, T., and Finocchio, B. (2022). Using theories of human, social, structural, and positive psychological capital to explore the attrition of former public school practitioners. *International Journal of Educational Research Open* 3:100112
- Karalis Noel, T., and Shoffner, M. (2019). From Preservice to Practice: Expectations of/in the Secondary ELA Classroom. *World Journal of Education* 9, 35–44.
- King, J. E. (2021). *Survey shows positive trends and lingering effects of COVID in educator preparation (Ser. Fall 2021 member survey, pp. 1–5)*. Washington, DC: American Association for Colleges of Teacher Education.
- Kraft, M. A., and Simon, N. S. (2020). Teachers' experiences working from home during the COVID-19 pandemic. *Upbeat* Available at: <https://education.brown.edu/sites/g/files/dprejr3666/files/2020-06/Upbeat%20Memo%20-%20Kraft.pdf>
- Krippendorff, (2018). *Content Analysis: An Introduction to Its Methodology*, Sage Publications, Thousand Oaks, CA
- Kukla-Acevedo, S. (2009). Leavers, movers, and stayers: the role of workplace conditions in teacher mobility decisions. *J. Educ. Res.* 102, 443–452. doi: 10.3200/JOER.102.6.443-452
- LaTronica-Herb, A., and Noel, T. K. (2022). Identity, agency, parenthood, and balance: Examining influential factors on former practitioners' decisions to leave P12 education. *International Journal of Educational Research Open* 3:100172
- Loewus, L. (2021). Why teachers leave—or don't: a look at the numbers. *Educ. Week* 5.
- Manning, J., and Jeon, L. (2020). Teacher stress and second-hand trauma: Supporting teachers during re-entry. Hopkins Institute for Education Policy. Available at: <https://scholarship.library.jhu.edu/bitstream/handle/1774.2/63228/Supporting-Teachers-During-Re-Entry.pdf?sequence=1>
- Maxouris, C., and Zdanowicz, C. (2022). Teachers are leaving and few people want to join the field. Experts are sounding the alarm. CNN.
- Ozamiz-Etxebarria, N., Berasategi Santxo, N., Idoiaga Mondragon, N., and Dosil Santamaria, M. (2021). The psychological state of teachers during the COVID-19 crisis: the challenge of returning to face-to-face teaching. *Front. Psychol.* 11:620718. doi: 10.3389/fpsyg.2020.620718
- Pressley, T. (2021). Returning to teaching during COVID-19: an empirical study on elementary teachers' self-efficacy. *Psychol. Sch.* 58, 1611–1623. doi: 10.1002/pits.22528
- Pressley, T., and Ha, C. (2021). Teaching during a pandemic: United States teachers' self-efficacy during COVID-19. *The Teach. Teach. Educ.* 106:103465. doi: 10.1016/j.tate.2021.103465
- Pressley, T., and Ha, C. (2022). Teacher exhaustion during COVID-19: exploring the role of administrators, self-efficacy, and anxiety. *Teach. Educ.* 57, 1–18.
- Pressley, T., Ha, C., and Learn, E. (2021). Teacher stress and anxiety during COVID-19: an empirical study. *Sch. Psychol.* 36, 367–376. doi: 10.1037/spq0000468
- Rabaglietti, E., Lattke, L. S., Tesauri, B., Settanni, M., and De Lorenzo, A. (2021). A balancing act during covid-19: teachers' self-efficacy, perception of stress in the distance learning experience. *Frontiers in psychology* 12:644108
- Robinson, M. (2020). *School closures put pressures on teachers who work second shift as mothers; gender roles impact pandemic-era parenting roles* News Brief University at Buffalo, Department of Learning and Instruction Available at: <https://ed.buffalo.edu/teaching/news-events/features/teacher-mothers.html>.
- Roller, M. R. (2019). A quality approach to qualitative content analysis: similarities and differences compared to other qualitative methods. *SSOAR-Social Science Open Access Repository* Available at: <https://www.qualitative-research.net/index.php/fqs/article/download/3385/4485?inline=1>
- Santamaria, M., Mondragon, N., Santxo, N., and Ozamiz-Etxebarria, N. (2021). Teacher stress, anxiety and depression at the beginning of the academic year during the COVID-19 pandemic. *Global Mental Health* 8:E14. doi: 10.1017/gmh.2021.14
- Singer, N. (2020). Teaching in the pandemic: 'this is not sustainable.' *The New York Times* Available at: <https://www.nytimes.com/2020/11/30/us/teachers-remote-learning-burnout.html>
- Sokal, L. J., Eblie Trudel, L. G., and Babb, J. C. (2020). Supporting teachers in times of change: the job demands-resources model and teacher burnout during the COVID-19 pandemic. *Int. J. Contemp. Educ.* 3, 67–58. doi: 10.11114/ijce.v3i2.4931
- Sokal, L., Babb, J., and Trudel, L. E. (2020). How to prevent teacher burnout during a pandemic. *The Conversation*. Available at: <https://theconversation.com/howto-prevent-teacher-burnout-during-the-coronavirus-pandemic-139353> (Accessed October 6, 2020).
- St George, D. (2021). A pandemic fix for teacher stress: more half days of school. *The Washington Post* Available at: <https://www.washingtonpost.com/education/2021/12/12/schools-half-days-teachers-pandemic/>
- Steiner, E. D., and Woo, A. (2021). *Job-related stress threatens the teacher supply: key findings from the 2021 state of the US teacher survey. Technical appendices. Research report. RR-A1108-1* Rand Corporation.
- Stone, C. (2020). Exhausted doesn't cut it: this mom and teachers share what life is like now that schools have reopened. *Courier* Available at: <https://archive.couriernewsroom.com/2020/09/18/mother-parent-teacher-day-care-covid/>
- UNESCO. (2020). *COVID-19: a global crisis for teaching and learning*.
- VanLone, J., Pansé-Barone, C., and Long, K. (2022). Teacher preparation and the COVID-19 disruption: Understanding the impact and implications for novice teachers. *Int. J. Educ. Res. Open* 3:100120. doi: 10.1016/j.ijedro.2021.100120
- Whiteleather, M. (2021). To keep teachers from quitting, address these 5 key issues. *Educ. Week* Available at: <https://www.edweek.org/leadership/to-keep-teachers-from-quitting-address-these-5-key-issues/2021/12>
- Winkelsas, A., Karalis Noel, T., Gorlewski, J., and Etopio, E. (2022). "Enacting Care in Collaboration during COVID-19 as Teacher Educators" in *Reconstructing Care in Teacher Education after COVID-19* (Routledge), 57–68.
- Wright, Z. (2022). Here's how we turn our teacher crisis into an education moonshot. *Education Post* Available at: <https://educationpost.org/heres-how-we-turn-our-teacher-crisis-into-an-education-moonshot/>
- Xun, Y., Zhu, G., and Rice, M. (2021). How do beginning teachers achieve their professional agency and resilience during the COVID-19 pandemic? A social-ecological approach. *J. Educ. Teach.* 47, 745–748. doi: 10.1080/02607476.2021.1945415
- Zamarro, G., Camp, A., Fuchsman, D., and McGee, J. B. (2021). *How the pandemic has changed teachers' commitment to remaining in the classroom* Brown Center Chalkboard Available at: <https://www.brookings.edu/blog/brown-center-chalkboard/2021/06/15/how-the-pandemic-has-changed-teachers-commitment-to-remaining-in-the-classroom/>.