

Teacher Stress and Resilience During the Cascading Events of Winter Storm Uri and COVID-19

Sarah Kelton

University of Texas at Austin

Madison Blaydes

University of Texas at Austin

Cassandra A. Gearhart

University of Texas at Austin

Caroline H. Weppner

University of Texas at Austin

Christopher J. McCarthy

University of Texas at Austin

ABSTRACT

Teachers experienced additional hardship throughout the pandemic, including new stressors, contributing to worsened mental health. Many teachers across the Southwest endured the added strain of Winter Storm Uri in February of 2021. This qualitative study explored the impacts of the winter storm on teachers' experiences of stress and trauma within their work and personal lives, with the intention of better understanding support options to provide teachers during and after similar crises. Qualitative analysis was conducted using inductive thematic analysis and yielded five main themes: instructional impacts, administrator and district relations, psychological impacts, basic resource impacts, and concern for others. Results from the analysis illuminated teachers' sources of stress, resilience, and support in coping with trauma. Implications for responses to potential future natural disasters, including possible policy changes and interventions, are explored.

Keywords: teachers, stress, trauma, thematic analysis, COVID-19

Teachers' high stress negatively impacts their occupational health, resulting in job dissatisfaction, burnout, and reduced occupational commitment (McCarthy et al., 2014; Jepson & Forest, 2006; Klassen et al., 2013). These concerns also impact teachers' overall workplace performance (Turner & Theilking, 2019), including how well they interact with and motivate students (Jennings & Greenberg, 2009;

Klusmann et al., 2008). On top of this foundation of high stress, the COVID-19 pandemic disrupted education around the world. Teachers, who pre-pandemic reported high daily stress, experienced elevated stress and difficulty coping early in the pandemic (Baker et al., 2021). Some novel stressors that emerged for teachers during the pandemic included increased concern for students (Middleton, 2020) and their own well-being (Walsh, 2020). Thus, while stress has been ubiquitous for teachers for decades, it often reached traumatic levels during the pandemic, as defined by an event or circumstance that overwhelms one's capacity to cope (Brencio & Novak, 2019). For the purposes of this paper, the term acute traumatic stress (ATS) will be used to describe responses to high-stress events that occur shortly after a traumatic event (Lerner et al., 2008).

While research on the impacts of witnessing or learning about students' experiences of trauma, often referred to as "secondary traumatic stress" or "compassion fatigue," is well established (Christian-Brandt et al., 2020), less is known about teachers' experiences of acute traumatic events, such as the COVID-19 pandemic, natural disasters, and school violence. For instance, secondary traumatic stress in conjunction with a personal traumatic event may increase the risk of burnout and dissatisfaction for teachers (Christian-Brandt et al., 2020). In February 2021, teachers in Texas were confronted with the unexpected crisis of Winter Storm Uri while already navigating challenges associated with the COVID-19 pandemic. Winter Storm Uri impacted over 170 million Americans; more than 9.9 million people experienced blackouts, most of which occurred in Texas (Sparber, 2021; Cohn, 2021). Many people across Texas lost power and access to water, were displaced from their homes (City of Austin, 2021), and many schools were closed for a week or more as they recuperated from the damages (Morath, 2021).

This study was part of a larger mixed methods project that tracked teachers' experiences of stress and coping every month in a central Texas school district during the 2020-2021 school year, a tumultuous school year at the height of the pandemic (Blaydes et al., 2022). Findings from the larger study indicated negative impacts on teachers' stress and well-being due to new demands, limited resources, and the impacts of traumatic stress from COVID-19 (Blaydes et al., 2022). Although experiences of ATS emerged within the larger study, the current study brought ATS to the forefront as it examined the layered impacts of Winter Storm Uri and COVID-19 on teachers' occupational and personal experiences.

LITERATURE REVIEW

In the literature review, research on the impacts of COVID-19 on teachers' stress, ATS, and natural disasters will be explored to inform existing understanding of these areas and illuminate gaps in the recent literature. Lazarus and Folkman's (1984) transactional stress model was the theoretical foundation we used to examine teachers' experiences of traumatic stress, which has been applied extensively to studies of teacher stress (Chang, 2009; Zysberg et al., 2017).

COVID's Effects on Teacher Stress

Unfortunately, the onset of the COVID-19 pandemic added a layer of demands for teachers who were already at risk for high stress. For instance, many teachers during the pandemic worried about the quality of education their students were receiving and how interruptions in learning would impact students' learning trajectories (Middleton, 2020). Additionally, a study during the pandemic by Sokal et al. (2020a or b?) found teachers with more limited resources during the pandemic experienced increased physical exhaustion and burnout. Research during COVID-19 in Australia revealed administrative leadership can increase or reduce feelings of burnout and stress in teachers if their strategies facilitate or limit teachers' autonomy (Collie, 2021).

During COVID-19, personal and professional roles were blurred for many teachers as schools encouraged many employees to work from home at various points throughout the pandemic (Kraft & Simon, 2020). This shift also led to a mix of instructional formats including online-only hybrid (i.e., a mix of online and in-person instruction), and in-person-only classes, to which teachers had to quickly adapt. Additionally, many people during this pandemic were experiencing financial hardship, illness, worries about death, feelings of fear, and diminished social support networks, which can all contribute to increased stress and trauma (Rosen et al., 2020). Teachers are not immune to these stressors, and given their elevated stress baseline, teachers seem to be in a particularly vulnerable position for worsening well-being and working conditions.

Acute Traumatic Stress

School communities are vulnerable to a myriad of ATS events, including but not limited to "student deaths as a result of suicide or motor vehicle accidents, violence against teachers, the use of weapons on school property by students or others, and natural disasters" (Lerner et al. 2008). These types of events can affect schools at any given time and show the importance of developing an effective school crisis response team as a preventative measure to address possible traumatic stress disorders for students and staff (Lerner et al. 2008).

ATS is defined as a response to an event or situation that overwhelms an individual's ability to cope emotionally, mentally, or physically due to psychological trauma (Brencio & Novak, 2019). Both COVID-19 and Winter Storm Uri fit the definition of a traumatic event due to the potential risk to life (APA, 2013), and can be viewed as another stressor that affects teachers strained coping resources. Despite the high levels of trauma and stress, resilience, or "the positive adaptation despite experiencing adversity" (Herrman et al. 2011, p.2), was still shown among many teachers in our analysis.

The complex causes and effects of trauma were ascendant in the national discourse even before the occurrence of the COVID-19 pandemic and cut across disciplines. Trauma's impact on human development and long-term health outcomes guides contemporary best practices in medicine (Harris et al., 2017), informs new social policy initiatives (Leitch, 2017), and increasingly shapes contemporary

education policy (Carello & Butler, 2015). The ubiquity of traumatic experiences among children was well-documented even before the emergence of the COVID-19 pandemic, with some studies reporting over 50% of sampled youth in the U.S. having experienced an adverse childhood event (Leitch, 2017). Such events can range from parental neglect to experiences of violence, and often result in maladaptive and painful emotional, behavioral, and physical symptoms if left unaddressed (Koita et al., 2018; Porche et al., 2016). The symptoms that can manifest because of trauma exposure are wide-ranging and variable; for example, someone can appear both shut down and highly agitated, making any one approach to such behavior difficult to conceptualize (Walkley & Cox, 2013). As research on the aftermath of the pandemic emerges, it is reasonable to suspect that the prevalence of trauma will be even more widespread.

Trauma-Informed Care in Education

Trauma-informed care in the classroom has been shown to benefit students as well as teachers. Being aware of stress-inducing expectations and activities for students, and how to respond to students who are experiencing stress, drastically decreases behavior problems and improves student success in the classroom. In turn, this allows teachers to feel more comfortable and confident in their teaching and reduce their levels of stress within the classroom (McCarthy, 2019). Programs such as Trust-Based Relational Interventions (TBRI) or the Neurosequential Model of Education (NME) can potentially give teachers the skills necessary to become more trauma-informed.

This same line of reasoning can also be applied to school administrations, district leaders, as well as state agencies and legislatures. Trauma-informed research in education tends to focus on the benefits that occur in the classroom when a teacher is trauma-informed, but this still places further responsibility upon the teacher. Further research should focus on the effects of administration and other educational policy leaders implementing a trauma-informed approach. Trauma-informed communities have been shown to reduce the potentially negative side effects that result from trauma and can be used in educational settings as well (Champine et al, 2022). Key stakeholders who are aware of the secondary trauma that occurs for many teachers as well as the high stress within the teaching profession can better implement policies and procedures that reduce teacher stress, better prepare schools for further crisis events such as a storm, and ultimately decrease teacher burnout.

Natural Disasters and Other Traumas

In addition to the traumatic stress of the pandemic, the natural disaster of Winter Storm Uri in February 2021 brought heavy snow, ice, and bitterly cold temperatures to most of the Central and Southern U.S. (Brackett, 2021; Machemer, 2021), contributing to blackouts and essential material losses across Texas, like water and heat (Airlink, 2021; Machemer, 2021). Teachers and students were also directly impacted by the storm as many schools across the South were closed for more than a week as their communities endured damages (Morath, 2021). These combined layers

of trauma are troubling and indicate a need for better understanding how impacts like traumatic stress can affect teachers' experiences in an effort to better support them moving forward and in future traumatic situations. For example, another type of trauma teachers have increasingly been exposed to is school shootings, which have serious implications on the lives of students, educators, and communities (Baird, et al., 2017); yet the impacts to teachers' experiences of traumatic stress have been understudied. Findings from this study could inform ways to support teachers after such traumas.

Both COVID-19 and Winter Storm Uri fit the definition of a traumatic event due to the potential risk towards life (APA, 2013) and can be seen as an increased stressor that affects teachers' coping resources when navigating the already high demands of teaching. Research has shown that teachers who exhibit higher post-traumatic stress symptoms after a natural disaster may have lower teaching efficacy compared to teachers who do not exhibit such symptoms (Seyle et al., 2013). Furthermore, it has been shown that teachers who are more well-adjusted after a traumatic event are better able to pass on resiliency skills and adjustment to their students (Seyle et al, 2013).

The Present Study

The current study examined how the cascading events of the COVID-19 pandemic and Winter Storm Uri impacted teachers' experiences of stress. This study intends to expand upon previous research by providing insight into teachers' qualitative experiences of stress during two traumatic events. Lazarus and Folkman's (1984) transactional stress model helped inform resources to support teachers during future crises, like policy changes and stress management interventions. Despite the high levels of trauma and stress affecting teachers during the winter storm, resilience was still a thread throughout many teachers' responses. The current study was guided by the following research question: How did the cascading events of COVID-19 pandemic and Winter Storm Uri affect teachers' appraisals of demands and resources in their work?

METHODS

The current study was part of a broader longitudinal study conducted in partnership with a Texas school district. Data for the broader study was collected from December 2020 through April 2021 and included both qualitative and quantitative measures. Each month, participants responded to three short answer questions: "What demands impacted your work this month?", "What resources supported your work this month?", and "How has the pandemic affected your work this month?" In the month of February, an additional qualitative question was added to help capture the impacts of the winter storm on teachers' occupational and personal experiences: "Tell us how the winter storm has affected your work as a teacher this month." Data collected for this question was used for the current study.

Participants

In the month of February, 254 teachers responded to the survey. Their years of experience, grade level, and instructional format were gathered from a Qualtrics survey. Teachers were spread across 30 different campuses. The sample's average years of teaching experience ranged from 0 (i.e., first year) to 48 years of experience. Most of the teachers instructed elementary level courses (40%), followed by high school level courses (27.2%), middle school level courses (30.3%), and special education classes (1.2%). The majority of the teachers taught students in a virtual format, followed by hybrid format (i.e., a blend of in-person and virtual instruction) and in-person format. Teacher demographics, including their race, school campus, and ethnicity, were gathered from the district. The sample primarily identified as White and not Hispanic or Latinx (81.9%), followed by White and Hispanic or Latinx (10.2%), Asian or Asian American (3.9%), African American or Black (2.8%), Biracial or Multiracial and not Hispanic or Latinx (1.2%), American Indian or Alaska Native and Hispanic or Latinx (0.8%), and Biracial or Multiracial and Hispanic or Latinx (0.4%). The sample's demographics and other related details are detailed in Table 1.

Data Analysis

The current study used inductive thematic analysis similar to substantive coding in grounded theory to examine the data (Glaser & Strauss, 1967). Researchers began by using exact words of participants, then making broader generalizations, and finally connecting back to theory. The analysis focused on building substantive theory by examining teachers' individual experiences during the conjunction of COVID-19 and Winter Storm Uri. Inductive thematic analysis was applied in three stages, including data preparation, codebook creation, and code application. As the data included individual short answer responses, excerpting was not needed.

First, researchers downloaded all participants' responses for the question about the impact of the winter storm from Qualtrics. Two researchers then independently examined half of February's data and noted their emerging thoughts. The researchers' emerging thoughts ranged in length from one word to a short sentence. Next, researchers met to contrast their emerging thoughts and formulate codes that would shape the codebook. Once the codes were identified, researchers organized the codes thematically into themes and subthemes. The codebook ultimately consisted of five themes and 16 subthemes. Previous studies with thematic analysis have incorporated frequency of themes within the results to aid in providing a balanced view of the data, while not placing much emphasis on the importance of identified frequencies (Joffe, 2012). Thus, the current study incorporates frequencies to help contextualize emerging themes, while not placing strict emphasis on their significance. Finally, two researchers independently applied the codebook to all of the short answer responses related to the impact of the winter storm on teachers' experiences in February. Throughout these stages, the coders met consistently to review and come to agreement on any discrepant codes.

FINDINGS

Analysis of the qualitative responses produced five main themes: instructional impacts, administrator and district relations, psychological impacts, basic resource impacts, and concern for others. Instructional impacts, the largest theme (43.4% of responses), focused on how the storm affected teacher and student productivity and student academic success. The second theme, psychological impacts (22.7% of responses), included any trauma a teacher endured and any coping mechanisms utilized to manage the trauma. Basic resource impacts (21.2% of responses) consisted of any challenges endured by teachers due to the physical damages incurred from the storm (e.g., loss of water and electricity) and any resulting distress. Concern for others (15.4% of responses) encompassed teachers' worries about the well-being and safety of other teachers' students, families, and their community, such as their access to food and water. Finally, administrator and district relations (10% of responses) attended to teachers' reports of district and administrator handling of communication and demands during the storm and their effect on the well-being of their teachers, such as added responsibilities during the storm or support upon returning to school. The themes and their related subthemes are elaborated on in the following section, including samples of the teachers' experiences in their own words.

Instructional Impacts

The most frequently coded theme was instructional impacts (43.4%). Many teachers reported concern over how the storm affected lesson plans and instructional time, as well as the impact the storm had on academic achievement. Three sub-themes emerged within instructional impacts: instructional demands, academic achievement concerns, and productivity, which are explored more below.

Instructional Demands

The most frequently noted subtheme was instructional demands; 32.3% of teachers reported feeling stressed about the loss of instructional time and its impact on curriculum planning. Many teachers reported concerns about the loss of instructional time: “[We] lost almost 2 weeks of teaching/curriculum and now are being stretched too thin for the remainder of the year, as if it's not bad already.” Teachers also reported concerns regarding instructional requirements coming from the district, state, and administrators, despite the loss in instructional time. One teacher said,

It was hard to decide what to keep and what not to keep in terms of our lessons. There are TEKS [state standards for what students should know and be able to do in each subject and grade level] that we won't get to hit due to loss of time. Plus, we still have a STAAR [standardized state testing] scheduled in spite of hybrid instruction and instructional days lost. That makes no sense.

Other teachers mentioned time constraints in regard to making up for the missed days or needing to abandon previous plans: “The winter storm caused a lot more planning on my part. Plans got all sorts of messed up and I had to re-configure everything to make it fit.” Overall, teachers demonstrated signs of stress in regard to the frequent need to change plans and cover all necessary material by the end of the year.

Academic Achievement Concerns

Over 10% of teachers described their concerns related to their students’ academic achievement due to the lost instructional time. Teachers reported they were already worried about the impacts of COVID-19 on student success and that their fear had increased in conjunction with the disruptions from the winter storm. One teacher stated, “The biggest concern I have is the students that are already falling behind [will fall] more behind.” Other teachers mentioned how students began backsliding in their progress:

Missing school is missing time that students could be learning and growing. One of my students started the year only knowing 6 sight words. Before the storm, her confidence was up, she was flying through decodable text. Once the storm happened, we had to basically start all over with her confidence.

Some teachers discussed how district and administrator pressure to give student’s grace put them in uncomfortable situations with grades. Teachers reported being encouraged to give students higher grades than they had earned. One teacher said, “I got a week off. Now I’m not expected to teach new content or give any bad grades. This is unethical.” Overall, teachers expressed concern over how the storm would impact their students’ ability to succeed and master concepts before the end of the year.

Productivity

Although many teachers were frustrated with the instructional impacts, a small minority of teachers found the time off helpful in that they were able to use their days off to catch up on other responsibilities and tasks. Two teachers mentioned that they were able to catch up on work during the time off and feel productive. One teacher said, “[I] had intermittent time when [I] had power [and could] get a lot of work done.” Another teacher said,

I was very lucky to be able to have power and heat the entire time, but we lost water for about 5 days. We were supposed to have PD [personal development] days on the Monday and Tuesday the winter storm hit, and I was able to prep our next few weeks for my team along with another person on my team on that Monday before they canceled. I was happy that I was able to help my team in that way.

Both teachers who reported levels of productivity noted they had some access to electricity during the storm.

Psychological Impacts

The next most commonly reported theme was psychological impacts. Approximately 22.7% of teachers reported the trauma they experienced and the coping mechanisms they employed. Five sub themes emerged: exacerbation of trauma, traumatic stress, positive experience of the storm, perspective shift, and resiliency.

Exacerbation of Trauma

With teachers already struggling to navigate the ever-changing landscape of education during COVID-19, the winter storm appeared to heighten an already stressful year. Six and a half percent of teachers felt an exacerbation of stress from the storm in conjunction with the pandemic, with one teacher stating:

Our students who already are in situations that are at best maintaining, now have additional stress with power going out for days, no water, boil water. It was like reliving spring break last year all over again... Lots of triggers for me personally...

Many reported similarities between the storm and the spring break of 2020, the onset of COVID-19 restrictions and responses. One teacher described these similarities in detail:

Everything felt like it came to a grinding halt, much like things did when the pandemic began in March last year. I felt unprepared for how to adapt as information was changing and numerous elements remained uncertain and in the air for the duration of the storm. I felt worried for the safety of my students and also overwhelmed by the traumas of the winter storm and immediately having to go into caregiver mode without appropriate time to breathe and reflect on the events around the winter storm.

Overall, some teachers may have experienced an overwhelming traumatic response to the storm due to its many similarities with the onset of the pandemic.

Traumatic Stress

Many teachers reported a high level of stress related to their personal safety during the storm. 10.7% of teachers mentioned feeling emotionally drained and experiencing high anxiety symptoms. One teacher stated “I was out of power for six days. School was not on my mind; survival was.” Teachers reported feeling “terrified” and concerned for others' well-being and their own, while navigating the loss of essential resources, and with many displaced from their homes. Some teachers

mentioned how that traumatic stress affected their performance at work upon their arrival back to school. For instance, one teacher said,

My stress and anxiety levels were through the roof during the winter storm because of how it affected me and my family personally, and because of my concern for the teachers and students at my school. I was still coming down from this stress and anxiety when we returned to school on the 26th.

Regrettably, the winter storm left many teachers feeling overwhelmed and drained both during and afterward.

Positive Experience of the Storm

On the other hand, 2.3% of teachers reported having a positive experience of the storm or were able to utilize resiliency and self-care strategies during the freeze. This particular subset of teachers felt they were able to catch up on work and rest during their time off. One teacher said, “It was an unexpected break in an already challenging year,” while another mentioned, “The storm allowed me to have more time to create lessons.” Although comments such as these were rare, they demonstrate stark contrasts in teachers' experiences during the storm.

Resiliency

Others reported utilizing resiliency and “mental toughness” the week of the storm, with some mentioning they had learned to rely on these skills throughout the pandemic as well. However, it is hard to differentiate if this mental toughness may be attributed to a form of resiliency or the common phenomena of emotional numbing that occurs after a traumatic experience (Lipsky & Burke, 2009). Three teachers made comments regarding resiliency, with one stating, “Life has curveballs and yes, this was unexpected, but modeling resilience and mental toughness is imperative.” Another teacher mentioned how they felt unaffected due to the already stressful year: “We are so used to the craziness at this point it really wasn’t anything new.” More information is needed to decipher the effects of and contributors to such mindsets.

Perspective Shift

Lastly, 1.9% of teachers reported shifting their perspectives on priorities and expectations for themselves as well as their students. Teachers talked about realizing the importance of valuing well-being over students' academic success. One teacher stated,

It actually helped me to put things in perspective more. I am a special ed teacher and I can't teach my students everything that they need to learn. With the week we missed I really can't, so I need to stop stressing about it and stop trying to rush the students through lessons that they don't understand. I am helping them through the lessons more now so that they can be successful and hopefully pick

up more of the skills so when it is retaught or included in some lesson next year, they will not be clueless about what the teacher is talking about.

Some teachers noted how academic success is no longer the main focus of their work after the crises. One teacher expressed, “There are simply more important things in kids' lives right now and I can do more good by demanding less.” This mindset shift appears to demonstrate a more trauma-informed belief within their work. While many teachers continued to grow more concerned about academic achievement, some demonstrated forgiveness and extended grace. These starkly different responses highlight important variations in the perspectives of teachers, which should be explored further in future research.

Basic Resource Impact

The next theme, basic resource impact, focused on how many teachers experienced a loss of human needs and resources, and their resulting frustrations over such losses. 21.2% of teachers reported on the loss of essential resources, like heat and water, and the stress and trauma that resulted from their loss and resource depletion. Three sub themes emerged, including lack of essential resources, property damage, and financial strain.

Lack of Essential Resources

The second most frequently reported sub theme was lack of essential resources. 18.5 % of teachers commented on the effects of losing one or more essential resources. Many teachers expressed difficulty in returning back to normalcy after losing essential resources, and the resulting stress that ensued. One teacher stated, “I had no internet, water, or ways to access my coworkers or students to check in on them. It felt traumatic going through that and then returning to work after.” Another mentioned a similar experience, “I lost power for several days and that was one of the most terrifying experiences of my life. I am still recovering a little bit...” Such comments demonstrate the need to provide adjustment time for teachers and staff after such an event occurs.

Property Damage

While many teachers reported losing essential resources, some reported further damage that lasted well past the storm. Many teachers reported having pipes burst, fallen trees, or electrical concerns, and expressed they needed time to care for personal matters before being able to focus on their work. One teacher said,

They were concerned about students needing time to recover from the storm, but no one said anything about teachers. I lost most of the trees on my acre lot and still haven't been able to take care of things, because I'm in a classroom worrying about the social and emotional needs of my students...all while no one is worried about my own.

Other teachers reported property damage to their school building that delayed their return time and affected their transition back to instructional time. One teacher stated, “Our school had a lot of damage, and will be without A/C for the next 3 months. Some students were displaced, and their devices damaged from burst pipes.” Such damage can be a further traumatic stressor and slow down the return to safe routines for both students and teachers.

Financial Strain

Beyond the loss of resources and property damage, 1.2% of teachers mentioned feeling stressed by the resulting financial strain that ensued for both themselves and their community. One teacher stated, “We had to put in a new HVAC system in our house and were lucky to get one at all during the storm, but it was a LOT of money.” Another teacher stated the costs could not be covered with a teaching salary alone:

[I] had a broken water main pipe to take care of. Without water for 6 days. Could not get anyone to come to repair [it] until 2 weeks later. [I] had to put a charge on my credit card - the fee was more than I expected. [I] had to get a 2nd job to help with unexpected expenses. My job as a teacher is not keeping up with expenses.

Such resource depletion can make recovery harder for teachers to be present for their students and their professional duties, especially when the expectations for these teachers are the same for those who were not as deeply affected by the storm.

Concern for Others

The next theme, concern for others, touched upon teachers’ general concern for the well-being and safety of their students, families, and community members. 15.4% of teachers reported concerns about their community, with three main sub themes emerging: parent and community concern, student safety concern, and student emotional concern.

Parent and Community Concern

A handful of teachers reported feeling worried about the safety and well-being of other staff members, parents of their students, and local residents. One teacher said,

The winter storm has kept me from being able to work with my teammates who lost power. Additionally, I experienced secondhand stress on behalf of my Texan neighbors who were without power, water, or a way to cook their food. I worried for the well-being of my coworkers and students. It was a second collective trauma on top of the pandemic.

Some teachers mentioned feeling lucky compared to their community members due to losing fewer resources. However, they still expressed concern over their well-being. One teacher stated,

The winter storm had me feeling a lot of anxiety about the people around me. I saw a lot of people suffering from the effects and not having basic needs met. I was super fortunate in that I never lost power and I had enough food and water.

These responses show even how those who were fortunate enough to have more resources throughout the storm still grappled with the weight of worrying about their struggling neighbors and community.

Student Safety Concern

Teachers also reported they were concerned about the safety of their students, like their access to resources or their health concerns. 6.5 % of teachers mentioned feeling worried about whether their students had adequate essential resources and whether their students were able to get their physical needs met after being displaced from their homes. Some teachers expressed feeling personally responsible for their students' safety: "...I need to make sure my students have the things they need at home." Another teacher expressed a similar concern:

Some students were okay while others had to abandon their homes and lost their things due to pipes bursting and flooding their homes. My home was personally okay, but I felt in a way guilty that I had while others did not. I personally bought and delivered bottled water to my students who had none.

Other teachers expressed putting a pause on assignments and expectations for students who were without basic supplies and resources. One teacher said, "Students could not do their work when they did not have power." Teacher concern over student safety demonstrated the struggles many teachers felt with putting their own needs before those of their students, often embracing a caregiver role. Many felt a personal responsibility for keeping their students safe during the storm, which hints toward the unique expectations of the teaching profession. Even during a highly traumatic event such as the storm, some teachers were still unable to disconnect from work to focus on their own concerns.

Student Emotional Concern

Lastly, teachers expressed worries about students' emotional well-being as a result of the trauma endured. 7.3% of teachers emphasized social-emotional focused conversations with students upon their return to the classroom: "When we did return to our virtual class, most of our first meetings were meeting the social emotional needs of students and letting them share their experiences." Other teachers commented on the impact of their students' trauma on their experiences. One teacher stated, "I am very worried about some of my students. I know they went days without

power and water. I am struggling [with] their trauma [and] with the demands I have as a teacher.” Again, these concerns from teachers show a strong tendency for some to continue carrying the weight of the well-being of their students beyond the classroom. Many appeared to practice trauma-informed care by prioritizing student social emotional well-being after a traumatic event. In contrast, this theme also seems to highlight ways in which teachers may not be giving themselves the same grace they are showing towards their students.

Administrator and District Relations

The final theme, administrator and district relations, discussed how teachers felt about the ways their administration and district communicated information and duties during the storm. 10% of teachers commented on admin and district relations. Three sub themes emerged: lack of district communication, unhelpful policy responses, and administrator and district grace.

Lack of District Communication

2% of teachers reflected frustration due to infrequent updates from their schools and district about expectations. Teachers communicated their frustration about the short notice or lack of clarity around expectations for the return to school. One teacher stated,

The storm took away instructional days, we still do not know if we will have to make those days up. No solutions were offered to help us get classes back on track. Decisions were not communicated to us until last minute. And again, we were told things last minute and expected to jump through hoops to make things happen.

In a time of many unknowns for teachers regarding safety of their own home and families, not knowing what to expect from the district and administration appeared to escalate their concerns.

Unhelpful Policy Responses

7.3% of teachers expressed frustration over expectations from the district and their administration. Teachers mentioned feeling rushed to return to work after the storm and wishing they had more time to emotionally process the events that occurred. One teacher stated,

It was not an easy situation to get through. We did have time off, but by the time I got water restored to my home, I was back at work. There was a lot of cleaning and organizing to do both at home and at school and it caused me to break emotionally at one point. [I had to do] eight loads of laundry in one day due to the water outage for almost a week.

In addition, some felt burdened by tasks from their administration during the freeze, such as expectations to check in on students and families and attend professional developments without power or internet. One teacher said,

On Monday... with clearly 1/3 of the staff without power, we were required to be present with a camera on for a zoom staff development meeting. The remote presenter, in another part of Texas, even asked if we would like to reschedule and the admin declined. Teachers were trying to stay warm in their cars and log on to be present so they would not be in trouble. This zoom call lasted for approximately 5 hours at a time when rolling blackouts were beginning. I'm embarrassed that I was a part of this.

Teachers mentioned meetings like this felt like a huge burden when they had worries regarding their own safety and immediate needs. These responses shed light on potential pitfalls for districts and administrators to be aware of to better respond to such situations in the future.

Administrative and District Grace

Although many teachers reported their frustrations, a few teachers (less than 1%) reported feeling a sense of grace from their administration and were grateful for the lowered demands upon returning back to school. Some teachers mentioned feeling appreciative of the extra days the district granted its employees before returning to work. One teacher said, “Our district did provide families and faculty with two extra days the week after the snowstorm, which was appreciated.” Other teachers mentioned how the storm led to fewer expectations on students and staff: “It did convince my campus to forgo a STAAR [standardized] interim practice test. Thank goodness.” These examples demonstrate how grace can offer a buffer to help build back campus morale and provide a chance for teachers to regroup after a collective trauma.

DISCUSSION

The findings from this study suggest that teachers can benefit along with students in schools that embrace trauma-informed practices (Champine et al, 2022). Teachers reported trauma from basic physiological and safety needs not being met as a result of the winter storm, while simultaneously experiencing higher demands from the district and administration regarding school related tasks. Trauma-informed care, which focuses on the importance of safety, building connection, and managing emotions, emphasizes allowing a community to heal before expecting people to resume normal functions (Bath, 2008). Participants in our study, already experiencing impacts from COVID-19, were clearly overwhelmed and traumatized by the additional demands and threats to safety from the winter storm. When their larger ecosystem, as personified by administrators, was unresponsive to their needs, psychological impacts became exacerbated.

As of yet, little consideration has been given to the impact of multiple layers of stress and trauma on educator well-being in the U.S., and in this study, it was clear that the combination of COVID-19 and Winter Storm Uri contributed to collective and compounding traumatic events for teachers and communities to navigate (Makana Path, 2021). This discussion will explore main takeaways from the various themes, in order from most frequently to least frequently mentioned, beginning with instructional impacts. Instructional impacts reflected some of the more expected impacts to teachers' work from the storm and COVID-19, such as productivity and student academic performance, as these are key facets of teachers' typical work. Although changes to these demands were often anticipated, the specific effects to these demands were unexpected. For instance, productivity was often dictated by access to essential resources, such as electricity, which was unpredictable in nature throughout the course of the storm. The transactional model emphasizes the role situational factors have in impacting individual's appraisals of stress (Chang, 2009), which was reflected in teachers' experiences of this theme. Although a demand may not be novel, the factors surrounding the specific situation or individual may contribute to a higher level of stress than initially anticipated.

Regarding psychological impacts, teachers in the midst of the chaos created by the storm appraised their demands in differing ways. Some teachers expressed resilience and positive shifts in perspective, meanwhile others noted their struggles with traumatic stress and heightened stress given the additional context of COVID-19. The resilience and adaptability of some teachers during this traumatic time suggests an area for further investigation, as underlying factors that helped shape more positive appraisals could be beneficial for supporting other teachers during periods of high stress. Research extending transactional theory to teachers strongly suggests that not every teacher is equally vulnerable to stress (Beltman et al., 2011; Richards et al., 2016). A key theoretical proposition of transactional theory is that individual teachers may appraise their demands and resources very differently even in the same school (Lambert et al., 2009), which was demonstrated by teachers within this study.

Basic resource impacts highlighted the traumatic context of the winter storm. Many teachers, schools, and communities' lost access to essential resources, suffered costly damages, and experienced financial strain as they pieced their homes and buildings back together. The loss of these essential materials and energies withered away the foundations of stability and normalcy, leaving uncertainty and a shift towards survival mode. These losses contributed to new demands and ultimately appeared to exacerbate experiences of stress and traumatic stress.

Meanwhile, concern for others illuminated the relationship-oriented nature of teachers' work. While teachers navigated their personal struggles during the cascading events of Winter Storm Uri and COVID-19, many also felt the heavy weight of their concerns for others. Teachers' focus on the safety and needs of students and families reflects a unique demand within the teaching profession, as teachers are often expected to place the needs of students above their own (Rothi et al., 2008; Gearhart et al., 2022). Results from this study suggest that in times of crisis, this expectation makes it difficult for teachers to prioritize their own needs, potentially making them more vulnerable to traumatic stress.

A theme that was less frequently discussed was administrator and district relations. Administrator and district decisions appeared to have important impacts on teachers' experiences of stress or support. These impacts are somewhat unsurprising as principals in U.S. schools are the primary "brokers" of school policy (Johnson, 2006, p. 15) and have considerable authority over many aspects of teachers' lives. Within the current study, administrator policies played an important role in teacher's welfare. For example, some administrators extended more grace and lenient expectations, which teachers found helpful. However, administrator and district decisions varied greatly, with some allowing for more flexibility and others pushing for normal work expectations in a time of great chaos and uncertainty. Teachers' words from this study highlighted the impact higher-level decision making can have on their work and overall experiences of wellness.

Limitations

While this study shows the importance of trauma-informed care to support teachers and their students, there were specific limitations that must be addressed. The sample of schools were all from the same school district. This sampling might have significantly impacted the external validity, or generalizability, of the results. Another limitation to this study was the chance of sampling bias. Reflecting the demographics of the U.S. teacher workforce, the sample was predominantly white females. It would be beneficial to understand how trauma-informed care might have affected different subgroups of the teaching population.

Future Directions

Aside from the sampling limitations that can potentially be expanded on in future research, there are two other directions we want to address. First, it is important for researchers to examine differences in teachers' mindsets as they navigate traumatic stress. This examination would, in turn, help inform best practices to support teachers in forming resilience. Second, the exploration of the impact of traumatic stress on teachers across time would be invaluable to the educational research field. Both of these future directions would include an expansion on the qualitative and longitudinal aspects of this research study, thus creating a largely generalizable and internally valid research project.

CONCLUSION

This study offered a unique opportunity to examine the impacts of two traumatic events, Winter Storm Uri and the COVID-19 pandemic, on teachers' experiences of stress and coping within both their occupational and personal lives. Results of the study may offer insights into ways to better support teachers during times of crisis, such as facilitators of individual resilience and resources to bolster within the school community. The study's findings shed light on opportunities for intervention to reduce teacher's stress, including stronger emphasis on trauma-informed care within educational communities at multiple levels.

REFERENCES

- Airlink. (2021). Winter storm Uri. <https://airlinkflight.org/responses/winter-storm-uri/>
- American Psychological Association. (2013). Diagnostic and statistical manual of mental disorders. American Psychiatric Publishing.
- Baird, A. A., Roellke, E. V., & Zeifman, D. M. (2017). Alone and adrift: The association between mass school shootings, school size, and student support. *The Social Science Journal*, 54(3), 261-270. <https://doi.org/10.1016/j.soscij.2017.01.009>
- Baker, C. N., Peele, H., Daniels, M., Saybe, M., Whalen, K., Overstreet, S., & The New Orleans, T. I. S. L. C. (2021). The experience of COVID-19 and its impact on teachers' mental Health, coping, and teaching. *School Psychology Review*, 50(4), 491-504.
- Bath, H. (2008). The three pillars of trauma-informed care. Reclaiming children and youth, 17(3), 17-21. <https://elevhalsan.uppsala.se/globalassets/elevhalsan/dokument/psykologhandlinigar/trauma-informed-care.pdf>
- Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, 6(3), 185-207. <https://doi.org/10.1016/j.edurev.2011.09.001>
- Blaydes, M., Gearhart, C.A., Kelton, S., Balat, A., Weppner, C.H., & McCarthy, C.J. (2022, April). Teachers' experiences of demands and resources during the height of COVID-19 [Paper presentation]. Annual Meeting of the American Educational Research Association, San Diego, CA, United States.
- Brackett, R. (2021, February). Winter storm uri turns deadly as millions remain without power. The Weather Channel. <https://weather.com/news/news/2021-02-15-winter-storm-uri-texas-power-outages-impacts>
- Brencio, F. & Novak, K.D. (2019). The continuum of trauma. In Topography of Traumas: Fissures, Disruptions, and Transfiguration (D. Schaub, J. Linder, K. Novak, S. Tam, & C. Zanini, Eds.). Brill.
- Carello, J., & Butler, L. D. (2015). Practicing what we teach: Trauma-informed educational practice. *Journal of Teaching in Social Work*, 35(3), 262-278. <https://doi.org/10.1080/08841233.2015.1030059>
- Champine, R. B., Hoffman, E. E., Matlin, S. L., Strambler, M. J., & Kraemer, J. (2022). "What does it mean to be trauma-informed?": A mixed-methods study of a trauma-informed community initiative. *Journal of Child and Family Studies*, 31, 459-472. <https://doi.org/10.1007/s10826-021-02195-9>
- Chang, M. (2009). An appraisal perspective of teacher burnout: Examining the emotional work of teachers. *Educational Psychology Review*, 21, 193-218. <https://doi.org/10.1007/s10648-009-9106-y>
- Christian-Brandt, A. S., Santacrose, D. E., & Barnett, M. L. (2020). In the trauma-informed care trenches: Teacher compassion satisfaction, secondary traumatic stress, burnout, and intent to leave education within underserved elementary schools. *Child Abuse & Neglect*, 110, 104437. <https://doi.org/10.1016/j.chiabu.2020.104437>

- City of Austin (2021). 2021 winter storm Uri after-action review findings report. Retrieved from <https://www.austintexas.gov/sites/default/files/files/HSEM/2021-Winter-Storm-Uri-AAR-Findings-Report.pdf>
- Cohn, L. K. (2021, July 9). Report: PEC winter storm response hampered by weather, load shedding. Burnet Bulletin. Retrieved August 4, 2022, from <https://www.burnetbulletin.com/news/report-pec-winter-storm-response-hampered-weather-load-shedding#:~:text=Three%20severe%20winter%20storms%20swept%20across%20the%20United,Reliability%20Council%20of%20Texas%20%28ERCOT%29%20Region%2C%E2%80%9D%20Utilicast%20reported>
- Collie, R. J. (2021). COVID-19 and teachers' somatic burden, stress, and emotional exhaustion: Examining the role of principal leadership and workplace buoyancy. *AERA Open*, 7. <https://doi.org/10.1177/2332858420986187>
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Sociology Press.
- Harris, N. B., Marques, S. S., Oh, D., Bucci, M., & Cloutier, M. (2017). Prevent, Screen, Heal: Collective Action to Fight the Toxic Effects of Early Life Adversity. *Academic Pediatrics*, 17(7), S14-S15. <https://doi.org/10.1016/j.acap.2016.11.015>
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience?. *Canadian journal of psychiatry*, 56(5), 258-265. <https://doi.org/10.1177/070674371105600504>
- Jennings, P. A. & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79(1), 491-525. <https://doi.org/10.3102/0034654308325693>
- Jepson, E., & Forrest, S. Individual contributory factors in teacher stress: The role of achievement striving and occupational commitment. *British Journal of Educational Psychology*, 76(1), 183-197. <https://doi.org/10.1348/000709905X37299>
- Joffe, H. (2012). Chapter 15: Thematic analysis. In *Qualitative Research Methods in Mental Health and Psychotherapy* (D. Harper & A.R. Thompson, Eds.). pp. 210-223. <https://doi.org/10.1002/9781119973249.ch15>
- Johnson, S. M. (2006). The Workplace Matters: Teacher Quality, Retention, and Effectiveness. [Working Paper]. National Education Association Research Department. <http://eric.ed.gov/?id=ED495822>
- Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76. <https://doi.org/10.1016/j.edurev.2014.06.001>
- Klassen, R., Wilson, E., Siu, A. F. Y., Hannok, W., Wong, M. W., Wongsri, N., Sonthisap, P., Pibulchol, C., Buranachaitavee, Y., & Jansem, A. (2013). Preservice teachers' work stress, self-efficacy, and occupational commitment in four countries. *European Journal of Psychology of Education*, 28(4), 1289-1309. <https://doi.org/10.1007/s10212-012-0166-x>
- Klusmann, U., Kunter, M., Trautwein, U., Lüdtke, O., & Baumert, J. (2008).

- Teachers' occupational well-being and quality of instruction: The important role of self-regulatory patterns. *Journal of Educational Psychology*, 100(3), 702–715. <https://doi.org/10.1037/0022-0663.100.3.702>
- Kraft, M., & Simon, N. (2020). Teachers' Experiences Working from Home During the COVID-19 Pandemic. Upbeat. <https://education.brown.edu/sites/default/files/2020-06/Upbeat%20Memo%20-%20Kraft.pdf>
- Koita, K., Long, D., Hessler, D., Benson, M., Daley, K., Bucci, M., Thakur, N., & Burke, H. N. (2018). Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *PLoS One*, 13(12). <https://doi.org/10.1371/journal.pone.0208088>
- Kraft, M., & Simon, N. (2020). Teachers' Experiences Working from Home During the COVID-19 Pandemic. <https://education.brown.edu/sites/default/files/2020-06/Upbeat%20Memo%20-%20Kraft.pdf>
- Lambert, R.G., McCarthy, C.J., O'Donnell, M., & Wang, C. (2009). Measuring elementary teacher stress and coping in the classroom: Validity evidence for the Classroom Appraisal of Resources and Demands. *Psychology in the Schools*, 46(10), 973-988. <https://doi-org.ezproxy.lib.utexas.edu/10.1002/pits.20438>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer.
- Leitch, L. (2017). Action steps using ACEs and trauma-informed care: A resilience model. *Health Justice*, 5(5), <https://doi.org/10.1186/s40352-017-0050-5>
- Lerner, M. D., Volpe, J. S., & Lindell, B. (2008). Acute Traumatic Stress Management: Empowering Educators During Traumatic Event. Institute for Traumatic Stress. U.S. Department of Justice Office of Justice Programs. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/acute-traumatic-stress-management-empowering-educators-during>
- Lipsky, L. V., & Burk, C. (2009). Trauma stewardship. San Francisco, CA: Berrett-Koehler.
- Maltzman, S. (2011). An organizational self-care model: Practical suggestions for development and implementation. *The Counseling Psychologist*, 39, 303-319. <https://doi.org/10.1177/0011000010381790>
- Machemer, T. (2021). How winter storm Uri impacted the United States. Smithsonian Magazine. <https://www.smithsonianmag.com/smart-news/how-winter-storm-uri-has-impacted-us-180977055/>
- Makana Path. (2021, March). Trauma related to Texas winter storm. Makana Path. Retrieved from <https://www.makanapath.com/blog/trauma-texas-winter-storm/>
- McCarthy, C.J. (2019). Teacher stress: Balancing demands and resources. *Phi Delta Kappan*, 101(3), 8–14. <https://doi.org/10.1177/0031721719885909>
- McCarthy, C. J., Lineback, S., & Reiser, J. (2014). Teacher stress, emotion, and classroom management. In *Handbook of classroom management* (pp. 311-331). Routledge.
- Middleton, K.V. (2020). The Longer-Term Impact of COVID-19 on K–12 Student Learning and Assessment. *Educational Measurement Issues and Practice*, 39(3), 41-44. <https://doi-org.ezproxy.lib.utexas.edu/10.1111/emip.12368>
- Morath, M. (2021). Texas Education Agency (TEA) winter storm uri update.

Retrieved from <https://tea.texas.gov/sites/default/files/covid/TEA-Inclement-Weather-Update.pdf>

- Porche, M. V., Costello, D. M., & Rosen-Reynoso, M. (2016). Adverse family experiences, child mental health, and educational outcomes for a national sample of students. *School Mental Health*, 8, 44-60. <https://doi.org/10.1007/s12310-016-9174-3>
- Richards, K. A. R., Levesque-Bristol, C., Templin, T. J., & Graber, K. C. (2016). The impact of resilience on role stressors and burnout in elementary and secondary teachers. *Social Psychology of Education*, 19(3), 511-536. <https://doi.org/10.1007/s11218-016-9346-x>
- Rosen, Z., Weinberger-Litman, S. L., Rosenweig, C., Rosmarin, D. H., Muennig, P., Carmody, E. R., Litman, L. (2020). Anxiety and distress among the first community quarantined in the U.S. due to COVID-19: Psychological implications for the unfolding crisis. *PsyArxiv Preprints*. <https://doi.org/10.31234/osf.io/7eq8c>
- Rothi, D. M., Leavey, G., & Best, R. (2008). On the front-line: Teachers as active observers of pupils' mental health. *Teaching and Teacher Education*, 24(5), 1217-1231. <https://doi.org/10.1016/j.tate.2007.09.011>
- Seyle, Widyatmoko, C. S., & Silver, R. C. (2013). Coping with natural disasters in Yogyakarta, Indonesia: A study of elementary school teachers. *School Psychology International*, 34(4), 387-404. <https://doi.org/10.1177/0143034312446889>
- Sokal, L. Eblie Trudel, L. & Babb, J. (2020). Supporting Teachers in Times of Change: The Job Demands- Resources Model and Teacher Burnout During the COVID-19 Pandemic. *International Journal of Contemporary Education*, 3(2), 67-74. <https://doi.org/10.11114/ijce.v3i2.4931>
- Sparber, S. (2021, March 15). At least 57 people died in the Texas winter storm, mostly from hypothermia. The Texas Tribune. <https://www.texastribune.org/2021/03/15/texas-winter-storm-deaths/>
- Turner, K., & Thielking, M. (2019). Teacher wellbeing: Its effects on teaching practice and student learning. *Issues in Educational Research*, 29, 938-960.
- Walkley, M., & Cox, T. L. (2013). Building trauma-informed schools and communities. *Children & Schools*, 35(2), 123-126. <https://doi.org/10.1093/cs/cdt007>
- Walsh, F. (2020). Loss and Resilience in the Time of COVID-19: Meaning Making, Hope, and Transcendence. *Family Process*, 59(3), 898-911. <https://doi.org.ezproxy.lib.utexas.edu/10.1111/famp.12588>
- Zysberg, L., Gimmon, E., Orenshtein, C., & Robinson, R. (2017). Emotional intelligence, personality, stress, and burnout among educators. *International Journal of Stress Management*, 27(2), 268-277. <https://doi.org/10.1037/str0000028>

SARAH KELTON, MEd, is a graduate of the Counselor Education program at the University of Texas at Austin. Her research interests include trauma informed care, stress, coping, and their impacts in the elementary school setting. Email: sarahekelton@gmail.com

MADISON BLAYDES, MS, is a counseling psychology doctoral candidate in the Department of Educational Psychology at the University of Texas at Austin. Her research interests include trauma, stress, and coping. Email: blaydes@utexas.edu

CHRISTOPHER J. MCCARTHY, PhD, is a professor in the Department of Educational Psychology at the University of Texas at Austin. His research interests include stress and coping in educational contexts, group counseling, and career development. Dr. McCarthy's current scholarly focus is on researching factors that cause stress for K – 12 teachers and developing interventions to help teachers thrive. Email: cjmccarthy@austin.utexas.edu

CAROLINE H. WEPPNER, MA, is a counseling psychology doctoral student in the Department of Educational Psychology at the University of Texas at Austin. Her research interests include stress and coping, particularly with college student populations and in educational contexts. Email:

CASSANDRA A. GEARHART, PhD, is a graduate of the counseling psychology program at The University of Texas at Austin, and a current staff psychologist with the PTSD clinical team at the Central Texas Veterans Health Administration. Her major research interests lie in collective trauma processing and wellbeing promotion through organizational intervention. Email: cassandra.gearhart@utexas.edu
