Philosophy of the Whole Person Teacher: Investigating Experiences of Adversity and Trauma Among Teachers and Students

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Approval of the Dissertation

This dissertation, "Philosophy of the Whole Person Teacher: Investigating Experiences of Adversity and Trauma Among Teachers and Students" by Helen Haerim Min has been approved by the Graduate Faculty of the School of Education and Human Development in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Table of Contents

List of Tables

Manuscript 1

Manuscript 2

Manuscript 3

List of Figures

Manuscript 1

Manuscript 1

Executive Summary

In the wake of the global pandemic fraught with political and cultural battles over policies related to masking, vaccines, race, racism, and gender, teachers and stakeholders have grappled with the changes in teaching roles and expectations, blurred boundaries between home and school, and new contexts for education. A national teacher survey of 1,324 K-12 teachers commissioned by Merrimack College between January and February 2022 found that 12% of teachers were very satisfied with their jobs while 44% of teachers were very or fairly likely to leave the profession within the next two years (Merrimack, 2022). Compared to the MetLife Survey of the American Teacher (2011), more teachers reported feeling overworked, underpaid, under-appreciated, and disillusioned by the profession (Merrimack, 2022). Asked whether teachers would advise their younger selves to pursue a career in teaching, 45% of teachers said they would, while the remainder said they would not (Merrimack, 2022). These results raise questions about what challenges our teachers face, how the understanding and expectations of the teaching profession have changed and stayed the same, and what can be done to support our teachers.

My three manuscript dissertation seeks to examine these questions more in-depth by analyzing the experiences of stress, trauma, empathy-based trauma, Adverse Childhood Experiences (ACEs), and Professional Quality Of Life (ProQOL) of K-12 teachers across the United States. Through the manuscripts, I aim to uncover the ways teachers' personal experiences interact with the context of their profession through the philosophical lens of the whole person teacher.

Stress and Trauma

Teachers have long faced some of the highest levels of occupational stress (Gallup, 2014; Johnson et al., 2005; Kyriacou, 2001) which can negatively affect their physical health and emotional well-being (de Souza et al., 2012; Herman et al., 2018), lead to low job satisfaction and negative work experiences (Bakker & Schaufeli, 2000), cause professional burnout (Maslach et al., 2001), and contribute to high turnover (Ryan et al., 2017). High rates of teacher stress have been associated with negative impacts in teacher performance (Greenberg et al., 2016; McLean & Connor, 2015), their ability to lead social and emotional learning programs (Jennings & Greenberg, 2009), and students' social adjustment and academic outcomes (Hoglund et al., 2015; Oberle & Schonert-Reichl, 2016).

These stressors have only skyrocketed since the pandemic, as teacher staff shortages added to teachers' workloads and decreased their support (Lieberman, 2021), students express greater academic and social-emotional needs (USDE, 2021), multiple changes to instructional modes (Zamarro et al., 2021), transition to remote learning has revealed gaping disparities among schools in the United States (Kurtz, 2020), and everyone grappled with the pandemic's traumatic impacts on their personal lives (Steiner & Woo, 2021). According to a research report by the RAND Corporation, nearly half of the public school teachers who left the profession after March 2020 pointed to the pandemic and stress as the most common reason for leaving (Diliberti et al., 2021).

Exposure to ongoing and multiple stressors, like the teaching related and pandemic related factors, may contribute to "wear and tear" on teachers' sympathetic nervous system and immune system (Geronimus et al., 2020, p. 1175) and increase their risk of trauma. Though trauma researchers debate what exactly can be labeled as trauma between the spectrum of

chronic stress and Post-Traumatic Stress Disorder (PTSD; e.g., Alvarez, 2020; Lewis, 2009; Shahinfar, 1997), most agree that adverse events or circumstances that may be traumatic leave lasting adverse effects on significant aspects of life activities and individual functioning (Dye, 2018; Maschi, 2013; Nöthling et al., 2020; Substance Abuse and Mental Health Services Administration, 2014). Further, due to the subjective nature of trauma, it is possible that sudden one-time events (e.g. natural disasters, shootings, deaths in the family, etc.) and ongoing stressors (e.g. pandemic, poverty, neglect, etc.) may cause lasting trauma for one individual or community and temporarily stress for another.

Teachers face not only the stress and trauma of their own roles, but are also privy to and influenced by the experiences of stress and trauma among their students. Since teachers spend a significant amount of time on a daily basis with children, they can notice students' appearance, progress, or behavior that accompany experiences of adversity (Christodoulou et al., 2019; Hupe & Stevenson, 2019), abuse, or neglect (Osofsky & Lieberman, 2011). Students also disclose their experiences of trauma to their teachers, which may influence the roles teachers take on for students, their ability to manage the emotional weight of their profession, and their susceptibility to empathy based stress (i.e. secondary traumatic stress, compassion fatigue, vicarious trauma) and its associated symptoms: physical and emotional challenges, behavioral changes, cognitive dysfunction, interpersonal isolation, spiritual uncertainty, and diminished professional performance (Borntrager et al., 2012; Hupe & Stevenson, 2019; Hydon et al., 2015; Knight, 2010; Motta, 2020). Preliminary research indicates that some teachers experience high levels of secondary traumatic stress akin to levels found among mental health workers (Borntrager et al., 2012), and teachers who faced traumatic events in their past were more likely to experience indirect trauma in teaching (Caringi et al., 2015; Hydon et al., 2015). Similar to the experience of

teachers working with traumatized students during a natural disaster, teachers may experience symptoms of "dual trauma" during the coronavirus pandemic as a result of primary trauma from their own experiences of the pandemic and secondary trauma from working with traumatized students (Berger et al., 2016).

The Whole Person Teacher

In addition to the influence of professional demands and contextual factors, teachers' personal experiences influence their attitudes, approach, decision-making (Klausewitz, 2005), energy, and motivation to teach (Day et al., 2006). Experiences in the personal lives of teachers are related to their performance (Acker, 1999; Ball & Goodson, 1985). Teachers' professional identity is constituted by their knowledge of self (Richards, 2009), their psychophysical well-being (Schussler et al., 2016), and the interaction between their personal experience, professional context, and external political environments (Day & Kington, 2008; Mockler, 2010). The domain of teachers' personal experiences draws from aspects of their personal lives shaped by class, race, gender, teachers' own experience as a student, and roles held in their community and family (Mockler, 2010). Some education philosophers suggest that the best teachers connect themselves and their subjects with their students, drawing on the myriad experiences of their personal and professional experiences to negotiate their identity and practice (Palmer, 2017; Tompkins, 1990).

This suggests that teachers not only bring themselves as a professional into the classroom, but also their personal identities and experiences, which actively influence the construction of their professional identity, job performance, and motivation for teaching. While each individual may develop a unique embodiment of what it means to 'be' a teacher (Clandinin et al., 2006), their identity and thereby their practice of being a teacher, is shaped by the

multifarious experiences of their whole being, inseparable from their personal, social, cultural, and institutional contexts. The concept of the 'whole person' or 'holistic' approach in education is not new (e.g. Miller, 2011; Noddings, 2005; Richards, 1980; Saito & Akiyama, 2022), but research has more often focused on supporting the holistic development of students than teachers. By bringing the philosophy of the whole person teacher into the discussion of teaching, and more specifically, the analysis of the experiences of stress and trauma in teaching, I aim to contribute to a more nuanced and holistic understanding of teachers and the teaching profession. Through the studies, I seek to ultimately center the experiences and voices of people who are teachers.

Overview of the Dissertation

My three manuscript dissertation seeks to examine these concepts more in-depth, asking: Manuscript 1) What theory or framework can be developed to support our understanding of psychoeducational training among professionals who work with people who may have trauma experiences? Manuscript 2) How are teachers responding to the stress, trauma, and demands of their roles under the COVID-19 pandemic? Manuscript 3) What is the relationship of teachers' response to teaching challenges and benefits, their perceptions of student adversity, and their adverse childhood experiences with their professional quality of life during COVID-19? The exploration of these questions stems from the philosophy of the whole person teacher, understanding that teachers' personal experiences shape their professional practice, their interaction with students, and their own professional growth.

Manuscript 1

Manuscript 1 "Compassion Fatigue, Secondary Traumatic Stress, and Vicarious Traumatization Training for Professionals Working with Children and Youth: A Realist

Synthesis" investigates how in-service professionals who work with 3–18-year-olds receive training that influences empathy based stress (EBS). While I knew that many professional development programs trained teachers in trauma-sensitive teaching practices with aims to support students, I was curious about how programs supported the well-being and sustainability of teachers. More specifically, I knew that teachers took on many roles, including the roles of counselors, particularly in schools where mental health professionals were stretched thin. Without training, however, teachers face the risk of adding to their workload and emotional labor. Thus, the realist synthesis analyzed existing continuing professional developments that address empathy based stress with aims to develop a theoretical framework for psychoeducational training of professionals.

After a systematic search of 17 term-combinations on Academic Search Complete, ERIC, and PsychINFO databases in March 2020, I filtered the results for peer-reviewed empirical studies published between January 1990 and April 2020, which produced a yield of 2,182 studies. After removing duplicates and evaluating against the inclusion criteria, 10 studies reporting outcomes on EBS measures (i.e., vicarious trauma, compassion fatigue, secondary traumatic stress) remained. Using a realist synthesis strategy, I analyzed the 10 programs by identifying key theories underlying each CPD and generating an overarching theory that accounts for program mechanisms and circumstances. The result details a theoretical framework for psychoeducational training based contextual factors that are trauma-sensitive and culturally-affirming, curricular factors that share psychoeducational, self-care, and job-related competencies, and instructional factors that incorporate experiential learning, group discussion, self-reflection, and practice of self-care strategies.

Manuscript 2

Manuscript 2 “At Risk of Trauma: The Exacerbation of Teacher Stress During The COVID-19 Pandemic”, reports the results of an interpretive qualitative study investigating teachers’ meaning making of the COVID-19 pandemic and its impact on their well-being, their ability to teach, and their perceptions of, and interactions with, student well-being and learning. When the COVID-19 pandemic emerged, I was interested in understanding whether teachers were experiencing empathy based stress, particularly due to the context of increased adversity in the lives of students and teachers’ ability to learn about these challenges from their students. I was also curious whether teachers’ definitions of stress and trauma impacted their experience and identification of stress and trauma in their teaching roles and in the lives of their students. The aim of the study was to understand how teachers define stress and trauma within the context of the COVID-19 epidemic and then act on those meanings in their instruction. Further, I aimed to understand the potential risks of ongoing secondary trauma exposure in educators.

Virtual semi-structured interviews with 24 lead teachers in K-12th grade classrooms from across the United States explored how teachers respond to and make meaning of the impacts of the COVID-19 pandemic on them and their students. A strategy of analytic induction was used to generate five assertions with supporting evidence from the data corpus. The results of the study revealed that teachers understood their roles as encompassing that of an advocate who provides students access to resources, guardians who protect students’ safety, and supporters who build meaningful relationships with students. Teachers revealed that particularly under the COVID-19 pandemic, preexisting stressors have been exacerbated and the demands to their roles have increased, thereby increasing teachers’ risk of trauma.

Manuscript 3

Manuscript 3 “When Traumas Intersect: A Mixed Methods Examination of Teachers’ Adverse Childhood Experiences and their Professional Quality of Life” examines the relationship between teachers’ response to teaching challenges and benefits, perceptions of the experiences of adversity among students, Professional Quality of Life (ProQOL; i.e., compassion satisfaction, burnout, and secondary traumatic stress), and their personal history of Adverse Childhood Experiences (ACEs). Knowing that teachers bring their whole selves into the classroom and that their personal experiences shape their perception of students and choices in curriculum, I wondered whether teachers’ own experiences of adversity in their childhood influenced their experience as a professional. Preliminary reports of schools during the pandemic (e.g., Kyriacou, 2001) indicated that the surge of responsibilities and transition placed on teachers and students may have exacerbated preexisting stressors and contributed to the great resignation in the field of education.

The purpose of this explanatory sequential mixed methods study was to observe the influence of stressors stemming from teachers’ personal history of adverse experiences and their knowledge of student adversity in the midst of unprecedented challenges. After collecting and analyzing quantitative survey data from K-12th grade lead teachers across the United States (N=368), qualitative semi-structured interviews (N=24) explored how teachers with different levels of ACEs (0, 1-3, and 4+) discuss their roles as teachers and make meaning of the experiences of stress and trauma among their students. Integration of the quantitative and qualitative results revealed that majority of teachers experienced moderate levels of secondary traumatic stress. Teachers who were more concerned with their ability to support students facing adversity were more likely to experience secondary traumatic stress and burnout symptoms.

Teachers with a larger number of Adverse Childhood Experiences (ACEs) were more likely to experience secondary traumatic stress and burnout. Teachers in the high ACEs group (4+) most often identified their roles as encompassing social and emotional supports that are often unnoticed and responded to the experiences of adversity among their students with empathy.

Implications

Although some of the profound and intersecting challenges of the COVID-19 pandemic have surfaced in research (Reimers, 2021; Pokherl, 2021), to my knowledge, no peer-reviewed journal articles have thus far published findings on the impact of this crisis on American K-12 education teachers' understanding of their own roles as teachers and their quality of life as it relates to their secondary trauma, compassion satisfaction, and burnout. While some research has examined changes in teaching practice and student learning due to stress, researchers have yet to examine the relationship between teachers' history of adverse experiences, their response to occupational challenges and benefits in times of widespread challenges, and their risk for secondary traumatization.

The studies in this dissertation will further the field's understanding of teachers' response to and understanding of their roles, their perceptions of and ability to support students who may have experiences of stress or trauma, and the ways teachers are affected by the challenges and opportunities posed by an extreme crisis. By highlighting teachers' knowledge and understanding of the experiences of stress and trauma faced by students during the COVID-19 pandemic and the resulting impacts on teachers, these studies will add to what is currently known about supporting students facing adversity, training teachers to mitigate the effects of secondary traumatization, and preparing education systems for future disasters. Furthermore, this study will inform school districts and school leaders about the additional social and emotional support

teachers may need and proposes a theoretical framework for psychoeducational professional development for those in caring professions.

Overall, this dissertation works to build a more holistic understanding of the experiences that influence teachers. Findings from the studies have implications for the support that teachers need to provide opportunities for psychosocial learning in their classrooms. Considering the whole person teacher shapes the way researchers, policy makers, school leaders, and other stakeholders view and address the challenges teachers face, how we understand and develop expectations for teachers, and how we approach teacher education. It calls school leaders to facilitate contextualized, differentiated professional learning that connects to teachers' prior experiences and learning to develop a more authentic understanding of their practice, classrooms, and students. These professional learning opportunities are more likely to be inquiry-based, open-ended, and facilitates reflection and learning within an understanding of who they are and why they do what they do (Groundwater-Smith & Mockler, 2009). Further, it calls for a systemic interrogation of how we care for the wholeness of teachers throughout their career, supporting teachers with ample opportunities to study and reflect independently and collaboratively for their inner growth and in participation to formulate educational policies (Mockler, 2011; Richards, 1980). It recognizes that teachers' lives and care for their wholeness is as central to education as are children's (Richards, 1980).

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Saito & Akiyama, 2022

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Manuscript 1

Compassion Fatigue, Secondary Traumatic Stress, and Vicarious Traumatization Training for Professionals Working with Children and Youth: A Realist Synthesis

Helen H. Min & Allison Rae Ward-Seidel

Abstract

This realist synthesis investigates existing continuing professional development (CPD) programs that address empathy based stress among professionals who work with 3–18-year-olds with aims to develop a theoretical framework for psychoeducational training of professionals. A systematic search of 17 term-combinations on Academic Search Complete, ERIC, and PsychINFO databases was conducted in March 2020. Selecting English language peer-reviewed studies published between January 1990 and April 2020 produced a yield of 2,182 studies. After removing duplicates and evaluation against the inclusion criteria, 10 qualitative and quantitative studies reporting outcomes on EBS measures (i.e., vicarious trauma, compassion fatigue, secondary traumatic stress) were included in the review. Using a realist synthesis strategy, the programs were analyzed by identifying key theories underlying each CPD and generating an overarching theory that accounts for program mechanisms and circumstances. The result details a theoretical framework for psychoeducational training based contextual factors that are trauma-sensitive and culturally-affirming, curricular factors that share psychoeducational, self-care, and job-related competencies, and instructional factors that incorporate experiential learning, group discussion, self-reflection, and practice of self-care strategies. The key mechanisms found within this review suggests a shift in the design and delivery of CPD content that covers psychoeducational professional skills.

Keywords: continuing professional development, psychoeducational professional development, empathy based stress, vicarious trauma, compassion fatigue, secondary traumatic stress, realist synthesis

Introduction

Research demonstrates that caring professionals, such as social workers, counselors, psychologists, and teachers who provide support to youth who have been exposed to trauma or other severe adversity may be at risk for adverse symptoms of empathy-based stress (EBS; Borntrager et al., 2012; Figley, 1995; Lauridsen & Munkejord, 2022; Pearlman & Saakvitne, 1995). Studies of caring professionals have revealed that work-related stressors and situations of complexity and uncertainty in relation to their role and in their organizational context evoke strong emotional reactions are particularly challenging (Coyle et al., 2005; Muncer et al., 2001; van Heutgen, 2011). Although research in the field of trauma-related stress among professionals is growing (e.g., Adams et al., 2006; Rauvola et al., 2019), investigations of training to support them are sparse. Further, a professional development framework for training professionals on psychoeducational content (e.g., recognizing empathy based stress and self-care strategies) is yet to be developed.

To this end, this paper reports the results of a comprehensive review of studies that explored empathy based stress (EBS) training for professionals working with children and youth 3-18 years of age in an attempt to develop a theoretical framework for psychoeducational professional development. A realist synthesis methodology was employed to synthesize literature on professional development for EBS and to develop an analysis-informed framework to train professionals in psychoeducational content. The resulting framework includes details about the contextual factors, curricular factors, and instructional factors that were found to be influential and common among the 10 studies included in the realist synthesis. Implications for designing and implementing continuing professional development for psychoeducational training addressing EBS are discussed.

Principles of Trauma-Informed Approaches

Given that an estimated 46 million children in the United States have had psychological trauma experiences (Listenbee et al., 2012) and the negative educational and developmental ramifications of traumatic exposure in childhood (Perfect et al., 2016; Porche et al., 2016), local, state, and federal policies have increasingly responded to psychological trauma as a public health epidemic by endorsing trauma-informed approaches (Children's Law Center, 2021). Often referred to as "trauma-informed care" or "trauma sensitive," trauma-informed approaches use core principles of safety, trust, collaboration, and empowerment to encourage professionals to consider the trauma histories of those they work with and respond to emotional needs rather than punishing behaviors (Levenson, 2017). According to the Substance Abuse and Mental Health Services Administration (SAMHSA), trauma-informed approaches present a systematic framework for realizing, recognizing, and responding to the impacts of trauma to promote healing and avoid retraumatization (2014).

Preliminary reports have touted the success of trauma-informed approaches in schools, leading to dramatic reductions in student behavior challenges (Dorado et al., 2016) and increases in knowledge among school personnel (Anderson et al., 2015; Perry & Daniels, 2016). Foundational professional development training in trauma-informed approaches supports knowledge-building and use of these approaches in clinical settings (Brown et al., 2012; Green et al., 2015). However, trauma-informed approaches often build knowledge about the impacts of trauma without considering the professionals' social and emotional competencies to cope with the challenges associated with the work. Professionals themselves may have had their own history of traumatic experiences, heightening the potential for experiencing secondary traumatic

stress. Currently, there is little empirical evidence for trauma-informed approaches that target trauma-informed professionals' personal social and emotional competencies.

Existing research on school-based trauma-informed approaches and teacher professional development has limited results that focus on measuring student outcomes (i.e., students' trauma symptoms, behavioral disruptions, prosocial interactions with peers and staff). However, evidence shows that staff who provide services to populations with trauma experiences have an increased risk of experiencing indirect trauma from their professional helping relationship (Anderson et al., 2022; Hatcher et al, 2011). Indeed, in their study of 229 school staff members across 6 public schools in the Northwestern U.S., Borntrager et al. (2012) revealed that school personnel reported high levels of secondary traumatic stress (STS) equivalent to levels found among mental health workers. Preliminary research shows that teachers who faced traumatic events in their past, akin to trauma experienced by their students, were more likely to experience indirect trauma in teaching (Caringi et al., 2015; Hydon et al., 2015). Unfortunately, despite the potential for adverse effects on teachers' personal and professional lives, trauma-informed resources are less available for school professionals than for mental health personnel (Maynard et al., 2019).

Empathy-Based Stress (EBS)

Various terms have been used to describe the negative effects one may experience when working with trauma-survivors. Several authors (e.g., Bush, 2009; Harrison & Westwood, 2009; Jenkins & Baird, 2002) have attempted to refine and define differences between secondary traumatic stress, compassion fatigue, and vicarious trauma. While a few key differences exist, a number of authors have used the terms interchangeably (Sabin-Farrell & Turpin, 2003). In their extensive review of 724 peer-reviewed articles across empathy-related professions, Rauvola et

al. (2019) used empathy-based stress as an umbrella term to capture various strains of traumatic stress exposure symptoms (Table 1). Since this paper aims to analyze best practices to support helping professionals mitigate various consequences of working with children and youth with trauma exposure, empathy-based stress (EBS) will be used as the overarching term. Next, we present working definitions of each of these EBS constructs in order to illuminate the various dimensions of such stress as reported in the literature.

Secondary Traumatic Stress (STS)

According to Figley (1995), secondary trauma occurs when the traumatic stress of the client infects the caregiver or clinician, inducing a stress reaction. Secondary traumatic stress involves behaviors and emotions stemming from knowledge about another's trauma experience or the stress resulting from a desire to help a suffering person (Figley, 1995). Thus, a person may acquire secondary traumatic symptoms through exposure to a traumatized individual due to exposure and empathy.

Figley (1995) lists four reasons why professionals caring for trauma victims are at risk for secondary traumatic stress. First, those who work with trauma survivors rely heavily on empathy as a resource to help those who have been traumatized. Second, many professionals have themselves had personal experiences of trauma making them vulnerable to re-traumatization. Third, unresolved trauma may be triggered in those who work with trauma survivors by reports of similar trauma in others. Fourth, the trauma experiences of children are provocative for their caregivers (Figley, 1995). This suggests that professionals who are empathetic, have previous experience of trauma, and serve as caregivers or care providers for youth may be at high risk of secondary traumatic stress.

Symptoms of secondary traumatic stress include a sense of helplessness, confusion, feelings of isolation (Figley, 1995), anxiety, sleep difficulties, and decreased productivity (Caringi et al., 2015; Hatcher et al., 2011; Hydon et al., 2015; Maring & Koblinsky, 2013). These symptoms may be disconnected from first-hand causes and may develop suddenly and without warning. Gentry and colleagues (2002) argue that individuals with STS may experience some of the symptoms of posttraumatic stress disorder (PTSD) including depression, increased negative arousal, inability to maintain healthy relationships, ineffective self-soothing behaviors, decreased self-efficacy, diminished sense of purpose, and lowered overall functioning.

Compassion Fatigue

Compassion fatigue involves a strain of burnout that affects those in caregiving professions, and has been primarily studied in nurses (Joinson, 1992). Figley (1995) referred to compassion fatigue as "the most friendly term for the phenomenon" interchangeable with STS because some professionals who work with trauma survivors found the label derogatory and uncomfortable (p. 17). Compassion fatigue is the acute, affective phenomenon in which caregivers' symptoms mirror those of the original trauma victim (Figley, 1995). They may experience job dissatisfaction, decline in physical and mental health, and increased sense of hopelessness (Perrigrini, 2019). Unlike burnout which can occur gradually, the onset of compassion fatigue may be more abrupt (Perrigrini, 2019).

Vicarious Trauma

Vicarious trauma is used to describe the severe and lasting psychological effects that may result from working with trauma victims (McCann & Pearlman, 1990). Pearlman and Saakvitne (1995) defined vicarious trauma as a cumulative process of empathic engagement with another's trauma that negatively transforms a professional's inner experience. Vicarious trauma may lead

to changes in personal and professional identity, view of the world, spirituality, self-efficacy, psychological needs in regards to safety, trust, esteem, intimacy, and control (Saakvitne & Pearlman, 1996). There may also be sensory disruptions such as flashbacks, bodily sensations, and a range of symptoms akin to PTSD (Blair & Ramones, 1996). In comparison to secondary traumatic stress and compassion fatigue, vicarious trauma places more emphasis on changes in meaning, beliefs, schemas, and adaptation in addition to trauma symptoms. Vicarious trauma places a greater emphasis on cognitive and psychological trauma symptoms than secondary traumatic stress (Jenkins & Baird, 2002).

Posttraumatic Growth

In addition to research on the negative impacts of trauma-adjacent work, there is also recognition that some work with trauma-exposed individuals may result in posttraumatic growth (e.g., Brady et al., 1999) or other positive outcomes (e.g. Eidelson et al., 2003; Steed & Downing, 1998). Positive changes identified among those who work with trauma survivors include a sense of optimism, new appreciation for spirituality, and increased awareness of personal blessings (Arnold et al., 2005). Predictors of vicarious posttraumatic growth include high levels of empathy, social support, organizational support, and coherence (Linley & Joseph, 2007).

The possibility for personal growth resulting from trauma work stems from a larger conceptual framework of posttraumatic growth, defined as a significant positive psychological change resulting from trauma (Tedeschi et al., 2007; Tedeschi & Calhoun, 1995). Studies have demonstrated positive changes after vicarious trauma exposure (e.g., Brady et al., 1999; Pearlman & Saakvitne, 1995; Radeke & Mahoney, 2000; Schauben & Frazier, 1995). Some research suggests that since trauma triggers a cognitive process that may change some beliefs of

the trauma-impacted person in potentially positive ways (Tedeschi & Calhoun, 1995), this beneficial accommodation can be seen as equivalent to growth, while harmful accommodation can be interpreted as psychopathology and distress (Joseph & Linley, 2008).

Overall, research in the last three decades has documented the negative effects of EBS for many people across helping professions. Although some professionals experience benefits from posttraumatic growth, that is not to say the cumulative experience of EBS is positive. On the contrary, more research is needed to understand the unique predictors and circumstances that lead to growth in the presence of post-traumatic stress or secondary post-traumatic stress. Research has yet to discover the types of ongoing support that buffer caring professionals from the negative impacts of EBS nor establish a framework for such professional training.

Addressing Empathy Based Stress with Professionals

Supporting people who have experienced trauma can be emotionally challenging and stressful (Figley, 1995). However, research indicates that professionals in caring roles do not feel adequately equipped to address the challenge of managing their own reactions to helping (Cunningham, 2003; Knight, 2015). Social work and nursing education programs report that insufficient investment is given to train professionals in emotionally challenging work situations and in developing emotional safety and relational awareness (Lauridsen & Munkejord, 2002).

A review of six papers in a special issue of *Child Maltreatment* on trauma-informed approaches and web-based survey of 414 trauma-focused researchers and practitioners conducted by Hanson and Lang (2016) revealed that the most commonly implemented components in trauma-informed programs were not practices unique to trauma-informed care. Among the least commonly implemented components were addressing secondary traumatic stress, measuring

staff proficiency in trauma-informed care, and having a defined leadership position for trauma services.

Effective implementation and sustainability of evidence-based interventions like trauma-informed programs in school settings requires an integration of practices, programs, and procedures into all aspects of the organization and culture (Chafouleas et al., 2016; Forman et al., 2009). This often begins with the development and training of personnel to ensure fidelity, alignment with existing policies, and sustained outcomes (SAMHSA, 2014). Preliminary evidence reveals that trauma-focused training for clinical service providers can build knowledge, skills, and attitudes that align with trauma-informed approaches (Brown et al., 2012; Green et al., 2015).

High-Quality Continuing Professional Development

Continuing professional development (CPD), is defined as "the maintenance and enhancement of the knowledge, expertise and competence of professionals throughout their careers according to a plan formulated with regard to the needs of the professional, the employer, the professions and society" (Madden & Mitchell, 1993, p.12). Used interchangeably with other terms such as professional development, professional education, lifelong learning, and staff development (Gallagher, 2007), CPD focuses on both individual and systemic objectives associated with learning (Billett, 2002). While the term has been used predominantly in the research of healthcare professionals, CPD best describes the systemic maintenance and improvement of professional knowledge and skills among in-service professionals and will be used in this paper to refer to ongoing training within the workplace across all caring professions.

CPD Design and Implementation Features

Literature on effective CPD reveals a consensus on design features and implementation that impact practice and enhance outcomes. According to Learning Forward, formerly the National Staff Development Council, effective teacher CPD uses learning communities, leadership, resources, data, learning designs, implementation, and outcomes (Killion et al., 2012). Garet and colleagues (2001) posited that effective professional development for teachers featured structural and content elements including collective participation from similar departments and duration of activity spanning several months with ample contact hours, content focused on knowledge and skills aligned with outcomes, active learning involving participation, and coherence with existing knowledge and policies.

Desimone's (2009) core theory of action for teacher professional development outlined four steps for implementation. First, teachers should experience effective professional development. Professional development should lead to increased knowledge and skills and/or changes in attitudes and beliefs. Teachers should then use their newfound knowledge, skills, attitudes, and/or beliefs to improve their instruction and/or approach to pedagogy. As a result, teachers' instructional changes are expected to foster increased student learning.

Effective CPD in the field of nursing emphasizes the importance of ensuring care is compassionate, patient-centered, and evidence-based to meet the needs of a changing society (Mlambo, 2021). Evidence-based (Barker, 2013; Baumann, 2010; Bradshaw, 2010) CPD recommends engaging nurses through different modes of knowledge acquisition and construction through formal courses or workshops, on-the-job informal training, self-reflection, peer-feedback, and professional journal clubs to appraise literature on evidence-based practices (Brekelmans et al., 2013; Gallagher, 2007). Regardless of the method of CPD delivery, the

purpose of the content is to increase professionals' ability beyond pre-service training to enhance in-the-field practice (Mlambo, 2021).

Davidson and colleagues (2020) recommend focusing on key implementation factors for successful CPD, such as application of knowledge, strong leadership, research, and critically evaluating current practice to create resilient healthcare systems. Studies have highlighted the importance of holistic facilitation and contextual factors to influence knowledge translation to applied practice (Graham et al., 2006; Rowley et al., 2012). Effective implementation and sustainability require high quality training over multiple days and ongoing technical assistance or consultation (Forman et al., 2009; Joyce & Showers, 2002). Further, scholars emphasize a need for programs that are designed to support clinicians in developing humility, self-awareness, and skills for engagement in lifelong learning (Lockyer et al., 2017; McMahon 2016).

Effects of CPD on Practice and Outcomes

There is evidence that effective CPD results in positive outcomes (Yoon et al., 2007). After examining nine studies meeting the What Works Clearinghouse standards for high-quality education research, Yoon and colleagues (2007) indicated that approximately 49 hours of participation in professional development can increase student achievement by 21 percentage points. Job-embedded CPD, characterized by routine follow-up, ongoing reflection, collaboration, and support (Yendol-Hoppey & Dana, 2010; Zepeda et al., 2015), is shown to promote capacity-building and high-quality teaching that lead to student learning outcomes (Powell & Bodur, 2016). Compared to more traditional one-time trainings with few opportunities for follow-up, collaboration, reflection, or coaching, CPD that includes knowledge of theory, demonstration, practice, and collaborative peer-coaching supports teacher improvement (Joyce & Showers, 2002).

Two impact evaluation studies (Wyman et al., 2008; Angerstein et al., 1991) of teacher training models for identifying and referring students who are suicidal found that the training programs increased teachers' knowledge and self-efficacy to perform the role of a screener for mental health services. Researchers emphasized active learning and role play activities as the key mechanisms that promoted teachers' improved skills to perform as gatekeepers for student mental health services (Long et al., 2018).

Adult Learning Theory

American educator Malcolm Knowles (1984) posited that adult learners (a) are autonomous and self-directed, (b) bring their life experiences to learning situations, (c) are motivated by learning that addresses social roles, (d) seek immediate application for problem-based concerns, and (e) are motivated by intrinsic rather than extrinsic factors. Implications of these five assumptions of adult learning include drawing on adults' autonomy in planning and evaluating their learning, incorporating life experiences to contextualize learning, and immediate relevance through problem-solving (Powell & Bodur, 2019). These adult learning principles require that CPD strategies focus on adults' natural curiosity, inspire cognitive engagement, and build in opportunities for practice, reflection, and feedback (McMahon, 2016; Davis & McMahon, 2018). Effective CPD designers and implementers understand that professionals who attend are adult learners who have unique personal and professional experiences and needs. CPD programs can apply the principles of adult learning theory by providing ample opportunities for participants to direct their own learning, explore and apply concepts to their own personal life experiences, provide both short and long-term application of content, and invite authentic reflection of the values that drive their work and its connection to the current training.

Gaps in the literature: A Case for Psychoeducational Professional Development

There is a growing demand for professional learning focused on the psychosocial capacities needed for professionals who work with children to perform their role. Professionals who work with 3-18-year-olds receive ongoing in-service training based on the needs of the youth and demands of their profession. Yet an adequate framework for professional development on psychoeducational content has yet to be developed.

Although some training is implicitly tied to the psycho-education of professionals (e.g., self-care, managing emotions), there is a growing number of professional development programs that explicitly focus on addressing the psychological demands of caring professions. Such topics include well-being, mindfulness, and trauma-sensitivity. These trainings are often conducted with aims to bolster the professional's ability to support youth under their care and rarely evaluate the outcomes of the training on the professionals' well-being (e.g., Thomas et al., 2019). We know surprisingly little about the psychoeducational training professionals receive, not only to provide services to youth, but to maintain their own well-being; there is a lack of research on the types and effectiveness of such programs. What little we do know has focused on pre-service training and psychoeducational training as a part of a larger program, rather than the outcomes of specific training to address the psychoeducational demands of caring professions. Ideally, professionals who work with children should model behaviors that they are hoping to help children learn and develop (Jennings & Frank, 2015). Therefore, they need to acquire the social and emotional competencies to perform this role (Jennings & Greenberg, 2009). What content and skills such training includes and excludes, how training facilitates learning, and how training responds to personal experiences of professionals may influence what professionals are able to embody from their training and demonstrate in their work. We set out to explore how EBS

psychoeducational training has been conducted in the context of caring professionals who work with youth 3-18 years of age.

Based on the ensuing realist synthesis from our exploration of the literature, we propose a framework for developing psychoeducational training in ongoing professional settings. From our cross-professional and cross-methodological realist synthesis, key mechanisms for understanding the theoretical framework of psychoeducational training were grouped into contextual, curricular, and instructional factors. The definitions and examples of these mechanisms were explored in the social work, nursing, teaching, and research professions.

Research Questions

The aim of the current literature review is to describe, synthesize, and analyze studies that have explored training to address EBS among professionals working with children and youth 3-18 years of age. This realist synthesis addresses the following questions:

1. What are the key mechanisms in continuing professional development (CPD) that address empathy-based stress (EBS) among professionals who work with children and youth?
2. What theory or framework can be developed to support our understanding of psychoeducational training among professionals who work with people who may have trauma experiences?

Methodology

Changes in the Review Process

The present review aimed to unpack the mechanisms of how CPD programs across fields successfully and unsuccessfully address EBS in diverse contexts and settings. With the knowledge that the study of EBS and its application is sparse, a cross-disciplinary method of systematic literature review was first initiated. As the review progressed, however, various data

suitability limitations surfaced and prompted the change in our review focus towards a theory driven approach. These limitations included the fact that existing literature that fit the inclusion criterion was spread across different professions and professional contexts, difficulty comparing across different methods of research with varying levels of quality, and a mismatch between the aims of the research questions and the outcomes of the systematic review strategy.

Since these research questions emerged from an explanatory focus with aims for theory generation, a realist synthesis (Pawson et al., 2005; Suri & Clarke, 2009) method was deemed most appropriate. Further, the realist methodology, because its iterative approach to synthesizing the literature, allowed for the change from a literature review to a realist synthesis during the data analysis process to better align to the aims of the research questions.

Description of Realist Synthesis Strategy

Realist synthesis assumes a generative model of casualty, identifying underlying mechanisms and contexts as the basis for inferring causal outcomes rather than evaluating programs themselves (e.g., meta-analysis) or the alignment of particular attributes (e.g., narrative review; Pawson, 2002). Originally used in the field of public policy and designed to synthesize research on complex interventions (Pawson, 2006), realist reviews aim to explain and develop a theory from exploring "what works for whom, in what circumstances, in what respects and how" (Pawson et al., 2005, p. 21). Complex interventions, Pawson et al. (2005) assert, follow theoretical frameworks based on hypotheses that the program delivered in a specific way will bring about a specific change. Thus, rather than evaluating whether programs work, the realist review interrogates the resources that are offered to support participants in interpreting and implementing the intervention, recognizing that each time a program is operationalized, success and failure will hinge on the circumstances (Pawson, 2002). The implicit and explicit theories

embedded in each existing intervention program are gathered, evaluated, and refined through this process of theory-contingent transfer (Shadish et al., 1991). Subsequently, data extraction focuses on identifying the relationships between context, interventions, mechanisms, and outcome of initiatives. The culminating generalizable recommendation is a transferable theory, specifying how a program theory works, for specific participants, in specific contexts.

Rationale for Using Realist Synthesis

Since the purpose of this review is to synthesize cross-disciplinary qualitative, quantitative, and mixed methods studies with a focus on developing theory from the mechanisms behind existing programs, a methodological orientation of realism can best support examining the relationships between objects and subjects to explain outcomes (Bhaskar, 1978; Suri & Clarke, 2009). The realist paradigm seeks to explain outcomes and actions situationally, in terms of the environment (Bhaskar, 1978). The research questions guiding this review aim to identify trends in curriculum content, instructional methods, and theoretical frameworks used to conceptualize CPD that addresses EBS, while acknowledging that contextual factors contribute to the outcomes of each training. The realist synthesis provides a tool to account for the complexity of mechanisms leading to change in programs and synthesize a complex range of conditions.

Methods

Search Processes

The initial systematic search used the following inclusion criteria based on the research questions: (a) The study examined a training program measuring EBS outcomes; (b) the study used original qualitative and/or quantitative data; (c) the professional development in the study

was designed for in-service professionals serving 3–18-year-olds; and (d) the study reported the outcomes of the professional development.

A systematic literature review aims to critically appraise, summarize, and reconcile information on a particular subject (Petticrew & Roberts, 2008). To find all relevant articles, the first author conducted a systematic search of term-combinations listed in Table 2 using Academic Search Complete, ERIC, and PsychINFO databases in March 2020. The "all text" search function was used. The search covered literature published between January 1990 and April 2020. Post-1990 peer-reviewed literature was selected because the earliest publication on the topic of EBS was published in 1990 (McCann & Pearlman, 1990). The search was restricted to English-language peer-reviewed studies. These parameters produced an initial yield of 2,182 studies.

Selection and Appraisal of Documents

After removing duplicates across databases, two coders independently evaluated the titles and abstracts of 2,182 records against the criteria for inclusion. Several studies were excluded or eliminated based on the criterion. Conceptual articles or reviews of research, studies that examined non-PD related interventions, and studies that examined training for professionals working with children under 3-years of age or older than 18-years of age were also excluded. The two coders met to discuss disagreements in the selection until unanimous agreement was reached. As a result, 10 publications met the criteria and were identified for inclusion.

To identify relevant literature that was not returned through the systematic electronic search, an ancestral search was conducted using the reference lists of included articles. Potentially relevant articles from the ancestral and hand search were considered for inclusion. This resulted in the addition of one additional study (Whitaker et al., 2019). After adopting the

iterative process of the realist synthesis, one article was omitted because it did not include details about the mechanisms of the CPD (Ellis, 2012). Therefore, a final total of 10 publications were included in the review.

Data Analysis

The process of analysis followed RAMESES publication standards for realist syntheses (Wong et al., 2013). Aligned with key features of realist synthesis, the review began by identifying key theories underlying each CPD and the mechanisms and contextual factors influencing the programs. The data were extracted on a constructed Excel spreadsheet matrix to collate information for each CPD on: (a) Study design, sample size, and outcome data, (b) planning detail regarding how, for whom, and in what context the training was developed, (c) aspects of the CPD's curriculum content and instructional methods, (d) any theories or mechanisms stated or assumed by the authors to explain the rationale for the CPD's design, success, or failure.

The evidence from each source was evaluated to examine the integrity of each theory application and the interaction between mechanisms, context, and outcomes across different CPD programs to detect patterns and idiosyncrasies. The key findings were analyzed and synthesized using an iterative process with a focus on a generative explanation for causation. With each iteration, an overarching theory was sought, developed, and refined to explain implications of various decisions in unique contexts. When continued iterations of analyzing key findings were fitting with the overarching theory developed (i.e., no new additions nor changes to the theory were needed) the theory was considered saturated. See Figure 1 Flow diagram illustrating search process and article disposition.

Results

Contextual Factors

CPD measuring the EBS outcomes among participants occurred in a wide range of professional settings (see Table 3). Despite the great variety of professional settings, several key recurring contextual mechanisms surfaced throughout the ten studies reviewed. In other words, despite different professional settings (e.g., child-welfare services, nursing, research), the focus on contextual factors in CPD were prevalent. Contextual factors included the intentional use of trauma-informed practices with the participants (i.e., beyond teaching participants how to use trauma-informed practices, CPD leveraged trauma-informed strategies with participants first-hand) as well as emphasizing a culturally-affirming context, which includes adapting curriculum and training to match local environment and prioritizing local leadership.

Trauma-Informed Practice

One common contextual factor salient across many studies (n = 8) was the use of trauma-informed practices, which was evident in the CPD curriculum, mechanisms intended to establish physical and emotional safety for participants, and/or procedures already in-place at the institution to promote safety. The curriculum, mechanisms, and institutional procedures in CPD were considered trauma-informed if they addressed physical and emotional safety of the youth-service providers participating in the in-service training.

Curriculum. A CPD for child protective services caseworkers (Pence, 2011) intended to infuse trauma training into existing forensic child maltreatment investigation curriculum inspired by the Chadwick Trauma-Informed Systems Project (Conradi & Wilson, 2010). The newly expanded trauma-informed child welfare curriculum highlighted the trauma-informed practices and practice adaptations that could support professionals during the investigative and essential

components of their work as they engage with children and families. The design of the curriculum and presentation of the materials were in a manner that supports psychological safety for trainees, considering the impact of the trauma materials on trainees and in particular for those who may have trauma experiences or triggers (e.g., veteran workers). The trainers began by explaining the potential for trauma triggers while studying trauma, and provided case workers with self-care resources and encouragement to seek assistance for symptoms of secondary traumatic stress or trauma (Pence, 2011). Another program called Promoting Self-care among Caregivers for pediatric critical care nurses was designed based on empirical research documenting the impact of compassion fatigue, burnout, and stress among caregivers and nurses (Charlescraft et al., 2010). The CPD curriculum for children's workforce practitioners gathered national experts in the field to write a module focused on self-care (Wills et al., 2019). Another example of trauma-informed curriculum for researchers came from the Group Debriefing for Secondary Distress program developed based on current literature and Critical Incident Stress Debriefing technique, and adapted to needs of violence researchers (Grundlingh et al., 2017). Various CPD programs drew trauma-informed content (e.g., relationship-building, processing events for emotion-regulation, self-care for addressing personal trauma history) from the National Child Traumatic Stress Network, Chadwick Trauma-Informed Systems Project, and Center for Improvement of Child and Family Services to develop trauma-sensitive training (e.g., Pence, 2011).

Mechanisms of Safety. Even if trauma-informed practice was not explicitly named, it was clear that the intention behind practices in several studies were to be sensitive to the trauma experiences of the participants. For example, Grundlingh et al. (2017) mentioned that their training for researchers included psychoeducational instruction and discussions in order to

normalize reactions to distressing events. Ice-breakers were used to create a sense of community within the training and participants were encouraged to participate as they felt comfortable or anonymously contribute through note cards. They also had access to independent support services (i.e., counseling) that participants could utilize anonymously (Grundlingh, 2017). In a training program for teachers, Berger et al. (2016) recognized that educational staff experienced significant distress as a result of exposure to students' trauma and personal challenges after an earthquake. Thus, a large part of the subsequent training was allotted to supporting teachers to grapple with their own experiences.

In a training for teachers and teaching assistants, Whitaker et al. (2019) included a content note explaining that the study of trauma could be potentially traumatic and provided predictions of how the participants' understanding and emotions may change as the course progressed, while also highlighting their limitations. They sought to establish a physically safe and emotionally supportive climate that is low-risk, respectful, and nurturing by having no observations or videos of the sessions, trainer-recorded attendance, use of two co-instructors per session, food provided, exempted grades or evaluations, and punctual starting and ending times. In the sessions, the trainers communicated norms, supported the development and use of personal safety plans to enact while studying trauma, allowed participants to excuse themselves if they felt unsafe or triggered, showed appreciation for the professional and personal experiences of the participants, responded to and validated the range of emotions and experiences of participants. The CPD used active listening techniques, non-judgmental attitudes, and non-shaming communication. The participants were given hope about recovery and healing after trauma (Whitaker et al., 2019).

In a program for child welfare workers, trauma-informed mechanisms were present

throughout the design of the CPD atmosphere and content delivery (Dane, 2000). Trainers sought to present materials in a way that is psychologically safe by beginning with familiar topics to gain participants' confidence. The CPD content also included creating norms that acknowledge the stress and trauma of their work, and encouraging commitment to self-awareness and self-protection. In addition, trainers sought to create an inviting and safe atmosphere using soft music, and they used humor to build safety and trust.

Institutional Procedures. Trauma-informed practices extended to the institutional level. A trauma-informed care training for youth welfare employees focused on addressing the security and self-efficacy of residential staff while recognizing that participants are part of institutional systems that also need a trauma-informed approach (Schmid et al., 2020). The trainers highlighted the importance of reorganizing key institutional processes to create a safe environment and organizational culture of well-being, safety, care, trust, respect, and collaboration. Further, to ensure that professionals at all levels of the organization are committed to trauma-informed systems of care, management staff and counselors were trained on organizational development, supervision skills, and burnout prevention. While the researchers in that study did not see any changes in participants' EBS symptoms, they did see decreased levels of stress in the participants and asserted that this outcome may be attributed to the trauma-informed work of the training program and their efforts to create safety within the organization. This systemic perspective of trauma-informed needs was highlighted by other CPD programs as well. The last session in Grundlingh and colleagues's (2017) program highlighted societal and community responses to violence and means for constructively addressing violence in communities through personal agency.

Culturally-Affirming Context

CPD programs (n = 7) also adapted their program to reflect the context of the professionals they support by integrating professional and cultural competencies and working with local leaders. Although explicit evidence of culturally-affirming practice was discussed thoroughly in only two of the reviewed studies, other studies included mention of culturally affirming practice or intended to increase culturally affirming practice in future recommendations. CPD programs' exemplary culturally affirming contexts are described, which include responding to cultural competencies and local leadership.

Cultural Competencies. The ERASE-Stress program, developed in Israel as a universal school-based resiliency intervention, was adapted for educators working with elementary students who experienced the Canterbury earthquake in New Zealand (Berger et al., 2016). More specifically, the program was revised to fit the local culture in general and reflect the norms and traditions of the Maori and Pacific minorities (e.g., Samoan and Tongan). Culturally sensitive dimensions for treatment interventions (i.e., language, persons, metaphors, content, concepts, goals, methods) were addressed. For example, since Maori culture is historically oral, the intervention was culturally enriched by encouraging participants to use storytelling and incorporating local traditional metaphors. The intervention also included Maori culture by incorporating Maori symbolic artwork to express feelings. Western concepts of mindfulness and compassion were translated into the concept of the Maori concepts of Noa encompassing safety and calmness and Aroha expressing kindness and sustaining love. The training incorporated local ritual welcoming ceremony of Karanga, Maori prayer of Karakia, and Maori song/chant Waiata.

Local Leadership. CPD programs collaborated with local leaders to design and facilitate culturally-affirming training. In some cases local leaders came from within participants'

institutions (Dane, 2000), or naturally occurring solutions demonstrated by existing staff rather than outside experts (Richter et al., 2012). In other cases, local leaders were professionals with experience training and leading activities (Grundlingh et al., 2017) or trainers who were at the highest level of certification for the Enhancing Trauma Awareness curriculum (Whitaker et al., 2019). Trainers also engaged in training (Grundlingh et al., 2017) and reflected on their own trauma history, EBS levels, and their comfort with training materials (Pence, 2011).

In the Ngatahi project targeting children's workforce practitioners, the program's vulnerable children's core competency framework was developed in partnership with the Ministry of Social Development's Children's Action Plan Directorate, Hawke's Bay District Health Board's Child, Adolescent and Family Service (CAFS), and leaders from education, health, and social services (Wills et al., 2018). In addition, experienced clinician-trainers were briefed by the Maori Health Unit staff before delivering training for CAFS. The CAFS staff completed their competency assessment with the Ngatahi framework and Real Skills Plus Child and Adolescent Mental Health Services competency framework (Werry Workforce Whäraurau, 2014) ahead of the rest of the workforce trainers were asked to provide feedback on integrating clinical and cultural competence. At the recommendation of the local leaders, the program provided a multiple-choice test and certificate on achieving a standard and used one-day wänanga (workshops) to practice new skills. These wänanga were co-taught by tuakana in clinical practice and tikanga Mäori which ensured clinical and cultural competence. Further, they partnered with the Werry Workforce Whäraurau and the Mauri Ora online program to provide knowledge content for each workstream, increasing accessibility and flexibility of training.

Berger and colleagues (2016) also led training and research in collaboration with hired professionals of Maori and Pacific descent. Professionals from the Whare Marie, Maori Mental

Health Service, the Transcultural Mental Health Service, and Health Pasifika Mental Health Service in Porirua with experience addressing the mental health needs of Maori and Pacific Islander people collaborated in the intervention design and implementation. The ERASE-Stress program also acquired professional and ethical approval from the Canterbury Earthquake Recovery Authority and the school's administration.

Ongoing or Multiple CPD Sessions

All the CPD programs to reduce EBS were based on multiple sessions or ongoing training. The 10 studies ranged from a compressed 2-day model to an intervention study over 4 years. Nonetheless, each study recognized that intellectual and pedagogical change to support youth-service providers shifting practice requires sufficient duration in professional development. While an exact duration necessary for optimal learning has not been calculated, research supports training that spans four months and includes 20 or more hours of contact time (Desimone, 2009), or an intense multi-day training with follow-up support (Forman et al., 2009).

The duration of the professional development programs included in this review varied widely and were reported inconsistently. CPD training for pediatric intensive care nurses included 20 hours in five sessions held across 3-months (Charlescraft el al., 2010). Another CPD program with youth welfare employees included 18-20 days of mandatory training over 3-years (Schmid et al., 2020). The Ngätahi project trained 441 children's workforce practitioners in multiple sessions over 3-years (Wills et al., 2019). Other studies employed less contact time during the CPD program, yet still provided multiple sessions for ongoing follow-up. For example, group debriefings were held in the Secondary Distress intervention for 6 hours over 3 consecutive sessions (Grundlingh et al., 2017), and educators participated in a CPD training for 24 hours across a 3-day workshop with 8 months of follow-up research (Berger et al., 2016). The

Enhanced Trauma Awareness course with preschool teachers and teaching assistants was delivered in 6 sessions over the 12-week intervention period for 2.5 hours every other week, or a total of 15 hours (Whitaker et al., 2019). Two studies provided less detail on the duration of the CPD program, including an updated trauma focus infused into an existing curriculum for child protective services case workers, which was delivered in 6 sessions over 7 months (Pence, 2011) and an intervention for pediatric nurses delivered in multiple sessions over 4 months (Richter et al., 2012).

Interestingly, two studies reviewed were testing relatively short versions of CPD training, and both found positive results for reducing EBS. A pilot program for child welfare workers that was developed based on focus group findings, implemented 14 hours of training across 2-days (Dane, 2000). A compressed version of a multi-session mindfulness-based stress reduction course with pediatric health care social workers was held over 2 full-day sessions (Trowbridge et al., 2017). Despite relatively condensed contact time in these two CPD trainings, each program was focused on providing meaningful context over multiple sessions with social workers who were pressed for time in their professional roles.

Curricular Factors

All the CPD studies reviewed described the curricula used to reduce youth-service providers' EBS.

Psychoeducational Knowledge of Trauma

Eight of the ten studies reviewed evaluated a CPD program based on a theory that building knowledge on the construct, impacts, and responses to trauma improves professionals' efficacy to identify and address trauma (Table 2). The topics covered by the knowledge building component of trainings included defining stress, burnout, grief, categories (i.e., circumstantial

and relational) and types (e.g., developmental, complex, etc.) of trauma including posttraumatic stress disorder (PTSD), EBS strains, compassion satisfaction, risk and protective factors, resilience and recovery (Charlescraft et al., 2010; Dane, 2000; Whitaker et al., 2019).

The curricular content of CPD programs also involved knowledge about how trauma can affect someone's emotions, behaviors, and biology. Programs sought to develop understanding of childhood trauma (i.e., ACEs), and their consequences, including links with emotion regulation, dissociation, and self-efficacy of the individual, trans-generational transmission of trauma, and impacts of trauma on caregivers (Pence, 2011; Schmid et al., 2020; Wills et al., 2018). For example, Whitaker et al. (2019) reviewed key parts of the brain, its response and adaptations to trauma (i.e., dissociation, somatization, and affect dysregulation), and the role of memory in trauma and trauma-triggers.

Several authors incorporated strategies to address trauma. Whitaker et al. (2019) distinguished the similarities and differences between trauma-awareness, trauma-sensitivity, trauma-competence, trauma-informed services, and terms used to identify those with trauma experiences (i.e., trauma-impacted person vs. trauma victim or trauma survivor). To prevent trauma, the program developed the following recommendations: rauma-aware and -informed professionals respond sensitively and avoid triggering unresolved trauma, promote emotional and physical safety, identify and meet the needs of trauma-impacted people and those who support them, and provide appropriate trauma therapies to promote healing. Wills et al. (2019) provided training sessions to children's workforce practitioners on assessing trauma, emotional regulation/dialectical behavior therapy, acceptance and commitment therapy, and family therapy supervision.

Self-Care Philosophy

Six programs offered methods to conceptualize and engage in self-care practices either explicitly or as resources (Berger et al, 2016; Charlescraft et al., 2010; Pence, 2011; Trowbridge et al., 2017; Whitaker et al., 2019; Wills et al., 2018). The depth to which self-care exploration occurred was dependent on whether the CPD aimed to address EBS explicitly. For example, child protective services case workers in a trauma training through a forensic child maltreatment investigation curriculum were given self-care resources and encouraged to seek assistance for secondary traumatic stress or trauma (Pence, 2011). Alternatively, the Promoting Self-care among Caregivers program led by Charlescraft et al. (2010) aimed to address compassion fatigue among nurses helped participants define and understand the context and cultural expectations of self-care in western culture, health care, and in their nursing context, to combat the feelings of selfishness caregivers may feel when they offer themselves care. In addition to the domain of culture, the nursing participants expanded their understanding self-care to also include personal, spiritual, and family domains. Participants explored their own beliefs and values in relation to theology and self-care using standard indicators of well-being and discussion of spiritual aspects. Each session sought to address healing and recovery from compassion fatigue by addressing integration of the mind, body, spiritual dimensions.

Trauma-Informed Practices Specific to the Profession

Foundational concepts necessary for the profession as it relates to EBS, including skills involving responses to their client and knowledge of institutional procedures were included in several CPD programs (n = 6; Charlescraft et al., 2010; Grundlingh et al., 2017; Pence, 2011; Richter et al., 2012; Schmid et al., 2020; Whitaker et al., 2019). Researchers in a program led by Grundlingh et al. (2017) included a session focused on using personal agency to constructively

address violence in communities. For child protective services case workers, this included training on research-based child investigative planning and interviewing protocols, influence of bias, understanding of child development and use of developmentally appropriate language, and trauma-informed practices necessary for the child welfare system (Pence, 2011). CPD for pediatric intensive care unit nurses included reflection on institutional responsibility for health care practitioners and moving towards a problem-solving culture in nursing units (Charlescraft et al., 2010).

Another program involving pediatric nurses, used videos to teach caregivers techniques to support feeding and comforting distressed children, the process of hospital admission, and the expectations they could have for nurses (Richter et al., 2009). Other programs also shared institutional knowledge about what is already in place to address trauma related issues and personnel. Trauma-informed care training for youth welfare employees reflected on institutional procedures for concepts like transparency, participation, good reason, and respect for individual needs of clients (Schmid et al., 2020). Teachers in a trauma awareness course were told to establish physical and emotional safety with students before debriefing or disclosure (Whitaker et al., 2019).

Instructional Factors

The third relevant factor of CPD programs aimed to support youth-service providers' EBS was instructional factors, in other words, the techniques and strategies used to deliver the CPD content. In addition to the context and curriculum, the 10 studies reviewed all discussed the mode of instruction as an influential factor of the CPD design, including group discussions, self-reflection, experiential learning, and self-care practice.

Group Discussions

All programs in this realist synthesis (n = 10) used group discussions as an instructional technique during CPD (Berger et al., 2016; Charlescraft et al., 2010; Dane, 2000; Grundlingh et al., 2017; Pence, 2011; Richter et al., 2012; Schmid et al., 2020; Trowbridge et al., 2017; Whitaker et al., 2019; Wills et al., 2018). Researchers in the CPD facilitated by Grundlingh et al. (2017) participated in group debriefings for secondary distress. These group discussions covered primary trauma encountered in their work and their reactions to their clients', in this case, research participants' stories. Through the discussions, the CPD facilitators aimed to normalize participants' reactions to distressing events. Group discussions were also used to share cases that affected them, the effects of violence on the long-term development of children, coping mechanisms, and to explore resilience in the midst of work pressures. Despite the lack of success of the intervention in decreasing EBS in this specific program, researchers speculated that the relatively higher levels of EBS scores on the intervention group may stem from heightened awareness of their symptoms from the debrief sessions.

CPD for child protective services case workers formed trauma-informed teams in small groups to evaluate sample cases of conducting investigation of physical abuse allegation (Pence, 2011). In the same CPD, after watching a video clip of a physical abuse investigation, group discussions reflected on worker safety and secondary traumatic stress to process the video clip. After listening to a sample 9-1-1 call, group discussion focused on the physiological and emotional responses of participants to the child's voice and statements. In another program for child welfare workers, small-group discussion format was used to evaluate cases using five senses (Dane, 2000).

Several other programs used group discussions for a variety of means. Educational staff members shared their earthquake-related experiences to gain support from colleagues (Berger et al., 2016), group based relational process was used to teach about the effects of trauma (Whitaker et al., 2019), and group discussions reflected on participants' experiences of self-care in their families and their experiences of self-care in the program (Charlescraft et al., 2010).

Self-reflection

Five studies incorporated self-reflection as an instructional strategy in their CPD program. (Berger et al., 2016; Charlescraft et al., 2010; Dane, 2000; Grundlingh et al., 2017; Pence, 2011) In one study with intensive care unit nurses, participants examined their current level of self-care, what expectations would be most beneficial and detrimental for enhancing well-being in their nursing unit and their family. There was also time to identify patterns of relational engagement increasing their risk of compassion fatigue. Participant nurses also identified self-care strategies for refreshment to mitigate the effects of compassion fatigue. Reflection was also used as a strategy for self-care, reflecting on blessings in their personal and professional lives, personality exploration, personal growth, and spirituality (Charlescraft et al., 2010). In a program for child welfare workers, participants evaluated their normative stress by assessing their symptoms of stress and coping skills. For example, the Paint Your Picture activity was used to develop a personal coping skill using a stress chart across five domains of children and families, supervision, colleagues, agency environment, and self. When trauma experiences were replicated in their work, they had opportunities to explore how they handled their stress and trauma (Dane, 2000). A CPD program for child protective services case workers recounted their feelings of distress they concealed during interviews with children describing abuse, seeing children with severe injuries in the emergency department, and other investigative tasks. After

seeing and hearing sample cases, participants processed their own reactions before investigating the learning points of the clips. Unlike their other ERASE-Stress training, in their training for educators involved in an earthquake, Berger et al. (2016) encouraged participants to process their personal and familial experiences of the trauma before engaging with training components intended to support their students. The trainers aimed to increase staff resiliency and teach them to effectively deliver the program to their students by supporting participants' processing of their own somatic, emotional, cognitive trauma-related experiences in a safe and supportive environment (Berger et al., 2016) CPD for researchers reflected on how the current experiences connected with group members' personal trauma histories and life experiences (Grundlingh et al., 2017).

Experiential learning

Five studies used strategies to engage participants in experiences and activities to solidify concepts (Berger et al., 2016; Charlescraft et al., 2010; Grundlingh et al., 2017; Pence, 2011; Richter, 2009; Richter et al., 2012). This included the action reflection model standard in clinical pastoral education, use of art as an expression of grief and loss, creation of a family genogram to reflect on family relationships, an extended retreat of 8 hours outside of the workplace to give participants more opportunity for reflection (Charlescraft et al., 2010), and experiential exercises demonstrating procedures teachers would implement with students (Richter et al., 2012).

Case vignettes in particular were used for trauma related skill-building practice. For example, a video clip of a physical abuse investigation and an intense audio clip of a 9-1-1 call made by a child witnessing domestic violence was used to debrief responses to the recording, discuss worker safety, and process secondary traumatic stress among child protective service case workers (Pence, 2011). In another CPD for nurses, video vignettes were used to illustrate

how the use of transitional objects with associations to the caregiver (e.g., facecloth) could be used to alleviate children's distress in the hospital (Richter, 2009). Another program used story-telling and the identification of emotional responses to the stories as an intervention strategy (Grundlingh et al., 2017).

In another program for teachers, participants engaged in simulations of teaching skills they needed to deliver to students (Berger et al., 2016). In this way, they were able to prepare to implement the program with their students in the classrooms by practicing and acquiring practical skills. In their post-earthquake setting, these skills included handling students' emotional difficulties as earthquake survivors. Among other influences, researchers of the EASE-Stress program believed that the active component of the training may have had greater impact on participants' efficacy in providing assistance to disaster survivors.

Self-Care Practices

Seven studies included practices to enhance coping responses, develop techniques for self-care, reduce the impact of secondary trauma, and support resilience (Berger et al., 2016; Charlescraft et al., 2010; Dane, 2000; Schmid et al., 2020; Trowbridge et al., 2017; Wills et al., 2019). Mindfulness based practices, where participants learned to bring awareness to thoughts, emotions, senses, and actions, included deep breathing, visual imagery, massage, music, prayer, yoga (Dane, 2000), meditation, mindfulness (Trowbridge et al., 2017), reflection, hand massage, breath prayer, centering prayer (Charlescraft et al., 2010), contemplative practices, and body awareness techniques (Berger et al., 2016). Some programs also used a variety of cognitive-behavioral treatment techniques including reframing (Charlescraft et al., 2010), challenging "faulty thoughts," "devil's advocate," "flexing thoughts," reframing thinking, and guided imagery (Berger et al., 2016). Only one study described advising participants to integrate new

skills into everyday practice (Wills et al, 2019), but it is possible that other CPD programs have done the same without including the detail in their reports.

A trauma-informed care training for youth welfare workers, facilitators incorporated an interpersonal aspect of self-care practice through one-to-one resilience hours, focusing on joy-filled interactions (Schmid et al., 2020). The training also included practices in emotion regulation, mindfulness, and social problem-solving skills (Schmid et al., 2020).

Discussion

Formulating a Cohesive Theory of How CPD Can Affect EBS

Because there are a limited number of studies that examine the effectiveness of EBS training, attention was focused on studies targeting a broad range of professions – social workers, nurses, teachers, researchers – who work with youth 3-18 years of age and report measured outcomes addressing EBS. In each of these professions, one's ability to continue to support youth depends on their ability to address the psychosocial needs of youth and maintain one's own mental well-being. Understanding the effects of trauma experiences on youth and its influence on the workers who interact with these individuals is complex, requiring training that supports their work and their personal well-being. Further, CPD inevitably operates at multiple levels and must be interpreted in their appropriate professional and community context. Though factors listed in Table 4 are non-exhaustive, they are useful for supporting a cohesive theory of how CPD can affect EBS.

The analysis supports a comprehensive theory of CPD that addresses EBS considers contextual factors, intentionally designs curricular content, before using a variety of instructional techniques to optimize the training for professionals who work with youth (Figure 2). Further, each of these elements are intended to support and protect the well-being of the professionals in

addition to providing them the tools to support the children and youth clients under their supervision. Several theories support this comprehensive theoretical framework.

First, the comprehensive theory suggests CPD programs benefit from being in the context of an institution and community that incorporates trauma-sensitive and culturally-affirming practices. Research on psychological safety (Edmonson, 1999) is well aligned with contextual, curricular, and instructional mechanisms that impact change in EBS among CPD programs (Cunningham, 2004; Miller, 2001; Pryce et al., 2007). Addressing personal stress by beginning with the known (Wilson, 1981), providing warnings and information concerning potentially intense training materials, designing trauma related curricula, and considering the adverse effects on participants was crucial for creating a safe space where professionals could discuss trauma, engage in personal reflection, and gain professional self-confidence. Particularly for individuals who may already be experiencing EBS or PTSD (e.g., veterans), vignettes, case studies, or audio/video media clips may be triggering and require safety in the group and time to profess personal emotional and intellectual reactions to trauma-related content (Agllias, 2012; Cunningham, 2003, 2004; Graziano, 2001; Newman, 2011). The establishment of institutional safety was also influenced by culturally affirming contextual mechanisms. The ERASE-Stress program, pulled from ecological validity and culturally sensitive frameworks (Bernal et al., 1995) to adapt their original program to Maori and Pacific minorities to address culturally sensitive intervention dimensions. This included incorporating local rituals, translating Western concepts into culturally relevant concepts, and incorporating regional languages, personnel, and concepts (Berger et al., 2016). One program cited the theory of appreciative inquiry (Cooperrider & Whitney, 2001) to make the case for making culturally appropriate content adaptations, assuming that the solutions necessary to improve the quality of service to community members

are already within the workforce (Wills et al., 2019). Further, the professional development organizers face a complex adaptive, rather than technical problem (Daly & Chrispeels, 2008), for developing a diverse workforce.

The focus on systemic measures to protect and address safety among those who are impacted by institution is critical. One program posited that the decreased stress among their participants may be the result of establishing emotional safety by promoting self-care on a personal and institutional level (Schmid et al., 2020). Trauma-informed systems recognize and respond to the impacts of traumatic stress on children, community members, professionals, and those who have contact with the system and work collaboratively to implement evidence-based practices to support resilience and recovery (CTISP National Advisory Committee, 2011) Providing self-care resources, addressing professional self-efficacy of the participants, reorganizing institutional processes to promote trauma-informed approaches were other methods for generating psychological safety in the studies. These institutional level changes include improvements to operational procedures (e.g., rules, documentation, admission, treatment planning), embedding understanding of trauma impacts, long-lasting allocation of resources, and commitment to building capacity for trauma-informed principles (e.g., staff training in trauma-informed practices, awareness of trauma triggers, attention to self-care). Professionals who work with youth not only need training to implement trauma-sensitive practices into their profession, but also need to be in a psychologically safe work environment that appropriately address their personal needs as adult learners.

Second, the comprehensive theory CPD programs includes curricular content on trauma related psychoeducation, knowledge of self-care philosophy and resources, and profession-specific skills and uses instructional techniques like group discussions, self-reflection,

experiential learning, and self-care practice. The curricular and instructional mechanisms incorporated in the studies align with theory of adult learning (Knowles, 1984). Studies used techniques of adult learning, including relational processes, active learning, and reflection to apply the knowledge acquired in the training. Active practice has been shown to benefit skill levels and perception of self-efficacy (Garet et al., 2001). One study attributes the active component of the training to have had the most influential impacts on participants' professional self-efficacy to provide assistance (Berger et al., 2016). This is consistent with findings in other studies among professionals who received treatment training through practice of practical skills (Amsel et al., 2005; Greenwald et al., 2003) Further, participants used their professional and personal life experiences as resources for learning, even applying their knowledge to current challenges in an outside of work. In fact, self-reflection is consistent with Miller's (2001) recommendations for teaching about trauma by normalizing the range of powerful reactions to trauma material and setting clear boundaries of safety for the training. Participants were given opportunities to reflect on what they have learned and its impacts through reflective sharing, discussion of readings, and reflective writing. Group oriented debriefing and storytelling strategies are not only beneficial for adult learners but also support the normal recovery process and adaptive functions (Mitchell & Everly, 2003). The technique has been used widely for the prevention of PTSD among first responders (Mitchell & Everly, 2003), nursing, emergency, and military personnel (Deahl et al., 2000; Mangone et al., 2005; Tuckey & Scott, 2014).

Experiential learning approaches that simultaneously strengthen professionals with personal coping skills and work-related dissemination strategies to support youth are important for CPD covering psychoeducational material. The ERASE-Stress program utilized the experiential learning approach in their work with teachers and students grappling with the

consequences of the earthquake (Berger et al., 2016). The program posited that the most effective method of disseminating a program could be to have teachers practice strategies in their own life and then teach others to do it. They theorized that this approach of strengthening and addressing stress in educators would not only enable effective and efficient learning but also provide participants with greater self-accomplishment, which increases their motivation to teach and develop training for others (Gelkopf et al., 2008). Further, these techniques for coping with stress and trauma, and the practice of coping and resiliency strategies can also be applied to other stressful situations. Similarly, stress and stress management interventions for nurses have found that increases in nurses' insight, understanding, knowledge and skills to work with severely ill children through training and support can support the quality of care delivered to hospitalized children (Edwards & Burnard, 2003).

Improving the Application of Psychoeducational CPD

Early research has shown that teachers' personal experiences are closely linked to their professional performance (e.g., Ball & Goodson, 1985; Goodson & Hargreaves, 1996; Acker, 1999). Certainly, teachers are influenced by their awareness of self (Richards, 2009), personal psychophysical well-being (Schussler et al., 2016), and the interaction between personal experiences and social, cultural, and institutional contexts (Day et al., 2006), in addition to the intellectual and emotional aspects of teaching. This link between teachers' professional and personal experiences and exploration of the vocation of teaching, has been explored by researchers (e.g., Palmer, 2017; Tompkins, 1990), their results suggest that the best teachers draw from the breadth of their personal and professional experiences in their practice.

This embodiment of personal experience in the professional personality of the individual is not unique to teachers, however. Personal practices, formal psychological interventions and

techniques with a reflective focus on the personal and/or professional development of a professional over an extended period, has been a core component in various forms of psychotherapy and counseling training (Freud, 1910). The rationale for this focus on personal practice stems from the idea that a leader can teach only as much as they themselves have learned or experienced (Donati & Watts, 2005). Thus, recent empirical data reveals effective therapists need skill development and competence incorporating both the personal-self and therapist-self (Bennett-Levy, 2019).

The key mechanisms found within CPD targeting EBS outcomes among professionals working with youth may have broader implications for a theory of psychoeducational professional development. Psychoeducational professional development requires an approach to training that is different from traditional CPD focused on professional skills for several reasons. First, unlike training that focuses on developing the professional's ability to apply skills necessary for their job, psychoeducational training cannot separate the individual from the professional. This means that the experiences of the professional may need to be addressed and their personal needs met before the professional can engage in training. For example, to train professionals working with children to identify maltreatment, facilitators may need to establish parameters to create an environment that is physically and emotionally safe and also be careful to address any potential triggers that may surface from professionals' personal experiences of maltreatment.

Secondly, self-reflection is a crucial component of psychoeducational training, requiring professionals to reflect on their personal selves with openness and honesty. This theoretical model of psychoeducational training assumes that all practitioners are changed by their work (McCann & Pearlman, 1990) and thereby need self-reflective tools to understand and respond to

these changes. In fact, psychoeducational training benefits from ongoing reflection and lifelong personal and professional integration. For example, anti-bias training for professionals often incorporates reflection on personal experiences and a critical understanding of how their environment may have shaped their interactions with others.

Limitations

This realist synthesis focused on 10 programs that met inclusion criteria in this review. A limitation of this review is that few empirical studies measure youth-service providers' EBS, and even fewer report their findings. Within the 10 reviewed studies, the low number of studies specific to each professional setting setting (i.e., two studies of teaching, two studies in the medical field, and one study with researchers), the limited data on contexts, and the variation in terminology, tools, and methods, made it difficult to identify which aspects of CPD programs were most effective, in which settings, and in what ways.

The analysis may be enriched by the inclusion of descriptive studies, theoretical papers, and gray literature. These aspects suggest that the field may not be mature enough for a thorough review. Similar to other realist synthesis of emerging fields (Denyer et al., 2008; Mazzocato et al., 2010), this review responded to this shortcoming by studying how CPD programs interact with contextual aspects common to helping professions who work with youth at a high level of abstraction through an interpretive process (Greenhalgh et al., 2007). It is possible for each intervention and the cohesive theory of CPD to work differently within each case.

Further, it is possible that reports of the programs omitted parts of the program, even though it was done, due to stringent journal requirements. Future research is needed to look at the detailed curriculum and instruction plans and its implementation on the field in order to understand all the mechanisms of the CPD. Future research that accounts for rigor of each study

and replicable findings or verify conclusions is also needed. In addition, including qualitative data from participant voices and fidelity data in the review and analysis of CBD with youth service-providers' EBS would benefit the field. Fidelity coding or observations may also be helpful to know if the personality of the trainers were a contextual factor of influence.

Conclusion

CPD addressing EBS among professionals working with youth have been applied in a variety of settings. Across programs, a theoretical framework for psychoeducational training based on a realist synthesis of ten programs suggests incorporating contextual factors that are trauma-sensitive and culturally-affirming, curricular factors that share psychoeducational, self-care, and job-related competencies, and instructional factors that incorporate experiential learning, group discussion, self-reflection, and practice of self-care strategies.

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Appendices

Table 1

Construct definitions, symptoms, and related terminology (Rauvola, 2019)

Construct	Definition	Symptoms	Alternate & related terms
Empathy-based stress	Experience of adverse psychological and/or physical reactions to trauma exposure at work, resulting from empathic engagement following trauma exposure	Symptoms vary, depending on the specific manifestation of strain (i.e., vicarious traumatization, secondary traumatic stress, compassion fatigue, other health outcomes)	"Risks and hazards" of caring work
Vicarious traumatization	Transformation of the "inner experience" of trauma-exposed individuals (McCann and Pearlman 1990; Pearlman and Saakvitne 1995)	Symptoms include worldview shifts, cognitive schema disruptions	Vicarious trauma; vicarious posttraumatic growth, vicarious resilience
Secondary traumatic stress	Stress reaction induced following exposure to traumatic material; PTSD parallel (Figley 1995)	Symptoms similar to PTSD, but from secondary exposure	Secondary traumatization, secondary traumatic stress disorder
Compassion fatigue	Acute, affective phenomenon engendering high levels of stress after trauma exposure (Figley 1995)	Symptoms parallel original trauma victim's (e.g., avoidance, hyperarousal, numbing, sleep disturbances)	Compassion stress; compassion satisfaction

Table 2

Search term combinations

Primary search term	Secondary search term	Tertiary search term
professional development	*compassion fatigue*	*child**
professional learning	*secondary trauma*	*pediat**
further education	*secondary traumatic stress*	*paediatric*
continuing education	*vicarious trauma*	*youth*
training	*vicarious traumatic stress*	*young*
		juvenile
		*adolescen**

Note. The search terms in the left-hand column were combined with each of the secondary and tertiary terms in the right-hand columns, resulting in 180 total searches.

Table 3

Professional settings in which CPD measuring EBS outcomes have been studied

Welfare/Social Work

- Dane (2000)* piloted an intervention for 18 child welfare workers
- Pence (2011) infused trauma training into an existing forensic child maltreatment investigation curriculum for 90 child protective services case workers
- Schmid et al. (2020) conducted trauma-informed care training for 47 youth welfare employees
- Trowbridge et al. (2017)***** conducted a Compressed Mindfulness-Based Stress Reduction (cMBSR) curriculum for 26 pediatric medical social workers
- Wills et al. (2019) launched the Ngätahi project for 441 children's workforce practitioners

Medicine

- Charlescraft et al. (2010)* piloted the Promoting Self-care among Caregivers program for 6 pediatric intensive care unit nurses
- Richter et al. (2012) created an intervention for 17 pediatric nurses

Teaching

- Berger et al. (2016)* delivered ERASE-Stress, a school-wide intervention with training for 63 educators
- Whitaker et al. (2019) used Enhanced Trauma Awareness course to train 38 preschool teachers and teaching assistants

Researchers

- Grundlingh et al. (2017) implemented Group Debriefings for Secondary Distress intervention for 53 researchers

Note. *Studies that showed positive changes in EBS outcomes.

Table 4

Process factors that seem to enhance efficacy of CPD that addresses Empathy Based Stress

Context ● Trauma-informed practices are modeled with participants (Charlescraft et al., 2010; Dane, 2000; Grundlingh et al., 2017; Pence, 2011; Richter et al., 2009; Richter et al., 2012; Schmid et al., 2020; Whitaker et al., 2019) ● Trainings are situated in the cultural context of the professionals and those they support (Berger et al., 2016; Wills et al., 2019) ● Ongoing CPD is offered over multiple sessions (Charlescraft et al., 2010; Richter et al., 2012; Schmid et al., 2020; Wills et al., 2019)
Curricular Content ● Psychoeducational knowledge of trauma (Berger et al., 2016; Charlescraft et al., 2010; Dane, 2000; Pence, 2011; Schmid et al., 2020; Trowbridge et al., 2017; Wills et al., 2019; Whitaker et al., 2019) ● Self-care philosophy (Berger et al, 2016; Charlescraft et al., 2010; Pence, 2011; Trowbridge et al., 2017; Wills et al., 2018; Whitaker et al., 2019) ● Trauma-informed practices specific to the profession (Charlescraft et al., 2010; Grundlingh et al., 2017; Pence, 2011; Richter et al., 2009; Richter et al., 2012; Schmid et al., 2020)
Instructional Technique ● Group discussion (Charlescraft et al., 2010; Dane, 2000; Grundlingh et al., 2017; Pence, 2011) ● Self-reflection (Berger et al., 2016; Charlescraft et al., 2010; Dane, 2000; Grundlingh et al., 2017; Pence, 2011) ● Experiential learning (Charlescraft et al., 2010; Grundlingh et al., 2017; Pence, 2011; Richter, 2009; Richter et al., 2012) ● Self-care Practice (Charlescraft et al., 2010; Dane, 2000; Schmid et al., 2020; Trowbridge et al., 2017; Wills et al., 2019)

Figure 1
RAMESES Flow Diagram (Wong et al., 2013)

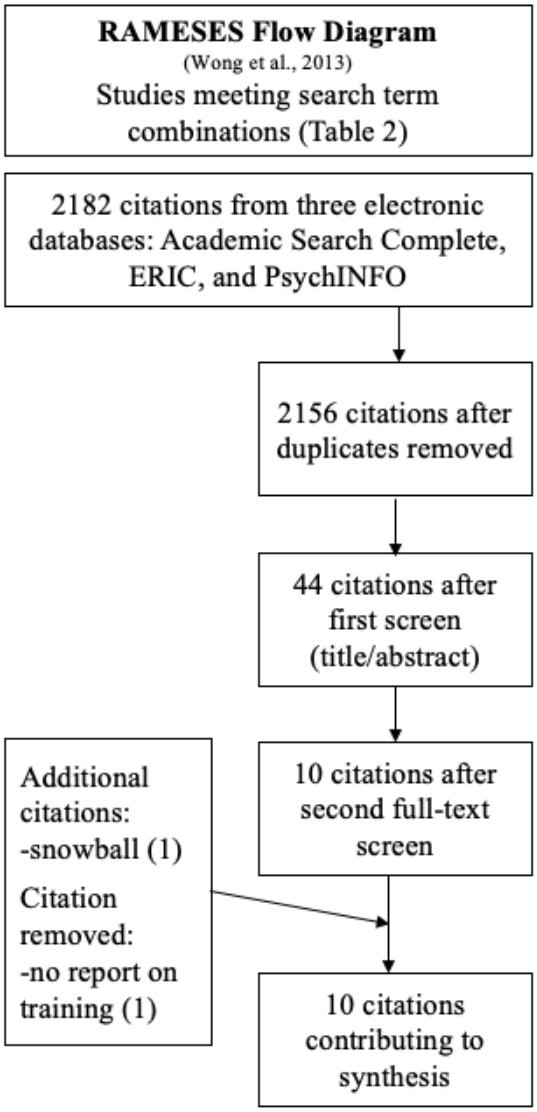

Figure 2

Psychoeducational Professional Development Theoretical Framework

Manuscript 2

At Risk of Trauma: The Exacerbation of Teacher Stress During The COVID-19 Pandemic

Helen H. Min & Patricia A. Jennings

Abstract

This interpretive qualitative study investigates teachers' meaning making of the COVID-19 pandemic and its impact on their well-being, their ability to teach, and their perceptions of, and interactions with, student well-being and learning. The aim of the study was to understand how teachers define stress and trauma within the context of the COVID-19 epidemic and then act on those meanings in their instruction. Further, this study aimed to understand the potential risks of ongoing secondary trauma exposure in educators. Virtual semi-structured interviews with 24 lead teachers in K-12th grade classrooms from across the United States explored how teachers respond to and make meaning of the impacts of the COVID-19 pandemic on them and their students. A strategy of analytic induction was used to generate five assertions with supporting evidence from the data corpus. The results of the study revealed that teachers understood their roles as encompassing that of an advocate who provides students access to resources, guardians who protect students' safety, and supporters who build meaningful relationships with students. Teachers revealed that particularly under the COVID-19 pandemic, preexisting stressors have been exacerbated and the demands to their roles have increased, thereby increasing teachers' risk of trauma. The results of this study add to what is currently known about the need to support teachers in an already stressful teaching occupation and examine strategies to mitigate the risks of trauma and secondary traumatization while supporting resilience.

Keywords: COVID-19, Coronavirus, pandemic, stress, trauma, teacher well-being, student well-being, teaching, learning

Introduction

EdWeek Research Center's survey of 1,720 teachers and school district leaders on April 8th, 2020 reported that 52% of participants were very concerned that students in their district will fall behind in math due to COVID-19 closures and 46% of teachers were concerned about students falling behind in English/language arts. The transition to remote learning has revealed gaping disparities among schools in the United States. Schools serving low-income students took longer to begin remote learning and were less likely to offer synchronous online classes because families lacked the technology to access courses (Kurtz, 2020). While the literature on the effects of the global pandemic on students is growing, we do not know how the above reports of experiences compare with teachers' lived experiences within the current context of the COVID-19 pandemic in the U.S.

This interpretive qualitative study aimed to understand how teachers make meaning of the COVID-19 pandemic and its impact on teachers' well-being, their ability to teach, and their perceptions of, and interactions with, student well-being and learning. It aimed to understand how teachers define trauma and stress and then act on those meanings in their instruction.

Background

Prior to the advent of the COVID-19 pandemic, teachers reported some of the highest levels of occupational stress among workers in the United States (Gallup, 2014). The pandemic added layers of additional stress and exposure to the pandemic's traumatic impacts on students, colleagues, and their own families (Steiner & Woo, 2021). Indeed, research conducted in December 2020 by the RAND Corporation found that most teachers who left the profession during the pandemic pointed to the stress of teaching as the main reason (Diliberti et al., 2021).

In this section, we review the literature on teacher stress and the secondary traumatic stress that they may experience as a result of interactions with trauma-exposed students and their families.

Stress

Conditions in the social and physical environment are deemed stressors if they are likely to be perceived as bothersome, harmful, threatening, or as placing a demand for physiological adaptational responses on individuals (Somashekar et al., 2020). Teaching is one of the most stressful occupations and teacher stress negatively impacts teacher performance and student outcomes (Greenberg et al., 2016). When teachers are faced with the demands of the classroom without adequate social and emotional competence to manage these demands, they may become emotionally exhausted, contributing to a cycle of classroom disruption and teacher emotional reactivity (Jennings & Greenberg, 2009). Before the COVID-19 pandemic, a majority of teachers reported that they experienced being under great stress several times per week (Gallup, 2014). The COVID-19 pandemic has dramatically impacted the well-being of teachers and students. The situation became so dire that a report compiled jointly by the American School Counselor Association and the National Association of School Psychologists (2021) appealed to district leaders to provide “psychological triage” for both students and staff due to the trauma and stress caused by the COVID-19 pandemic.

Allostatic load is the impact of stress upon neural, endocrine, and immune stress hormones, which can lead to “wear and tear” and enduring negative health effects on the sympathetic nervous system and immune system (Geronimus et al., 2020, p. 1175). The body physiologically responds with attempts to regain stability, or allostasis, when exposed to chronic stressors in the physical and social environments (McEwen, 2008). The weathering effect on individuals is intensified by exposure to ongoing and multiple stressors (Geronimus et al., 2006).

For example, in schools with a high population of students with high needs (e.g., poverty, disability, English Language Learners), teachers who are also parents may face increased levels of stressors from the COVID-19 pandemic as personal and professional responsibilities expand. These teachers who face the challenge of persistently high-effort work conditions and simultaneously competing family obligations in the same physical space may experience increased chronic stress leading to the wear of their allostatic load.

Trauma

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines individual trauma as the result of an event or circumstances that are experienced as physically or emotionally harmful and has "lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (2014, p. 7). Thus, trauma encompasses sudden one-time events such as natural disasters, school shootings, and death in the family, and also sets of adverse circumstances or experiences such as poverty or neglect. Based on this definition, COVID-19, as a global ongoing pandemic, may be considered a traumatic experience for many teachers and students. The risk of lasting adverse effects are greater, particularly for teachers and students who live in cities with high numbers COVID-19 cases, deaths, or hospitalizations, and/or live in homes that are disproportionately at-risk due to immunocompromised family members, crowdedness, or poverty.

Teachers' Roles

Teachers not only grapple with the stress and trauma that stems from the responsibilities of their own roles but are often the trusted adult figures privy to the experiences of stress and trauma among students and act as supports for these challenging circumstances faced by students. Classrooms, particularly during the COVID-19 pandemic, are prime locations to

identify students who have experienced adversity and trauma (Christodoulou et al., 2019). Compared to other mandated professional reporters of maltreatment, teachers spend more time on a day-to-day basis with children and they can directly monitor subtle changes in the child's appearance, progress, or uncharacteristic behavior that may accompany experiences of adversity (Hupe & Stevenson, 2019), abuse or neglect (Osofsky & Lieberman, 2011). As a result of daily interactions with students, teachers may have developed an intuition for monitoring students' well-being and risk of struggling at school or at home during the time of COVID-19. This knowledge of adversity among students not only influences the roles teachers take on for students, but also teachers' ability to cope with the emotional weight of their profession.

Secondary Traumatic Stress

Close relationships with students are intrinsically rewarding to teachers (Split et al., 2011). Teachers often become attached to their students and experience distress witnessing daily reminders of their students' hardships including abuse, neglect, divorce, house-hold danger, and poverty (Sizemore, 2016). These distress symptoms may be exacerbated by the knowledge or lack of knowledge of students' circumstances during the COVID-19 pandemic, compounded by teachers' own experiences of stress and trauma as a result of the pandemic. Berger and colleagues asserted that educators may experience symptoms of "dual trauma" in the context of major disasters as a result of primary trauma from the disaster itself and secondary trauma from working with traumatized students (Berger et al., 2016). Students often disclose trauma to their teachers, which may make teachers vulnerable to secondary traumatic stress and its associated symptoms: physical and emotional problems, behavioral changes, cognitive dysfunction, interpersonal isolation, spiritual uncertainty, and diminished professional performance (Hupe & Stevenson, 2019). Teachers who are exposed to students' accounts of trauma may develop post-

traumatic stress symptoms akin to first responders and child welfare workers (Borntrager et al., 2012). Similarly, disclosure of personal experiences of trauma from colleagues stemming from the COVID-19 pandemic may lead to increased stress and potential for secondary traumatization among teachers.

Research Questions

The present study aimed to understand how teachers define their roles as teachers, describe the stress and trauma that stems from their roles, and respond to their experiences under COVID-19 conditions. Further, this study aimed to understand the mechanisms that increase risk of trauma and secondary traumatization among teachers in the context of the COVID-19 pandemic. The study questions are:

1. How do participant teachers define stress, trauma, and their roles as teachers?
2. How are teachers responding to the stress, trauma, and demands of their roles under the COVID-19 pandemic?

Methodology

As demonstrated by the research questions, the present study aimed to understand how teachers make sense of and understand their occupational roles, define stress and trauma, and act on those meanings within their professional experiences during the COVID-19 pandemic. Since these questions emerged from a curiosity about the particulars of teacher meaning-making in the context of a pandemic-affected classroom and the research questions focused on understanding the process of particular actors making meaning within a specific context (Maxwell, 2005), an interpretive qualitative inquiry was deemed most appropriate.

Paradigm Assumptions

This study employed an interpretive paradigm as it was primarily driven by a purposeful desire to understand what was happening in a particular setting, how actors were making meaning, how natural occurrences unfolded, and what causal links may have influenced the relationships (Erickson, 1986). Subsequently, the epistemology, ontology, and methodology of this study was influenced by this interpretivist paradigm. This study documented the nuances of the impacts of the COVID-19 pandemic in each classroom, recognizing that meaning-in-action of teachers are formed by shifting demands of school leaders, their relationships with individual students, and teachers' own history of adversity, in addition to what appeared to be similar virtual learning environments. Though teachers may appear to have similar meaning interpretations due to culture and other learned systems for defining meaning, this study aimed to understand how the actions of teachers in the time of a global pandemic are influenced by the diverse meaning interpretations of the teachers themselves.

Description of Qualitative Research Strategy

The methodological assumptions advanced by interpretive research centers on the focus and intent of the research method rather than on research technique or procedure; therefore, the study employed the research strategy of analytic induction (Erickson, 1986). Analytic induction, as described by Erickson (2012), seeks to explain "which kinds of actions make sense, for which social actors, in which social situations" in a phenomenon among a small number of cases (p. 1461). The strategy of analytic induction involves examining data to categorize and determine relationships among categories, developing working assertion, or hypothesis, by scanning initial cases, then adjusting and refining them based on subsequent cases (Robinson, 1951). Discrepant data, or instances that disconfirm the initial explanation, are intentionally sought to revise the

original construct. A recursive process of examining the data and reformulating the assertion occurs until the analysis exhausts all instances that are typical and atypical.

This study aimed to develop an explanation for phenomena through a search for similarities and disconfirming evidence among a small number of cases. A content driven method was used, placing primary significance on issues of teacher meaning-perspectives and theory generation about teachers' understanding of changes in their roles after the start of the pandemic as the driving force for obtaining more nuanced understandings of the differences in how teachers reported and interpreted their experiences of teaching during the pandemic. The subsequent analytic induction was embedded within the interpretivist paradigm with aims to distinguish what is a universal explanation specific to all pandemic-affected participant teachers involved, and what is particular and local to a set of interacting factors by attending to the unique details of each teacher (Goetz & LeCompte, 1981). These meanings of actions local to a specific teacher and unique to a particular time were used as a validity criterion. The themes that were common across the teachers who participated in the interviews for this study may signal areas for future research to the extent their experiences reflect the experiences of other teachers.

Methods

The present qualitative study utilizes a subsample of a larger quantitative dataset to better understand the stress, trauma, and demands of their teaching role during the COVID-19 pandemic. Table 1 displays the characteristics of the teachers interviewed.

Participant and Site Selection

The dataset results from a survey of 123 full-time lead teachers in a K-12th grade classroom from across the United States by recruitment through a posted flyer on 267 social media accounts (e.g. Facebook, Instagram, and Twitter) between October 2020-January 2021 If a

state-wide account for teachers was not available, at least 2 social media accounts for teachers - one in an urban and another in a rural school district - in each state were contacted. The resulting dataset included demographic data, Professional Quality of Life Scale Version 5 (PROQOL-5; Hundall Stamm, 2009), consent to a future interview, and participant's email address.

Potential interview participants, who completed the aforementioned survey including the interview consent form, were contacted by email in April 2021 and offered a $25 e-gift card to participate in an interview. From those who responded to the email solicitation, interview participants were purposefully chosen to be invited based on their reported baseline stress score on the Secondary Traumatic Stress subscale (STS) of the PROQOL-5 (Hundall Stamm, 2009). The STS score was calculated as the sum of participants' responses to 10 subscale questions on the Likert scale (Hundall Stamm, 2009). The standardized scoring guideline groups responses in low (score of up to 22), average (score of 23-41), and high (score of greater than 42) groups. Potential interview participants with a range of STS scores were sought, the lowest scoring interviewee having a 0 and the highest scoring interviewee having a 39, to allow for a more balanced perspective of the full range of teachers' experiences. Participants were invited to be interviewed on a rolling basis until data saturation was reached at 24 interviewees (e.g., no new data emerged). As a result, 4 teachers in the low group (score of up to 22), 10 teachers in the average-low group (score of 23-31), and 10 teachers in the average-high group (score of 32-41) were chosen and interviewed.

Data Collection

Individual, semi-structured phone-call interviews were conducted using the voice-only recording option on Zoom to protect participant anonymity. Interviewees were asked up to 10 in-depth questions regarding their understanding of the teaching profession, definitions of stress and

trauma, and knowledge of and responses to students' trauma experiences. The 45-minute interview began with general, open-ended questions such as, 'What do you think is the role of a teacher?' and 'How would you define stress?'' In-depth exploratory questions such as, 'Could you talk more about that?', 'Could you give an example?', and 'Why?' were used to enhance the depth of the teachers' accounts as the interviews progressed. During the interview, the author recorded analytic memos on non-verbal data, such as the participant's tone, pauses, as well as the time of the interview. All recorded data was kept in a dual password encrypted folder in secure cloud-based servers, transcribed verbatim to ensure accuracy, then immediately deleted from devices. All reports of the research used pseudonyms to ensure privacy.

Data Analysis

The interview data were analyzed by the first author using an interpretive method of analytic induction (Erickson, 1985). Each interview transcript was coded with a pseudonym and devoid of background information, including scores on the ProQOL-5, before the review process began. The process of converting documentary resources to assertions began with a first reading of the verbatim interview transcripts, interview notes, and analytic memos page by page to gain a holistic conception of the content. Although the first author was not blind to the participants' STS scores, during reading and analyses of the interview transcripts these scores were not considered nor accounted for, as the research question sought general understanding of teachers' experiences rather than by baseline STS levels. Further, throughout the review process, it was assumed that local meanings and values are not self-evident in the data and that they cannot be generalized from one context to another.

Then during a second reading, key themes, patterns, and assertions about the teachers' understanding of their roles as teachers, impact of stress and trauma of teaching during a global

pandemic, and teachers' responses to the challenge of their roles were inductively identified. After the notes were organized into an initial draft of assertions, the documentary resources were systematically reread so that the assertions could be tested and reframed based on confirming and disconfirming evidence.

The new draft of assertions after the third reading were tested and reframed again through a systematic rereading of the documentary resources. The aim of the analysis and subsequent report is the demonstration of plausibility (Campbell, 1978). Thus, further investigation and testing of the assertions was repeatedly conducted to deliberately search for disconfirming evidence, frame assertions, and identify key linkages among various items of data. These key linkages identified patterns within each case that connected with the largest possible number of data sources. The iterative process of generating and revising assertions, seeking confirming and disconfirming data, and rereading documentary resources was repeated until no other disconfirming data and no new assertions surfaced.

Validity

Erickson (1986) maintained that there are various threats to the validity of an interpretive research study, including insufficient amounts of evidence, lack of variety in the kinds of evidence used, and inadequate account of disconfirming evidence. In order to minimize these threats to validity and to ensure the plausibility of the results, several safeguards were used.

First, to address the threat of having too little evidence to warrant certain key assertions, 24 interviews were conducted until no new information surfaced. Second, a range of sources were used, including verbatim interview transcripts, interview notes, and analytic memos, to warrant key assertions through triangulation. Third, the breadth of all sources were systematically read multiple times with the creation and reframing of assertions to intentionally

seek out disconfirming evidence. Sets of disconfirming instances were closely scrutinized and only the assertions that accounted for confirming and disconfirming interpretations were presented in the final analysis.

Researcher as Instrument

The primary author, who led the data collection and analysis process, is a former teacher of a Title I school. Her experiences directly linked to the phenomena she hopes to explore and explain influences the biases she has in conducting the investigation. Thus, she used a regular and ongoing process of research self-awareness through a reflexive journal and intentionally sought out disconfirming cases to check her biases throughout the study. Further, she selected interview candidates from a range of baseline STS scores to ensure that the sample was not skewed towards teachers already experiencing high levels of STS. The second author is a former teacher and professor of education who has studied teacher stress, the impacts of trauma on student learning, and trauma-sensitive approaches in education for many years. She is the author of a book recommending such approaches to school personnel (Jennings, 2018). She contributed to refining the theoretical framework, interpreting findings, and identifying implications of the study. While it is likely that the backgrounds of the authors influence the interpretations of the data, both authors made efforts to bracket existing biases or assumptions and narrate the relationship between teachers, students, and their experiences. Neither authors have a personal relationship with the participants in the study nor their schools. Our intention in this chapter is to give voice to the experiences of teachers during the COVID-19 pandemic and document the ways teachers make sense of and respond to the stress and trauma of their occupation.

Results

The assertions generated from the present study are grouped thematically in relation to 1) teachers' definition of stress, trauma, and their roles as teachers, 2) the changes in teachers' stressors, experiences of trauma, and their roles stemming from the COVID-19 pandemic, and 3) teachers' meaning making of the stress and trauma of their roles as teachers. The five assertions are outlined below, then discussed with supporting evidence from the data corpus.

- Assertion 1: Participant teachers defined the role of a teacher as not only academic but also one of an advocate, guardian, and supporter.
- Assertion 2: The COVID-19 pandemic has resulted in participating teachers' perceptions of increased chronic stress associated with allostatic load in an already stressful teaching occupation by increasing the demand on their roles as advocates and supporters while simultaneously decreasing their ability to be guardians.
- Assertion 3: Particularly for participant teachers who have been asked to teach in-person, the COVID-19 pandemic acted as a chronic stressor due to the lack of safety within and security of their roles.
- Assertion 4: The increased chronic stress put participant teachers at increased risk for trauma and secondary trauma.
- Assertion 5: Participant teachers have responded to the stress and trauma of their roles by defining what is within their control, making meaning of their circumstances, seeking the support of their community, and also feeling resigned to the overwhelming demands of their profession.

Assertion 1: Participant teachers defined the role of a teacher as not only academic but also one of an advocate, guardian, and supporter.

Participant teachers reported that the role of a teacher encompassed providing content knowledge, academic skills to guide students in learning, and non-academic functions as described below.

Advocate

As an advocate, participant teachers provided students with what they needed. In this role, teachers knew the needs of students in their developmentally appropriate stage and connected them with resources to meet physical, emotional, and academic needs. Teachers reported spending a lot of time helping students by connecting them with service providers or by being the resource for students themselves. For example, one teacher reported,

> We're kind of on the front lines where we see kids struggling with whatever problems, whether it's they need glasses, or they need a referral for special education services, or they need food, or they need financial assistance or they need a lawyer or whatever. (Donna[1], Interview, April 12, 2021)

Participant teachers explained that teachers have a responsibility to connect students with resources that are beyond content knowledge. Teachers saw their roles as one who advocates for the physical, educational, and socioeconomic needs of students.

Guardian

As a guardian, teachers addressed physical and emotional barriers to learning by keeping students safe. Participant teachers discussed safety in the classroom as a prerequisite for learning. Students must feel physically safe from harm, threat, and sickness and also emotionally safe to fail and take academic risks without being shamed or made fun of by their peers. Teachers closely monitored whether students were physically available for learning by making sure that they were not hungry or hurt. For instance, teachers in the study made comments such as:

> Being a parent at school is, I feel like, one of the biggest roles… that the kids feel loved and cared, that the students can come to me if there's any issues at all… just making sure that their basic needs are met so if they're hungry, you know, give them food or make sure that they eat their breakfast at the school. If they have a headache making sure that they drink water and if they're sick, making sure that their immediate physical needs are met. (Sally, Interview, April 17, 2021)

Sally affirmed this responsibility of a guardian placed on teachers – to identify and meet the basic needs of students. In addition, she elaborated that a part of her role as a teacher was to ensure that students felt they could trust teachers and could come to them with their issues.

Supporter

As supporters, teachers built relationships with students by observing students daily, getting to know them, and responding to students. Participant teachers reported a desire to create a classroom culture where students felt comfortable being themselves and expressing their opinions. Further, teachers monitored students' emotional needs to gauge whether students were emotionally available for learning. For example, one teacher said,

> A teacher's role really just focuses on the whole-- is someone who can support the whole child, and, you know, be ready to support a student with whatever they're facing, whatever they might be dealing with at home, or any sort of personal issues that they've got going on. Just someone who can support that students' needs… And just being able to build a relationship with a student. And, I mean for me those-- relationship building-- it's so important, and it starts from day one. (Nancy, Interview, April 19, 2021)

Participant teachers frequently checked-in with students, both systematically or generally to see whether students had any incidents in their personal or home lives that would distract them from

being able to focus in the classroom. Teachers repeatedly expressed that building relationships with students is fundamental to the academic success of students. By being a source of emotional support for students, teachers guided students in their personal growth, created emotional availability for learning, and established a trusting teacher-student relationship.

Assertion 2: The COVID-19 pandemic has resulted in participating teachers' perceptions of increased chronic stress associated with allostatic load in an already stressful teaching occupation by increasing the demand on their roles as advocates and supporters while simultaneously decreasing their ability to be guardians.

Even before the COVID-19 pandemic, participant teachers recalled facing ongoing stressors from high workloads, challenging relationships, and evaluations. Participating teachers reported stress stemming from the persistent workload of being a teacher. Often, these teachers took grading and lesson planning home after a full eight-hour work day and continued to plan and complete administrative tasks over the weekends. Teachers facing particularly challenging student behaviors explained that they experienced physical and emotional stress from engaging in conflict resolution in the classroom, breaking up fights in the hallways, and supporting students through circumstances spanning from relationship breakups to homelessness. Teachers who received inadequate support from administrators and parents felt overwhelmed about the number of students they were expected to support. These responsibilities included preparing students for multiple exams, classroom visits from administrators, and formal observations. If students' scores were tied to teachers' salary or ability to stay in their position, these exams became even more stressful.

After the pandemic began, some of the benefits of remote teaching were overshadowed by the challenges of adjusting to a virtual classroom. Benefits to teaching remotely included the

ability to easily incorporate stress management practices into the school day, gracefully interact with physically challenging students, and flexibly manage their teaching schedule. Other aspects of their remote teaching roles, like the expectation to complete the same amount of work at the same quality without the additional time, training, and flexibility necessary to teach virtually, increased their stress. Participant teachers, including those who taught special subjects like art and music and those with their own learning disabilities, were expected to convert all of their teaching materials to a virtual format in a short period of time and often with little training on the online platform. For teachers facing a high-stakes evaluation system, even the unstated expectation that students who were grappling with the consequences of the pandemic should not lose any curriculum caused additional stress among. Moreover, teachers felt more pressure to advocate for the needs of students and to support them emotionally without the ability to easily connect with students and keep students safe physically from the coronavirus.

Advocate

Teachers felt the added stress of advocating for the increased needs of students that have surfaced from the COVID-19 pandemic. For example, according to one teacher,

> Basic needs are a lot harder to meet because of the Covid pandemic… We're not face-to-face, so like, I can't ensure that my students are able to eat… making sure they have they've slept, or they're doing okay, or they check in about things, or the many different home situations that students often are able to have like private conversations with teachers - and like myself included - about, aren't necessarily as easy. So, I think making sure those basic needs are being met has been much more difficult in the virtual environment. (Rob, Interview, April 27, 2021)

Particularly at the beginning of the pandemic, many of the physical, social, and emotional resources students received at school were not available to them. Teachers reported that students struggled with challenges of being separated from their friends, their routines, and previously accessed learning modalities. This was particularly challenging as existing needs, like homelessness and hunger, were exacerbated by the pandemic. At the same time, teachers felt unable to meet these needs adequately because they were so physically disconnected from students. During the pandemic, teachers found it difficult to check-in with students or connect them with readily accessible resources.

Supporter

The demand on teachers to support students emotionally increased since the start of the pandemic, placing additional stress on teachers. For example, one teacher summarized,

> I have seen that students need support and I'm like, I can't be the one to give this to you and I don't know how to give you - or like, connect you with - the support you might need… Where is that line between being a therapist and being a teacher? And I think that line has been pretty unclear for my administration and so I'm going to say to them, 'I'm not a therapist. I do not feel comfortable with this, you need to be the people offering this kid support. It cannot be my responsibility anymore.' (Carol, Interview, April 20, 2021)

The additional stress of being a source of emotional help for students is evident in the way Carol recognized her limits and yet could not ignore the emotional need of students. Despite being unable to solve students' experiences of stress and trauma, participant teachers empathized with students and expressed a desire to provide emotional support. Teachers expressed feeling

saddened by the impacts of COVID on students and their families that force them to grow up faster and frustrated by their inability to help as much as they would like to.

Guardian

In addition to the stress of increased demand to be advocates and supporters, teachers have been unable to act as guardians for students. Participant teachers found it extremely challenging to connect with students through the limitations of a pandemic-safe classroom or keep them physically safe. The sense of exasperation can be felt through the following excerpt:

> You're so removed from your students. You realize how terrible teaching online and the online community is not what people need. I didn't feel a connection with those kids… It was so much disconnect during the pandemic, you know, and you felt disconnected from the people you teach with, the children, and the whole thing… I guess the disconnect, you could call it trauma. (Mr. Rogers, Interview, April 28, 2021)

Teachers who taught remotely through a synchronous virtual classroom found it nearly impossible to build relationships with students through the one-on-one meetings, side conversations, and individual support that was possible in an in-person classroom. Despite teachers' ability to email students and see them on a virtual platform, increasing student absences and the inability to get in contact with some students for months, initially caused stress and worry and then later a sense of resignation among teachers. Even in schools where resources officers visited students at their homes, participant teachers reported that some students and their family members did not answer the door. Teachers who taught in-person also faced barriers to building relationships with students in the time of COVID-19, due to the separation created by the plexi-glass dividers, the challenge of speaking clearly through masks, and the parameters for social distancing.

Teachers also faced the stress of being unable to keep students physically safe. Participant teachers who taught in a virtual or hybrid classroom found it impossible to ensure students' physical safety through their online platform. For example, one teacher explained,

> Another child was trying to cook by himself in the house. Seven. No way to ask them to stop cooking. While on a Zoom in school… the child wrote in the chat, 'I hate my life.' And then put up emojis of a gun. I almost had a nervous breakdown. (Susan, Interview, April 24, 2021)

The online platform not only gave teachers and students a window into the homes and lives of others, but also increased exposure to images and circumstances beyond the teacher's physical control. Participant teachers spoke of incidents where a mother unknowingly walked by the virtual classroom in her underwear, other students could hear their peer's parents fighting loudly in the background, and even alarming situations where cases had to be reported to child protective services. Teachers struggled to contact their students and had to combat the helplessness of being unable to physically keep their students safe. Teachers who had more students than the number of video squares that could fit on one screen felt particularly nervous about their ability to monitor the academic progress and physical safety of all students at once.

In addition to bearing the responsibility of keeping students safe from physical harm, teachers who came back to teach in-person felt responsible for keeping students safe from a virus they could not see. The stressors included the concern over whether they had done enough to keep themselves, their families, students, and students' families safe, even after investing their own funds on buying gloves, personal protective equipment, masks, and an air filter. Teachers with administrators whose coronavirus policies did not match the needs and precautions of the teachers faced additional stress. One teacher explained,

> Social distance which we ignored in our school… You walk down the hall, and I can tell 15 kids to pull their masks up and stuff like that. It just, it wasn't a message that was very strong. And ventilation - we were told in no way should we ever open our windows… If I open my door to get ventilation and there's an active shooter in the building, then I have that much less time to close my door. (Ed, Interview, April 13, 2021)

As the excerpt describes, Ed faced a dilemma of keeping students safe from both a tangible physical threat – a potential active shooter – and a threat that was not visible – the coronavirus. This stress of making the responsible decision for students in his classroom was compounded by the stress of the context of his school administration, who had not enforced protocols to keep students safe from COVID-19. Further in the interview, Ed also expressed the stress of potentially taking the coronavirus home to his family and children.

Assertion 3: Particularly for teachers who have been asked to teach in-person, COVID-19 pandemic acts as a chronic stressor due to the lack of safety and security of their roles.

Teachers felt unsafe personally, for their own families, their students, and students' families, due to high risk for exposure to COVID-19 from schools. Teachers who were asked to teach in the classrooms feared that being in person with students could negate all the work they have done to protect themselves and their families from the virus. For example, one teacher remarked,

> The level of stress was incredible while I was Zooming and they were all there. And then I came back [to school] and the level of stress - what I thought was a 100% - was now 1,000,000% because I, not only can I not feel my feet on the ground, I was afraid to take a deep breath because I'm in a room. Literally if you can't breathe, take a deep breath, then, how do you ground? You can't. (Jojo, Interview, April 18, 2021)

At the beginning of the pandemic, participant teachers faced extreme threats to their personal safety due to the airborne nature of the coronavirus and the lack of vaccines. Teachers who were immunocompromised or had family members living in their homes with preexisting conditions felt particularly challenged and vulnerable teaching in-person. Teachers in low-resourced school districts without funding for supplies like soap, toilet paper, heating, or air conditioning, felt unequipped to manage the budget demands to address protective measures against the coronavirus.

In schools where participant teachers had no choice but to teach in-person, teachers expressed increased concern about contracting the coronavirus and stress over potentially losing their job if they could not be in-person. Demoralization was particularly pronounced among teachers who taught in unsupportive school environments that did not respond to the needs of teachers. One teacher expressed,

> Our school has been in session the entire time. We've had six different schedules… We've ignored all the quarantining rules. We've ignored transmission rates. We've had outbreaks in school that we've been told they're not outbreaks. And I realized that if I die tomorrow, they'll fill this seat by Monday. And that my value was that I was no longer valued. (Ed, Interview, April 13, 2021)

For Ed, the compounding stressors of ever-changing schedules, dismissal of quarantine guidelines, and mistrust of the administration culminated in a sense that his role as an individual and teacher was not important. Similarly, teachers who taught in schools experiencing declining attendance, increasing budget cuts, and frequent cuts in staff experienced discouragement and fear that they may lose their position.

Assertion 4: The increased chronic stress put teachers at risk for trauma and secondary trauma.

The compounding stressors of the actively changing professional expectations, increased emotional needs of students, and need to keep their own lives and emotions afloat strained teachers' capacity. Participant teachers were aware that the persistent demands of their occupation, coupled with the uncertainty of the outcomes of the coronavirus pandemic on students and schools created a circumstance ripe for trauma or burnout. One teacher observed,

> For teachers who are teaching in-person without proper protection or without proper protocol in place, like the fear of getting sick, and the fear of dying and, like the trauma that could be possible in like, being afraid of your students, instead of being able to like to be nurturing or connected to your students… Or, like, I might get sick and like that feeling of helplessness of being forced into a situation that feels unsafe, because when you have like 30 plus kids in a classroom and they're all like licking each other and like taking off their masks and like picking their noses, it is a scary, scary experience for some people. (Carol, Interview, April 20, 2021)

Teachers who taught in-person discussed a fear of potential death of themselves or their loved one from the virus contracted from their classroom. Since teachers found relationship building a critical part of their role and an element of teaching they enjoyed the most, it was difficult to be inhibited by the fear of contracting the coronavirus from making more connections with students. These ongoing fears and threats to their lives may result in trauma for teachers who taught in-person during the COVID-19 pandemic.

Participant teachers also discussed the compounding stress that occurs when "the little things pile up." These things included increasing workloads without adequate time, monitoring

student behavior on the mask policy, and managing fluctuating demands of the workplace, while tracking their personal health, teaching academic skills over a new virtual platform, and maintaining care for themselves. These factors intensified in hybrid teaching because teachers managed two jobs simultaneously, addressing students both online and in-person. The severity of teachers' new workloads and shifting demands increased the vulnerability of teachers, thereby placing more teachers at risk of trauma.

The increased levels of chronic stress also placed teachers at risk of secondary trauma. Teachers not only faced the demands of teaching in a new virtual format, they also encountered the added challenge of supporting the emotional needs of students and witnessing the difficult circumstances of their colleagues. Participant teachers learned about the hardships experienced by students and their families during COVID-19 through contact with students and families, conversations with school administrators and counselors, and reports from other students. Teachers also heard about the various challenges faced by their colleagues, including the death of family members from the coronavirus. Though these events may not have happened to the teachers themselves, it added to their stress, increasing the likelihood of secondary traumatization. One teacher explained,

> I think even if I'm personally not involved in some of these traumatic events - like, I'm not there when something takes place - I think hearing it second hand or rewatching a video, I think that can be equally - not, maybe not equally but - just as traumatic or still have a stressful or negative impact on someone. So I think in my situation, like when you're playing this role for all these students - of a teacher, and role model, and mentor, and therapist, like I said, I think there's all these different roles the teachers play - I think it can be super stressful. (James, Interview, April 28, 2021)

Though the pandemic hindered teachers from knowing their students as deeply as in previous years, teachers cared for their students and felt saddened by the circumstances of adversity faced by their students. Teachers who heard of the challenges faced by their students or colleagues were affected by the news, even calling the knowledge of such adversity among their students or colleagues "trauma." Further, the wear on teachers' roles as advocates, supporters, guardians from the pandemic may have increased their vulnerability to secondary trauma.

Assertion 5: Participant teachers have responded to the stress and trauma of their roles by defining what is within their control, making meaning of their circumstances, seeking the support of their community, and also feeling resigned to the overwhelming demands of their profession.

Through the roller coaster of emotions and changes that have ensued since the COVID-19 pandemic, teachers adapted by managing the stress and trauma of their roles in various ways.

Define What is Within Their Control

Teachers reported responding to the stress and trauma of their roles by understanding what is within their control. For instance, one teacher summarized,

> I can't control a pandemic. I can control what happens in front of me. I can control how I respond to the students in front of me. But I cannot control what the county tells me I can and can't do. (Sarah, Interview, April 15, 2021)

Participant teachers recognized that while they could not control the pandemic or the impacts of the pandemic on themselves or their students, they could control their relationships with students and their approach to teaching content. Teachers also included basic self-care strategies as a response to stress and trauma of teaching. These included eating and sleeping regularly, physical exercise, maintenance of hobbies outside of their profession, and attending to their own spiritual

and emotional needs through religious or therapeutic means. Some teachers researched how to support students through traumatic and stressful situations, even enrolling in a degree program that provided classes on psychology and history to better understand and support their students.

Make Meaning of Their Circumstances

*Participant t*eachers have also worked to make meaning of the stress and trauma of the COVID-19 circumstances. This included a sense of gratitude for their health and the health of their families, an ability to not take things personally when students were unresponsive, and reflection on issues they had previously ignored. As an example, one teacher commented,

> I knew it was temporary and I was never going to have this experience again, so I tried to get as much out of it as I could. And you know, being with my pets at home, and things like that, and having my students meet my pets, and they even learned my routine. I kept telling everyone, “We're having this experience together that no one's ever had and nobody will have again.” And I said, “It's really special I get to share this with you.” And I have really been counting my blessings because I have some colleagues who are not handling the pandemic well at all. (Betty, Interview, April 24, 2021)

Participant teachers wanting to make meaning of the stress and trauma of the school year under COVID-19 pandemic took time to savor each moment as opportunities to be with the people they love. These teachers recognized the extreme nature of the abnormal school year and thus extended more grace to their own shortcomings, the efforts of students, and the challenges of the administration.

Seek the Support of a Community

Participant teachers also addressed the stress and trauma of their roles as teachers by seeking the support of a community. These communities extended outside of their school to

friends, family, other teachers, and community members. Teachers experienced tremendous encouragement from the support of other teachers. One teacher noted,

> I talk to other teachers. We have meetings with our grade levels and the people that we work with, our grade level whole team. I really try to not take all of this, you know, internalize it and obviously, as a human, you do you do feel - you take some of it on, inevitably you internalize some of this - but we do a lot of community building in our school. We really have time to bounce things off of each other and speak and share. (Melissa, Interview, April 18, 2021)

In the midst of challenging and ever-changing circumstances of teaching in the COVID-19 pandemic, teachers found one of the best resources for mitigating stress and trauma to be one another. Teachers engaged in open and honest conversation about the discomfort of the school year, the stress of managing COVID-related student behavior, and the difficulties of personal challenges with others in similar situations.

Resignation

While participant teachers responded to the challenges of teaching during the pandemic by defining what is in their control, making meaning of their circumstances, and seeking the support of their community, they recognized that other teachers have struggled to respond or manage the increased levels of stress, ultimately moving on to find other roles. One teacher expressed,

> We have so many long-term subs in the building I don't even know where the teachers are going but they're leaving positions, so many positions posted we can't get them filled… Right now, it's survival for everyone. No one’s surviving. Just like being tired.

> Being, like barely able to keep your head above water, doing what you need to survive. (Mary, Interview, April 22, 2021)

While none of the interviewees quit their teaching jobs during the study period, participant teachers acknowledged that many of their colleagues felt a sense of resignation, frustration, apathy, and anger. The sense of overwhelm and burnout, coupled with their desire to survive the abnormal year reflects the complexity of factors that contribute to teachers' responses to the stress and trauma of their roles. Considering the high rates of teachers leaving the profession during the pandemic as observed by participant teachers and evidenced in the literature, it is possible that many teachers who had already resigned from their teaching profession chose not to participate in the interview.

Discussion

The results from the present study revealed that teachers understood their roles as one beyond the academic. Teachers engaged in roles as advocates who help provide students access to resources they need, guardians who keep them safe, and supporters who strive to build relationships. Particularly under the COVID-19 pandemic, existing stressors have been exacerbated, creating more demands on teachers to be academics who can teach on a virtual platform, advocates who can meet the growing needs of students, and supporters who can help students emotionally, often without any direct physical contact.

The increased chronic stress among teachers during the COVID-19 pandemic, particularly those who have been asked to teach in-person, have increased teachers' risk of trauma and secondary traumatic stress. Due to the challenge to fully protect students from the unpredictable outcomes of the COVID-19 pandemic, teachers faced heightened levels of stress and worry for the overall well-being of their students. Teachers explained that in order to address

the stress and trauma of their roles, they have sought support from their community, made meaning of their challenging circumstances, and defined what is within their control.

These findings are consistent with previous research about teachers' understanding of their roles as teachers. Researchers have found that teachers' roles not only encompass those of subject matter and pedagogical expertise (Beijaard et al., 2000), but also framed by a moral purpose that links their actions with a rationale for why they do it (Bosso, 2017; Mockler, 2011). Indeed, most teachers view teaching as a vocation, their belief in the moral mission of teaching and interactions with students a fundamental source for their passion for teaching and a central feature of their professional identities (Bosso, 2017). In a similar way, teachers' identification of their roles as advocates, guardians, and supporters in the present study may stem from their commitment to 'do good' or 'make a difference' in the lives of students. The findings affirm that this commitment to students' academic growth and well-being is relational and emotional, demanding attention and energy from the teachers to be attuned to their students' progress, emotions, and needs (Bosso, 2017). Interestingly, Ben-Peretz, Mendelson, and Kron (2002) noted that the teaching context influences teachers' identification with certain roles; more specifically, teachers of low-level classes were more likely to identify with the caring image of teachers. This suggests that further research might help shed light on how contextual factors shape the development of teachers' roles and identities.

In addition, the findings are consistent with existing research on helping professionals who support others through times of crisis. Studies of nurses living in countries facing chronic terror and war consistently indicate that ongoing demand for psycho-educational guidance from traumatized children and parents on a large scale has contributed to vulnerability and risk for secondary traumatization (Berger & Gelkopf, 2011; Palgi et al., 2009). Similar risks and

increased likelihood of developing secondary traumatic stress symptoms have been found among mental health care workers (Collins and Long, 2003), social workers (Naturale, 2007), relief workers (Bilal et al., 2007), and physicians (Huggard, 2011) who grapple with the allostatic load of ongoing and multiple stressors. Teachers in our study have verbalized similar vulnerabilities, adding support to the literature that teachers who share in the trauma of children in their care are burdened with attuning to the mental health needs of themselves and their children (Berger et al., 2016; Saakvitne, 2002). Similar to existing literature of teachers who live in disaster affected communities and support traumatized and bereaved students, the teachers in our study have expressed increased emotional, cognitive and physical stress responses that, without attention, may lead to secondary traumatic stress (Alisic, 2012; Hydon et al., 2015).

The findings also showed that teachers have responded to the stress and trauma of their roles in ways that may support resilience and recovery. Studies suggest that higher use of personal self-care strategies mediates burnout, secondary trauma, and mental health functioning (Bober & Regehr, 2005; Salloum et al., 2015). Similarly, participant teachers engaged in personal self-care activities to define what is within their control, which may have enhanced their ability to manage work related stress. Further, our findings that participant teachers sought to make meaning of their changing circumstances are consistent with scholarship on resilience. Meaning making (Grych et al. 2015; Keirg, 2019), focusing on gratitude (Chesak et al., 2019), and openness to the present experience (Turgoose & Maddox, 2017) have been associated with resilience. In addition, support from friends and family, debriefings with colleagues, and quality professional supervision have been shown to buffer the negative effects of job stress among counselors (Tehrani, 2007), child welfare workers (Rienks, 2020), and social workers (Pulido, 2007). In a similar way, participant teachers who have drawn support from the community of

teachers experiencing similar challenges of remote teaching and pandemic related stressors, may have reduced their stress levels, which helps alleviate the risk of primary and secondary trauma.

Limitations

There are several limitations in this study that suggest opportunities for further research. One limitation is that the first author was not blind to the participants' STS scores. While the scores of the participants were not labeled on the interview transcripts or on any of the documents reviewed in the data analysis process, it is possible that previous knowledge of the teachers' STS score may have influenced the results. Alternatively, a different analytic strategy of generating assertions within the low, average-low, and average-high STS scoring groups may help delineate whether differences in perception were present.

Another limitation is the lack of interviews with teachers who do not use social media or who recently left the teaching profession. Though interviews were conducted until data saturation was reached, it is possible that teachers who are less likely to use social media during the school year or not have a social media account at all, have discrepant experiences of teaching during the coronavirus pandemic. Further, it is possible that teachers who recently left their roles as lead teachers may have vastly different understandings of their roles as teachers and experiences of stress and trauma. Interviewing these candidates may contribute to our understanding of teaching during a time of crisis similar to the pandemic.

Lastly, the results are limited by the time frame in which the interviews were conducted. The results of the study are bound to the unique intersection of time, circumstance, and people. It is possible that teachers' definition of their roles as teachers and their response to the stress, trauma, and demands on their roles under the COVID-19 pandemic may have shifted and

changed since the interview. A follow up interview with the participants may generate important understandings and more nuanced reflections on the research questions.

Implications and Future Directions

Despite the limitations, the results have implications for understanding teachers' occupational well-being, especially when schools are faced with extremely stressful events such as the COVID-19 pandemic that lay additional unexpected demands on teachers. By highlighting teachers' perceptions of increased stress associated with allostatic load, the results of this study add to what is currently known about the need to support teachers in an already stressful teaching occupation and examine strategies to mitigate the risks of trauma and secondary traumatization while supporting resilience.

These results suggest that school leaders and policy-makers may need to provide additional resources to teachers in the form of professional development and back-up support systems to help buffer against the added stress and to prevent secondary traumatic stress from overwhelming teachers during times of crisis. Professional development that not only teaches content about the impacts of trauma experiences on students but addresses the social and emotional needs of teachers and accounts for teachers' personal experiences of past and present adversity may bolster the efficacy and resilience of teachers. Moreover, multi-dimensional and integrated whole school support systems for both students and teachers that promotes well-being and aims to prevent undue stress may help reduce risk factors that lead to trauma and secondary trauma. These systems may include regular mental health monitoring for students, clear processes and partnerships between teachers and mental health professionals to address concerns, ongoing training and supervision for teachers and staff to identify and refer students who need additional support, and on-the-job confidential psychotherapeutic support for teachers and staff

in times of crisis. Notably, more programs, training activities, and personnel alone may have little impact apart from a culture of care that promotes compassionate camaraderie among educators, provides a balanced workload that gives time for self-care, and supports teachers' development of self-awareness and stress management. An infrastructure that is mindful of social and emotional needs of teachers, staff, and students and ensures their physical, emotional, and social safety may be a critical component of developing a trauma-informed system. Further research may clarify exactly what strategies and approaches would be most effective to support teachers during crises in the future.

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Appendices

Footnote 1
All names reported in this study are fictitious

Table 1
Teacher interview participant self-reported demographics

		n	%
Gender			
	Female	19	79.1
	Male	5	20.8
Race			
	White	19	79.1
	Asian	2	8.3
	Multi-racial	1	4.1
	Hispanic/Latinx	2	8.3
Grade levels			
	Kindergarten – 5th grade	8	33.3
	6th – 8th grade	6	25
	9th – 12th grade	10	41.6
Subjects taught			
	General education	19	79.1
	Special Education	3	12.5
	Specials/Electives	2	8.3
School type			
	Public	23	95.8
	Private	1	4.1
School economic status			
	Teachers in Title I schools	14	58.3
	Teachers in non-Title I schools	9	37.5

No response	1	4.1
Years of experience		
1-7 years	9	37.5
11-14 years	8	33.3
19-32 years	7	29.1
Secondary Traumatic Stress range		
Low (score of <22)	4	16.6
Average-Low (score of 23-31)	10	41.6
Average-High (score of 32-41)	10	41.6

Manuscript 3

When Traumas Intersect: A Mixed Methods Examination of Teachers' Adverse Childhood Experiences and their Professional Quality of Life

Helen H. Min, Dennis Williams, Allison Rae Ward-Seidel, Analia Marzoratti

Abstract

This explanatory sequential mixed methods study examines the relationship between teachers' response to teaching challenges and benefits, perceptions of the experiences of adversity among students, Professional Quality of Life (ProQOL; i.e., compassion satisfaction, burnout, and secondary traumatic stress), and their personal history of Adverse Childhood Experiences (ACEs). After collecting and analyzing quantitative survey data from K-12th grade lead teachers across the United States (*N*=368) using multiple ordinary least squares regressions, qualitative semi-structured interviews (*N*=24) explored how teachers with different levels of ACEs (0, 1-3, and 4+) discuss their roles as teachers and make meaning of the experiences of stress and trauma among their students. Interviews were analyzed using a poststructuralist interview analysis strategy. Integration of the quantitative and qualitative results revealed that majority of teachers experienced moderate levels of secondary traumatic stress. Teachers who were more concerned with their ability to support students facing adversity were more likely to experience secondary traumatic stress and burnout symptoms. Teachers with a larger number of Adverse Childhood Experiences (ACEs) were more likely to experience secondary traumatic stress and burnout. Teachers in the high ACEs group (4+) most often identified their roles as encompassing social and emotional supports that are often unnoticed and responded to the experiences of adversity among their students with empathy. The results of this study suggest that trauma-informed approaches that support the whole teacher is necessary for sustaining a culture of care in schools.

Keywords: Professional Quality of Life, Adverse Childhood Experiences, secondary traumatic stress, compassion satisfaction, burnout, teacher identity, teacher role, teaching

Introduction

Teachers' personal experiences influence their attitudes, approach, and decision-making in the classroom (Klausewitz, 2005). Teachers have reported that excitement, stress, or sadness from their personal lives influence their energy and motivation to teach (Day et al., 2006). This may include not only concurrent events that arise during the academic year, but events that have happened in the teachers' personal life even before they started teaching. Adverse experiences in childhood may have an impact on teachers' dispositions or interactions with students. Particularly during the COVID-19 pandemic, the lines between the personal and the professional overlapped, providing opportunities to explore how teachers' personal experiences may shape their perceptions of their professional roles and their students' experiences while they provide emotional and instructional support.

The purpose of this explanatory sequential mixed methods study is to examine the influence of teachers' personal experiences on their attitudes and perceptions concerning their teaching practices. The first part of the study examines whether teachers' perceptions about the challenges and benefits associated with teaching, their perceptions of the extent of their students' experiences of adversity, and their history of personal adversity were associated with measures of their professional quality of life. These measures include teachers' job-related exhaustion or detachment (burnout), their satisfaction with the emotional environment of their workplace (compassion satisfaction [CS]), and their degree of stress in response to their students' experiences of trauma (secondary traumatic stress [STS]). In the second part, interview data will be analyzed to evaluate whether teachers' past experiences of adverse, traumatic events (ACEs) had any influence on their professional experiences, given teachers' increased exposure to trauma in the classroom (Gewertz, 2020).

Relevant Literature and Theoretical Framework

The Whole-Person Teacher

Early studies have indicated that teachers' personal experiences are intricately linked to their performance in their profession (Ball & Goodson, 1985; Goodson & Hargreaves, 1996; Acker, 1999). Beyond the intellectual and emotional aspects of teaching, teachers' knowledge of themselves (Richards, 2009), their psychophysical well-being (Schussler et al., 2016), and the interaction between their personal experiences and social, cultural, and institutional environment (Day et al., 2006) contribute to their professional experiences. Some researchers have extended this relationship between teachers' personal and professional experiences, suggesting that the most effective teachers draw on the diverse intersection of experiences that constitute their identity in their teaching practice (Palmer, 2017; Tompkins, 1990; Petrone & Stanton, 2021).

Trauma and Adverse Childhood Experiences

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), trauma is defined as the result of an event or situation that is experienced as physically or emotionally harmful, with lasting negative effects on an individual's functioning, as well as their mental, physical, social, emotional, or spiritual well-being (2014). Traumatic experiences can range from sudden, one-time events such as natural disasters or deaths in the family to ongoing circumstances such as poverty or neglect. They can also have long-lasting negative consequences for individuals or communities. Severe exposure to death, serious injury, or sexual violence may result in persistent symptoms diagnosed as Post-Traumatic Stress Disorder (PTSD; American Psychiatric Association, 2013).

One measure serving as a proxy for the risk of trauma and its associated consequences is Adverse Childhood Experiences (ACEs). The original ACEs study found that individuals with an

ACE score of 4 or more were significantly more likely to suffer from chronic health problems, mental illness, and substance misuse in adulthood compared to those with a score of 0, revealing a dose-response relationship between the number of ACEs and adverse health consequences (Anda et al., 2008; Felitti et al., 1998; Felitti, 2002). A recent survey conducted by the Center for Disease Control and Prevention (CDC) found that 62% of 214,157 individuals in the United States between 2011-2014 had experienced at least one ACE, and 16% had experienced 3 or more ACEs (Merrick et al., 2018).

In educational settings, more than an average number of teachers and students are likely to face the consequences of adversity and trauma. Indeed, in a study of 349 early care and education teachers, Hubel et al. (2020) found that 73% of the teachers self-reported exposure to at least one ACE, and 22% reported exposure to 4 or more ACEs. Observational assessments of a subsample of 58 teachers revealed that a higher number of ACEs was associated with a lower quality of social and emotional climate in the classroom (Hubel et al, 2020). School districts and school leaders are often unaware of the impact of their experiences on their students and themselves. Indeed, Petrone and Stanton (2021) argue that more trauma-informed research is necessary to understand how schools and education systems may contribute harm to students.

Professional Quality of Life and Rapid Changes in Practice

Professional quality of life as defined by Stamn (2009) includes the constructs of compassion satisfaction and compassion fatigue, which vary based on characteristics of the teachers themselves, their work environment, and the students they help. Compassion satisfaction refers to the pleasure one derives from feeling able to do their work well. Compassion fatigue encompasses *burnout* (i.e., exhaustion, hopelessness, inability to carry out

job-related tasks effectively) and *secondary traumatic stress (STS)*, negative experiences that often result from working closely with individuals experiencing trauma.

Students often disclose trauma to their teachers (Hupe & Stevenson, 2019; Hydon et al., 2015). Teachers often become attached to students and experience secondary traumatic stress and its associated symptoms when witnessing their hardships (Sizemore, 2016). These symptoms can include physical and emotional problems, behavioral changes, cognitive dysfunction, interpersonal isolation, spiritual uncertainty, and diminished professional performance. Teachers with a personal history of trauma may find adverse classroom experiences or students' disclosed traumas particularly challenging or retraumatizing (Miller & Flintz-Stipp, 2019). Thus, ACEs may moderate teachers' experiences under stressful conditions, especially their secondary traumatic stress.

Even before the COVID-19 pandemic, teachers reported high levels of occupational stress (Gallup, 2014; Johnson et al., 2005; Kyriacou, 2001). Such stress can negatively affect their health and well-being (Herman et al., 2018), leading to low job satisfaction and negative work experiences (Bakker & Schaufeli, 2000), affecting teachers' physical health (de Souza et al., 2012), causing professional burnout (Maslach et al., 2001), and contributing to high turnover (Ryan et al., 2017). Further, high levels of teacher stress have been associated with negative impacts on teacher performance (McLean & Connor, 2015), teachers' ability to facilitate social and emotional learning programs (Jennings & Greenberg, 2009), and students' own social adjustment and academic outcomes (Hoglund et al., 2015; Oberle & Schonert-Reichl, 2016). Teachers' psychological stress and poor occupational well-being lead to teacher turnover and have costs of more than $7.3 billion per year (National Commission on Teaching and America's Future, 2007).

Novel demands during the COVID-19 pandemic increased anxiety and stress among teachers and students (Pressley, 2021). The pandemic also exposed challenges in school infrastructures (Kitzmiller, 2022) and placed particular stress on teachers as they navigated its effects on their personal lives and provided remote support to their students (Gewertz, 2020). These efforts are hindered by decreased staffing, unequal distribution of resources (Green & Bettini, 2020), and stressors commonly associated with teaching (Gallup, 2014). In addition, teachers were required to quickly adapt to distance education platforms, modify their curriculum, and learn how to interact with students remotely (Christian-Brandt et al., 2020). Given these combined challenges, teachers may have felt that their attempts to help students were less effective, reducing compassion satisfaction (Figley, 2013) or increasing the risk of burnout (McMakin et al., 2022).

The challenge of teaching during the COVID-19 pandemic was monumental, considering the evidence that strong positive relationships between teachers and students are critical to students' healthy development and teachers' work satisfaction (Kelm & Connell, 2004). In addition, the many challenges of the COVID-19 pandemic erupted as teacher shortages deepened and workload increased, leaving more educators burned out (García & Weiss, 2019).

Post-Structural Theories of Subjectification

Much of the poststructural tradition is grounded in the theoretical propositions of Foucault’s concepts of discursive practices, the operations and meaning-knowledge formations of discourses, and subjectification - the processes whereby an individual observes, analyzes, interprets, and recognizes self vis-à-vis knowledge/power (Bacchi & Bonham, 2014; Foucault, 1998; Foucault, 1972). Poststructural discourse theory assumes philosophical interconnection between discourses, practices, and subject identities such that discourse creates meaning and

articulates the identities of individuals (Newman, 2020). Poststructural analysis helps examine how schools, teachers, teaching, and professional procedures continually form and transform knowledge and power through routine relations.

Through this lens, we argue that teachers are located within social contexts and make meaning in particular ways including through culturally specific demands. Teachers' attitudes, behaviors, and perceptions are influenced and socialized by the changing dynamics of cultural attributes which can be taken up or shed (Eveline, 2005). For example, the subjectification of a teacher as a professional subject who "produces" regardless of personal life circumstances influences teachers' openness to identify or speak about how their past or current adversity impacts their teaching or teacher identity. Thus, the global coronavirus pandemic and the social implications of the intersectional pandemics (e.g., COVID-19, systemic racism, systemic sexism, or endemic trauma) and teachers' ACEs levels influenced what Bonham and Bacchi (2017) call ongoing-formation, a continual process of becoming what it means to be a "teacher" and engage in "teaching".

Key Research Questions

The purpose of this paper is to examine whether teachers have experiences of secondary traumatic stress, the relationship between teachers' personal and professional factors and their professional quality of life, and whether teachers' past experiences of Adverse Childhood Experiences (ACEs) had any influence on how they discuss their professional experiences. In using multiple linear regression and discourse analysis as methodological frameworks, this paper will provide insight into the relationship between teachers' experiences of trauma and how they evaluate and discuss their roles as professionals. The research questions are:

RQ1. a) What is the prevalence of secondary traumatic stress among teachers? b) Do teachers' response to teaching challenges and benefits, their perceptions of student adversity, and their Adverse Childhood Experiences (ACEs) predict their Professional Quality of Life (ProQOL; i.e., compassion satisfaction [CS], secondary traumatic stress [STS], and burnout)?

RQ2. How do teachers with different levels of Adverse Childhood Experiences (ACEs; 0, 1-3, 4 or more groups) make meaning of their roles and the experiences of stress and trauma among their students?

Research Design and Methodology

The study employed an explanatory sequential mixed methods research design, analyzing the results of an initial quantitative survey and followed by a qualitative interview (Creswell & Plano Clark, 2018). In the first quantitative phase, teachers' response to teaching challenges and benefits, their perceptions of student adversity, their personal history of adverse experiences, and their quality of life was examined by collecting and analyzing survey data. The second qualitative phase explored how teachers with different counts of exposure to ACEs understand their roles and respond to their students' experiences of stress and trauma by conducting and analyzing interview data. The qualitative results, collected through semi-structured interviews, were intended to add depth of understanding to the quantitative findings. Table 1 displays the diagram of the study plan.

Phase 1: Quantitative Phase

Sample

The final sample for analysis included 368 participants (Table 2). Full-time, lead teachers of K-12th grade in the U.S. were recruited via Facebook, Instagram, and Twitter between October 2020-August 2021 (N=368). Teachers who were in supporting roles in the classroom (e.g.,

substitute teachers, administrators, etc.) were not included. Researchers used a maximum variation sampling strategy to search and contact 2-3 social media accounts for teacher organizations in every state. In the absence of a state-wide social media account, at least one account in an urban school district and one account in a suburban school district was contacted for a given state. Initially, 169 social-media accounts for teachers were contacted and 98 posted or agreed to post a recruitment flier for the study on their page. Participants that clicked on the link provided on the flier were directed to a 30-45 minute anonymous Qualtrics survey after completing an initial consent form. In order to invite selected teachers to participate in the qualitative phase, participants were offered the option to voluntarily opt-in to a phone-call interview at the end of the survey. After indicating their interest in the interview, the participants were directed to another consent form for the interview.

Measurement

Survey measures were selected based on previous research on professionals working with youth exposed to trauma experiences (Appendix 1).

Sociodemographic Characteristics. Sociodemographic characteristics recorded included age, gender, race, pandemic-related financial difficulties, and school zip code. Teaching experience was measured by recording teachers' present grade-level and subject(s) taught, school name and type (i.e., public, private, charter, Title I status), total years teaching, years teaching in their present school of employment, and whether they have taught remotely.

The questions about teachers' context measured personal/family situations impacted by COVID-19, teaching/remote learning situations, and influences of COVID-19 on teaching. Specifically, the questions asked about teachers' personal health regarding their concern about contracting COVID-19, COVID-19 illness, knowledge of others who contracted COVID-19, and

hospitalization/death of someone close to them from COVID-19. This also measured teachers' current teaching experience: the number of students teaching this year, teaching model, percentage of students with whom they have maintained contact, and racial background of students they have not been able to reach.

Teaching Related Challenges (TC) and Benefits (TB). Participants completed self-report measures to assess the negative effects of COVID-19 on teaching. This 10-item measure assesses dimensions of teachers' life: *professional/academic* (e.g., "Teach curriculum") and *social/emotional* (e.g., "Support the social development of your students"). Items indicate "To what extent are you concerned with your current ability to" in relation to various classroom and student related challenges; items were rated on a 5-point Likert scale (1 = *Not at all*, 3 = *Somewhat*, 5 = *A lot*). The teaching related challenges scale demonstrated adequate internal consistency (Cronbach's alpha = .89).

One measure, the Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996), was adapted to assess the benefits of COVID-19 for teachers. The 18-item scale assesses teachers' *flexibility/schedule* (e.g., "I have been enjoying the flexible schedule"), *student-connection* (e.g., "I have built more connection with my students"), *competence* (e.g., "I have been engaging my students in creative ways"), *school-related social support* (e.g., "I have felt supported by my principal/leadership team"), *relating to others* (e.g., "I have felt more connected to my friends/family"), *personal strength* (e.g., "I have felt that I can handle difficulties"), and *apprecation/reflection* (e.g., "I have reevaluated what is important in life"). Respondents were asked to indicate what they have gained "since the COVID-19 outbreak and the transition to remote instruction"; items were rated on a 5-point Likert scale (1 = *Not at all*, 3 = *Somewhat*, 5 =

A lot). The teaching related benefits scale demonstrated adequate internal consistency (Cronbach's alpha = .87).

Perceived Efficacy to Support Students Experiencing Adversity (SAdv). Participant teachers also completed self-report measures on their perception of their ability to support students facing adverse experiences. The 7-item measure assesses teachers' perception of students' home lives (e.g., "Students getting their basic needs met"). Items indicate "To what extent are you concerned with your ability to support" in relation to potential challenges facing their students. Items were rated on a 5-point Likert scale (1 = *Not at all*, 3 = *Somewhat*, 5 = *A lot*). The measure of teachers' perception of their ability to support students experiencing adversity demonstrated adequate internal consistency (Cronbach's alpha = .90).

Professional Quality of Life Scale (ProQOL). The Professional Quality of Life Scale Version 5 (ProQOL; Stamm, 2009) assessed teachers' professional quality of life. This 30-item instrument has three subscales: *Compassion Satisfaction Scale* (CS; e.g., "I get satisfaction from being able to teach students"), *Burnout Scale* (e.g., reverse item: "I am happy"), and *Secondary Traumatic Stress Scale* (STS; e.g., "I feel depressed because of the traumatic experiences of the students I teach"). Items were answered on a 5-point Likert scale (1 = *Never* to 5 = *Very often*). Each subscale was scored and categorized according to the manual (Stamm, 2010). Each subscale demonstrated adequate internal consistency. Cronbach's alphas for the subscales ranged as follows: CSS = .87, BS = .76, and STSS = .83.

Adverse Childhood Experiences (ACEs). The 10-item Adverse Childhood Experiences questionnaire (ACEs; Felitti et al., 1998) was used to assess teachers' personal history of potentially traumatic experiences (α= .89). Participants indicated (yes/no) to assess *physical abuse* (e.g, "Did a parent or other adult in the household often push, grab, slap, or throw

something at you?"), *sexual abuse* (e.g., "Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way?"), *emotional abuse* (e.g., "Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you?"), *domestic violence* (e.g., "Was your mother or stepmother often pushed, grabbed, slapped, or had something thrown at her?"), *instability* (e.g., "Were your parents ever separated or divorced?"). Based on a determination from the Institutional Review Board, two questions were revised. Question 3, "Did an adult or person at least 5 years older than you ever… Touch or fondle you or have you touch their body in a sexual way? OR Try to or actually have oral, anal, or vaginal sex with you?" was revised to remove "oral, anal, or vaginal." The beginning of question 7, "Was your mother or stepmother… Often pushed, grabbed, slapped, or had something thrown at her? OR Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? OR Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?" was revised to begin, "Was either parent or step-parent…"

Data Analysis

Data was analyzed using Stata 16 (StataCorp, 2019). We examined univariate and bivariate descriptive statistics for all of the predictor variables (perceived challenges of teaching, perceived benefits of teaching, perceived ability to address children's adverse experiences, and ACEs) in association with the outcome variables (STS, CS, and burnout scores). Histograms of the outcome variables showed that STS scores followed an approximately normal distribution (n=344; m=29.61; sd=7.56; range=11-48), as did CS (n=343; m=36.87; sd=6.61; range=18-50), and burnout scores (n=349; m=29.07; sd=6.21; range=12-44). Plots of the residuals revealed a relatively consistent pattern of errors. We still used robust standard errors to reduce the effect of potential heteroscedasticity. Ordinal groups for the STS, CS, and burnout variables were created

to evaluate score distributions. Participant responses to each subscale were totaled and the sum of their responses was categorized as "*low*" for scores of 22 or less, "*moderate*" for scores of 23 to 41, and "high" for scores of 42 or greater based on labels and thresholds established in the manual (Stamm, 2010).

After running descriptive statistics, multiple imputation ($M = 50$) was used to address missing data (Lee & Shi, 2021). The final analytic sample included all respondents who qualified for the analysis (i.e., full-time lead teachers in k-12 schools in the U.S.) and completed the demographic information on gender, school type, and race, which were used as registered completed variables for imputation ($n = 363$; 99% of the full sample $N = 368$).

We ran robust, multiple ordinary least squares (OLS) linear regressions using the *reg* command in Stata with the *vce(robust)* option. A similar model was run for each outcome variable (STS, CS, and burnout). $\beta_1 Cov_1$ represents the coefficient for the independent covariates, including gender and school Title I status, a proxy for school socioeconomic status. The remaining coefficients represent the relative effects of the predictor variables (teachers' concern with their ability to support students experiencing adversity [SAdv], teaching challenges [TC], and teaching benefits [TB]).

The equations are as follows:

Model 1: $\widehat{STS} = \beta_0 + \beta_1 Cov_1 + \beta_2 SAdv_2 + \beta_3 TC_3 + \beta_4 TB_4 + \beta_5 ACEs_5 + \epsilon$

Model 2: $\widehat{CS} = \beta_0 + \beta_1 Cov_1 + \beta_2 SAdv_2 + \beta_3 TC_3 + \beta_4 TB_4 + \beta_5 ACEs_5 + \epsilon$

Model 3: $\widehat{burnout} = \beta_0 + \beta_1 Cov_1 + \beta_2 SAdv_2 + \beta_3 TC_3 + \beta_4 TB_4 + \beta_5 ACEs_5 + \epsilon$

Hypothesis

Similar to patterns of STS in existing literature on other helping professions (e.g., Jones et al., 2021; Letson et al., 2020; Wells-English et al., 2019), more teachers may be in the middle

of the distribution of STS prevalence, with fewer at the extreme high and low ends (i.e., RQ1a). We expect that teachers' experiences of past (i.e., ACEs) and present (e.g., teaching challenges) adversity will have a positive relationship with their levels of STS and burnout and a negative relationship with their CS (i.e., RQ1b).

Integration

The results of the ACEs questionnaire in the quantitative phase were used to plan the qualitative data collection. Follow-up interview candidates were sampled purposefully from the low, middle, and high groups of their ACEs scores. These teachers were selected in order to understand whether there were differences in teachers' perceptions of their occupation and responses to students' experiences of adversity during the COVID-19 pandemic based on their varying levels of ACEs. Preliminary descriptive analyses of the quantitative data was used to calculate the ACE score of each teacher and divide teachers into low (score of 0), middle (score of 1-3), and high (score of 4 or more) groups. The ACE score was calculated as the sum of participants' "*Yes*" responses to the 10 questions. The quantitative results informed the sampling procedure in the second phase.

Phase 2: Qualitative Phase

Methodology

As this study examined the meaning-making processes of teachers, we assumed poststructuralism's focus on discourse (i.e., "*what* people say") and discursive practices (Foucault, 1972, pp. 109, 182). Working from Bonham & Bacchi's (2017) strategy Poststructural Interview Analysis (PIA), we show that descriptors of "teaching" within interviews function as indexes to teachers' professional selves in ongoing formation. Thus, a central purpose of our analysis is to consider the particular kinds of "teaching" and "teachers" that were *made* possible

to be formed and transformed because of ACEs. Accordingly, we do not see the three ACEs groups we constructed for our interpretation as concrete structures or as indicative of essentialization and normalization. They are instead flexible heuristics that help analyze the impact of teachers' trauma on their descriptions of professional roles at particular points in time. In a post-structural orientation, these categories may change and should not be considered universalizing or generalizable.

Methods

Sample. In-depth, semi-structured interviews were used to generate data about a) teachers' descriptions of their professional roles and b) teachers' experiences of stress and trauma during the COVID-19 pandemic. The 24 interview participants were purposefully selected to explain the survey results more in depth. In addition to the selection criteria of participants in the quantitative phase, teachers who had voluntarily opted-in to the phone-call interview on the initial survey, completed the consent form, provided a valid email address on the initial survey, and completed the ACEs questionnaire in full were invited for interviews by email. As a result, 9 teachers who scored a 0 (low group), 9 teachers who scored between a 1-3 range (middle group), and 6 teachers who scored 4 or more (high group) on the ACEs questionnaire participated in the interviews.

Data Collection. The first author conducted individual, semi-structured phone-call interviews, 3 months after all the quantitative data were collected, using the voice-only option on Zoom to protect participant anonymity. All recorded data were kept in a dual password encrypted folder in secure cloud-based servers, transcribed verbatim to ensure accuracy, then immediately deleted from devices. All transcripts and reports of the research used pseudonyms selected by the interviewees to ensure anonymity.

The interviewees were asked up to 10 in-depth questions (Appendix 2) regarding their understanding of the teaching profession, definitions of stress and trauma, and knowledge of and responses to students' trauma experiences. The 30-45 minute interview began with general, open-ended questions such as, 'What do you think is the role of a teacher?' Then, the questions focused on the influence of the knowledge of students' trauma experiences: 'Are there any experiences your students are facing due to the pandemic that you would consider very stressful or traumatic?' In-depth exploratory questions such as, 'Could you talk more about that?', 'Could you give an example?', and 'Why?' were used to enhance the depth of the teachers' accounts as the interviews progressed. During the interview, the author recorded analytic memos on non-verbal data, such as the participant's tone, pauses, laughter, as well as the time of the interview.

Data analysis. Using Dedoose, a web-based application for mixed-methods and qualitative research, two authors employed thematic coding analysis of the interview data to understand how teachers with different levels of ACEs (0, 1-3, or 4 or more groups) describe their roles as teachers and respond to student adversity (i.e., RQ2). After masking the ACE scores of the interviews, two authors conducted independent readings, group readings, and group discussions of the data. The purpose of the ongoing group discussions were to share independent analytic memos of emergent themes in the transcript, draft group analytic memos, create and revise codes and the codebook, collaboratively code data, and reach consensus on confusing segments of transcripts.

Since the PIA strategy draws from precisely "*what* is said," both inductive and deductive (i.e., theoretical) codes were used (Braun & Clarke, 2006). We began by drafting a list of expected themes and concepts based on the research questions and prior knowledge from existing literature (Grbich, 2007). After multiple careful readings of the interviews, we generated

broad codes for words, topics, and concepts that were repeated throughout each interview and across the data as a whole. Analytic memos of the transcribed interviews aided the inductive identification of key themes and patterns about teachers' understanding of their profession, identification of student experiences of stress and trauma, and response to students during a global pandemic.

In applying a post-structuralist framework, we examined the elision/erosion of well-established roles and relationships, the re-attribution of non-standard professional qualities to professional categories of identity, the measurement of temporal change and requisite adaptation (e.g., years teaching, reference to early years in teaching), and, finally, the multiple emotions which highlight shifts in subject and, thus, in teachers' formation of meaning as subjects (Bacchi & Bonham, 2016, pp. 113). These lines of inquiry provided an understanding not only of the "teacher" as subject but also of "teaching'" as object, as a contingent and ever-changing process on which various subjects operate and over which the teacher, as subject, positions themself as a professional. Throughout the process, we were concerned with moments from which "descriptions" can be generalized to all teachers and moments in which "descriptions" cannot. It was also assumed that responses from participants could not be interpreted as evidence of teachers' experiences outside of the specific context of their interview (e.g., time in the school year).

After coming to a consensus on a final codebook, we collaboratively coded twelve of the interview transcripts and then split the remaining interviews for independent coding. Through consensus coding, we aimed to articulate the nuances between the codes, discuss segments of interviews with careful consideration of our reflexivity, identify examples that may disconfirm or expand an existing code, and draft additional analytic memos on teachers' meaning-making of

their roles and relationships with their students. After completing the coding process, the authors grouped the interviews by ACEs scores (0, 1-3, 4+ groups) and analyzed the most salient codes and themes within each group. The aim of the analysis and subsequent report is to "reveal the ways in which sense is being made" (Davies, 2004, pp. 4) by teachers in each ACEs group.

Integration. The results of the ACEs questionnaire were used to inform the sampling procedure in the second qualitative phase. After data from both phases were collected, analysis was conducted separately to strengthen the reliability of each finding. The qualitative interview data was used to expand understanding of the quantitative results. Specifically, the responses of teachers with different levels of ACEs (0, 1-3, 4 or more groups) were used to better understand the difference in significant predictors. The merging of the survey and interview data provided deeper insight and deeper reasoning for the relationships between teaching challenges and benefits, concerns of teacher's ability to support students experiencing adversity, teachers' personal history of adversity, and self-evaluation of their Professional Quality of Life (i.e., secondary traumatic stress, compassion satisfaction, burnout). Data and analysis of both the quantitative survey and qualitative interviews were necessary to fully answer the research questions, triangulate findings, and propose possible explanations.

Researcher's Positionality

The first author's commitment to this research and desire to shed light on the support teachers need in areas with high-risk for trauma stems from her own experiences teaching students exposed to trauma and adversity in the United States and abroad. Her positionality as a former teacher with experiences directly linked to the phenomena she hopes to explore and explain influences the biases she may have in conducting the investigation. As a researcher, she

has taken on an interpretivist paradigm, using sequential mixed methods to understand the relationship between teachers, students, and their experiences of adversity.

Teachers' experiences are situated in a specific local context; thus, rather than proposing generalizability, this study seeks to integrate a narrative of teachers' perspectives and experiences. None of the authors have a personal relationship with the participants in the study or their schools. We have tried to address potential biases through a regular process of self-reflection and an ongoing search for disconfirming evidence.

Phase 1 Results

Descriptive Statistics

Descriptive analysis revealed that the majority of teachers (73%; n=267) fell in the moderate range of self-reported STS, while 17% (n=63) fell in the low range and 4% (n= 15) feel in the high range (Stamm, 2010; Table 3).

Professional Quality of Life

Secondary Traumatic Stress

The first regression analysis of the STS Scale revealed a significant relationship between STS and TC, SAdv, ACEs, and gender (n=363; Table 3). For each one unit increase in self-reported TC, STS scores were predicted to increase by approximately 2 units (β=2.013, p<0.01). A unit increase in teachers' perception of SAdv was predicted to increase STS scores by approximately 1 unit (β=1.184, p<0.05). ACEs also predicted an increase in STS scores (β=.321, p<0.1). Additionally, identifying as a female was found to be associated with an approximately 1.7 unit decrease on the STS scale (β=-1.656, p<0.05). However, given that the sample contained significantly more female teachers (n=266, 72%) than male teachers (n=96, 26%) and

transgender/ gender non-conforming teachers (*n*=6, .5%), these results should be interpreted with caution.

Compassion Satisfaction

Analysis of the second model revealed that TB was significantly predictive of teachers' CS (*n*=363; Table 4), such that teachers who scored one point higher on the TB scale scored approximately 6 points higher on the CS scale (β=6.4307, p<0.01).

Burnout

The final regression analysis showed significant relationships between ACEs, TB, SAdv, Title I status, and burnout scores (*n*=363; Table 5). A one unit increase in ACEs was associated with an increase in burnout (β=0.389, p=0.001), while a one point increase in TB was associated with a 4.5 point decrease in the burnout scale (β=-4.546, p<0.01), and an increase in teacher's perception of SAdv predicted an increase in teacher's burnout score (β=.872, p<0.1). Title I status was found to be associated with an approximately 1.8 unit decrease in burnout score (β=-1.773, p<0.05). However the disproportionately large number of Title I schools in the sample (*n*=231, 63%) compared to non-Title I schools (*n*=76, 21%) suggests that this result should be interpreted with caution.

Phase 1 Discussion

Aligned with the hypotheses, the majority of teachers in the sample self-reported moderate STS score (*n*=267), followed by low STS (*n*=62), with the fewest teachers experiencing the highest level of STS (*n*=15). This suggests that generally, teachers in the sample were not so preoccupied with the thoughts of students they are helping through their teaching profession that it impacted their wellbeing. One reason for the slightly right skew on the STS distribution (Figure 1) may stem from teachers' experience teaching. More years in the field is

typically associated with lower STS scores (Stamm, 2010); in this sample, 61% of teachers had 7 or more years of experience teaching (*n*=226). It is also possible that resiliency played a role in the results of this study. Teachers with greater exposure to STS and/or lower resilience could have left the profession before the distribution of the survey, meaning teachers who remained in the classroom and chose to participate in the study may have been those who show stronger resilience characteristics. However, further research is needed to evaluate the impact of teacher resilience on STS.

The inherent social and professional demand of their teaching role, coupled with heightened need among students, could partly explain why experiences of STS were reported as "moderate" as opposed to "low". In order to show care and understanding for their students, teachers often ask about their personal lives outside of the school context (Frederiksen & Rhodes, 2004; Hamre & Pianta, 2006). Teachers may in turn experience empathic distress or other STS symptoms when students' responses to these questions reveal adversities beyond teachers' capacity to intervene, or if high numbers of students share that they are facing adversity.

However, this trend towards moderate experiences of STS may also arise in part due to teachers' exposure to pandemic-related adversity in their own lives during the time period in which they took the survey (i.e., the 2020-2021 school year). For example, in response to the prompt, "The COVID-19 pandemic has caused financial difficulties for me", 26% of teachers (*n*=97) responded with "somewhat" or "very much". Almost two-thirds of the sample of teachers (65%; *n*=239) responded "somewhat" or "very much" regarding whether they were concerned about contracting COVID-19. Most of these teachers (70%; *n*=256) knew someone who had contracted COVID-19, and 33% (*n*=119) reported that "[some]one close to [them] had been

hospitalized and/or died from COVID-19". These findings suggest that teachers may have been grappling with symptoms of direct trauma from the global pandemic in addition to secondary trauma resulting from their added knowledge about the experiences of adversity in the lives of students. They may have been overwhelmed by concerns about their own safety and that of their close family and friends, such that they did not have the capacity to experience extensive concern for their students. Teachers may also have experienced difficulties differentiating STS symptoms from those symptoms resulting from personal stress, potentially resulting in an under-valuation of the prevalence of their STS.

Secondary Traumatic Stress

Higher levels of perceived challenges in teachers' ability to complete job related tasks and provide social and emotional support for students in the 2020-2021 school year (TC) were found to be associated with higher levels of STS, a trend that follows the hypotheses as well as other research on challenges for teachers during the pandemic (Yang et al., 2021). Teachers who perceive more challenges in their environment may also perceive more potential stressors for their students and be more sensitive to their students' trauma. In turn, these teachers may be more likely to be personally affected by knowledge of their students' experiences. Teachers' sensitivity to theirs and their students' challenges may stem from traits of the teacher or their teaching context that supports this attunement.

It is also possible that the characteristics of the school or community environments that created more challenges for teachers to perceive (e.g., district's performance criterion, school or city's unique response to the pandemic) also increased students' risk of exposure to adverse experiences. However, while Title I status, a proxy for school socioeconomic level, is often associated with both increased TC and student risk (Fitchett et al., 2020), this study showed no

significant relationship between this variable teachers' STS. Thus, school or community characteristics beyond Title I status may be needed to explain associations between teachers' perceived challenges and their experiences of STS.

Teachers who reported higher labels of SAdv in response to perceived student risks (e.g., exposure to abuse, access to basic needs, parental support, home instability, physical safety) also reported more experiences of STS. Secondary trauma occurs when the knowledge about anothers' traumatic experience induces an empathetic stress reaction (Figley, 1995). Thus, when teachers are more concerned about their ability to support students with experiences of adversity, meaning they are aware of or perceive some of their students' negative experiences, it follows that they are also more likely to experience symptoms of STS.

Teachers who reported a greater number of ACEs were also found to experience higher levels of STS. While this result is not consistent with some findings in other fields such as mental health counselors and human service providers (e.g., Brown et al., 2022; Lawson & Myers, 2011; Howard et al., 2014), it is possible that this relationship between ACEs and STS is unique to teachers in this sample or to the teaching profession. These results suggest that teachers who experience greater STS symptoms may be those that have had more personal experiences of adversity in their past, and as a result experience more empathic distress for their students. Teachers may have an increased ability to imagine the distress of their students if they themselves have experienced a similar form of adversity For example, a teacher may feel particularly distressed by witnessing a student suffer through a painful divorce of their parents, especially if the teacher had the same experience when they were the same age as their student. Further study with a larger sample of teachers is necessary to confirm whether feelings of empathy mediate the relationship between ACEs and STS.

Compassion Satisfaction

Teachers who reported higher levels of TB also showed significantly higher levels of CS compared to teachers reporting lower TB. This suggests that teachers who were able to access more resources perceived as beneficial or perceive more positive qualities associated with their teaching circumstances tended to report higher levels of satisfaction in their profession. This supports a potential bidirectional relationship between these variables, such that teachers who perceive more TB linked to virtual-teaching under stressful conditions may report more CS, and may feel more CS if they perceive more TB. Teachers, on average, reported relatively high levels of TB (*mean*=3.45, *sd*=.6, *range*=1-5) and CS (*mean*= 37.08, *sd*=6.56, *range*=18-50). This is line with much of the literature, which describes high levels of CS among teachers compared to other helping professions (e.g., mental health, physical health, and child protection workers; Stamm, 2010).

Burnout

As hypothesized, higher burnout scores (*mean*=28.98; *sd*=6.3; *range*=12-42), which refer to teachers' feelings of job-related exhaustion or hopelessness, were found to be strongly, negatively correlated with TB (β=-4.55, p<0.01). Results of other studies support the finding that teachers who perceive fewer teaching related benefits (e.g., flexibility in their schedule, connection with students, efficacy in teaching, support from school personnel, etc.) may be more likely to experience burnout (Pressley, 2021). Given that multiple factors may contribute to teacher burnout, including personal experiences, organizational climate, and administrator- or student-relationships (McMakin et al., 2022), the presence of another major challenge such as a global pandemic may have exacerbated the cumulative effects of existing stressors on teachers' perceived burnout. The particularly intense pressure resulting from the pandemic may be

supported by the strength of the correlation reported among teachers in this study (β=-4.55, p<0.01).

Conversely, we found a positive relationship between ACEs and burnout. This supports some influence of teachers' past experiences of trauma on their present occupational experiences, a relationship that is necessarily unidirectional (i.e., the past influencing the present). This may result from the influences of ACEs on teachers' current trait characteristics (Grist & Caudle, 2021), which may influence their teaching practices and attitudes (e.g., modifying their emotional affect), or their responses to specific traumas (e.g., COVID-19 pandemic; Hubel et al., 2020).

Teachers with higher SAdv scores also tended to report higher levels of burnout. These results highlight that concern about the circumstance of students may be a distinguishing factor between those teachers who experience burnout and those who do not. While teachers may know about and be impacted by students' experiences of adversity, the degree to which they feel concerned about their ability to support students, or feel efficacious in their capacity to respond to students' experiences with resources they perceive to be helpful, may mitigate symptoms of burnout (Farber, 2000).

The positive relationship between teachers' evaluation of SAdv and burnout thus affirms that teachers need more training and resources to support students facing adverse experiences. Teachers who feel better able to support students facing adversity (e.g., through training, access to support services/resources for themselves and/or their students, etc.) may be able to buffer against burnout. Teachers' SAdv predicting burnout may also in part be explained by teachers' sense of emotional depletion following prolonged exposure to stressors in the lives of students (Leiter et al., 2015). Thus, training in trauma-sensitive practices, mindfulness oriented

techniques, flexibility in their schedules to incorporate self-care for teachers may similarly bolster teachers' sense of efficacy (McMakin, 2022).

The significant association between Title I status and burnout, while tentative due to the biased sample, supports that teaching conditions may lead to burnout. Teachers who experience fewer benefits in their teaching contexts may come from Title I schools where students present more needs than the schools are able to provide, leading to more burnout. While there was no significant relationship between teachers' perception of teaching related challenges and burnout, the challenges faced by the teachers in Title I schools may be beyond the scope of the categories presented in the TC scale. Studies show mixed findings about the relationship between school context and burnout (McMakin et al., 2022). Thus, further analyses are needed to disentangle these potentially complex interrelationships. Understanding more about teacher burnout during challenging times, and how ongoing traits or past experiences may influence it, will allow us to better anticipate teachers' unique needs and potentially preemptively counter the exceptional negative effects that accompany acute traumas like a global pandemic (Pressley, 2021).

Phase 2 Results

Meanings of Roles as Teachers

Teachers' professional roles were explored across various adverse childhood experiences (ACEs) categories. Despite differences in their own ACE histories, all teachers described their profession as one that involves caring for their students. They often formed attachments with their students and their families, which helped them understand and respond to their students' needs and circumstances of adversity. Interestingly, teachers who reported experiencing ACEs 1-3 used language that reflected a more active and responsive professional role, suggesting a greater sense of professional agency than teachers in the ACE 4+ and ACE 0 groups.

In discussing the teaching profession, teachers from all ACE levels used descriptions that pertained to understanding their students' academic, emotional, and social needs. Teachers emphasized that obtaining knowledge about their students was crucial to their professional role. Although there was considerable overlap between descriptions related to understanding needs and caring for students, the former can be viewed as a foundational aspect of teaching. Similar to descriptors related to caring, those related to understanding were frequently used in all three ACE-level categories.

Teachers' Role as Social Actor (0 ACEs)

In addition to their role as caring professionals, the ACEs 0 group interviewees described their professional identity as social actors. The term "social actor" refers to an entity whose actions are empowered and constrained by the social context in which they operate (Lamb & Kling, 2003). These teachers reported a tension between advocating for their students and navigating systemic constraints that hinder academic achievement. As a result, they tended to focus on normative frameworks. They assessed their practice based on traditional teaching tasks such as lecturing, catching students up on missed work, and fostering social-emotional competencies such as grit and motivation. While they aimed to promote student resilience, their primary objective was to improve academic outcomes.

The interviewees in this group produced a semantic distance between their professional roles and their students' non-academic lives. They described delegating emotionally weighty responsibilities to other professionals within their schools, which they considered undesired systemic confinements imposed by administrators. Consequently, these teachers perceived role changes as existing outside their normative professional locus of control. They viewed their

teaching as individual agents in opposition to an increasingly dysfunctional system. The following excerpt from Nancy illustrates this relationship:

> "There was almost a tug of war between the two, where we don't want to have them lose these critical skills, but at the same time, the pandemic changed their lives too much." (Nancy, Interview)

Nancy's testimony highlights how teachers' social positions shape their professional roles. The pandemic was perceived as a period of abnormality, leading teachers to aim for a return to pre-pandemic teaching practices. On the one hand, Nancy sees herself as responsible for imparting "critical skills" while being responsive to the pandemic's effects on her students. These effects included school closures, the disproportionate impacts of the pandemic on students of marginalized backgrounds, financial strain on families, and other social factors. Similarly, the teachers in this group centered their discussion on the social constraints and their role within it.

Teachers' Role as Student Engager (1-3 ACEs)

Teachers in the ACEs 1-3 group discussed their dedication to engaging with their students. They described student engagement as encompassing a range of behaviors, from impromptu and casual interpersonal actions to more formal mentoring or lecturing. As teachers committed to engaging their students, they described their understanding of their teaching role in relation to their actions, with their success as teachers directly linked to the success of their students. Teachers evaluated their own success by reflecting on the frequency and depth of their interactions with students and their efforts to motivate and increase student engagement in learning. For teachers in this group, fostering engagement was discussed as a crucial aspect of the teaching process. The interviewee Mr. Rogers, explained that the role of a teacher is,

> "To lead the students into their own learning, I suppose. To get them to want to buy in and learn" (Mr. Rogers, Interview).

In describing his role as a teacher, Mr. Rogers stated that his primary focus in the classroom is to motivate and support students in building their capacity to take ownership of their learning. He explained that getting students to "buy-in and learn" was the primary role of a teacher and measured engagement through students' ability to lead "their own learning." The teachers in this group did not focus on areas of systemic confinement. Instead, they repeatedly articulated their objectives and goals to increase student engagement in learning by providing examples from their classrooms.

Teachers' Role as Invisible Laborer (4+ ACEs)

Teachers in the ACEs 4+ group acknowledged the existence of invisible labor as a crucial aspect of their professional role. Invisible labor refers to work that goes unpaid, unnoticed, unacknowledged, and unregulated (Daniels, 1987). In the context of schools, invisible labor involved excessive or consistent work beyond school hours, providing social or emotional support to students facing challenging circumstances, as well as planning lessons that extended the given curriculum to teach skills such as social and emotional learning and career planning. Despite its importance, teachers expressed that this type of work went unrecognized in their professional evaluations. In addition, teachers in this group expressed concern over the cognitive impact of invisible labor. For instance, the interviewee Carol noted that the boundary between what was necessary and what went beyond her role was often unclear, leaving her feeling burdened to take on additional emotional and cognitive labor:

> "It is a blurry line, and it is a hard one to navigate and I feel like there have been times where I have overstepped that line and have like entered into like ways of relating with

> students, where I'm like oof, this is not okay, and this is not healthy anymore" (Carol, interview)

In the interview, Carol identifies her professional and personal boundaries as blurred. She recognizes instances where her boundaries were overstepped when relating to students. Similarly, teachers in the ACEs 4+ group often taught social skills unrelated to the academic or subject-specific content, requiring pedagogical methods that are not typically part of formal teacher training. Teachers in this group often believed their role encompassed teaching emotion regulation and social wellness skills despite not being evaluated in these areas. As a result, teachers' efforts to plan lessons, encourage social and emotional development, and co-regulate with students were invisible to external observers. Nonetheless, teachers in this group frequently emphasized that taking these invisible actions is an integral part of being a teacher.

Meaning of Stress and Trauma Among Their Students

Participating teachers also constructed meaning around their students' experiences of stress and trauma. As teachers are often close to their students and serve as trusted adults who maintain intimate relationships with them, they are more likely to be privy to information about students' experiences of adversity and respond with empathy. Like other professionals who support individuals facing trauma or significant hardships, teachers may be susceptible to adverse outcomes of empathy-based stress (Rauvola et al., 2019). Despite variations in teachers' own ACE histories, all teachers acknowledged being affected by their students' adverse experiences. Teachers in the 0 ACE group spoke most often about focusing on their administrative duties, while teachers in the 4+ ACE group discussed their experiences of empathic distress.

Focusing on Clerical Duties in Response to Student Adversity (0 ACEs)

The responses of teachers in the 0 ACEs group to student adversity centered on their normative roles as teachers, focusing on fulfilling their teaching duties. While the teachers were aware of the negative impact of the pandemic on their students, including isolation, family-related stress, financial difficulties, disruptions in learning environments, and school closures, their responses focused on their struggles to complete professional and clerical tasks. In this group, teachers spoke about responding to the adversity of their students by providing academic support. However, when students' needs extended beyond the academic realm, teachers in this group discussed feeling overwhelmed and unacknowledged. Nancy explained her response to students' experiences of adversity during the pandemic:

> "It felt like [the students] were ignoring me because I'm sending out this work and only 25% of them are doing it… you just have to forgive them, even though they didn't do anything wrong, but it's just like a personal thing because my job was so-- my role completely switched" (Nancy, Interview)

When describing her response to students' adverse experiences, Nancy used emotionally charged vocabulary such as "ignoring," "completely," and "frustrated," which were connected to her professional responsibilities and the lack of completion of her students' school-related tasks. In her account of responding to her students' adversity, she prioritized her professional duties and utilized words such as "work," "job," and "role" to describe her approach. Her emotional state seemed to be linked to her perceived capacity to fulfill her professional responsibilities and to the degree to which her students completed the tasks associated with "teaching." Similarly, teachers in the ACE 0 group concentrated on the obstacles they faced while performing their instructional duties when students faced personal difficulties.

Turning to Compassion in Response to Student Adversity (1-3 ACEs)

Teachers in the ACEs 1-3 group responded to the adversity of their students with compassion by feeling for the students and taking action to help them. In contrast to teachers in the ACE 0 group, teachers in the ACE 1-3 group explained their perception that students' adversities often stemmed from broader societal issues. They responded to these issues by going beyond their academic tasks. These teachers identified their students' social, familial, and personal needs and took action to alleviate their circumstances. The descriptors they used to describe student adversities, such as family-related stress, turmoil, instability, and unmet basic needs, indicated a deeper understanding of the non-academic lives of their students. Emotional descriptors used by teachers in this group signified reflection, contemplation, and emotional connection. They also signified aspirations to support students. Teachers in this group were surprised by unexpected changes to job-related responsibilities but remained motivated to respond. For example, Sally mentioned,

> "When students shared with me that they're depressed… I go home and I think, "Okay, what can I do to make this student feel more comfortable?" or what can I do to the lesson plans next day, so that I can have an honest discussion about death and how we cope with loss with our whole class to deal with that." (Sally, Interview)

Sally's response to a student experiencing depression after losing a family member involved reflecting on the student's situation after work hours and making adjustments in the classroom to create a supportive environment. Her desire to alleviate the student's discomfort demonstrated her understanding of the challenges associated with depression. Furthermore, she took responsibility in the classroom by modifying her lesson plan to facilitate a discussion about grief and loss, fostering an environment where students could support each other during difficult

times. Similarly, Teachers in the ACEs 1-3 group expounded on their response to students' experiences of adversity, stating that they exhibited a dual approach of feeling for the students and taking concrete actions to provide support.

Feeling Empathy in Response to Student Adversity (4+ ACEs)

Teachers in the ACEs 4+ group exhibited a response to addressing student adversity characterized by a focus on empathy. Unlike teachers in the ACEs 1-3 group who emphasized both emotional engagement and concrete actions, teachers in this group focused primarily on discussing how they felt for their students. The most common themes that emerged from their interviews included feeling for students experiencing family-related stress, turmoil or instability, and unmet basic needs. These teachers also used language that reflected their emotional responses to the students' difficulties, including descriptors such as sadness and overwhelm. This may indicate the negative consequences of excessive empathy, the stultifying process of mirroring which can hinder the ability to maintain cognitive distance and professional agency. One teacher explained,

> "It's a highly stressful job. When you're dealing with kids… there's a lot of things you take on from your students" (Linda, Interview)

By using the phrase "take on," Linda expressed her empathic response and indicated her willingness to bear the emotional burden of her students' experiences. She suggested that experiencing secondary emotional stressors is a part of teaching and that empathizing with students can contribute to teachers' professional stress. By relating empathy-based stress to professional stress, teachers in this group may identify more closely with their students' trauma. This discursive activation by teachers in the ACEs 4+ group suggested that teachers may blur the

boundaries between the teacher's self and the student's life, leading to feelings of emotional distress witnessing the anguish of their students.

Phase 2 Discussion

In this study, we explored how teachers of different levels of Adverse Childhood Experiences (ACEs) discussed their professional roles and responses to students' adversity. It is important to note that teachers' self-reported descriptions of their professional roles and responses to student adversity do not necessarily reflect their actual practice. Despite this, the areas of emphasis that teachers in different ACE groups highlighted in their interviews provide insight into their perceived priorities for teaching. As such, these self-descriptions have potential implications for their instructional practices and ultimately, student outcomes.

Participants who reported 0 ACEs used social actor descriptors as a key element in defining their role as educators and focused their responses to student adversity on clerical duties. Social actors are agents who deliberately act within a social context to establish external expectations and collaborate with other agents to generate products or services (Nurdin et al, 2014). Parsons (1951) suggested that social actors tend to conform to predefined roles and expectations, which may conflict with individual autonomy. Teachers in the 0 ACEs group reported traditional discursive boundaries of professional roles, where "teaching" was the object of the "teacher." These teachers primarily focused on extensive pedagogical responsibilities, such as delivering lectures, helping students catch up on missed work, and designing lessons on social-emotional competencies. This indicates that, as social actors, teachers in this group framed their roles with a high degree of professional autonomy while acknowledging the presence of external expectations and limitations imposed by the system. Teachers in the 0 ACEs group expressed understanding for students who were facing adverse circumstances. However, in their

discussions, these teachers focused on challenges they encountered in fulfilling their role as educators due to the unanticipated circumstances of their students.

In contrast, teachers in the 1-3 or 4+ ACEs groups reported a different approach to the professional responsibility of teaching. These teachers tended to broaden the scope of their role to include compassion and empathy, which led to the erosion of normative professional boundaries. Specifically, teachers in the 1-3 ACEs group expressed a sense of professional responsibility for adapting to job-related changes and engaging in self-reflection to cope with the evolving demands. They reported adapting lesson plans and tailoring class discussions around students' personal challenges. In this way, teachers in this group integrated empathy for their students with a sense of introspection and accountability regarding their professional role. Overall, the emotional connection with students and the action taken to address their circumstances were deemed necessary to respond with compassion.

Teachers belonging to the 4+ ACEs group characterized their professional role as involving invisible labor and reported their approach to students experiencing adversity as one of empathy. The term "invisible labor" refers to work that is not compensated, requires significant cognitive investment, is emotionally draining, often goes unnoticed, and may necessitate additional emotional support to promote social harmony (Crain et al., 2016; Daniels, 1987). While roles related to invisible labor do not directly align with the established schema of what it means to be a teacher, teachers who have more personal experiences of adversity may feel more responsible for providing for the emotional needs of their students. This shift in the way teachers discussed their professional roles may be attributed to the teachers' attempt to negotiate their own self-formation based on their personal experiences. Teachers in this group often used descriptors like "sadness," "overwhelm," and "turmoil" to describe their emotional experiences, indicating a

close empathic connection to their students. The use of emotional descriptors like sadness and overwhelm could be interpreted as a manifestation of empathy-based stress stemming from a mirrored emotional connection to students' experiences of neglect, family-related stress, and turmoil. This heightened empathy seems unique to the interviewees in the 4+ ACEs group, which could indicate that they experienced a sense of emotional connection and understanding with them.

Together, the findings suggest that teachers with higher ACE scores may be more susceptible to empathic distress and secondary traumatic stress symptoms. The experience of similar adversity may heighten teachers' capacity for empathy and ability to imagine their students' distress. For example, a teacher may feel particularly distressed by witnessing a student suffering during a divorce if the teacher had a similar experience in their youth. Furthermore, teachers who have faced personal trauma may find negative classroom experiences or their students' traumatic experiences more demanding and even retraumatizing.

Integration of Phase 1 and Phase 2

Quantitative results showed that teachers in the sample (*n*=368) followed a normal distribution of secondary traumatic stress (STS) symptoms based on the Professional Quality of Life (ProQOL) sub-scale, with 17% of teachers self-reporting being in the low range, 73% reporting in the moderate range, and 4% reporting in the high range (Table 3; Stamm, 2010). The qualitative findings, across the interview sample (*n*=24), where teachers highlighted their role as caring and understanding professionals may help explain why a majority of teachers reported moderate ranges of STS symptoms. Teachers shared that their role as a teacher was to care about students by acknowledging students’ needs and supporting students and their families both emotionally and physically and that they also had a role in understanding the academic,

emotional, and social needs of students. Teachers' reported perceptions of their role as caring and understanding professionals may have influenced their behavior in the school and towards students in a way that would elicit increased knowledge of students' experiences of adversity. Teachers' qualitative identification with their roles as caring and understanding professionals aligns with the quantitative finding that teachers on average reported relatively high levels of compassion satisfaction (CS; mean= 37.08, sd=6.56, range=18-50).

In order to show care and understanding for students, teachers may frequently ask students about their personal lives outside of the school context. Teachers may experience empathic distress or other STS symptoms when students' responses to these questions reveal adversity that is beyond the means teachers have to address those challenges in the students' lives or if high numbers of students share that they are facing adversity. In the context of the COVID-19 pandemic, it is likely that teachers felt more responsible to enact their roles as caring and understanding professionals and also that students faced more adverse circumstances in their personal lives. The social and professional demand, coupled with the heightened need among students, may have influenced teachers' reports of moderate rates of STS symptoms.

Qualitative results showed that teachers most often expressed being affected by the stress and trauma experiences of their students, either emotionally or professionally. Teachers discussed having increased responsibility to take action on behalf of their students by focusing on students' academic needs and/or explaining their sense of compassion and empathy for students. Quantitative findings confirmed that teachers who were more concerned about their ability to support students facing adversity (SAdv) were more likely to experience STS symptoms. Thus, the degree to which teachers were impacted by the stress and trauma of their students appears to have been influenced by the degree to which they were concerned about their

ability to help their students in challenging circumstances. Teachers who were highly concerned may have had more detailed knowledge about the experiences of students or expressed their concern through actionable tasks in their school context or by emotionally mirroring or responding to the distress of their students.

Further, quantitative results indicated that teachers with higher concerns about their ability to support students experiencing adversity (SAdv) were more likely to experience burnout. Qualitative findings showed that all teachers discussed being emotionally or professionally influenced by the adverse experiences of students, but the quantitative results highlight that concern about the circumstance of the students may be the distinguishing factor between those teachers who experience burnout and those who do not. While teachers may know about and be impacted by students' experiences of adversity, the degree to which they feel concerned about their ability to support students, or efficacious in their capacity to respond to students' experiences with resources they perceive to be helpful, may mitigate symptoms of burnout. This suggests that teachers who are able to decrease their concern with their ability to support students facing adversity (e.g., through training, access to support services/resources, etc.) may be able to buffer against burnout.

Notably, quantitative results revealed that teachers' Adverse Childhood Experiences (ACEs) score significantly predicted an increase in their STS score, such that high rates of ACEs in the teachers' past experience indicated a likely high rate of STS symptoms in the present. Qualitative results affirm and help explain this finding, as teachers in the ACEs groups discussed responding to the stress and trauma experiences of their students differently. Teachers who reported having 0 ACEs (n=9) most often focused on the tasks related to didactic actions (e.g., lecturing, catching students up on work, planning lessons on social emotional competencies).

Teachers in the 1-3 ACEs group (*n*=9) expressed compassion for students in the interview, highlighting not only their personal emotional response to learning about the experiences of adversity among their students but also discussing steps they took to support their students in tangible ways (e.g., adapting lesson plans, tailoring class discussions around the challenge faced by students). Teachers in the 4 or more ACEs group (*n*=6) discussed feelings of empathy and used words like “sadness”, “overwhelm”, and “turmoil” most frequently to describe their response to the knowledge of stress and trauma in the lives of students.

Together, the results reveal that teachers who have had more personal experiences of adversity in their past may experience more empathic distress and, subsequently, STS symptoms due to their ability to keenly feel the emotions that their students may be experiencing in their circumstances of adversity. Teachers may feel particularly more empathetic or have an increased ability to imagine the distress of their students if they themselves have experienced the particular adversity faced by the students themselves. For example, a teacher may feel particularly distressed by witnessing a student suffer through a painful divorce of their parents, especially if the teacher had the same experience when they were the same age as their student. Further study with a larger sample of teachers is necessary to confirm whether feelings of empathy mediates the relationship between ACEs and STS.

In addition, quantitative results revealed that an increase in ACEs significantly predicted an increase in burnout symptoms. How teachers in each ACEs group discussed their role as a teacher in the interviews may help explain why teachers with more ACEs were more likely to experience burnout. In addition to sharing most often that teachers’ roles entailed caring and understanding their students, teachers in the group of 4 or more ACEs explained that their role also encompassed being an invisible laborer. As an invisible laborer, teachers explained that the

social and emotional supports that they provided students, because they were enacting their role as “teachers”, went unnoticed in their professional evaluation or by their school supervisors. The frequency with which the teachers shared about their invisible labor may indicate the prominence of this social and emotional responsibility in the minds of teachers in this group and the perceived demand on their social and emotional energy in the workplace. This perception and teachers’ potential efforts to meet their role as a social and emotional support system for students without the recognition of their schools may lead to emotional exhaustion or reduced personal accomplishment, indicators of burnout (Maslach et al., 2001). Teachers may experience emotional exhaustion by being emotionally drained and/or lacking emotional resources to support students. Teachers may also feel reduced personal accomplishment because their efforts are perceived as invisible to their professional evaluation, which may lead to a decline in feelings of competence and performance at work in areas that are measured by their district or school-level evaluations for teacher effectiveness.

The combined analysis of the quantitative and qualitative findings, particularly as it relates to the personal history of adversity in the lives of teachers, indicates the relevance of the whole person teacher theory and trauma theory. Different descriptions used to form individual subject positions were associated with different ACE levels of teachers in this study. These differing practices of shaping professional identity through description supports the whole person teacher theory, as teachers revealed that they had been shaped by the intellectual and emotional aspects of teaching and by their knowledge of self. The whole person teacher theory also provides a frame to understand how teachers’ perceptions of teaching related benefits and challenges, both personally (e.g., “I have been able to get more sleep”) and professionally (e.g., “To what extent are you concerned with your ability to teach curriculum”), influences teachers’

sense of what it means to be a “teacher”. For example, results of this study indicated that teachers’ perception of personal and professional teaching related benefits (TB) predicted their compassion satisfaction (CS), such that those who had higher rates of perceived TB reported higher CS.

Trauma theory further explains the role of teachers’ personal experiences in shaping teachers’ identification as a “teacher” and their behaviors in “teaching”. The theory illustrates the consequences of childhood adversity and trauma as carried somatically and psychologically through time. While teachers did not explicitly discuss the influence of their past experiences of adversity on their experiences of teaching during the interviews, the teachers in the high ACEs group (4+) discussed the emotional impacts of their teaching profession more often and with more gravity in terminology (e.g., “alarming” rather than “worried”) than teachers in the 0 and 1-3 ACEs groups. Teachers with more ACEs in this study were also more likely to experience STS and burnout symptoms. These results indicate that experiences of adversity in the personal lives of teachers do influence teachers’ perceptions of and actions in the teaching profession.

Limitations

The sample, response bias, and measures are among the myriad contributing factors that limit the scope and interpretation of this study. As this study was non-experimental, no statements can be made as to the directionality nor causality of any of the proposed relationships. The ongoing nature of the COVID-19 pandemic, coupled with the yet unknown impacts on individuals and effects on schools also add to the limitation of the study and its outcomes.

Results should be taken with caution due to the nature of the sample. As teachers self-selected to participate in the survey, there may be bias as to the qualities of the teachers that responded, and the sample may not be completely random or representative. The total sample of

teachers had a disproportionately high number of female teachers, teachers of American Indian/Alaska Native backgrounds, and teachers in Title I schools, compared to the demographics of teachers in the United States. Further, teachers who do not use social media platforms (e.g. Facebook, Instagram, Twitter) and teachers who have recently left the profession were not eligible to participate in this study. Information gathered from these teachers may contribute to a more nuanced understanding of the measures used.

There is also additional response bias stemming from the "effect of nonresponses on survey estimates" (Creswell, 2014; pp. 162). People who did not participate in this study may have influenced the results. In addition to those who did not participate because of a lack of knowledge about the study or did not meet the study criterion, there may have been teachers who did not respond because they felt too overwhelmed to take the survey or participate in an interview. Among these teachers may have been those who experienced more burnout, secondary traumatic stress, and/or adversity in their childhood. Given the subjective and sensitive nature of trauma, it may be possible that occupational expectations may influence teachers' perceptions of their own stress, or that perceived stigma prevented them from expressing the full extent of their stressful experiences. Those who have had these experiences or were presently undergoing those challenges may not have wanted to share their reflections. This may have led to underreporting of the symptoms experienced by these teachers and/or affected teachers' self-reports of TC, STS, and burnout.

There are also several limitations in the measures used in the study and the subsequent interpretations. The ACEs questionnaire, while it has been used widely and shown to be highly correlated to other health related outcomes, is limited because it does not measure all forms of trauma (e.g., historical trauma, racism, discrimination, inequity, death of family and friends). The

questionnaire also asks about trauma experienced in their childhood. It is likely that teachers in the study had other experiences of trauma after reaching adulthood, which may also influence their interactions with students in the classroom. Further, because ACEs only measures a series of events and trauma is a potential consequence of those experiences, ACEs are only a proxy for trauma and cannot be considered as synonymous with trauma. It is also important to note that the ProQOL is not a diagnostic test. There are no diagnoses for CS, STS, or burnout in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). Thus, the results of the study and the outcomes of the subscales are intended to gauge relative risks or protective factors rather than for specific diagnoses or claims about the mental condition of teachers in the sample.

Future Directions

The findings in this study reveal many opportunities for future research. A larger sample in the quantitative analysis would allow for greater generalizability. More interviewees or different kinds of qualitative analysis (e.g., document analysis, focus groups, observations, etc.) may provide a more nuanced understanding of the relationships identified in this study.

As noted in the results and discussion, more research is necessary to understand the direction and contributing factors in the associations that were found within this study. Related research could include zip code (i.e., geographic location) or the state of the school as a covariate in analyses. Since COVID-19 related policies vary by state and school district, regional analysis may help determine whether different approaches and policies for returning to in-person learning had an effect on teachers. It may also be useful to examine differences in teacher STS experiences based on grade level taught, as a student's developmental stage may affect how and to what extent they externalize their experiences of stress.

In particular, considering that some of the results, like the relationship between ACEs and STS, have conflicting outcomes in other fields (e.g., Brown et al., 2022; Lawson & Myers, 2011; Hiles Howard et al., 2014), it may be beneficial to explore whether this result is unique to the teaching profession or is influenced by other factors. Understanding whether there is a relationship between a particular experience of adversity in the personal history of teachers and the present circumstance of their students may support teachers in their professional growth. Moreover, since ACEs are a proxy for trauma, future studies using a measure of psychological consequences (i.e., PTSD) as predictors may result in more concrete findings that are more closely related to trauma.

While findings suggest that decreasing teachers' concern about their ability to support students facing adversity may buffer against burnout, exactly what would mitigate these concerns is unclear. Further research is needed to evaluate whether additional training, access to support services, and/or particular resources (e.g., trauma-sensitive curriculum) would bolster teachers' efficacy in supporting students facing adversity.

Conclusion

In all, this study illuminates the influence past and present trauma has in teachers' professional subject formation vis-a-vis perceptions of their ability to support students experiencing adversity, their own professional quality of life, and descriptions of their professional roles. Experiences of adversity becomes a site of inflection from which and in which understandings of teachers' professional selves are formed and performed. This is evident in the results of the study which showed that the majority of participating teachers experienced moderate levels of secondary traumatic stress. Teachers who were more concerned with their ability to support students facing adversity were more likely to experience secondary traumatic

stress and burnout symptoms. Teachers with a larger number of Adverse Childhood Experiences (ACEs) were more likely to experience secondary traumatic stress and burnout. Teachers in the high ACEs group (4+) most often identified their roles as encompassing social and emotional supports that are often unnoticed and responded to the experiences of adversity among their students with empathy. Despite the limitations, the results contribute to understanding teachers' perceptions of what it means to be a "teacher" and engage in the act of "teaching". Further, it highlights the importance of caring for and addressing the teacher as a whole person who brings in their professional and personal identities and experiences.

The results of this study suggest that school leaders embrace a trauma-informed approach that not only supports the effects of trauma on students but is also mindful of the adverse experiences that may have impacted teachers personally. A trauma-informed or trauma-sensitive school has the potential to decrease stress among teachers because they understand and expect that students experiencing adversity may display challenging behaviors and gives teachers the sense of efficacy in knowing what to do when they learn about the experiences of trauma in the lives of students. Implemented school-wide, a trauma-informed school can create a sense of unity and support among teachers who are working together to address personal and professional challenges, which in turn may buffer against adverse consequences of burnout and secondary traumatic stress and increase their sense of compassion satisfaction. In addition, systematic implementation of policies and intentional development of a culture of care is necessary to sustain the well-being of students, teachers, and staff. This may include collective efforts to promote community self-care, administrative efforts to balance teacher workloads, and policy efforts to increase teacher pay. Ultimately, prioritizing social, emotional, and physical safety in

the broader infrastructure of the communities where students, teachers, and staff reside is necessary to sustain trauma-sensitivity and establish well-being in schools.

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Appendices

Table 1.
Diagram of the study adapted from Creswell & Plano Clark (2011)

Phase	Procedure	Product
Quantitative: Data Collection & Analysis	Design and Implement the Quantitative Strand: ● Develop survey questions that align with research aims ● Identify sample group ● Obtain permission and collect closed-ended data from participants using maximum variation sampling ● Cross-sectional population-based survey (*N*=368) ● Use Stata software to conduct univariate and multivariate analysis of quantitative results and facilitate the selection of interview participants	● Numeric Data ● Descriptive statistics ● Analytical statistics
Integration: Case selection & Interview protocol development	Use Strategies to Connect from the Quantitative Results: ● Purposeful selection of 24 participants from low, middle, high groups from Adverse Childhood Experiences (ACEs) questionnaire results ● Contact and obtain permission from interview participants ● Design qualitative data collection protocols	● Cases (*n*=24) ● Interview protocol

QUALITATIVE: Data Collection & Analysis	Design and Implement the Qualitative Strand: ● Develop interview protocols that align with research aims following the quantitative results ● Collect semi-structured interview data ● Use Dedoose software to code data ● Analyze the qualitative data using poststructuralist interview analysis method to answer the research questions	● Text data ● Thematic coding ● Poststructuralist interview analysis
Integration: Interpreting qualitative and quantitative results	Interpret the Connected Results: ● Summarize and interpret the quantitative and qualitative results ● Discuss to what extent and in what ways the qualitative results help to explain the quantitative findings	● Discussion ● Implications

Table 2.
Teacher survey participant self-reported demographics (N=368)

	n	**%**
Gender		
Female	266	72%
Male	96	26%
Transgender or Gender non-conforming	6	0.5%
Race		
White	245	67%
American Indian/Alaska Native	44	12%
Black/African American	21	6%
Asian	17	5%
Multi-racial	19	5%
Hispanic/Latinx	16	4%
Pacific Islander/Native Hawaiian	2	0.5%
Missing	2	0.5%
Lead Teachers in K-12		
Kindergarten – 5th grade	240	65%
6th – 8th grade	97	26%
9th – 12th grade	31	8%
Subjects taught		
General Ed/Multiple Subjects	251	68%
Special Education	21	6%
Electives	66	18%
General Ed & Electives	12	3%
General Ed & Special Education	10	3%
Electives & Special Education	1	0.3%
Missing	7	2%
School type		
Public	278	76%
Private	65	18%
Charter	20	5%
Missing	5	1%
School Economic Status		
Teachers in Title I schools	231	63%
Teachers in Non-Title I schools	76	21%
Missing	61	17%

Table 3.

Secondary Traumatic Stress Scale groups (N=368)

	n	**%**
Low (<22)	62	16.9%
Moderate (22-41)	267	72.6%
High (>42)	15	4%
Missing	24	6.5%

Note: Labels and thresholds established by Professional Quality of Life Scale Version 5 (Stamm, 2010)

Table 4.

OLS Regression Outcomes of Teachers' Secondary Traumatic Stress Scale

STS Scale	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	-1.656	.701	-2.36	.019	-3.034	-.277	**
Title I	1.316	.822	1.60	.111	-.305	2.936	
Student Adversity	1.184	.514	2.30	.022	.173	2.196	**
Teaching Challenges	2.013	.597	3.37	0.001	.838	3.188	***
Teaching Benefits	.532	.695	0.77	.444	-.836	1.900	
ACEs	.321	.168	1.92	.056	-.009	.651	*
Constant	17.74	3.067	5.79	0	11.710	23.777	***
Imputations		50	Number of obs			363	
F-test		8.61	Prob > F			0.000	

**** p<.01, ** p<.05, * p<.1*

Table 5.

OLS Regression Outcomes of Teachers' Compassion Satisfaction Scale

CS Scale	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	.512	.451	1.14	.257	-.375	1.398	
Title I	-.805	.765	-1.05	.294	-2.312	.702	
Student Adversity	.267	.467	.57	.568	-.652	1.186	
Teaching Challenges	-.436	.502	-.87	.386	-1.425	.552	
Teaching Benefits	6.307	.496	12.71	0	5.330	7.284	***
ACEs	-.177	.119	-1.49	.137	-.410	.057	
Constant	15.671	2.313	6.77	0	11.119	20.222	***
Imputations		50	Number of obs			363.000	
F-test		27.01	Prob > F			0.000	

**** p<.01, ** p<.05, * p<.1*

Table 6.

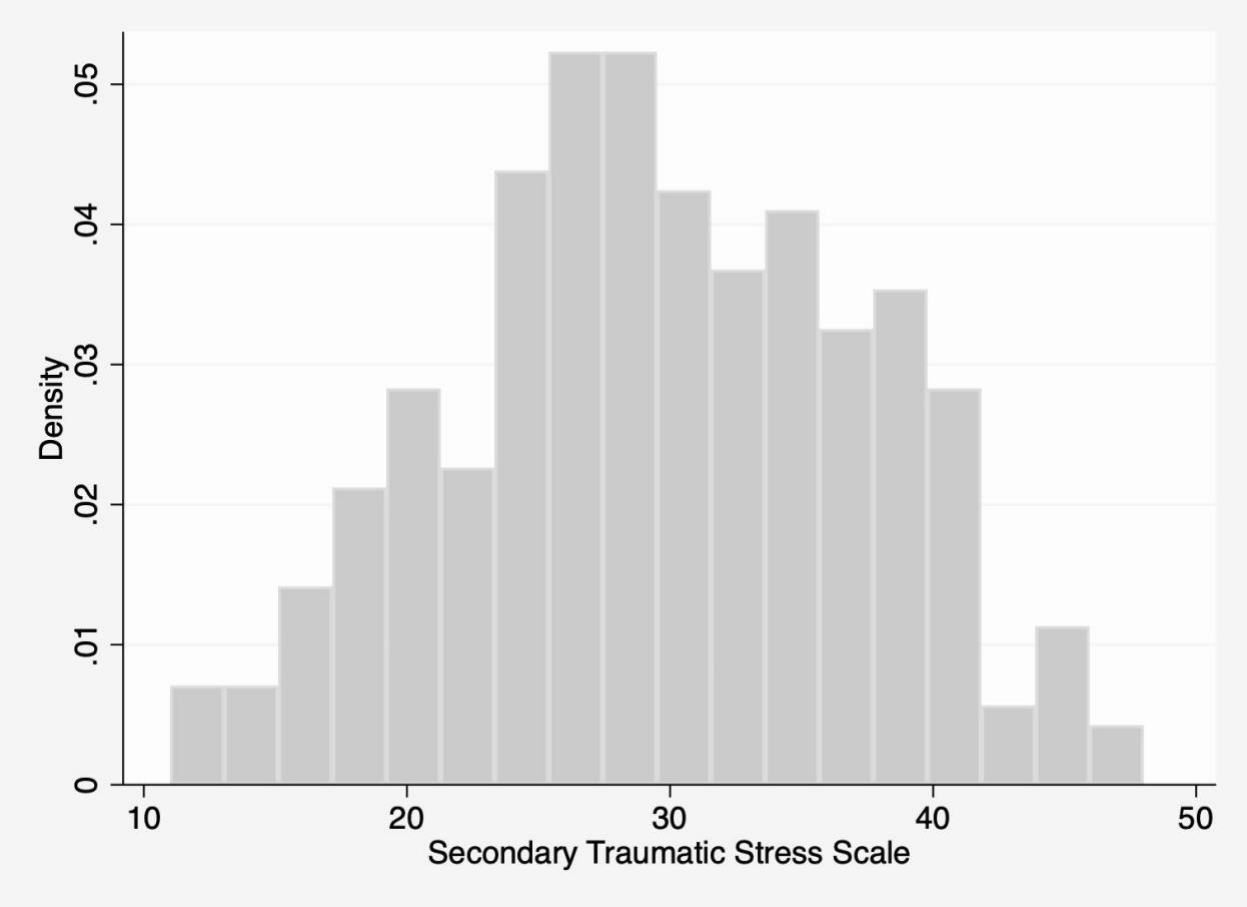
OLS Regression Outcomes of Teachers' Burnout Scale

Burnout Scale	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	-.346	.505	-0.68	.494	-1.339	.648	
Title I	-1.773	.7	-2.53	.012	-3.153	-.393	**
Student Adversity	.872	.443	1.97	.050	.0003	1.745	*
Teaching Challenges	.567	.512	1.11	.269	-.441	1.574	
Teaching Benefits	-4.546	.498	-9.12	0	-5.526	-3.565	***
ACEs	.389	.111	3.50	.001	.171	.608	***
Constant	40.726	2.325	17.51	0	36.149	45.302	***
Imputations		50	Number of obs			363.000	
F-test		19.33	Prob > F			0.000	

**** p<.01, ** p<.05, * p<.1*

Figure 1.

Distribution of the Secondary Traumatic Stress Scale (N=368)



Appendix 1.

Survey Questions

Teacher and School Characteristics (12)

- Demographics
    1. Age (numerical dropdown 18-80)
    2. To which gender identity do you most identify:
        - Male
        - Female
        - Transgender male
        - Transgender female
        - Gender variant/non-conforming
        - Other
        - Prefer not to answer
    3. Race (select all that apply)
        - Asian
        - Black
        - Hispanic
        - White
        - Other
    4. The COVID-19 pandemic has caused financial difficulties for me:
        - Not at all
        - Somewhat
        - Very much
        - Prefer not to answer
    5. Zip code of your school
- Teaching experience
    1. Are you currently the lead teacher in a K through 5th grade class?
        - If yes, continue
        - If no, ends survey
    2. Current grade-level (dropdown-- select all that apply)
    3. Subject (dropdown-- select all that apply)
        - Specials (e.g. Art, Music, PE)
        - Special Education
        - General/Multiple subjects
        - Other: _____
    4. What is the name of your school? (free response)
    5. School type:
        - Public, private, charter (drop down menu)
        - Title I (yes/no)

6. Years teaching (total; dropdown)
7. Years teaching at that school (dropdown)
8. Have you ever taught remotely before February 2020? (Yes/No, Describe:)

Teacher Personal Health (4)

- COVID-19 experience (4)
    1. How concerned are you about contracting COVID-19?
        - Not at all
        - A little
        - Moderately
        - Somewhat worried
        - Very worried
    2. Have you suspected that you were sick with COVID-19?
        - No
        - Yes, but did not seek a test
        - Yes, and I was unable to get tested
        - Yes, and I was tested with a negative result
        - Yes, and I was tested with a positive result
    3. Has anyone you know contracted COVID-19?
    4. Has anyone close to you (friends, family or people who you were residing/social distancing with) hospitalized with and/or died from COVID-19? (yes/no)

Teacher Occupational Health (40)

- Current Teaching Experience (4)
    1. How many students are you teaching this year? (numeric drop down menu)
    2. What teaching model is your school implementing when you transitioned to the fall?
        - Remote
        - In-Person
        - Hybrid (combination of remote and in-person)
    3. Since the transition, with approximately how many of your students have you been able to communicate?
        - Less than 25%
        - 25-50%
        - 50-75%
        - More than 75%
    4. Of those you are not able to connect with, what is their racial ethnic background?
        - Asian
        - Black
        - Hispanic
        - White
        - Other

- Negative Effects of COVID-19 on Teaching (18)
  Name: TBD
  Citation: None
  Scaled: 1-5; 1 = Not at all; 3 = Somewhat; 5 = A lot
  Items: To what extent are you concerned with your current ability to…
    - Professional / Academic
      1. Complete administrative aspects of job
      2. Meet performance criteria (e.g. student standardized test scores, performance reviews)
      3. Teach curriculum
      4. Motivate students to complete activities
      5. Support the academic development of your students
    - Social/Emotional
      1. Support the social development of your students
      2. Support the emotional development of your students
      3. Maintain positive personal relationships with students
      4. Model positive behavior for your students
      5. Communicate effectively with students

  To what extent are you concerned with your capacity to support...
    - Students' home lives
      1. Students increased exposure to abuse
      2. Students getting their basic needs met (ie: food, shelter)
      3. Parent/guardians' ability to provide support to students
      4. Students' unstable/chaotic home lives (ie: lack of consistent routine/ environment)
      5. Students' physical safety (ie: access to masks, minimizing exposure to the virus)
      6. Students who need special support at school
      7. Students falling behind in learning
      8. Other: _____
- Benefits of COVID-19 for Teachers (18)
  Name: TBD
  Citation: None/some items adapted from Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 96*(3), 455–471.
  Scaled: 1-5; 1 = Not at all; 3 = Somewhat; 5 = A lot
  Items: Since the COVID-19 outbreak and the transition to remote instruction…
    - Flexibility/Schedule
      1. I have been able to get more sleep
      2. I have been enjoying the flexible schedule

3. I have had more time for self-care
- Student-Connection
    1. I have realized how much I care about my students
    2. I have a greater understanding of my students' home life
    3. I have built more connection with my students
- Competence
    1. I have become more familiar with using new educational tools (ie: technology)
    2. I have been engaging my students in creative ways
- School-related social support
    1. I have felt supported by my principal/leadership team
    2. I have felt more connected to my co-teachers/colleagues
- Relating to Others
    1. I have learned that I can count on people in times of trouble
    2. I have put effort into my relationships.
    3. I have felt more connected to my friends/family
- Personal Strength
    1. I have felt that I can handle difficulties.
    2. I have discovered that I'm stronger than I thought I was
- Appreciation/reflection
    1. I have greater appreciation for the interdependence of the world
    2. I have reevaluated what is important in life
    3. I have felt an appreciation for the value of my own life.

Teacher Wellbeing

- PROQOL 5 (30)

  Name: Professional Quality of Life Scale (PROQOL) Version 5: Compassion Satisfaction Scale (3, 6, 12, 16, 18, 20, 22, 24, 27, 30) Burnout Scale (1, 4, 8, 10, 15, 17, 19, 21, 26, 27), Secondary Traumatic Stress Scale (4, 5, 7, 9, 11, 13, 14, 23, 25, 28)

  Citation: Stamm, B. (2009). *Professional quality of life measure: Compassion, satisfaction, and fatigue version 5 (ProQOL).*

  Scaled: 1-5; 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Very Often

  Items: Consider a negative experience or experiences that happened to [one or more of your students during the time of COVID-19]. For the items below, write in the number that best describes how you think and feel about the events. When you teach students, you have direct contact with their lives. As you may have found, your compassion for those you teach can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a teacher. Consider each of the following questions about you and your current work situation.

Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1. I am happy
2. I am preoccupied with more than one student
3. I get satisfaction from being able to teach students.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with students.
7. I find it difficult to separate my personal life from my life as a teacher.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a student.
9. I think that I might have been affected by the traumatic stress of students I teach.
10. I feel trapped by my job as a teacher.
11. Because of teaching, I have felt "on edge" about various things.
12. I like my work as a teacher.
13. I feel depressed because of the traumatic experiences of the students I teach.
14. I feel as though I am experiencing the trauma of students I have taught.
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with teaching techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.
19. I feel worn out because of my work as a teacher.
20. I have happy thoughts and feelings about students I teach and how I could help them.
21. I feel overwhelmed because my teaching load seems endless.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the students I teach.
24. I am proud of what I can do to teach.
25. As a result of teaching, I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a teacher.
28. I can't recall important parts of my work with students.
29. I am a very caring person.
30. I am happy that I chose to do this work.

- ACEs (10)

  Name: Adverse Childhood Experience (ACE) Questionnaire
  Citation: Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245– 258. (Items 3 and 7 are slightly revised)
  Items: While you were growing up, during your first 18 years of life:

  1. Did a parent or other adult in the household often … Swear at you, insult you, put you down, or humiliate you? OR Act in a way that made you afraid that you might be physically hurt? (Yes No)
  2. Did a parent or other adult in the household often ... Push, grab, slap, or throw something at you? OR Ever hit you so hard that you had marks or were injured? (Yes No)
  3. Did an adult or person at least 5 years older than you ever… Touch or fondle you or have you touch their body in a sexual way? OR Try to or actually have sex with you? (Yes No)
  4. Did you often feel that … No one in your family loved you or thought you were important or special? OR Your family didn't look out for each other, feel close to each other, or support each other? (Yes No)
  5. Did you often feel that … You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? OR Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? (Yes No)
  6. Were your parents ever separated or divorced? (Yes No)
  7. Was either parent or step-parent… Often pushed, grabbed, slapped, or had something thrown at her? OR Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? OR Ever repeatedly hit over at least a few minutes or threatened with a gun or knife? (Yes No)
  8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? (Yes No)
  9. Was a household member depressed or mentally ill or did a household member attempt suicide? (Yes No)
  10. Did a household member go to prison? (Yes No)

Previous Trauma Experience (1)

- In what ways, if at all, have your previous trauma experiences affected your relationship or response to your students?

Future Interview

- We would like to offer you the opportunity to participate in a phone-call interview and receive $25 e-gift card. Please indicate if you are willing to be contacted in the future for participation in the interview.

Appendix 2.

Interview Questions

1. Definition of a teacher
    - Based on your experience, what do you think is the role of a teacher?
2. Changes for teachers during COVID-19
    - How has this job description changed, if at all, due to the COVID-19 pandemic?
3. Definition of stress
    - How would you define stress?
4. Stress and teaching
    - Would you consider teaching a stressful job? What kinds of stress come from your job?
5. Definition of trauma
    - How would you define trauma?
6. Students' experiences of stress/trauma
    - Are there any experiences your students are facing or may be facing due to the pandemic that you would consider very stressful or traumatic?
7. Teachers' response to students' experiences of stress/trauma
    - How have you been affected by the information from or about your students and their circumstances during the pandemic?
8. Trauma and teaching
    - Could you describe any challenges that could arise for teachers that you would consider traumatic?
9. Trauma for teachers during COVID-19
    - Since the pandemic, what experiences, if at all, have you had as a teacher that you would consider very stressful or traumatic?
10. Managing stress/trauma
    - What resources or tools have you found most helpful for managing the stress and/or trauma that arises from teaching?
11. Is there anything that we didn't talk about that you would like to share?