Teacher Stress and Coping in the Early Childhood Context:

A Pilot and Feasibility Study

by

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A dissertation accepted and approved in partial fulfillment of the

requirements for the degree of

Doctor of Philosophy

in Special Education

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DISSERTATION ABSTRACT

Erin Kinavey Wennerstrom

Doctor of Philosophy in Special Education

Title: Teacher Stress and Coping in the Early Childhood Context: A Pilot and Feasibility Study

High quality environments include attention to the wellbeing of teachers helping young children learn to manage emotions through empathetic responses and directly teaching children how to recognize and regulate physiological states. Relationships and self-regulation are interrelated and critical to establishing healthy classroom climates. Unlike older students, young children under 5 are in the process of learning critical skills that will lead to later developmental and academic success. High quality teacher–child interaction and responsive caregiving requires the teachers be adept at classroom management, stress management, and their own self-regulation. Teacher stress and wellbeing is at the crux of quality environments. Using linear regression and factor analysis respectively the purpose of this project was to pilot the use of teacher coping and stress measures to determine how coping impacts wellbeing, as well as investigate the usability and feasibility of the Professional Quality of Life (ProQOL) survey with an early childhood serving population. The data for this project were collected in the Pacific Northwest and show that emotional based coping strategies predicated burnout and secondary stress. BO, the adjusted R^2 =.176, F(4,113)=7.02, p<.001), specifically, escape was significant β=.37, p< .001. Emotion-based coping also predicted STS, confirming the alternative hypothesis with an adjusted R^2 =.153, F (4,113) = 6.09, p<.001. Furthermore, the preliminary ProQOL results in this early childhood serving population *(n=412)* did not support the a 3-factor model as proposed by Stamm (2009) but evidence for a bifactor model similar to other child serving populations (Lenz et al., 2019).

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Munger, K. F., Stegenga, S. M., Storie, S. O., & **Wennerstrom, E. K.** (2023). Addressing challenges at the intersection of early intervention and child welfare. *Child Abuse & Neglect*, *142*, 105852.

Harvey, H., & **Kinavey Wennerstrom,** E. (2021). Hearing their voices: Parent perceptions of preschool

Kinavey Wennerstrom, E., Stegenga, S., Lund, E. (2018). Stress, secondary trauma and teacher burnout. Young Exceptional Children Monograph #17 focused on trauma, maltreatment and toxic stress.

Lund, E. M., Corr, C. P., **Kinavey, E.,** Mott, K. N., Chowdhury, D., Hammond, M., ... & Schultz, J. C. (2019). Childhood disability-related abuse: a retrospective proof-of-concept study. *Journal of interpersonal violence*, 0886260519879240.

Ryan, S., Murphy, B., Harvey, S., Nygren, K., **Kinavey, E**., Ongtooguk, P. The Way of the Human Being, Supporting Native Alaskan Families who have a Child with a Disability

(2005). Young Exceptional Children, 9(2), 12-19.

OTHER PUBLICATIONS

Kinavey Wennerstrom, M., Stegenga, S., Allen, R., McIntosh, K, & Smith, J. L. (2018). Early Childhood Benchmarks of Quality Cultural Responsiveness Companion. OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. http://www.pbis.org

PEER REVIEWED SELECTED PRESENTATIONS

Kinavey Wennerstrom, E., Wennertrom, A., Stegenga, S., (September 2022) Addressing the Heart of Compassion Fatigue . Council for Exceptional Children, Division for Early Childhood. Chicago Illinois.

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CHAPTER 1

RATIONALE

Early Years, Critical Years: Rapid Brain Growth in The First Years

As the brain grows, critical periods require the right materials and experiences to continue a positive developmental trajectory. Early development is foundational to learning. Brain development occurs rapidly in the prenatal period and though it continues through the lifespan, it is most prolific in the early years (Douet et al., 2014; Shonkoff & Richmond, 2009). Both genetics and experiences play a role in brain development. Researchers from different fields are rapidly mapping how genetic and experiential factors influence healthy brain development. Scientists are rapidly mapping how genetic and experiential factors influence healthy brain development, as science has shown that a change in gene expression is fastest in the prenatal period. During this critical period when young children's brains are developing at an unprecedented rate, there are risks and opportunities. If basic needs such as nutrition and attachment are not satisfied, subsequent developmental disruptions may occur due to inadequate foundational structures and skills. If the requisite healthy environments and experiences are not met, later remediation may be difficult because the brain architecture and wiring does not have a proper foundation, even if the environment and experiences are changed.

Healthy attachment and attunement play crucial roles in shaping brain architecture particularly during early childhood. Secure attachment is the strong emotional bond between a child and their caregiver and is characterized by responsivity of the caregiver to the child's needs. This signals to the child the feeling of safety and stability and impacts stress regulation and pre-frontal cortex development. Attunement is the caregiver's ability to see and respond to the child's emotional and physiological experiences. Good attunement between caregiver and

child helps the child learn to manage emotions through empathetic responses and directly teaching children how to recognize and then learn to regulate physiological states. Meeting those needs provides the foundation for important future functioning in health, behavior, and learning.

Healthy development relies on several environmental factors such as nutrition, healthy attachment, and mitigation of risk. In utero environmental factors such as nutrition, teratogen exposure including toxic substances, and stress impact the brain's very architecture. Brain architecture develops sequentially, adding complexity from basic physical development to neural development during specific windows of time, known as critical periods. Developmental risks such as poor nutrition, insecure attachment, poverty, and stress can have adverse effects on the brain's long term structure during infancy and early childhood (EC; Blair & Raver, 2016; Keunen et al., 2015). Shonkoff and Richmond (2009) noted that "serve and return" is imperative for the brain and central nervous system to develop self-regulation capacity. "Serve and return" describes the back and forth that ensues when engaged caregivers interact with individual young children. When a caregiver considers a child's temperament and preferred activities and skills, they provide a unique, supportive, and stimulating environment for the child from which to explore. As the National Scientific Council on the Developing Child (2004b) noted, "attachments contribute to the growth of a broad range of competencies, including, positive social skills, successful relationships, a love of learning and a foundation of capacities that children will use for a lifetime" (p. 5).

Shonkoff and Richmond (2009) emphasized the importance of the perception of safety for the child, as this is achieved through consistent care and strong attachments with caregivers' relationships that promote and practice healthy engagement. A safe and attentive caregiver understands how to read a child's signals and creates an environment wherein their needs are met

through sensitive caregiving (Bowlby, 1969). A child's attachment style is impacted by the presence of sensitive caregiving (Meins et al., 2001; Posada et al., 2018). Attachment styles are described as secure, anxious-ambivalent, anxious-avoidant, or disorganized (Bohlin et al., 2012). Young children need experiences that are mediated by the strong secure relationships, or attachments, in their lives. This type of sensitive caregiving requires that adults understand the child's cues and behave in a responsive manner (e.g., a child cries from hunger and their caregiver provides a feeding).

Attachment and Attunement: Set the Stage for Self-Regulation

A caregiver's attunement to a child's temperament, mood, and cues impacts the quality of relationship and attachment formation. Due to their vulnerability, young children depend on close relationships with caregivers for safety, nutrition, and coregulation (Oades-Sese & Li, 2011; Ranson & Urichuk, 2008). In this context, supporting primary caregivers is an important part of supporting a child's healthy development (Heinrichs et al., 2014; Trivette et al., 2010). How caregivers coregulate and respond sensitively to children greatly influences the child's ability to develop skills to manage stress, solve problems, and regulate their own emotions. Often caregivers with less developed self-regulation skills are more vulnerable because they often have poor social support and difficulty asking for help effectively (Coyl-Shepherd et al., 2010). Healthy attachment relationships with supportive early caregivers are an important part of healthy development.

Through sensitive caregiving, healthy adults assist the brain development process by promoting well-being and guarding the child from toxic stress. For example, by noticing a child in distress and calming the child, the caregiver is supporting the child to settle an aroused nervous system. When this action, called coregulation, happens repeatedly and consistently, the

child eventually learns how to self-regulate (Ritblatt et al., 2017). Secure attachment, or the knowledge that caregivers provide safety and comfort, is linked with an increased capacity for emotional self-regulation (Perry et al., 2012; Zeytinoglu et al., 2022) and may act as a buffer for children who experience stressful situations.

Bakermans-Kranenburg et al. (2003) found that interventions focused on parental sensitivity were effective in increasing the attachment between the caregiver and child, indicating the importance of sensitive caregiving on secure attachment. McClelland and Cameron (2012) described self-regulation as a child's ability to build the capacity to direct "attention, thoughts, emotions, and actions" (p. 136). Effective interventions, such as those that focus on the relationship between the caregiver and child, have shown a great return on investment both in early skill attainment and life-cycle benefits such as increased high school graduation rates and reduced incarceration (Allen et al., 2016; Heckman & Mosso, 2014). Social and emotional competence is a driver of later cognitive and neurological development (Alzahrani et al., 2019; Rosenblum et al., 2009), but prioritizing children's healthy social and emotional development requires a cross-section of professionals to receive training and work together to identify and support families with young children. As the Division of Early Childhood (2014) noted, "sensitive and responsive interactional practices are the foundation for promoting the development of a child's language and cognitive and emotional competence. These interactional practices are the basis for fostering all children's learning" (p. 14).

Adverse Childhood Experiences and Chronic Stress Negatively Impact Health and Development

The National Center for Injury Prevention and Control (2019) defined adverse childhood experiences (ACE scores) as potentially traumatic events in childhood (0–17 years) such as

abuse, neglect, household or community violence, or household dysfunction (including substance abuse, mental health, or parental separation such as adult incarceration). The National Center for Injury Prevention and Control further noted that ACE scores are common, with 61% of participants of a 25-state sample having acknowledged at least one ACE. These types of adverse experiences cause the activation of the human stress response, increasing hormones such as cortisol. If this stress occurs too often, too quickly, or for prolonged periods of time (Lillas & Turnbull, 2009), it is considered chronic stress. Frightening or traumatizing events cause stress and, without adequate adult supporttaxes the physiological stress response system. Chronic stress due to ACE scores negatively impacts the child's developing brain in structure and wiring in ways that are associated with a myriad of future negative health and developmental outcomes (Sciaraffa et al., 2018). Cronholm et al. (2015) expanded this work to include additional impactful risk factors fat the community level such as witnessing violence, experiencing discrimination, living in a violent neighborhood, being bullied, living in foster care and lacking social cohesion.

ACE scores are correlated with chronic health issues, mental health diagnoses, and substance abuse in adulthood. Early stress and adverse experiences such as abuse and neglect can cause lasting damage to the brain's architecture and a myriad of subsequent negative cascading effects to one's development, physical health, and mental health, from reduced cognitive functioning and anxiety to diabetes and cardiovascular disease (Dube et al., 2003). Felitti (2009) explored the etiology of chronic diseases within primary care and found that ACE scores led to poorer health outcomes. Unmitigated toxic stress leads to a cascade of negative impacts and increases the likelihood of physical health challenges such as heart disease and diabetes (Felitti et al., 1998; Shern et al., 2016; Shonkoff et al., 2012).

More recently, ACE scores were also shown to correlate with negative developmental outcomes. Investigators at the University of Kentucky aimed to determine the association between overall ACE score and the risk of a developmental, social, or behavioral delay in a sample of children between the ages of 1 and 5 years (Cprek et al., 2020). Using data from the National Survey of Children's Health among a sample of 21,139 children, approximately one in four children (27.3%) were found to have a moderate to high risk of developmental, social, or behavioral delays. The authors highlighted a dose-response relationship, with results ranging from 24.2% for children with no ACE scores to 42.2% for children with four or more ACE scores.

High-Quality Early Childhood Education

Black et al. (2012) affirmed that consistent access to comprehensive Early Childhood Education (EC) programming (which ensures access to basic needs like food and shelter) is critical, but not enough. The authors noted inequitable access to high-quality comprehensive EC programs affects as many as 45% of children from low- and middle-income countries who do not fulfill their developmental potential. The benefits of high-quality EC and preschool experiences for children are well documented (Heckman, 2006). Many parents are not aware of crucial aspects of high-quality programming looks like or the importance of finding a program focused on supporting attachment, responsiveness, and attuned interactions as a vehicle for learning. Many families choose childcare merely based on availability and affordability and what they can afford, rather than evaluating program quality.

Unlike the comprehensive public school system in the United States, early care and learning opportunities are a mosaic of public and private efforts. As such, significant disparity exists across settings including environmental and educational quality and organizational

supports for teachers. For example, although Head Start mandates mental health consultation (Perry et al., 2010), many childcare centers are small, privately owned, and required to follow only basic health and safety regulations (Blau, 2007). Many of these regulations do not address quality or require robust organizational supports for teachers and staff, leading to great variability across settings (Miller et al., 2017).

Many of the same principles that apply to effective and supportive parenting also apply to EC educators and caregivers through teacher–child interactions (Upshur et al., 2009). For children engaged in out-of-home care, the ability of EC caregivers to engage in long-term high-quality interactions with young children is critical to positive outcomes (Choi et al., 2019; Mashburn & Pianta, 2010). According to Zeanah et al. (2000), children can show signs of disorganized attachment or other distress with one caregiver but not with another. This illustrates the importance of children having close caregiving relationships, which are critical to healthy social and emotional development in young children. Protecting children from unmanaged stress and providing high-quality support to families with young children and EC-serving programs should be considered a method of primary prevention. The expanding pool of information on the importance of high-quality EC environments from the home to childcare and preschool necessitates education policymakers and society at large to reflect on the need for and importance of high-quality ECE and intervention services.

ACE Scores Increase the Risk of Exclusion for Early Care and Learning Settings

Sixty percent of children under 5 years of age experience at least one day of out-of-home care each week (National Center for Education Statistics, n.d-b); however, they do not leave their traumatic experiences at home. When they enter early care and learning centers, young children with ACE scores are significantly more likely to engage in challenging behavior and subsequent

exclusion from the setting. Already a significant challenge in EC settings, young children are more likely to be suspended or expelled than school age children (Zinsser et al., 2022). According to Zeng et al. (2019), the odds ratio of a child's chances of experiencing exclusionary practices (simply put, suspension and expulsion) in EC increased 80% for each additional ACE score. High ACE scores increase the likelihood of challenging behavior, which predicts expulsion. Given the high rates of ACE scores for young children and their impact on development and behavior, states are grappling with how best to support young learners. For example, in Oregon, a bill was passed in the 2021 legislative session that would disallow the use of exclusionary practices, such as suspension and expulsion, in EC settings (Rodriguez-JenKins et al., 2022). Expulsion disrupts the teacher–child relationship and excluded children frequently end up in lower-quality settings, further lessening the quality of their early relationships and environments.

There are multiple reasons young children may have higher rates of exclusion than their older counterparts. Implicit bias was considered a contributing factor to the disproportionate disciplinary actions for young children, particularly boys of color who are at significantly higher risk of expulsion and suspensions across EC settings (Davis et al., 2020). According to the Head Start Child Care State Capacity Building Center (United States Department of Health and Human Services, 2022), dimensions of expulsion are (a) lack of knowledge of child development, (b) implicit bias, and (c) additional needs of children (i.e., disability status and trauma history). Additionally, teacher well-being and stress and organizational supports are additional factors that impact the quality of early learning environments and may influence the use of exclusionary practices.

Reduction of exclusionary practices as well as mitigation of ACE scores in the EC population are two examples of practices that can lead to improved outcomes in EC. Evidence-based practices (EBPs) are those shown to be effective based on empirical data and have been targeted for wide scale implementation. Implementation science and EBPs are discussed next.

Implementation Science and Research Practice Partnerships

EBPs take significant time and effort to develop. Brownson et al. (2018) detailed the 15 to 20-year journey it takes for a research funding priority to evolve into specific practices, referred to as the research-to-practice gap. This gap is widened when strategies are effective in a controlled environment but are difficult to implement and sustain in real-world settings. This gap comes into sharp focus as we strive to make changes. Over time, scientific knowledge translates into policy within family support and ECE practices and policies. This information pushes federal, state, and local governments to make gains in expanding access and quality to EC services and programs in part due to the long-term effects. Large-scale improvements are built on EBPs (Odom & Cook, 2013), and in the EC field, recommended practices and regulations point to their use (e.g., Division of Early Childhood, 2014; IDEIA, 2004).

Despite having a plethora of EBPs aimed at supporting quality across EC programs, systems struggle to implement these EBPs at the program and practitioner levels. Readiness, capacity, and the fit between the EBPs and program philosophy can all lead to implementation challenges and failure. The failure rate for implementing EBPs is alarmingly high, with only a 33% success rate of complex change initiatives (Smith, 2003) and only 50% of interventions ever making it to full implementation (Balas & Boren, 2000). We must therefore improve the capacity to successfully implement EBPs.

We have knowledge that we are not currently using to improve outcomes in human service (SISEP, 2010), a phenomenon known as the research-to-practice gap, which affects EBP implementation. Implementors must learn to systematically address issues of implementation to ensure appropriate adaptations are made during adoption to guarantee EBPs are appropriate to target communities. One model to improve the adoption of EBPs is *research practice partnerships* (RPPs). According to Coburn and Penuel (2016), RPPs are identified as work that is done together with providers and researchers to explore challenges to improve practices and classrooms. In this model, community partners are involved in all aspects of the research from initiation of the idea to data collection, analysis, results, and resulting systems/practice change.

Research to Practice Partnership in Alaska

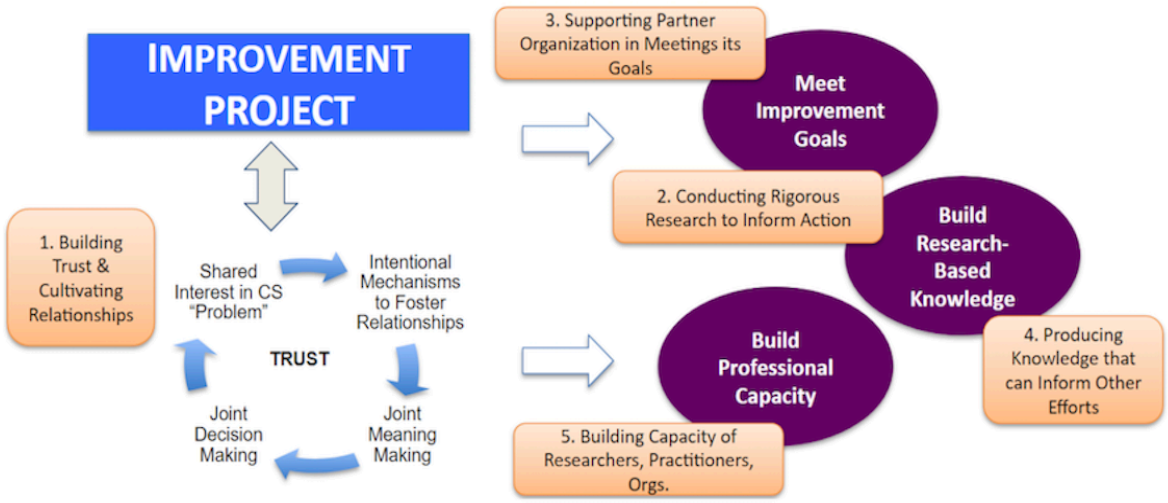
Research to practice partnerships are long-term collaborations between organizations and researchers to solve identified problems (Henrick et al., 2017). Figure 1 illustrates the framework for RPP work for this dissertation and describes a series of five steps.

This project involved leaders from across Alaska's EC systems in a process to address a concern regarding the frequent and use of exclusionary practices in EC settings (Clayback & Hemmeter, 2021; Gilliam, 2005; Wymer et al., 2020). I was initially invited to participate with former colleagues in a symposium on EC exclusionary practices, which explored issues of implicit bias, race, and teacher stress as contributing factors to this problem. In Step 1, a leadership team was formed, and an emphasis placed on building trust, cultivating relationships, and defining a shared problem. The team included EC program leaders from a variety of EC settings, including Alaska's Quality Rating Improvement Systems (QRIS) director, the early intervention (EI) and EC special education (ECSE) coordinator, the Alaska Head Start Collaboration Childcare Program office director, the Alaska Pediatric Partnership executive

director, and the EC program officer for the Alaska Mental Health Trust Authority. The leadership team named themselves the Reducing EC Exclusionary Practices (RECEP) leadership team.

Figure 1

Framework: Dimensions for Assessing RPPs



A specific concern for the leadership team was recent data that showed racial bias in EC programming to be a driver of exclusionary practices (Meek & Gilliam, 2016). This project was not started with the intention of conducting dissertation research; rather, it was initiated due to an overarching need related to exclusionary practices and the commitment to solve this problem. The leadership team was also committed to an exploration of implementation science, strong relationships among participants, and a long work history in EC systems in Alaska. As the project progressed, it was apparent that a more rigorous, data-based approach was called for to answer empirical questions related to exclusionary practices and teacher ability to deal with challenging behaviors in the classroom. It was then that this formal dissertation research process was planned and initiated.

The Alaskan Project for Reducing Early Childhood Exclusionary Practices (RECEP)

The following section describes the steps that RECEP followed to explore and develop solutions to decrease exclusionary practices and increase positive behavior support and teacher effectiveness in EC settings.

Step 1: Building Trust and Cultivating Relationship

Define the Project's Scope. A series of monthly RECEP meetings were convened both virtually and in-person during 2017 and 2018 to define the project's scope related to the shared interest in reducing the use of exclusionary practices across EC settings. I facilitated monthly meetings to establish ground rules, further define the problem, engage in joint decision making, and refine the process. Identified gaps included a shared definition of exclusionary practices, lack of system for collecting exclusionary practice data, and no ability to review exclusionary practice data to disaggregate by race/ethnicity to determine equitable practices. The subsequent steps that were followed in this process are described below.

Step 2: Research to Inform Action

Subsequent work in 2018 and 2019 included structured interviews with key informants (i.e., teachers or directors providing care to children under 5). With guidance from RECEP, an exploratory survey was created to better understand the landscape of available teacher supports and resources, staffing patterns, and the number of children who were suspended or expelled. Organizational supports such as supervision, training, and planning time were explored. These self-developed initial surveys provided pilot data that indicated that lead teachers were more likely to expel young children and that rates of exclusionary practices were indeed high. The data showed that both teacher burnout and stress may be contributing factors.

Step 3: Supporting Partner Organizations to Meet Goals

RECEP acknowledged that a needed step to meet improvement goals was developing and adopting a shared definition of exclusionary practices across organizations. A shared definition of exclusionary practices (i.e., being sent to the director's office or sent home early) based on joint federal guidance from the US Department of Health and Social Services (2016) was adapted with minor changes and a white paper was developed for leadership team members to bring back to their organizations for adoption. In addition to this step, RECEP felt a better understanding of teacher stress and coping would be a critical piece of information across EC systems to decrease the disproportionate use of exclusionary practices related to our youngest learners.

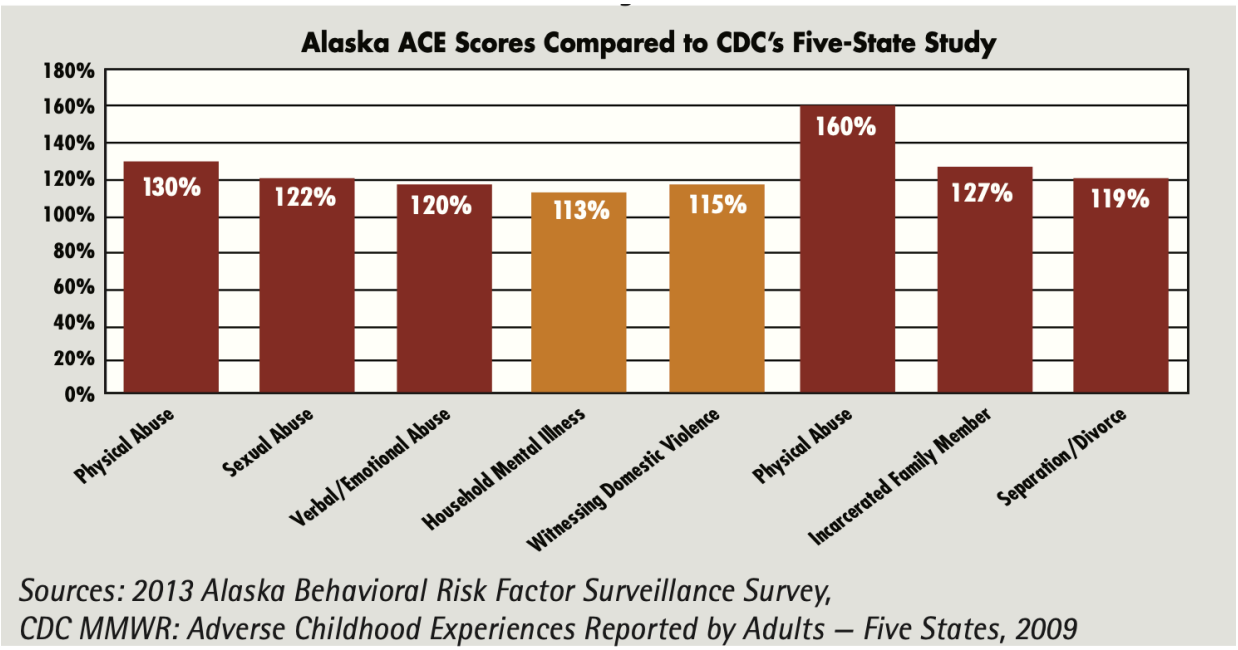
Step 4: Producing Knowledge to Inform Efforts

This step included exploration of contributing issues related to EC exclusionary practices. RECEP felt that several factors related to teacher stress and training might be critical to explore, including workplace stress and teaching coping behaviors.

Whitaker et al. (2015) indicated that workplace stress is related to increased conflict between children and their teachers. This conflict may be perceived by the teacher as a child engaging in "challenging behavior," a major driver in the use of exclusionary practices. Challenging behaviors in children are directly linked to their ACE scores; children with higher scores often show increased challenging behaviors and have more difficulty in the classroom (Zeng et al., 2019). Figure 2 shows Alaska's ACE scores compared to the Center for Disease Control's (CDC) five-state study. Suggesting Alaska high rates of ACE scores would suggest high risk for the use of exclusionary practices. Building capacity of researchers, practitioners, and organizations will be important to address complex problems such as these.

Figure 2

Alaska ACE Scores Compared to CDC's Five-State Study



Note. From "2013 Alaska Behavioral Risk Factor Surveillance Survey," by Centers for Disease Control and Prevention, n.d. (https://health.alaska.gov/abada/ace-ak/Documents/2013-BRFSS-updated201502.pdf).

Teachers with higher levels of stress also were more likely to have unchecked biases (Chen et al., 2020), another risk factor for children who might experience expulsion and suspension at disproportionate rates. Understanding the relationship between how teachers successfully cope with stress may be an important link to reduce stress and subsequently reduce the use of exclusionary practices. Due to exceptionally high rates of ACE scores in Alaska, the RPP suggested a detailed look at stress in the ECE provider population. As potential tools to measure teacher stress, a panel reviewed tools used across a variety of professions. Most did not seem appropriate for the age group and population. One potential tool, Maslach Burnout Inventory, was reviewed but rejected due to cost and a belief it could not be sustained in practice

(Maslach & Jackson, 1981). Ultimately, the Professional Quality of Life (ProQOL5) survey was selected. This tool became the major focus of the current study, as the direct immediate target of improving teacher behavior, with the long-term goal of improving teacher coping, teacher management techniques and decreasing exclusionary practices.

RECEP leadership team reached the conclusion that there was a need to explore the relationship between compassion satisfaction and fatigue and the use of exclusionary practices across EC settings, recognizing that the type of stress and stressors would inform the best choice of intervention for decreasing exclusionary practices. However, once Covid-19 hit, the definition of expulsion itself became tricky, and the environment changed so much that the team suggested refocusing on stress and coping. Stress and coping were highly relevant, not only because of the connection to expulsion but to protect and safeguard a critically important workforce who is at risk of walking away from the job. The concern of high turnover rates was ubiquitous in Alaska and elsewhere, as teachers faced the challenge of managing their own stress while being asked to remain calm, warm, and caring in a chaotic environment. These stresses continue in the EC field today and were only slightly abated post-pandemic. At the time, Covid-19 shut down most EC programs and the leadership determined that it was necessary to shift the work to meet the current context. Exclusionary practices were dropped from the proposed study and the team pivoted to teacher stress and coping strategies, with a plan to reengage the original study later. As schools remained closed, the RECEP leadership team recommended using extant data from the stress and coping survey form the foundation for an exploration of teacher stress and coping behaviors.

Serving on this RECEP taught me that there is little literature or guidelines to lead programs and systems in identifying systemic problems and especially in devising solutions

based on RPPs. Little research has focused on teacher stress and coping to subsequently explore if there is value to find a way to improve those skills in EC settings. In addition, research gaps exist in understanding rates of teacher burnout, secondary traumatic stress (STS), and compassion satisfaction in EC settings. Research is needed to understand organizational supports and individual interventions that support compassion satisfaction and reduce compassion fatigue.

Improving EC Teacher Coping and Behavior Management Skills

Due to high rates of exclusionary practices in EC settings and increased attention to eliminating those practices, a focus on how to best support teachers and reduce teacher stress and coping was deemed critical to explore within our EC educator population. Few if any studies have focused on this construct with this population. A baseline assessment of teacher wellbeing was determined to be the first needed step, followed by investigation of ways to support the well-being of teachers working with students with ACE scores and other risks.

Research gaps exist in understanding rates of teacher burnout, secondary traumatic stress, and compassion satisfaction in EC settings. Research is needed to understand organizational supports and individual interventions that support compassion satisfaction and reduce compassion fatigue. The purpose of this quantitative cross-sectional survey study was to identify what coping strategies lead teachers in EC settings were using and whether the type of coping strategy would predict rate of compassion satisfaction or compassion fatigue. This was instigated as the first step to improve teacher coping skills and behavioral repertoires as a means of ultimately reducing exclusionary practices. Research has begun to focus on compassion satisfaction or compassion fatigue in helping professionals such as first responders, mental health workers, and medical providers, none has occurred in the early childhood arena. Exploration of

these topics in educational settings remains minimal and is especially important for the EC population.

CHAPTER 2

LITERATURE REVIEW

Literature is summarized in this chapter related to preschool children's well-being, healthy classrooms, preschool teacher coping, burnout, and secondary trauma experienced by teachers when intervening with young children with multiple behavior disorders. The review covers the impact of attachment on development, trauma-informed education and care, teacher–child interactions, and links to teacher well-being and stress on child outcomes. Finally, a model for improving teacher coping, preventing burnout, and ameliorating teacher stress and trauma is described.

Attachment, Development, and Implications for EC Education Settings

Children are mastering critical skills for success later in life, such as self-regulation and impulse control, which they learn through nurturing adult–child interactions. One lens through which to view EC–adult relationships is the developmental theory of attachment. Supportive parenting leads to secure attachment and predicts child behavior in later years. Ainsworth et al. (1978) observed and documented a positive correlation between responsive caregiving and secure attachment, which has repeatedly been demonstrated, even when controlling for a child's temperament (Pederson et al., 2016; Posada et al., 2016; Sroufe, 2005). Sensitive and attuned caregiving facilitates attachment, which impacts the child's later social and emotional functioning and academic success (Shirvanian & Michael, 2017).

In primary caregiving relationships, there are often subtle infant/child and adult interactions, sometimes described as "serve and return," which contributes to the quality of the attachment (Morales-Murillo et al., 2020; Shonkoff, 2017). An infant seeks comfort and safety from an attachment figure and learns to rely on that attachment figure in stressful situations.

Securely attached children return to the caregiver to feel safe and find the confidence to explore their environment (Dujardin et al., 2015). Healthy attachments contribute to coregulation skills and facilitate psychological well-being. Secure attachment contributes to emotional stability, learning, and emotional regulation and results from responsivity and attunement or consistent serve and return in relationships where the caregiver can read the child's cues and respond in a timely and sensitive manner (Bowlby, 1973; Busch & Lieberman, 2010; Ruiter & Van Ijzendoorn, 1993). Shirvanian and Michael (2017) explained that this feeling of safety translates to emotional safety as the child who has secure attachment trusts that they can express negative feelings and emotions without fear of rejection. Insecure attachment is correlated with cognitive decline later in life (Walsh et al., 2019). An insecurely attached child might suppress the expression of negative emotions (insecure-avoidant) to avoid rejection or escalate the expression of negative emotion (insecure-ambivalent) to gain attention from the caregiver.

Attachment impacts social and emotional development as well as healthy cognitive, language, and self-regulation development (Balbernie, 2013; Bernier et al., 2010; van Ijzendoorn et al., 1992). In the first years, as the brain is most rapidly developing, the strength and type of attachment impact the developing limbic system and subsequent mental health and well-being later in life (Schore, 2015). Further noting that dopamine significantly increased through high-quality serve-and-return interaction; conversely, insecurely attached children demonstrated elevated cortisol, which at high levels is an ingredient in the recipe of toxic stress. The concept of attachment and the attachment type has implications for academic success as well.

For example, avoidant attachment is highly correlated with poor emotional, social, and academic outcomes; high levels of behavioral challenges; and poor relationships with peers (Granot & Mayseless, 2001, 2012). Conversely, securely attached children show better self-

regulation, memory, and impulse control, all predictors of academic success (Ponitz et al., 2009). Specific to children under 5 years of age, insecurely attached children were less successful with imaginative and creative play, which are important tasks in EC settings (Read, 2014).

EC mental health and healthy social-emotional development are defined as the skills needed to form close and secure adult and peer relationships, including experiencing, managing, and expressing a full range of emotions; exploring their environment; and learning (Zero to Three, n.d.). Social and emotional development underpins overall developmental health, including physical, cognitive, language development, etc. Infancy through EC is considered a sensitive period, where events are more likely than in other periods to alter physiological, emotional, and behavioral development and trigger lasting changes to functioning (McLaughlin et al., 2015). Many young children are at risk for disrupted attachment or increased early stress. Children 2 years and younger who experience maltreatment demonstrate impaired executive functioning, including inhibitory control and working memory, compared to same-aged children who did not experience maltreatment (Cowell et al., 2015; Loomis 2021) found that a child's experience of adversity is correlated to higher rates of self-regulation challenges and teacher–child conflict.

All children benefit from a positive environment with nurturing relationships as children learn through relationships and interactions with people in their environment (Sameroff & Chandler, 1975; Shonkoff & Meisels, 1990). The quality of how sensitive and attuned a caregiver is to the moods and needs of the children impacts their developmental outcomes. A best practice in EC requires the recognition that consistent caregiving is an essential component of the attachment process and feelings of safety and security for very young children. This task is more critical in the EC context because of the high rate of brain development and needed rapid

mastering of key skills. For example, children may still be mastering receptive and expressive language and may exhibit challenging behaviors due to an inability to express themselves (Petersen, 2013).

Trauma and its Impact on Development

Trauma or ACE scores, such as parental incarceration, mental illness, and abuse and neglect, can have deleterious effects on a young child's development. Exposure to trauma during the critical first years can cause fundamental disruptions across developmental domains and contribute to the risk for mental illness, as well as the onset of adult chronic diseases (e.g., diabetes and cancer) and early death (Felitti et al., 1998). ACE exposure and corresponding risks are quite common in the United States and they are unequally distributed. Controlling for economic hardship, the breakdown of children with at least one ACE includes 61% of non-Hispanic Black children, 51% of Hispanic children, 40% of non-Hispanic White children, and 23% of non-Hispanic Asian children (Health Resources and Services Administration, 2018). According to the Oregon Health Authority (2019), 24% of children in Oregon have experienced two or more ACE scores, higher than the national average.

Compared to older children, very young children are at the greatest risk of being abused and neglected. The rate of maltreatment for children under 2 is over one-quarter of all reports of maltreatment at 27.8% (United States Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, 2023) and may be higher than reported (Sedlak, et al., 2022). Metcalf et al. (2022) found the number of children who received medical evaluations was higher in 2020 compared to 2019, suggesting an increase in the occurrence of maltreatment in need of medical review or intervention. Infants with high ACE scores may be difficult to soothe, irritable, fussy, anxious,

and even depressed. This can be a greater challenge for parents who themselves are tired, irritable, anxious, or depressed. Toddlers and preschool-aged children with ACE scores may exhibit significant and persistent challenging behaviors such as aggression, excessive crying, or reenactment of traumatic events. A study of elementary students found that ACE scores had a dose-response effect in terms of poor academic performance on indicators such as attendance, behavior, and grade-level achievement in math, reading, or writing (Blodgett & Lanigan, 2018). In EC settings, higher ACE scores are positively correlated with the increased likelihood of suspension or being expelled from school (Zeng et al., 2019). These exclusions are not evenly distributed; Black and brown children tend to have more ACE scores and are more likely to be expelled (Gilliam, 2005; Paschall, 2019). Lipscomb et al. (2021) found that ACE scores for young children were positively correlated with developmental challenges in self-regulation, math, and on-task behaviors.

The Oregon Health Authority recommends that any child under 5 years of age with an ACE score of two or more should be referred for mental health services. This is an acknowledgment of anticipated developmental impacts, including dysregulation, challenging behaviors, depression, and anxiety (Mortensen & Barnett, 2018). Supporting preschool children who have experienced multiple ACE scores may be more difficult in the classroom and may also require special training and support such as trauma-informed education. High-quality EC is critical for addressing these risk factors, especially for children with multiple risks or ACE scores as well as those experiencing poor caregiving interactions and environments.

Quality in EC Settings

Unlike EC education settings, K–12 classrooms are governed by uniform federal regulations, state statutes and policies, as well as district-level rules set forth by their locally

elected school board members. EC education is a patchwork of programs and systems with less integrated and coordinated policies and regulations than the K–12 system (Lynch, 2016). In the EC arena, major sources of funding, congressional oversight, and federal regulations for EC programs come from a variety of agencies such as the Department of Health and Human Services (e.g., child care and Head Start), Department of Education (DOE; e.g., Early Intervention, Early Childhood Special Education, preschool), Department of the Interior (tribally controlled school grants), Department of Agriculture (nutrition programs, rural development), the Social Security Administration (maternal, infant, and EC home visiting programs), and the Internal Revenue Service (child tax credit programs). This patchwork of public and private funding and the lack of resources for high-quality EC results in low compensation rates, high teacher turnover, and a lack of trained and experienced teachers (Greenberg et al., 2016; Hindman & Bustamante, 2019; Roberts et al., 2019). In addition, there are few incentives for EC teachers to remain in the workforce. The Institute of Medicine and National Research Council (2012) stated the following:

> The early care and education workforce is at risk financially and emotionally and physically subject to a vicious cycle of inadequate resources, low qualification expectations, low education levels… The early childhood workforce in settings outside of elementary school is particularly affected by a quality cost mismatch in the care and education market childcare costs are highly driven by personnel, and worker turnover is high. Federal subsidies are inadequate to pay for the high quality of care they are intended to promote, and most families are unable to pay for the quality of care they desire. (p. 478)

This variety in funding streams represents differing priorities and desired outcomes, goals, and administrative rules (Lynch, 2016). This variation in funding and priorities can make it difficult for states to develop comprehensive, equitable systems of ECE and can make it difficult at the local and program level to deliver high-quality comprehensive services. Teacher training is variable in quality and not required for many preschool positions. The training offered by junior colleges and universities often lacks adherence to standards and empirical practices, such as emphasizing the provision of positive environments and behavior management strategies, promoting teachers' feelings of autonomy, and encouraging access to and use of mental health and emotional well-being resources (Hindman & Bustamante, 2019). Adequate training, support, and compensation are all critical for high-quality EC settings, and thus improvements in overall child outcomes.

Healthy Classrooms = Healthy Children

Early caregivers such as EC teachers can have an additive or supplemental effect on improving self-regulation, developing secure attachments, and promoting positive social-emotional development in young children (Dagan & Sagi-Schwartz, 2021; van IJzendoorn et al., 1992). Orehek et al. (2017) concluded that relationships and self-regulation are interrelated and critical to establishing healthy classroom climates. Unlike older students, young children under 5 are in the process of learning critical skills that will lead to later developmental and academic success. High quality teacher–child interaction and responsive caregiving requires the teachers be adept at classroom management, stress management, and self-regulation. Learning these self-regulation skills requires adults in the room to model good problem-solving behaviors and provide coregulation skills. All young children depend on their caregivers' emotional state to

provide coregulation and responsive care for their well-being and development. Attention must be paid to the quality of these factors in early environments.

Myriad studies have demonstrated the importance of ensuring high-quality childcare to support overall development, including social and emotional development for all children (Vandell et al., 2010 ; Phillips & Lowenstein, 2011). The developmental and academic benefits are particularly significant for at-risk children who are in high-quality caregiving environments (McCartney & Bubb, 2011; Herndon &Waggoner, 2015).

Horm et al. (2022) noted that at-risk children in high-quality childcare scored significantly higher on developmental tests than peers who did not have access to high-quality childcare. As many as 30% of children in foster care are also in childcare and preschool classrooms a salient example of the importance of focusing on high-quality EC interactions in a comprehensive early education and care system. Klika et al. (2023) found that states with more generous income subsidy policies for early care and learning had lower rates of child maltreatment. Klein et al. (2017) found that children in Head Start classrooms were significantly less likely to be removed from their home, a primary goal of the child welfare system.

The National Center for Education Statistics (n.d-a) noted that 59% of children are under nonparental care such as family childcare, childcare centers, Head Start programs, preschools, prekindergarten, and other EC programs. In addition, there are national- and state-specific initiatives to expand access to preschool, especially for children from low-income environments. For example, in Oregon, the Preschool Promise program offers free preschool for parents living at or below 200% of the federal poverty level (Oregon Department of Early Learning and Care, n.d.). Furthermore, the Early Learning Division is currently piloting an Infant Promise program to expand and provide childcare for infants and toddlers in addition to preschool-aged children.

The federal government recognizes the positive impact and potential of high-quality childcare to improve child outcomes by prioritizing funds for high-quality programs for high-risk children and families. For example, within the Administration for Children and Families, the Office of Child Care provides developmental block grant money specifically for children involved in child welfare to improve the continuity of care, recognizing the importance of primary caregivers and attachment (Meloy & Phillips, 2012).

In summary, given the rate of brain development in the early years and the importance of attachment and positive adult–child interactions, creating safe and nurturing environments that promote social and emotional learning is a critical piece of quality early care and learning programs. High-quality preschool education relies on well-trained and supported EC teachers, in particular for at-risk children. Developmentally appropriate EC classrooms have demonstrated valuable and positive outcomes for children when the teachers engage in responsive interactions, create a well-organized environment, and use an evidence-based curriculum (Hamre et al., 2014). McNally and Slutsky (2017) asserted that the emotional environment and connection with teachers to support the development and specifically the self-regulation of young children are linked to later academic success.

Due to the transactional nature of development (Sameroff & Chandler, 1975) and increased stress and trauma in children, there is a growing need for a highly trained and skilled EC workforce to both enhance young children's interactions as well as act as a therapeutic agent in what might be a disorganized and nonnurturing environment (Bricker et al., 2020). Mortensen and Barnett (2016) emphasized that interactions in preschool settings are critical as they can have a buffering effect on stress or compound dysregulation and developmental disruption. The National Research Council (2011) stated the following: "Emerging research has pointed to

factors—particularly a secure attachment between child and caregiver and the emotional and mental well-being of the caregiver—that are important components of beneficial care" (p. 85).

The Health of EC Teachers

Compensation and Classroom Health

EC teachers, especially over the last decade, have been struggling in terms of their salaries, classroom conditions, and increased behavioral issues in EC classrooms. Like their public school counterparts, EC workers have not seen an increase in effective earnings since 1997 (Allegretto, 2022; Phillips et al., 2016). Wages are part of the equation of historically high turnover rates in this sector. According to the Center for the Study of Child Care Employment (2018), EC workers are paid significantly less than public school teachers. Table 1 compares EC educator pay in Alaska.

Table 1

EC Worker Wages in Alaska

Occupation	Median wage
Childcare worker	$11.99
Preschool teacher	$14.82
Center director	$28.86
Kindergarten teacher	$40.48
Elementary teacher	$42.87
All workers	$22.86

In 2017, the median wage for childcare workers per hour was $11.99, a 1% decrease since 2015. Preschool teachers in that same year had a median wage of $14.82, an 18% decrease since 2015. Haspell (2022) noted that during the pandemic, other low-wage industries like fast food and Amazon raised their compensation to a $15 starting wage; childcare programs could not

keep pace because of a lack of public investment leading to a depletion of the early care and education workforce.

Although the economy has mostly recovered within 2 or 3 percentage points of pre-pandemic employment levels, the childcare industry remains about 12% below its pre-pandemic employment level. However, although the staffing shortage is not simply related to the pandemic, returning and maintaining a workforce may require substantial changes in how we compensate and support the workforce. In a 2014 National Education Association survey, 45% of teachers considered leaving the profession. In addition, teachers' concerns about job security leaped from 24% in 1999 to 44.4% in 2012 (Warner-Griffin et al., 2018). The United States DOE (n.d.) highlighted the looming increases in teacher shortages and what the DOE and universities and state departments of education are doing to combat these shortages, specifically detailing projected teacher shortfalls in the areas of special education, bilingual education, and ECE.

These facts elevate concerns for the stability, health, and well-being of our public educators and the quality of the public education system at large. One way to alleviate these concerns is to enhance individualized supports for EC educators while we work toward a wider recognition of the market failure and invest in a wage solution. Compared to preservice training required for teachers in the K–12 setting, a lack of classroom-management skills and subsequent challenging behaviors in the classroom is often cited as a major source of stress in teachers and a driver of exclusionary practices in EC settings (Clayback & Hemmeter, 2021). The Hamilton Project (2017) indicated that teacher preservice training and subject licensure can positively correlate with educational impacts and student achievements. Despite this, programs that serve as parts of the early care and learning system have low expectations for training or certifications, linked to low compensation, which makes it hard to recruit a truly qualified workforce.

Teachers Stress

High rates of turnover, low pay, and lack of support characterize the EC field (Frosch et al., 2019). The idea that workforce well-being is important to the quality of caregiving and teaching is not new (Institute of Medicine & National Research Council, 2012). However, more must be discovered about the over 2,000,000 EC teachers in the workforce supporting the development of many of our prekindergarten-aged children. EC workers often make low wages and have poor mental well-being compared to other workforce segments. A sample of Head Start teachers found rates of clinical depression as high as 25% (Whitaker et al., 2015). Hubel et al. (2020) noted that early childhood educators report ACE scores at higher rates than the general population (73% vs. 62%). A lack of organizational support and training, stressful work conditions, poor pay, and teacher stress and well-being impact the quality of caregiver and child attachment and interactions. Some of the few available studies suggest that mental health disorders such as depression may be more common than previously understood. Whitaker et al. (2015) noted that 25% of Head Start teachers met criteria for depression and as many as 70% of Head Start teachers experience some symptoms of depression through the year. Hindman and Bustamante (2019) found higher depression was positively correlated with larger class sizes and a lack of organizational supports. When EC teachers experience stress, it impacts their own well-being and poses challenges to employers (Maxwell et al., 2018). Depressed Head Start teachers used significantly more sick time. Tied with nursing for the highest ratio of daily stress, teacher stress is a significant issue impacting turnover rates.

Roberts et al. (2019) found that EC teachers' beliefs about discipline, workplace demands, and low resources correlated with increased rates of depression. Teachers' experiences of stress are the highest among human service professionals (Curbow et al., 2000; Greenberg et

al., 2016; Li Grining et al., 2010). This negatively impacts teacher well-being and increases the likelihood of burnout (Bottiani et al., 2019). Several factors influence teacher stress and job satisfaction: wages, hours, job demands, work resources, teacher well-being, and social and emotional competence. These EC teachers muster tremendous emotional resources to provide nurturing interactions in the context of low organizational support, leaving them emotionally exhausted (Arens & Morin, 2016). Jeon et al. (2018) found that teachers' feelings of competency and the workplace's emotional climate were positively correlated with EC educators' well-being, controlling for individual variables.

Harden et al. (2010) identified that high levels of perceived responsibility and insufficient support led to high-stress levels in EC educators. Simons et al. (2022) found that EC teachers may need additional support for their well-being to be effective teachers/caregivers in the classroom. In addition, teachers who felt unprepared to deal with the behaviors and emotions that young children bring with them to the classroom experienced increased feelings of inefficacy.

Stress and the Covid-19 Pandemic

In this context, the pandemic has exacerbated challenges within the early care and learning workforce (Eadie et al., 2021) and has been unusually stressful for teachers (Allen et al., 2020), who comprise an already stressed workforce. Bryant et al. (2020) found a rise in the rates of ACE scores in children during the pandemic, especially for minority and low-income communities. Calvano et al. (2022) found that parental stress increased significantly during the pandemic with high rates of depression and anxiety. A third of the sample saw an increase in witnessing domestic violence as well as verbal and emotional abuse. The authors noted that more than 50% of the parents reported stress due to inconsistent access to educational and EC settings.

Although some programs closed, others limited enrollment for periods of time and new and temporary federal, state, and local policies added more changes to the system (CDC, 2020). Kwon et al. (2022) found that Covid-19 required flexibility and made many of those in the EC field feel role confusion due to rapidly shifting job duties and delivery modalities, which increased their stress (Aziegbe & Cook, 2020). For obvious reasons, much attention has been paid to healthcare providers, doctors, nurses, and other frontline healthcare workers, such as mental health clinicians. Matsuishi et al. (2012) noted that medical workers in high-risk environments felt significantly more stress regarding anxiety illness, exhaustion, and demands. Maunder et al. (2010) noted the importance of psychological support for healthcare workers, which is also lacking for staff in educational settings. It is essential to consider the experience of EC teachers caring for young children in groups, where the children are unable to be vaccinated and the teachers have limited communication, limited training in infection control, and frequently changing guidelines.

The Center for Health Minds at the University of Wisconsin found that 78% of EC educators (prekindergarten) showed clinically meaningful levels of anxiety and 54% showed clinically meaningful levels of depression (Hirshberg et al., 2023). The authors further found that low wages predicted symptoms of depression and intention to leave the job, reinforcing previous studies regarding low wages and workforce well-being. The pandemic has placed even more urgency on EC systems to focus on healthy classroom environments, support to families and children, and especially support and training for the EC provider.

Decreasing Teacher Stress

Historically, EC research has focused on teacher experience, training, child ratios, and other structural factors. Little or no research has focused on the emotional well-being of teachers,

a factor likely to influence teacher interaction quality (Roberts et al., 2016). However, with the crisis facing the EC field post-pandemic, there is now a need to focus on the health and well-being of EC teachers as well as improve preschool teachers' salaries and working conditions. With this increased concern about teacher well-being, a focus on the stress placed on EC teachers has emerged (Zinsser et al., 2019). Large systems such as Head Start have shifted support to emphasize issues like teacher well-being and burnout (National Head Start Association, n.d.).

Hindman and Bustamante (2019) pointed out that few empirical studies have explored mental health and stress in ECE teachers despite the high demands placed on them. These include expanding job demands with increased accountability requirements, child food insecurity, low wages, and poor organizational support, leading to increased anxiety and feelings of burnout (Richards et al., 2018). Harden et al. (2010) identified that high levels of perceived responsibility and insufficient support also led to high stress levels and increased burnout. In addition, the increase in knowledge regarding childhood trauma and a rising acceptance of the need for trauma-informed education may be another source of stress for teachers in the absence of sufficient training and resources. These issues underscore the importance of better understanding the various stressors impacting EC teacher well-being to reduce stress and provide teachers support.

Trauma-Informed Education

Trauma-informed education requires that EC teachers understand their role in supporting brain development and social and emotional skills, such as self-regulation, through positive and dynamic interactions for children from diverse backgrounds, including maltreatment. Many young children experience adversity and traumatic events such as natural disasters, community

violence, domestic violence, death or separation from a parent, parental incarceration, parental mental illness, and substance abuse.

In response to the high prevalence of childhood trauma, Cole et al. (2005) introduced a framework to address this public health and educational crisis and coined the term *trauma-sensitive* or *trauma-informed education*. Craig (2015) said, "Trauma-sensitive schools emphasize safety, empowerment, and collaborative partnerships between children and adults. Within this model children's negative behaviors are the direct or indirect result of an 'injury' caused by physical, emotional, or social maltreatment" (p. 5). The trauma-informed approach has challenged common practices related to discipline as well as other standard policies and procedures (Thomas et al., 2019). Like schools, early education settings can be places where children with adverse experiences can learn to relax their arousal states and strengthen areas affected by early trauma such as executive functioning, impulse control, and language development through high-quality interactions (Blair, 2016; Perkins & Graham-Bermann, 2012).

To provide trauma-informed education, teachers themselves must recognize and regulate their own levels of stress. Lazarus (1966) described stress as the imbalance of the cognitive and emotional system by external stressors. Being able to measure stress in teachers is a first step towards improving the working environment and teacher well-being.

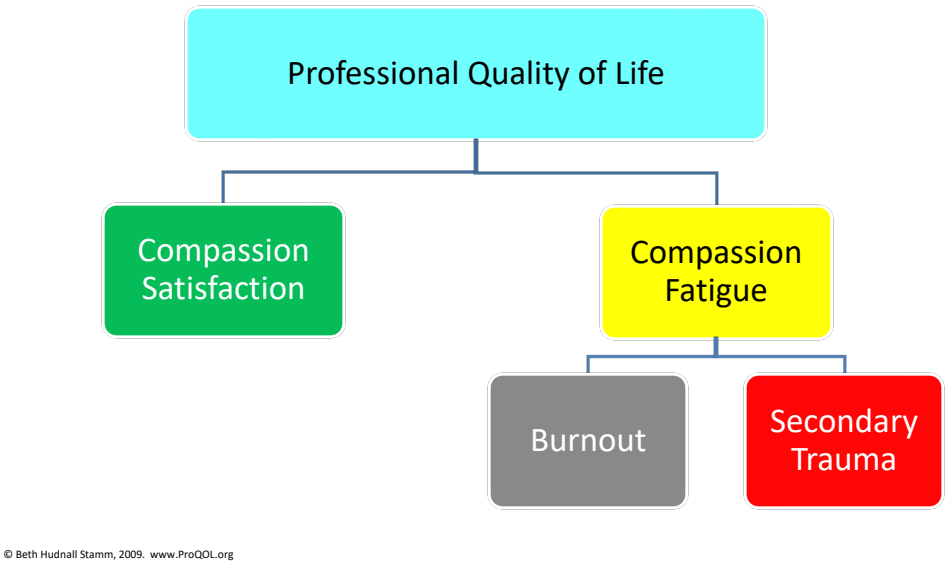
A Model for Measuring Stress and Well-being: ProQOL

The ProQOL is a tool used worldwide to measure stress and well-being. It is the most widely used survey instrument measuring positive and negative aspects of "helping" in the world (United States DOE, n.d.). The ProQOL was originally adapted by Stamm (2005) from the compassion fatigue Self Test, developed by Figley (1995a) for use with healthcare professionals who are impacted by stress from caregiving duties. The tool's current version has been revised

four times since its original development to improve the measures and ensure item-to-scale criteria. To quantify ProQOL, the authors of the tool conceptualized a model consisting of two main aspects: compassion satisfaction and compassion fatigue (see Figure 3), which can be seen as protective and risk factors, respectively. Compassion fatigue is further divided into burnout and secondary traumatic stress (STSS).

Figure 3

Compassion Satisfaction–Compassion Fatigue Model



Compassion Satisfaction: Internal Rewards

The ProQOL defines compassion satisfaction as the "pleasure derived from the feeling of doing work well" (Stamm, 2005, p. 5). For example, one can gain positive emotions from the helping or caregiving they provide, which gives them a sense of satisfaction or gratitude. This positive side of helping may buffer the negative or stressful aspects of caregiving. Using the lens of the job demand resource model, Tremblay and Messervey (2011) concluded that high rates of compassion satisfaction were correlated with significantly lower rates of role overload, a sign of

job strain. Expanding the work of Figley (1995b), Stamm (2002) studied the satisfaction derived from helping those who had experienced a traumatic event. Hudnall Stamm (2009) found that caregivers with low levels of compassion satisfaction were more susceptible to experiencing symptoms of posttraumatic stress disorder (PTSD), supporting the view of compassion satisfaction as a protective factor

Teacher Compassion Fatigue

Compassion fatigue, empathic distress, burnout, vicarious trauma, and secondary stress are terms affiliated with stress in the helping professions, such as social work, mental health therapists, and healthcare workers. A review of the literature indicates that Figley (1995a) coined the term *compassion fatigue* to define a phenomenon of personal suffering linked to another person's negative experiences or emotions, focusing first on mental health professionals as well as nurses and doctors.

Compassion fatigue is a broadly defined concept that can include emotional, physical, and spiritual distress in those providing care to another. Compassion fatigue is associated with the caregiver who is caring for humans or animals experiencing emotional or physical pain and suffering, such as a child who has experienced trauma. Compassion fatigue can include physical symptoms such as sweating, shortness of breath, difficulty concentrating, stomach or digestive issues, headaches, and muscle tension.

Burnout

Freudenberger (1974) was the first to coin the term *burnout* to describe work-related feelings of hopelessness and inefficacy that build over time, leaving the individual feeling worn out, overwhelmed, and ineffective. The author noted that those who are committed to their work are at the greatest risk of developing burnout and the consequences of stress and high ideals in

helping professions, including a component of self-sacrifice. BO is characterized as a "chronic state of work-related psychological stress" (Schaufeli, 2017, p. 120). Maslach and Jackson (1981) identified three dimensions of burnout: (a) mental fatigue or emotional exhaustion, (b) negative feelings and perceptions about the people one works with or depersonalization (cynicism), and (c) a decrease in feelings of personal accomplishment. Leiter and Maslach (1999) further identified six drivers that lead to the three dimensions of burnout (see Table 2).

Table 2

Drivers that Lead to Burnout

Driver	Description
Lack of control	Feeling a lack of control about where, when, and how to do the work, not having input in decisions about one's work.
Breakdown in community	The breakdown of community, lack of the sense of being part of a group, or something important or meaningful.
Workload	Workload complexity, the sheer amount of work, and not getting enough breaks or downtime.
Fairness	When the workplace is seen as unfair, perhaps in terms of work assignments, or different workloads, or in terms of employee input or transparency of the decision-making process.
Rewards and recognition	Rewards and recognition are seen as insufficient in relation to work efforts.
Values	Misalignment between personal values and values of the workplace or organization.

The Job Demands-Resources model of burnout emerged with the aim to understand the mechanism or context within which burnout developed (Schaufeli, 2017). This model describes a mechanism leading to burnout with too many demands of the job and impacted by coping

resources available at any given time (Demerouti et al., 2001). The stress process, instigated by the demands of the job and lacking resources, leads to burnout and subsequent negative outcomes such as sickness absence, poor performance, impeded workability, and low organizational commitment. When challenges are not balanced by support (like supervision or strong peer relationships), the caregiver pays an emotional/physical cost. This may finally result in a state of mental exhaustion, which may result in negative impacts for the individual (e.g., depression) as well as for the classroom (e.g., teacher turnover). Second, support on the job or resources can lead to positive outcomes such as organizational commitment, intention to stay, and positive nurturing interactions with children. Access to job resources such as regular planning and reflective supervision/consultation may improve compassion satisfaction which leads to better child engagement and outcomes. High job demands and poor job resources contribute to burnout. Increasing resources, such as social support, job control, and feedback, may prevent burnout and improve engagement.

Secondary Traumatic Stress

STS is the second element of compassion fatigue in this model based on the ProQOL tool. Secondary trauma, also called vicarious trauma, is categorized as work-related secondary exposure to extremely or traumatically stressful events and is rooted in empathic engagement. It results in "an acute stress disorder or symptoms like post-traumatic stress disorder with symptom clusters of intrusion, avoidance, negative alterations in cognitions and mood, and alterations in arousal and reactivity" (Bush, 2009, p. 25). The most recent revision of the *Diagnostic and Statistical Manual*, Fifth Edition, Text Revision (DSM5-TR; American Psychiatric Association, 2013) has expanded the criteria for PTSD to include the secondary experience of first responders, mental health clinicians, or other helping professionals experiencing symptoms from

exposure to secondary trauma. In other words, STS results in work-related stress from exposure to people who have experienced traumatically stressful events. Children bring the impact of ACE with them into the classroom and teachers can be exposed to secondary trauma through behavior, traumatic play, or a child or family telling their story. Caregivers who experience repeated exposure to the stress of others they care for may experience negative side effects including fear, anxiety, sleep difficulties, and intrusive images, and may seek to avoid reminders of trauma due to discomfort.

For caregivers or teachers of those who have experienced trauma, secondary traumatic stress is a natural consequence (Borntrager et al., 2012; Figley, 1995a). In a pilot study of public-school teachers in a western state, 88% of the teachers surveyed had symptoms that met the criteria for PTSD (American Psychiatric Association, 2013), but only 34% of the teachers had a personal trauma history (Caringi et al., 2015), criteria previously needed to receive a PTSD diagnosis. The authors suggested these findings point to teachers being exposed to trauma indirectly through interactions with traumatized students. Caregivers or administrators may hear about these events, be involved in case management, and/or witness reenactments of the traumatic events through play. For example, when children carry the impact of their adverse experiences with them into the classroom, teachers are exposed, perhaps by witnessing a child's reenactment of traumatic experiences through play, which can cause additional stress to teachers and caregivers. Day-to-day exposure for caregivers can result in increased stress, vicarious trauma, or STS.

Teacher Stress and Coping

Stress and coping are related (Paquette & Reig, 2016), and understanding the coping strategies used in daily practice may help systems identify resources and organization supports.

As indicated above, the ability of EC teachers to form secure attachments and support young children is vital for a child's healthy development, particularly those with ACEs. All children are vulnerable and benefit from attuned and nurturing care and interactions. Children impacted by trauma need nurturing to heal. This requires that teachers and caregivers can manage their own well-being and be present, attuned, and able to coregulate with children in need of emotional support. In these earliest years, high-quality environments require self-regulated and emotionally available teachers. Teacher and caregiver stress impacts the availability to attune to the needs of the children in their care when their feelings of overwhelm, exhaustion, Burnout or Secondary Stress get in the way.

Coping is an adaptive response for those suffering stress. How individuals deal with stress is important in developing social and emotional competence (Folkman & Lazarus, 1988). Unlike subconscious reactions, coping is a term that refers to the conscious thoughts and actions used to manage stressful situations. Four major categories of coping identified are: (1) problem-focused coping, which includes the strategies aimed at alleviating the source of the stress; (2) emotion-focused coping, which employs strategies such as reframing to reduce the negative emotions associated with the stress; (3) meaning-focused coping, which aims to help the individual make sense of the stressful situation, and (4) support seeking, or social coping, which employs strategies such as peer support or supervision to gain assistance to deal with the stressful situation discussed (Algorani & Gupta, 2023; Folkman & Moskowitz, 2004). The authors further suggested that coping strategies are dynamic and may be adaptive in some situations. Problem-focused strategies, in some research, have been found to be most effective in reducing stress, dissociation, or avoidance, which are often associated with poor mental health outcomes.

Kato (2015) identified the six most common tools to measure coping: the COPE (Coping Orientation to Problems Experienced), Ways of Coping Questionnaire, Coping Strategies Questionnaire, Coping Inventory for Stressful Situations, Religious-COPE, and Coping Response Inventory. It may be helpful to understand what strategies, such as avoidance, may be considered maladaptive in a given context. For example, an avoidant style of coping in an EC classroom setting may encourage a teacher to disengage when under stress, an action that could be detrimental to the emotional safety and strength of the attachment between the teacher and the children. Understanding coping mechanisms in EC settings may provide insight toward interventions development to relieve feelings of stress in the classroom.

Trauma-Informed Education and EC Teacher Well-being

Despite the developmental knowledge necessary to provide appropriate nurturing and guidance in EC settings, many EC educators work in the field without a bachelor's degree, supervised teaching experience, or regular supervision and feedback. Critical to improving young children's interactions in the environment is the need to improve the quality of teaching and learning in EC settings**.** The promotion of trauma-informed education includes training and support relative to the teachers' well-being because "trauma is a known outcome of working with the traumatized" (Lawson et al., 2019, p. 424). Attention to the well-being of our teachers will better ensure a positive and supportive environment where they are available as nurturing and responsive caregivers to provide coregulation and be emotionally available for the children in their care.

For the sustainability and health of caregivers in the EC workforce, there is a need to support EC teaching staff because of the repeated exposure to details of traumatic events seen in many EC classrooms, especially those serving low-income children such as Head Start. Teachers

also come with their own history of trauma. EC workers may experience implicit bias, poverty, microaggressions, and systemic bias. Trauma-informed education is an important lens through which we can consider the experiences and histories of both children and teachers. Due to the reported high stress of the EC workforce, coupled with the high rates of abuse and neglect in the birth-to-5 population, this study concentrated on teacher stress as structured by the Stamm (2005) model of the ProQOL. This focus was deemed necessary to undertake before teacher interventions related to decreasing exclusionary practices could be instigated.

Teachers are already under pressure, so as we increasingly talk about trauma-informed education, the impact on our educators and how we can develop support systems must be considered (Caringi et al., 2015). Teacher stress increases the likelihood of a negative effect on student performance. Trauma-informed programs could consider support for teachers suffering from stress, such as burnout and STS, and provide initial training to preschool teachers and give them structural support for mitigating and managing stress in ECE settings. The conversation around trauma-informed education can be expanded to include the impact of caring for children who have experienced trauma for the benefit of both the quality of the EC settings and well-being of teachers. By measuring teacher stress and coping, it may be possible to design targeted and effective interventions that will lessen stress and enhance coping behaviors in teachers. With enhanced coping strategies, teachers may then experience improved job satisfaction, less stress, and an enhanced ability to intervene with children experiencing multiple risks themselves.

Using Implementation Strategies to Advance Practice

In the field of Early Intervention and Early Childhood Special Education (EI/ECSE) ECSE, there are expectations that professionals use scientifically informed or EBPs (Odom, 2009). These practices are researched and developed over time and shown to be effective with a

target population. The development of EBPs requires strict guardrails and control of extraneous variables to ensure the intervention being studied is the primary predictor of change. However, it can take significant time for EBPs to be implemented and adopted in natural settings and to replicate the positive results. This dilemma is referred to as the research-to-practice gap (Carnine, 1997). Greenwood and Abbott identified "the separateness of the research and practice communities, the limited relevance of educational research and the weak opportunities for professional development failure to articulate manageable research-validated interventions" (2001, p. 276) as contributing factors exacerbating this gap. One strategy to reduce the research-to-practice gap is to emphasize community involvement to inform the project from the beginning to improve the implementation and use of evidence-informed practices.

Community-based participatory research (CBPR) one such approach, is defined as an investigation with the participation of those affected by the issue being studied for the purposes of education and taking action to effect change (Minkler et al., 2006, Minkler & Chang, 2014). CBPR emphasizes authentic partnerships to improve understanding and engagement as well as incorporate relevant findings to operating procedures and policies to support dissemination across programs. CBPR can include a continuum of qualitative and quantitative methods including interviews, developing and administering surveys, analyzing extant data, and conducting randomized control trials. Another approach to research with an emphasis on shared leadership and collaboration is RPPs. In the domain of implementation science, which concerns itself with the study of effectively making change in practice, the RPP approach has grown significantly in popularity and use over the last few years through investments from private foundations and the federal government (Farrell et al., 2022).

These long-term collaborations between researchers, practitioners, and policymakers are intended to illuminate problems worth investigating for practitioners as well as researchers in the field to work collaboratively to elevate possible solutions to improve education (Coburn et al., 2013). The Institute for Education Sciences has increased investment to highlight RPPs and encourage efforts related to quality improvement cycles (Coburn & Penuel, 2016). A partnership can mean different things in different contexts and further described RPPs as a collaboration that is long-term and multifaceted. Rather than focus on theoretical gaps in research and theory, they are intended to last beyond a single study and investigate the problems of practice over time. RECEP was co-created with shared ownership and the intention to maintain this relationship over time.

RPPs are intended to work across boundaries to engage partners to transform knowledge, policies, and practices to shift understanding and practices in settings such as schools or classrooms (Henrick et al., 2021). Decision-makers from relevant systems share the time and effort to create an understanding of the key problems their workforce encounters. RPPs also incorporate the collection of data to illuminate the problem of practice and move toward practice and or policy change. There are many different configurations of RPPs and a multitude of problems of practice as they are defined between the researcher and the district, school, organization, network, or funder and can be convened or initiated by any of them (Cooper et al., 2021). RPPs can have a variety of foci depending on the perceived need of the practitioners and leaders including fostering systematic and continuous improvement cycles in education settings (Bryk et al., 2015). The shared interest in bridging the research-to-practice gap is being used to improve practices across many settings including education and early care and learning. The relevance and impact of RPPs grow in education settings and with community and family

partners, transforming decision-making in ways that center the voice of historically marginalized communities (Farrell et al., 2022).

In an iterative process, RPPs can be used to coproduce research-based and practice-relevant evidence at the same time. One strategy used within the RPP is the plan-do-study-act cycle, a framework that can assist in identifying and sequencing continuous quality improvement work for a project (Christoff, 2018). The plan-do-study-act cycle is an iterative strategy often associated with healthcare quality improvement efforts and increasingly used in EC settings. The process consists of four steps: planning, implementing, collecting data, and decision-making (adopt, adapt, abandon). The initial objective was to identify and address the drivers of expulsion and suspension to reduce the use of exclusionary practices in EC settings.

Limitations of RPPs

Sjölund (2023) shared examples of how partnerships such as these can close the research-to-practice gap but still struggle to include practitioners in the cycle. Booker et al. (2019) noted the five ways RPPs can fail, including (a) not jointly setting the research agenda and questions, (b) not including all relevant partners at the table, (c) overlooking the power of descriptive statistics to present the issue or problem of practice with more context, (d) solving the wrong problem at the wrong time, and (e) undervaluing brokers. RPPs require substantive effort for each partner to take the perspective of the other(s) to develop strategies that make sense from a different system or lens to navigate a new shared space (Penuel et al., 2015).

The Alaska RECEP Project

Led by the Quality Rating and Improvement System (QRIS) director in Alaska, a leadership team was created in 2019 to inform the inquiry's direction. In addition to the QRIS director, invited members included the Head Start collaboration director, IDEA Part C, 619

coordinators, Alaska Pediatric Partnership, Child Care Program Office, Alaska Mental Health Trust Officer, and childcare registry and referral system, Children's Behavioral Health. Undergirding this initiative was the concern among stakeholders about the risk posed by young children who were being excluded from EC settings in increasing numbers.

The following project came to be as part of a larger collaborative approach (RPP) with system leaders looking to reduce the use of exclusionary practices across Alaska, a driver of which appeared to be workforce stress or well-being. The RPP was used to inform the study and respond to conflicts and unique challenges within EC-serving systems in Alaska. Within that larger context, the purpose of this study was to better understand the state of the EC workforce's well-being, specifically compassion satisfaction and compassion fatigue, and how these factors relate to teacher coping styles.

Based on the RPP process and the current literature, this study will consist of two parts:1) an exploratory study on teacher stress and coping to better understand teacher wellbeing and stress in the EC context and any relationships between coping styles and compassion satisfaction and compassion fatigue; 2) investigate feasibility of the use of the ProQOL with an EC teacher population.

Study 1

This quantitative cross-sectional survey identifies what coping strategies EC lead teachers use and whether the type of coping strategy predicts rates of compassion satisfaction or compassion fatigue. As illustrated in the literature review, research has begun on compassion satisfaction and compassion fatigue in professions such as first responders, mental health workers, and medical providers. Exploration of these topics in education settings remains minimal. This is the first known study to explore these questions in the EC context. Compassion

satisfaction is considered the foundation for effective practices, especially when dealing with difficult populations such as children experiencing ACE.

- Question 1: Does coping style predict compassion fatigue in EC lead teachers?
- Null Hypothesis: Emotion based coping styles do no predict compassion fatigue
- Alternate Hypothesis: Emotional based specific coping (IV) predicts compassion fatigue (comprised of the components of burnout and secondary stress).
- Question 2: Does coping style predict compassion satisfaction in EC lead teachers?
- Null Hypothesis: Problem based coping does not predict compassion satisfaction.
- Alternate Hypothesis: Problem-based coping predicts higher rates of compassion satisfaction on the job.

Study 2

A factor analysis is proposed using the data obtained from the ProQOL. The results will help us to describe and determine if the tool maintains its properties as intended for this population. Confirmatory factor analysis is a statistical technique to assess the validity of a theoretical model of relationships between observed variables and underlying latent constructs or factors.

- Question 1: Do the ProQOL results replicate for the EC educator population?
- Question 2: Can the ProQOL be improved for the EC teacher population?

Conclusion

In summary, this project began as an exploratory study targeting teacher stress and exclusionary practices. As problems of exclusionary practices and teacher stress became more pronounced during the COVID-19 pandemic, the leadership committee focused instead on the process to deal with growing behavioral problems and teacher stress related to the closing of

preschool classrooms during the pandemic. During a time when teachers' use of exclusionary practices became hard to meaningfully measure because of the pandemic (closing classrooms or limiting slots)—for example, the measurement of suspension—RECEP shifted focus from exclusionary practices to a closer look at teacher stress and coping strategies.

CHAPTER 3

METHODS

The purpose of this study was to access, analyze, and summarize extant data to explore teacher coping style to improve teacher wellbeing and competence and reduce exclusionary practices in preschools. This quantitative cross-sectional survey study aimed to identify the type of coping strategy predicts rates of compassion fatigue or compassion satisfaction. As illustrated in the literature review, research has begun on compassion fatigue and compassion satisfaction. in professions such as first responders, mental health workers, and medical providers. Little exploration or use of these measures exists in educational contexts. This is the first study to explore these measures and related data in the EC context. The nature of the emotional load of EC teachers may indicate a risk for this population due to the job's internal and external demands. The study investigated the RQs using a combination of analyses (i.e., descriptive, correlational, and linear regression).

Participants & Settings

Sampling Procedures

The study used a cross sectional, online survey to explore associations among compassion satisfaction and compassion fatigue, and coping styles in lead teachers in EC settings. The survey consists of basic demographic questions for a population of educators supporting young children (under age 5) in early education settings. An additional intent of this study was to explore the components of the ProQOL (compassion fatigue and compassion satisfaction) and goodness of fit with this part of the EC workforce.

Participants were found by contacting all programs participating in Alaska's childcare Quality Rating Improvement System (QRIS). The recruitment email utilized the description of

the project, eligibility to participate, and confidentiality. The survey was administered in an anonymous online format. Participants agreed to participate and provide consent by proceeding with the survey. The survey landing page included specific information regarding the study, estimated time of completion, and informed consent. The tool was distributed through the QRIS office, which distributed the survey to the 354 lead teachers in licensed EC settings, including childcare centers and preschools.

A QRIS is a systemic approach to assess, improve, and communicate the level of quality in early and school-age care and education programs. Similar to rating systems for restaurants and hotels, the QRIS awards quality ratings to early and school-age care and education programs that meet a set of defined programs and standards (Berg, 2015). The surveys were emailed utilizing a list of licensed EC settings including childcare and preschool providers across the state. In summary, 266 responses were attempted online, 115 respondents noted they were not lead teachers and could not proceed, 151 were started by those who identified as lead teachers, and of those, 136 had completed data that were used in the analysis.

EC Lead Teachers

Lead teachers in EC settings were recruited as participants. Unlike in the K–12 system, lead teachers may have various levels of education and training and are unlikely to be certified (outside of the public-school preschool (Title 1) and EI and ECSE population). Lead teachers in licensed EC settings, such as Head Start, licensed childcare, and EI/ECSE were eligible to participate in this study. Participants affirmed they were working at least 30 or more hours per week and had been in that position for at least 3 months. Programs were recruited to distribute the survey through the QRIS director who maintains a current list of licensed EC settings across

systems. The final sample in this extant data set included 136 completed questionnaires across ECE settings.

Measures

EC lead teachers were asked to complete measures regarding teacher stress and wellbeing and identify their own coping strategies when under stress the ProQOl and the WAYS of coping surveys. The surveys were integrated into a single seamless survey. EC lead teachers were also asked to complete demographic information concerning themselves and their work environment.

Demographic Questionnaire

EC lead teachers completed a demographic questionnaire developed in consultation with the RECEP leadership team. Participants were asked to identify their roles, zip codes, and some job-related questions like mode of teaching given the pandemic (online, hybrid, in-person), type of EC program, and what organizational supports or resources were available to them.

ProQOL

The ProQOL Scale is a widely used measure of compassion satisfaction and compassion fatigue (Appendix A). The ProQOL has been utilized in hundreds of peer-reviewed studies (Stamm, 2013) with medical providers, social workers, attorneys, and veterinarians among other helping professions. The ProQOL measures the composite concept of compassion satisfaction and compassion fatigue (burnout and secondary traumatic stress). Respondents report the frequency of symptoms experienced within the last 30 days in a 30-item questionnaire. The ProQOL uses a Likert scale ranging from 1 (never) to 5 (very often). The three subscales have 10 items each (Cronbach's alpha for compassion satisfaction was .88, burnout was .75, STS at .81, and an overall alpha of .88). Higher scores correlate to a higher impact on each of the subscales once negative items (i.e., 1, 4, 15, 17, and 29) are reverse coded. As allowed by the tool, the term

'*helper'* was replaced with the word '*teacher'* to clarify this survey related to the role as teacher in EC settings. The questionnaire used a Likert scale with five points from (0) never, (1) rarely, (2) sometimes, (3) often, (4) very often.

Ways of Coping Questionnaire (WCQ) (Psychometric Properties)

Coping is the process of managing stress to assess and minimize the impact of the source of stress. The Ways of Coping Questionnaire (WCQ; see Appendix B) was used in this study. It is a 66-item tool by Folkman and Lazarus (1988) that has widely been used as a research instrument to study the coping process in health research (Corti et al., 2018; Van Liew et al., 2016), as well as nonclinical populations such as nursing students (Tully, 2004). The WCQ is founded on the description of coping as 'the cognitive and behavioral efforts to manage specific external and/or internal demands appraised as taxing or exceeding the resources of the individual' p. 2 (Folkman & Lazarus, 1988). The authors note that there are four key components of coping: 1) it is process oriented; 2) it is about managing not management, 3) no assessment of quality of the coping process, 4) it implies a stress-based distinction between coping and automatic adaptive behaviors. Emerging from the work of Lazarus (1998) and Lazarus and Launier (1978), eight coping styles were identified: (a) confrontative coping, (b) distancing, (c) self-controlling, (d) seeking social support, (e) accepting responsibility, (f) escape-avoidance, (g) planful problem solving, and (h) positive reappraisal. The authors further described *problem-based* coping as correlated with changeable circumstances and focused on directly addressing and managing the problem. Conversely, *emotion-based* coping is correlated with targeting the emotional distress experienced and effort to regulate stressful emotions. Table 3 presents the coping style within each category of coping, problem based and emotion based.

Table 3

Emotion-Based and Problem-Based Coping Styles

Emotion-based coping	Problem-based coping
Confrontive coping	Distancing
Self-controlling	Accepting responsibility
Seeking social support	Planful problem solving
Escape avoidance	Positive reappraisal

The questionnaire used a Likert scale with four points from (0) does not apply to (1) used somewhat, (2) used quite a bit, and (3) used a great deal. Folkman and Lazarus (1988) indicated that generally, problem-based coping indicates that an issue is evaluated as changeable versus emotion-based coping, which indicates acceptance of the situation. The Ways of Coping Questionnaire (WCQ) was used to determine what coping styles are utilized in this population as Determine what coping styles are utilized and if coping style impacted rates compassion satisfaction or compassion fatigue.

Procedures

Recruitment

Recruitment procedures were conducted after the University of Oregon Institutional Review Board (IRB) for human subject research approval. The QRIS director agreed, from the beginning, to recruit EC lead teachers, with approval from the various systems that intersect with the QRIS (public pre-k 619 and Title 1, Head Start, licensed childcare settings). Teachers were offered the survey and informed they would receive no benefit from enrollment and results would be used, in aggregate, to understand more about the well-being, stress, and coping of EC lead teachers, and to explore possible improvements across EC systems. All data were gathered

in May 2020 so leaders could understand the current well-being status at the start of the pandemic. No risks were identified with completing the survey.

Analytic Plan

Missing Data

Prior to conducting any analysis, frequency counts were on all study variables to identify missing data or data that were outside the scale measures. Due to the anonymity of the survey responses, no follow up will be possible. Only complete surveys were in the final analysis.

Sample Size and Analysis

A general guideline for linear regression is 30 cases per independent variable due to the sample size of 136 the linear regression utilized four IV at a time which requires a minimum response of 120 (Green & Silverman, 1993).

Analytic Technique

The proposed measures, ProQOL and WCQ were combined into one survey. Statistical Package for the Social Sciences (SPSS) version 29 will be used for the regression analysis. Tests for normality will be utilized to ensure assumptions for parametric analysis were met for testing.

Proposed Data Analysis

- Question 1: Does coping style predict compassion fatigue in EC lead teachers?

To determine if any specific coping strategy (IV) predicted compassion satisfaction or Fatigue (comprised of the components of burnout and secondary traumatic stress). Linear regression was used to determine the strength and direction of the relationship between the dependent variable and independent variable. Variables were analyzed using stepwise linear regression analysis to determine which, if any, types of coping might impact the outcomes of compassion satisfaction. The following combinations were analyzed: (a) four emotion based

coping strategies (IV) & compassion fatigue and (b) four problem based coping strategies (IV) and compassion fatigue.

- Question 2: Does coping style predict compassion satisfaction EC lead teachers?

Hypothesis: Problem-based coping predict higher rates of compassion satisfaction in EC lead teachers. Linear regression assisted in understanding the strength and direction of the relationship between the dependent variable and independent variable. Variables were analyzed using stepwise linear regression analysis to determine which, if any, types of coping might impact the outcomes of compassion satisfaction or fatigue (burnout and STS). The following two combinations were analyzed: (a) four emotional coping strategies (IV) and compassion satisfaction (DV) and (b) four problem coping strategies (IV) and compassion satisfaction (DV).

Study 2

The purpose of this study was to access, analyze, and summarize extant data to determine the feasibility of the utilization of the PROQOL with the Early Childhood Educator (ECE) provider population. The ProQOL is a widely available tool to measure compassion, satisfaction and fatigue. However, there is little evidence regarding the use of the ProQOL in education and specifically across early childhood programs. In a related industry, Geoffrion et al. (2019) encountered challenges with the validity of the tool working with a sample of child protection workers (including educators) working in a residential setting in Canada. Heritage et al. (2018) noted that despite the wide popularity of the ProQOL, few studies have been completed to validate the tool in the disciplines it is being utilized. Geoffrion et al. found that construct validity did not adequately replicate the 3-factor structure and proposed a two factor solution for child welfare workers. Due to this and the desirability and feasibility of the tool, it was determined helpful to complete an exploratory factor analysis, in addition to a confirmatory

factor analysis to determine what structure emerges from the study of an early childhood education (ECE) population.

Participants and Settings

Sampling Procedures. Participants in Study 2 included childcare and preschool programs as well as members of the home visiting system such as Early Intervention providers and public health home visitors. Participants in this study were from various early childhood settings in Oregon, serving children (from birth to age 5) such as home visiting, preschool and Head Start systems in Oregon. In addition to the original data set in Study 1 of 136 ECE workers, a convenience sample of an additional 410 EC employees was selected from organizations in Oregon, who requested to participate in the study because they were curious or worried about the wellbeing of their own workforce.

Procedures. Study 2 was part of a larger project aimed at assessing teacher stress in early childhood settings. All teaching employees from requesting organizations were invited to participate anonymously and sent a survey link to access the questionnaire. Participants were provided with a description of the survey, project and proposed risks and were invited to proceed after agreeing. A link was provided to an organizational leadership contact in charge of distributing the survey link through Survey Monkey.

Measurement Tool

The ProQOL Scale is a widely used measure of compassion satisfaction and fatigue. The ProQOL has been utilized in hundreds of peer-reviewed studies (Stamm, 2016) with medical providers, social workers, attorneys, and veterinarians among other helping professions. The ProQOL measures the composite concept of compassion satisfaction and compassion fatigue (comprised of burnout and secondary traumatic stress). Respondents report the frequency of

symptoms experienced within the last 30 days in a 30-item questionnaire. The ProQOL uses a Likert scale ranging from 1 (never) to 5 (very often). Hudnall Stamm (2009) developed, the three subscales have 10 items each (Cronbach's alpha for compassion satisfaction was .88, burnout was .75, STS at .81, and an overall alpha of .88). Higher scores correlate to a higher impact on each of the subscales once negative items (i.e., 1, 4, 15, 17, and 29) are reverse coded. As allowed by the tool, the term '*helpe*r' was replaced with the word '*teacher'* to clarify this administration of the survey is related to the role of teacher in EC settings.

Type of Analysis

Prior studies revealed the ProQOL 3-factor structure was not able to be replicated in a child welfare context (Geoffrion et al., 2019). Therefore, results of the CFA will be reported, and an Exploratory Factor Analysis (EFA) will be completed if the ProQOL fails to replicate the 3-factor structure. The EFA helps determine what structure emerges from the study of this population and how the tool might be improved to work with this population by determining, what items will be loading on each factor, which items load on more than one factor and which items do not load on any factor. A 0.4 for factor loading is the minimum entry point. If there are items that load on multiple factors, I will explore that data for usability and usefulness. Unweighted least squares will be employed because it minimizes the sum of squared differences without applying weights, useful for initial exploratory analysis, and residual correlation (error). Factor Analysis (FA) and a Promax rotation will be used because we expect these factors are correlated to some degree. The percent of variance will be compared to the original structure proposed by Stamm (2010), to determine if the new structure with fewer items and/or factors explains the same of more variance. Cases with incomplete data will be discarded.

Second Hypothesis of the Study 2 Training vs. Testing

Prior to conducting the exploratory factor analysis, a random sample of 80% from the entire dataset was selected to conduct the EFA; 20% was held in reserve to test the new factor structure. If this study shows the new tool does not explain additional variance a third study will not be needed. A third proposed study would include recruitment from EC teachers in Alaska and or Oregon to test any new structure.

Results related to the rates of compassion satisfaction and compassion fatigue as well as the use of coping strategies are discussed in the next chapter. During a time when teachers' use of exclusionary practices became hard to meaningfully measure because of the pandemic (closing classrooms or limiting slots)—for example, the measurement of suspension—RECEP shifted focus from exclusionary practices to a closer look at teacher stress and coping strategies.

CHAPTER 4

RESULTS

The following chapter provides an analysis of teacher compassion satisfaction and fatigue (burnout and secondary stress) in relation to ways of coping (emotional and problem based). By investigating this relationship, we gain insight into how coping strategies used by teachers may influence educator well-being and stress. Before delving into the detailed analysis of teacher well-being and coping strategies, it is essential to provide some characteristics of the study participants, as these factors may have implications for the interpretation of the subsequent findings.

Data were analyzed using version 29 of SPSS IBM, 2024. Power was set at $p < .05$ for the relevant analysis to control for Type I error. First, data were examined for missing responses and incomplete surveys were discarded. Next, tests of normality were undertaken, and descriptive statistics completed. Analyses were conducted to test each study hypothesis. Linear regression was utilized to answer the first two questions followed by a confirmatory factor analysis to determine if the 3-factor model replicated for the early childhood educator population and an exploratory factor analysis to determine that a 2-factor solution helps investigate the appropriate structure for the ProQOL.

Table 4 presents the distribution of responses for various demographic characteristics within the sample of 136 participants. Each category within the "Which of these best describes your program?" question is represented, along with the corresponding frequency and percentage of respondents. Additionally, the table provides information on identified roles, indicating the number and percentage of participants who provided responses within each category for this variable.

Table 4

Demographic Characteristics of the Sample

	Which of these bests describe your program?	
	Frequency	Percent
Public school early childhood special education	47	34.6
Licensed child care center	30	22.1
Public school pre-K (Title 1)	28	20.6
Licensed family child care	11	8.1
Early head start	9	6.6
Head start	7	5.1
Licensed group home child care	4	2.9
Total	136	100.0

Sample

Early Childhood Education Lead Teachers

Lead teachers in early childhood settings were recruited as participants. Unlike in the K–12 system, lead teachers may have various levels of education and training and are unlikely to be certified (outside of the public-school preschool (Title 1) and the EI/ECSE population). Lead teachers in licensed early childhood settings such as Head Start, licensed childcare, and early intervention and early childhood special education settings were eligible to participate in this study. Participants affirmed they were working at least 30 or more hours per week and had been in that position for at least 3 months. Programs were recruited to distribute the survey through the Quality Rating and Information Systems (QRIS) director who maintains a current list of licensed early childhood settings across systems.

Coping Strategies

Descriptive Statistics. Although 136 participants responded to demographic questions and ProQOL items, 114 respondents completed questions regarding coping strategies. The Ways of Coping Questionnaire scores were converted from raw to relative. Relative scores, as recommended by Vitaliano et al. (1987), were utilized because they control for the unequal numbers of items within scales and for individual differences in responses. As Table 5 illustrates across the eight coping strategies, the means will total 1. Thus a high value represents more use of the coping strategy compared to other strategies.

Table 5

Results by Coping Type

	Mean	SD	Min/Max (Range)
Emotion-based coping			
a. Confrontive Coping	.09	.03	.00-.19
b. Escape/Avoid	.09	.05	.00-.24
c. Self-Control	.14	.05	.00-.25
d. Seeking Support	.16	.07	.00-.43
Problem-based coping			
a. Accept	.10	.06	.00-.32
b. Distance	.11	.05	.00-.27
c. Problem Solving	.17	.07	.03-.56
d. Positive Appraisal	.14	.05	.00-.35

ProQOL

As theorized by Hudnall Stamm (2009), ProQol has three components: CS, BO, and secondary stress (CF). Based on the ProQOL scoring guide, the range of possible values for all

subscales are organized into low (22 or less), moderate (23–41), and high if the score is 42 and over. Tables 6 and 7 present the descriptive statistics for the samples of 114 and 136.

Table 6

Descriptive Statistics for Sample of 114

	N	Minimum	Maximum	Mean	Median	IQR
BO	114	14	37	23.70	23.50	9.00
STS	114	12	42	23.05	23.00	8.00
CS	114	21	50	40.43	41.99	9.25

Note. BO = Burnout; CS = Compassion satisfaction; STS = Secondary traumatic stress.

Table 7

Descriptive Statistics for Sample of 136

	N	Minimum	Maximum	Mean	Median	IQR
BO	136	11	37	23.68	24	10
STS	136	10	42	22.99	23	9
CS	136	21	50	40.40	41	8

Note. BO = Burnout; CS = Compassion satisfaction; STS = Secondary traumatic stress.

BO Descriptive Statistics

ProQOL data was collected from 136 participants but only 114 completed the coping scales so descriptives are included for both groups. Based on the ProQOL scoring guide the range of possible values for all subscales are organized into low (22 or less), moderate (23–41) and high for a score 42 and above. BO results for this population resulted in a range of a minimum of 11 to a maximum of 37 (n = 136, M = 23.68, SD = 5.73). BO results for this population resulted in a range of a minimum of 14 to a maximum of 38 (n = 114, M = 23.7, SD = 5.5). The Shapiro-Wilk test of normality requires at least a .05 for significance. The Shapiro-

Wilk test *(n*=114*, w* = .978, *p-value* = .058) indicated no skew in this population. Due to the small population size two outliers were not removed from this analysis.

STS Descriptive Statistics

ProQOL data were collected from 136 participants but only 114 completed the coping scales so descriptives are included for both. Based on the ProQOL scoring guide the range of possible values for all subscales are organized into low (22 or less), moderate (23–41) and high for a score 42 and above. Secondary traumatic stress resulted in a range of a minimum of 10 to a maximum of 42 for this sample population (*n* = 136, *M* = 22.99, *SD* = 5.77). Similarly the smaller sample indicated secondary traumatic stress resulted in a range of a minimum of 12 to a maximum of 42 for this population (*n* = 114, *M* = 23.05, *SD* = 5.62). The Shapiro-Wilk test of normality requires at least a .05 for significance. The Shapiro-Wilk test (*n*=114, *w* = .97, *p-value* < .019) indicated skew in this population. Due to the small population size two outliers were not removed from this analysis.

CS Descriptive Statistics

ProQOL data were collected from 136 participants but only 114 completed the coping scales so descriptives are included for both. Based on the ProQOL scoring guide the range of possible values for all subscales are organized into low (22 or less), moderate (23–41) and high for a score 42 and above. CS scores for this population ranged from a minimum of 21 to a high of 50 (*n* = 136, *m* = 40.40, *sd* = 6.64). CS scores for this population resulted in a range from a minimum of 20 to a high of 51 (*n* = 114, *m* = 40.43, *sd* = 6.56). The Shapiro-Wilk test (w = .951, p-value < .001) indicated a skew in this population. Because of the small sample size, determining the distribution of the variable CS was important for choosing an appropriate

statistical method. Based on this outcome, a nonparametric test was used, and the median with the interquartile range were used to summarize the CS variable (Table 6).

Study 1

A stepwise linear regression analysis was performed to identify the predictors of type of coping on both BO and STS (see Tables 8 and 9). For BO, the adjusted R^2 =.176, F(4,113)=7.02, p<.001), specifically, escape was significant β=.37, p< .001. Emotion-based coping also predicted STS, confirming the alternative hypothesis with an adjusted R^2 = .153,F (4,113) = 6.09, p<.001. Specifically, self-control (β= .21, p<.05) and escape (β= .32, p<.001) were significant predictors.

Table 8

Burnout

Type of emotional coping	β
Confrontive coping	.09
Self-controlling	.17
Seeking social support	-.05
Escape avoidance	.37*

Note. * significant p< .001

Table 9

Secondary Traumatic Stress

Type of emotional coping	β
Confrontive coping	.12
Self-controlling	.21**
Seeking social support	-.04
Escape avoidance	.32*

Note. * significant p< .00, ** significant p< .05

A stepwise linear regression analysis was performed to identify the predictors of teacher CS (see Table 10). Problem-based coping did not predict CS, therefore the null hypothesis could not be rejected. For CS, the adjusted R^2= .034, F(4,113)=1.984. Although the model was not significant positive re-appraisal made a significant contribution to the equation (β= .23, p < .05).

Table 10

Teacher Compassion Satisfaction

Type of problem based coping	β
Distancing	.02
Acceptance	-.09
Problem solving	-.01
Positive reappraisal	.23**

Study 2

In addition to the Alaska sample, additional ProQOL data were collected in Oregon from Head Start, Early Intervention and other Early Care and Learning providers. The population sampled for the factor analysis were organizations who approached me because they wanted to better understand the wellbeing of their workforce. The overall total sample (n=412) was split into 80% for the exploratory factor analysis (n= 330) to determine if the ProQOL replicated for this population with 20% (n=82) reserved for the confirmatory factor analysis to test any new structure. The exploratory factor analysis suggested a 2-factor solution counted for 46% of the variance, whereas a 3-factor solution contributed an additional 4% of variance. However, only two of the survey questions loaded solely on factor three, while many of the survey questions for factor three also loaded on factor two. Three items did not load on any of the first three factors. Table 11 presents this structure matrix.

Table 11

Structure Matrix

Structure matrix[a]					
	Component				
	1	2	3	4	5
My work makes me feel satisfied.	**.822**				
I am proud of what I can do to support.	**.792**				
I believe I can make a difference through my work.	**.759**				
I like my work as a [supporter].	**.748**				
I am happy that I chose to do this work.	**.747**				
I have thoughts that I am a "success" as a helper/supporter.	**.739**				
I have happy thoughts and feelings about those I support and how I could help them.	**.734**				
I get satisfaction from being able to support people.	**.701**				
I am the person I always wanted to be.	**.650**			.439	
I am pleased with how I am able to keep up with [helping] techniques and protocols.	**.633**			.515	
I feel connected to others.	**.632**				
I am happy.	**.625**	-.439			
I feel invigorated after working with those I support.	**.575**				
Because of my supporting/, I have felt "on edge" about various things.		**.807**	.502		
I feel worn out because of my work as a [helper/supporter].	-.449	**.792**	.403		
I feel overwhelmed because my workload seems endless.		**.767**			
I think that I might have been affected by the traumatic stress of those I support.		**.760**	.653		
I feel "bogged down" by the system.	-.425	**.760**			
I find it difficult to separate my personal life from my life as a helper/support.		**.677**			
I feel trapped by my job as a [helper/supporter].	-.424	**.672**	.571		
I am preoccupied with more than one person I support.		**.585**			
I avoid certain activities or situations because they remind me of frightening experiences of the people I support.			**.792**		
I feel as though I am experiencing the trauma of someone I have supported.		.628	**.790**		
As a result of my [helping], I have intrusive, frightening thoughts.		.503	**.766**		
I feel depressed because of the traumatic experiences of the people I support.		.640	**.712**		

	Component				
	1	2	3	4	5
I am not as productive at work because I am losing sleep over the traumatic experiences of a person I help/support.		.623	**.632**		
I can't recall important parts of my work with trauma victims.			.574		
I have beliefs that sustain me.				.763	
I jump or am startled by unexpected sounds.				-.529	-.439
I am a very caring person.					.583

Factor one explained 31.54% of the variance while factor 2 added an additional 13.76% of the variance or 45.30%. Indicating that a 2-factor solution might be a better fit instead of a 3-factor solution originally posed by Hudnall Stamm (2009).

Study 2 Q2

Table 12 indicates how items loaded across the factors when reduced to 2-factors, compassion fatigue and compassion satisfaction. Compared to the original ProQOL description of item loading the larger sample indicates that items substantively loaded on 2-factors. For this section of the factor analysis, the confirmatory factor analysis included 20% of the total sample *(n*=73*).* Because the factor analysis above had three items which did not load on any of the three identified factors and were removed for the confirmatory factor analysis. The confirmatory factor analysis indicated that the 2-factor solution explained 46.10% of the variance.

Table 12

Structure Matrix CFA

Extraction method: Unweighted least squares[a]		
a. (SAMPLE) = 20%		
	Factor	
	1	2
My work makes me feel satisfied.	.766	-.569
I like my work as a [supporter].	.766	
I get satisfaction from being able to support people.	.760	
I am proud of what I can do to support.	.737	
I am the person I always wanted to be.	.680	-.422
I believe I can make a difference through my work.	.672	
I have happy thoughts and feelings about those I support and how I could help them.	.664	
I am happy that I chose to do this work.	.662	-.469
I am happy.	.637	-.501
I feel connected to others.	.608	-.428
I have thoughts that I am a "success" as a helper/supporter.	.606	
I feel invigorated after working with those I support.	.521	
I feel depressed because of the traumatic experiences of the people I support.		.794
I think that I might have been affected by the traumatic stress of those I support.		.755
I am not as productive at work because I am losing sleep over the traumatic experiences of a person I help/support.		.727
I feel trapped by my job as a [helper/supporter].	-.547	.693
I feel as though I am experiencing the trauma of someone I have supported.		.643
I feel "bogged down" by the system.	-.600	.623
I find it difficult to separate my personal life from my life as a helper/support.		.603
As a result of my [helping], I have intrusive, frightening thoughts.		.582
I feel worn out because of my work as a [helper/supporter].	-.565	.575
Because of my supporting/, I have felt "on edge" about various things.	-.478	.546
I feel overwhelmed because my work load seems endless.		.509
I avoid certain activities or situations because they remind me of frightening experiences of the people I support.		.473
I am preoccupied with more than one person I support.		
I am pleased with how I am able to keep up with [helping] techniques and protocols.		
I can't recall important parts of my work with trauma victims.		

Table 13 describes how the ProQOL questions loaded on different Factors according to the original authors published findings, as well as these findings.

Table 13

Factor Loading for ProQOL

	Question	Original ProQOL	Exploratory (80%)	Confirmatory (20%)
1	I am happy.	BO(r)	CS	CS
2	I am preoccupied with more than one person I *[help]*.	STS	BO	X
3	I get satisfaction from being able to *[help]* people.	CS	CS	CS
4	I feel connected to others.	BO(r)	CS	CS
5	I jump or am startled by unexpected sounds.	STS	X	removed
6	I feel invigorated after working with those I *[help]*.	CS	CS	CS
7	I find it difficult to separate my personal life from my life as a *[helper]*.	STS	BO	CF
8	I am not as productive at work because I am losing sleep over traumatic experiences of I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.	BO	STS*	CF
9	I think that I might have been affected by the traumatic stress of those I *[help]*.	STS	BO	CF
10	I feel trapped by my job as a *[helper]*.	BO	BO	CF
11	Because of my *[helping]*, I have felt "on edge" about various things.	STS	BO	CF
12	I like my work as a *[helper]*.	CS	CS	CS
13	I feel depressed because of the traumatic experiences of the people I *[help]*.	STS	STS*	CF
14	I feel as though I am experiencing the trauma of someone I have *[helped]*.	STS	STS*	CF
15	I have beliefs that sustain me.	BO(r)	X	removed
16	I am pleased with how I am able to keep up with *[helping]* techniques and protocols.	CS	CS*	X
17	I am the person I always wanted to be.	BO(r)	CS*	CS
18	My work makes me feel satisfied.	CS	CS	CS
19	I feel worn out because of my work as a *[helper]*.	BO	BO*	CF
20	I have happy thoughts and feelings about those I *[help]* and how I could help them.	CS	CS	CS

	Question	Original ProQOL	Exploratory (80%)	Confirmatory (20%)
21	I feel overwhelmed because my case *[work]* load seems endless.	BO	BO	CF
22	I believe I can make a difference through my work.	CS	CS	CS
23	I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.	STS	STS	CF
24	I am proud of what I can do to *[help]*.	CS	CS	CS
25	As a result of my *[helping]*, I have intrusive, frightening thoughts.	STS	STS*	CF
26	I feel "bogged down" by the system.	BO	BO	CF
27	I have thoughts that I am a "success" as a *[helper]*.	CS	CS	CS
28	I can't recall important parts of my work with trauma victims.	STS	STS	X
29	I am a very caring person.	BO(r)	X	removed
30	I am happy that I chose to do this work.	CS	CS	CS

Note. Factors with an asterisk cross load on another variable. X denotes the question did not load on any of the 3-factors (CS, BO, STS). BO = Burnout; CF = Compassion fatigue; CS = Compassion satisfaction; STS = Secondary traumatic stress.

CHAPTER 5

DISCUSSION

Caregivers of young children are a critical component of early childhood wellbeing and development. The ability of a caregiver, including a teacher in early childhood settings, to attune to a young child's needs and assist in their co-regulation are critical for the child's subsequent learning and dependent on the teacher's own wellbeing. Therefore, the wellbeing of our early care and learning workforce should be of great concern. How teachers cope with stress may have implications not just for their own wellbeing but also the quality of interactions for those they care and therefore developmental outcomes of the children in their care.

Research has categorized coping strategies into four categories: problem focused, emotion focused, meaning focused and support focused. Coping strategies are dynamic and may be adaptive in some situations and maladaptive in others (Algorani & Gupta, 2023). As a first step to understand this topic my research questions grouped coping styles into the two primary categories, emotion and problem focused coping based on Folkman and Lazarus' (1988) model and the relationship to symptoms of burnout.

The Ways of Coping Questionnaire groups coping strategies into two broad categories based on the approach individuals take when dealing with stress: problem-based coping and emotion-based coping, depending on whether the focus is on addressing the problem or managing the emotional response to the stressor.

Emotion-Based Coping

Emotion-based coping is aimed at managing or regulating the emotional response to the stressor. It is used more often when the problem is perceived as outside of the individual's control or unchangeable. The following styles are included in this category:

- Confrontative coping: Assertive or aggressive efforts to change the situation

- Self-controlling: Keeping emotions in check to maintain composure
- Seeking social support (emotional support): Turning to others for comfort, empathy, or emotional reassurance
- Escape-avoidance: Avoiding or escaping the situation through distraction or withdrawal

Problem-Based Coping

Problem-based coping is aimed at directly addressing or solving the problem causing the stress. This approach is more proactive and practical. The following styles are included in this category:

- Distancing: Mentally or emotionally detaching from the problem
- Accepting responsibility: Acknowledging one's role in the problem and the emotional consequences
- Planful problem solving: Logical and deliberate steps to resolve the issue
- Positive reappraisal: Reframing the situation to find meaning or a positive perspective

While the WAYS tool uses the two groupings of emotion- and problem-based, the additional categories identified in the literature can be seen as represented in the WAYS: meaning focused coping is represented through the subscale of positive reappraisal, and social coping akin to support seeking as identified in the WAYS.

Cynicism/depersonalization is described as emotional and psychological withdrawal (Maslach & Jackson, 1981) and escape/avoidance in this coping model (Folkman & Lazarus, 1988) and could be overlapping definitions. As a significant predictor of both secondary stress and burnout, escape/avoidance coping behaviors warrant further investigation. The use of a coping strategy of escape/avoidance could be an early indicator of the status of the organizational culture or health. Table 14 presents the emotion- and problem-based coping styles.

Table 14

Emotion-Based and Problem-Based Coping Styles

Emotion-based coping	Problem-based coping
Confrontive coping	Distancing
Self-controlling*	Accepting responsibility
Seeking social support	Planful problem solving
Escape avoidance *	Positive reappraisal*

Note. *Represent significant predictors.

The Complex Nature of CS

CS is about the positive feelings one derives from being able to do one's work well. For example, one may feel like it is a pleasure to help others through your work. One may feel positively about colleagues or the ability to contribute to the team or even the greater good of society (Hudnall Stamm, 2009). CS is likely influenced by a variety of factors beyond coping strategies, such as personal values, the nature of the work environment, the level of support from colleagues and supervisors, and the extent to which individuals feel their work is valued and impactful. Emotional and relational dynamics, such as the quality of interactions with clients or patients and the sense of making a meaningful contribution, may play a more significant role in determining CS than problem-based coping strategies. Moreover, individuals who are highly focused on problem-solving might prioritize efficiency and task completion over the relational aspects of their work, potentially missing opportunities to derive satisfaction from their compassionate efforts. This might suggest that although problem-based coping is beneficial for managing stress and maintaining productivity, it does not necessarily enhance the intrinsic rewards associated with caregiving roles.

Problem-Based Coping and Compassion Satisfaction

Problem-based coping, which involves actively addressing the source of stress through strategies like planning, problem-solving, and seeking solutions, is generally considered a constructive and adaptive approach to managing stress. In many contexts, problem-based coping has been linked to positive outcomes, such as reduced stress levels and improved job performance. However, the findings of this study suggest that these coping strategies do not necessarily enhance CS.

One possible explanation is that although problem-based coping may effectively mitigate stress, it does not inherently contribute to the emotional rewards that come from helping others. CS is deeply rooted in the emotional and relational aspects of caregiving roles, where the ability to make a meaningful difference in the lives of others is the primary source of fulfillment. Problem-based coping, by focusing on resolving challenges and stressors, may not directly influence these emotional rewards.

Study 1

The findings from the study highlight a significant relationship between emotional coping strategies and the experience of BO and STS among individuals in EC settings. This relationship suggests an important role for coping mechanisms in the well-being of individuals exposed to chronic stress or caring for those who have experienced trauma or ACEs. For example, emotion based coping predicted compassion fatigue. Specifically, the emotional coping strategy of escape was the strongest predictor of compassion fatigue which is especially troublesome in a population that needs attuned care to meet their developmental needs. A teacher under stress who is coping by escape or removal of themselves, physically or emotionally, creates a developmental risk for the child in their care.

Emotional Coping as a Predictor of BO

The results indicate that individuals who rely heavily on emotional coping strategies are more likely to experience BO. Emotional coping strategies may be less effective as they do not address the root causes of stress, resulting in prolonged exposure to stressors without adequate resolution. As these stressors accumulate, they can contribute to the three dimensions of BO: emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment.

In particular, emotional exhaustion may be strongly linked to emotional coping. Feeling emotionally depleted may predispose an individual to turn to the emotion-based coping strategies of escape/avoidance which may worsen the feelings of cynicism and feeling ineffective. Individuals who are unable to manage their emotional responses to stress effectively may also find themselves overwhelmed, leading to a further depletion of emotional resource and further exacerbation of BO.

Emotional Coping and STS

Similarly, the study suggests that emotional coping strategies are also predictive of STS, which is characterized by symptoms similar to those of post-traumatic stress disorder (PTSD) but resulting from *indirect* exposure to trauma. Professionals who are frequently exposed to the trauma of others, such as counselors, nurses, and first responders, may utilize emotional coping mechanisms to shield themselves from their work's emotional impact. These strategies may prove inadequate, or even counterproductive, leading to increased vulnerability to STS. For instance, suppressing or avoiding emotional responses may prevent the individual from effectively processing traumatic experiences, resulting in unresolved emotional distress. This unresolved distress can manifest as intrusive thoughts, hyperarousal, and avoidance behaviors typical of PTSD.

Implications for Research & Practice

EC teachers, primary caregivers for many children, belong in the category of professionals who are repeatedly exposed to the trauma of others, due to the commonality of ACEs. It is important that we recognize this fact and its implications to help individuals perceive and manage their stress more effectively, and thereby reduce the likelihood of BO and STS. Organizations in the early care and learning sector, both direct service providers and support organizations should consider providing training and resources that promote resilience and positive coping mechanisms. This could include workshops on both emotion-focused and problem-focused coping styles, including mindfulness and emotional regulation, and stress management techniques to mitigate the effects of chronic stress and trauma.

These findings suggest that interventions designed to enhance CS may need to focus not on problem-solving strategies but rather fostering emotional connection, empathy, and meaning in the work. This could include training in emotional intelligence or reflective practices that allow individuals to connect with the purpose and impact of their work and creating an environment that emphasizes appreciation and recognition of compassionate care.

Future research should continue to explore the complex interplay between coping mechanisms, stress, and trauma to inform more effective prevention and intervention strategies, as well as the link between educator wellbeing and child outcomes.

The lack of a predictive relationship between problem-based coping and CS does not imply that problem-based coping strategies are unimportant or ineffective; rather, it suggests that other factors may play a more central role in fostering CS. Future research could explore these factors in greater detail, including the role of emotional coping, social support, and workplace culture in enhancing CS.

Additionally, longitudinal studies would be useful to examine how coping strategies and CS evolve over time and under different circumstances. Research could also investigate whether certain subtypes of problem-based coping might have different impacts on CS, or how these coping strategies interact with other variables such as personality traits or job characteristics.

Organizations should also consider creating opportunities for peer support, promoting work-life balance, and recognizing the emotional aspects of caregiving work can help sustain CS.

The findings from this study also suggest that interventions aimed at reducing BO and STS might benefit from the inclusion of adaptive and problem-focused coping strategies, such as planful problem solving, positive reappraisal through engaging in reflective practices.

Future studies should explore the role of other factors, such as organizational culture, and the availability of support systems, which may moderate or mediate the impact of emotional coping on BO and STS. By gaining a more comprehensive understanding of these dynamics, interventions can be better tailored to the needs of individuals in high-stress professions.

Future research could also focus on the specific coping strategies that seem to be impactful on the factors of CS and CF. For example, self-controlling, escape/avoidance and positive reappraisal coping strategies should be investigated, rather than problem-based coping as a grouping. Further research would also include exploring the effects of using different coping style instruments in conjunction with the ProQOL.

The ECE workforce has unique challenges due to poor wages, lack of teacher knowledge and skills, and poor organizational supports, factors which may increase the risk of compassion fatigue. Organizational factors such as lower caseloads were predictive of lower rates of burnout (Kim et al., 2018; Meredith et al., 2022) which might translate into further investigation

child/teacher ratios and other factors in the environment. A commitment to work on the drivers of burnout - lack of control, workload, rewards and recognitions, fairness, breakdown in community, values alignment (Leiter & Maslach, 1999) - to change the working conditions is a system level strategy which should also be pursued.

Limitations

Although the study provides valuable insights into the relationship between emotional coping and negative psychological outcomes, it is important to acknowledge certain limitations. For instance, the cross-sectional design of the study limits the ability to draw causal inferences. Longitudinal research is needed to better understand the directionality of the relationship between coping styles and outcomes like BO and STS.

More needs to be understood regarding coping and culture in the early childhood workforce context as there is evidence that coping styles can be culture specific (Ji et al., 2022; Utsey et al., 2007). This data was collected at the start of the pandemic and coping under that level of stress may not be representative of the population at other points in time. Additional data could be collected to determine if the results are replicated.

Study 1 Conclusion

The study's results highlight the predictive role of emotional coping in the development of BO and STS. These findings underscore the importance of promoting adaptive coping strategies as part of broader efforts to support the mental health and well-being of professionals in ECE because of the potential for significant impact on the children in their care.

The finding that problem-based coping does not predict CS highlights the complex and multifaceted nature of well-being in caregiving professions. Although problem-based coping may be an effective tool for managing stress, this study suggests that it does not directly enhance

the emotional rewards that come from helping or caring work. This underscores the need for a more holistic approach to supporting professionals in these roles, one that goes beyond problem-solving to also nurture the emotional and relational aspects of their work.

Study 2

The factor analysis conducted in study 2 suggested a two-factor solution, deviating from the expected three-factor solution. This outcome offers intriguing insights and raises several important points regarding the dimensionality of the constructs studied.

As of 2019 there were limited published studies on ProQOL construct validity and none specific to the early care and learning workforce. As with this current study, several studies have questioned the 3-factor model and shared concerns about the component of compassion fatigue or crossloading between secondary traumatic stress and burnout, as configured in the tool.

In a recent meta study Lenz et al. (2024) found that, while the score reliability was stable, the Compassion Satisfaction and STS subscales were most supported in the research while BO was questionable as a reliable subscale, and noted cross loading between scales "to a notable degree" (p. 405). Likewise, Geoffrion et al. (2019) concluded from his work with child welfare workers that CS and STS are the most salient factors in the model with BO not being supported. Hotchkiss and Wong (2022) declared that the STS and BO subscales have moderate correlations and "shorter versions were statistically robust". Keesler and Fukui (2020) also noted suggestions for improvement of fit was needed in the STS and BO subscales. While it seems, there is considerable information about the limitations of the validity evidence these Lenz et al. found that certain characteristics (professional role, ethnicity) were associated with greater variation in the ProQOL reliability estimates.

It appears that vocation may play a role in determining the fit of the 2-factor or 3 factor solution. Keesler and Fukui (2020) confirmed the ProQOL 3-factor solution in a population of 495 direct service providers engaged in work with adults with intellectual and developmental disabilities n=495. However, in a related child serving workforce, child welfare, the Geoffrion et al., 2019 found that the factor analysis did not replicate a 3-factor structure as proposed by Hudnall Stamm (2009) but a 2-factor structure. This raises the questions if and why the ProQOL might load on 2-factors with child serving populations and 3 factors with providers in the adult serving community.

Implications of a Two-Factor Solution

The emergence of a two-factor solution suggests that the variables or items originally thought to represent three distinct constructs may instead be more accurately represented by two underlying dimensions. This finding could imply several possibilities:

1. Conceptual overlap: The constructs originally proposed as separate entities might share a significant degree of overlap, leading them to load onto the same factor. This could indicate that what were thought to be distinct concepts are facets of a broader, more encompassing construct such as compassion fatigue rather than BO and STS. For example, in the context of psychological measures, dimensions such as stress and anxiety, which are often treated separately, might be highly correlated and represent a single factor.
2. Simplification of the model: A two-factor solution might offer a more parsimonious model, which can reduce complexity while still explaining a substantial portion of the variance in the data. This could enhance the measurement tool's utility by making it easier to interpret and apply in practice.

3. Redefinition of constructs: The results suggest a need to redefine the constructs being measured to two factors, perhaps compassion fatigue and compassion satisfaction. Table 12 shows that there is a great deal of overlap between BO and STS potentially blurring them into the one construct.

Possible Explanations for the Two-Factor Outcome

Several factors could explain why a two-factor solution emerged instead of the anticipated three-factor structure:

1. Sample characteristics: The specific characteristics of the sample used in the study (e.g., demographic factors, context of data collection) could influence the factor structure. If the sample is not diverse or representative of the variability needed to distinguish between three factors might not be present, leading to a conflation of factors.
2. Item selection and wording: The wording and selection of items included in the analysis could affect the factor structure. If items are not clearly differentiated in their content, they may load onto the same factor, even if they were intended to measure different constructs. This could point to a need for revising the measurement tool to ensure items are more distinct and aligned with the theoretical constructs.
3. Validation with different samples: To confirm the robustness of the two-factor solution, 20% of the total sample showed the two-factor solution explained the same amount of variance as the three-factor solution. Although there is variability within the factor loading, the item structure is similar to the three-factor exploratory factor analysis done with 80% of the sample. The new two-structure solution would warrant an additional larger sample population to confirm the recommendation of a revision.

Implications for Research & Practice

The findings call into question the definition current subcategories of BO and STS and this two-factor solution suggests several directions for future research:

1. Re-examination of theoretical frameworks: Researchers may need to revisit and refine the theoretical frameworks that guided the original expectation of a three-factor solution. This could involve exploring whether the two factors identified align with broader theoretical constructs or whether new theories are needed to explain the findings.
2. Development of new measures: If the two-factor solution is consistently found, there may be a need to develop new measures that better capture the distinct constructs. This could involve creating new items or refining existing ones to ensure they align more closely with the theoretical dimensions intended to be measured.
3. Investigate the cross-loading by separating or getting more granular as opposed to eliminating questions. For example, CS-CF at the top level and then subscales under each (such as stress, emotional exhaustion, cynicism, fear/anxiety).
4. Future research: Participants would be randomly assigned into two groups, one with the old structure of the ProQOL and one with the new structure of the ProQOL to determine which structure is the most appropriate for this population.

More investigation is needed to confirm a 2-factor model fit and whether the 2-factors might be CS and STS, or CS and CF as something separate from the combination of burnout and secondary traumatic stress, and whether those results might depend on the type of caregiving role of the subject. The emotional availability required of caregivers, for attunement and attachment, and the vulnerable state of young children could influence child serving populations to interpret trauma where another provider might interpret characteristics of burnout.

Concern for the workforce should require us to think about how to monitor and support the wellbeing of those who care for young children. Stosic et al. (2022) linked burnout to lack of empathy as well as poor decision making. Literature from the early childhood mental health field articulates the significant risk of compassion fatigue for professionals in this work (Osofksy, 2009; Simpson et al., 2019) based on the unique complexities of working in homes, with families with very young children. This literature primarily represents professions where the relationship is between the professional and family rather than the relationship between adult (ECE) caregiver and child. The intense task of caring for vulnerable young children warrants the same warning to the EC workforce. In the infant and early childhood mental health provider population, reflective practices or reflective supervision/consultation is frequently cited as an intervention to mitigate the effects of compassion fatigue (Frosch et al., 2019; Harden, 2010; Susman-Stillman et al., 2020; Watson & Gatti, 2014). Reflective Supervision/Consultation is the standard of practice in the infant and early childhood mental health field and could be a viable intervention to improve workforce wellbeing also in the early childhood education population. Reflective supervision/consultation may be an optimum space to teach reflective skills such as positive reappraisal (problem-based coping) and foster compassion satisfaction. Effective peer support strategies are linked to positive aspects of wellbeing in the workplace (Hendrickson, 2013; Steenekamp & Barker, 2024) though other adults in the workplace can also be identified sources of stress (Knowles et al., 2023).

Limitations

It is important to acknowledge the limitations associated with the factor analysis results. The emergence of a two-factor solution could be influenced by the methodological choices made during the analysis, such as the rotation method, criteria for factor extraction, or handling of

missing data. Additionally, the interpretability of the factors identified depends on the quality and clarity of the items included, which may require further examination and refinement.

Conclusion

Sixty percent of children under 5 years of age experience at least one day of out-of-home care each week (National Center for Education Statistics, n.d-b). When they enter early care and learning centers, they carry the impact of their traumatic experiences with them, which leads to teacher exposure and the experience of STS. Young children with higher ACE scores are significantly more likely to engage in challenging behavior and to subsequently be excluded (suspended/expelled) from the setting, as they encounter teachers experiencing CF therefore more likely to utilize exclusionary practices.

Already a significant challenge in EC settings, young children are more likely to be suspended or expelled than school-age children (Zinsser et al., 2022). According to Zeng et al. (2019), the odds ratio of a child's chances of experiencing exclusionary practices (simply put, suspension and expulsion) in EC increased 80% for each additional ACE score. High ACE scores increase the likelihood of challenging behavior, which predicts expulsion. Given the high rates of ACE scores for young children and their impact on development and behavior, states are grappling with how best to support young learners. Such initiatives must target the stress and wellbeing of teachers. Research consistently shows the long-term benefits of quality EC programs could benefit our most vulnerable students, typically the students most likely to be expelled from these settings. Teacher wellbeing and nurturing caregiver relationships are among the most important factors as policy makers consider the components of high quality care.

Current research into EC teacher wellbeing is limited, and most tools measuring stress, coping or wellbeing have not been investigated with this population. Given the different nature

of EC education compared with K-12 education, developing tools specific to or validated for this population will help to better assess teacher stress, and further assist in the development and design of interventions to help this specific workforce population. Understanding and addressing teacher stress is vital for maintaining a healthy and effective EC workforce. Workforce data in the related but better paid and resourced K–12 system shows high rates of BO in the population and is associated with increased mental health struggles, challenging behaviors, and dysregulation (Knowles et al., 2023). This support critically also includes the quality of interactions between the caregiver (teacher) and child. Emerging studies are also showing that EC teachers' mental health is the best predictor of a healthy classroom environment (Zissner, 2016. Therefore, teacher stress and mental health are critical factors that influence the overall quality of ECE. Developing tools that are validated for this population will help to better identify the status of teacher stress and further assist in developing interventions that may help this workforce population.

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