EXAMINING EDUCATOR BURNOUT AND CLASSROOM OUTCOMES AS

CORRELATES TO TEACHING PYRAMID IMPLEMENATION

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Abstract

EXAMINING EDUCATOR BURNOUT AND CLASSROOM OUTCOMES AS
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The Teaching Pyramid is a research-based socio-emotional framework created for

implementation in early childhood education programs. It is designed to support

children's socio-emotional development and decrease persistent challenging behaviors.

Challenging child behaviors have been linked to early educator stress. Job stressors in

early childhood educators have been previously linked to educator burnout.

This study examined fidelity of implementation of the Teaching Pyramid

framework as well as experience being trained and coached on the framework in 21 early

childhood educators. It evaluated how these variables correlated with educator burnout,

children's socio-emotional development, and observed quality of care in nine Head Start

and State funded preschool classrooms in Northern California. It was hypothesized that

higher Teaching Pyramid implementation fidelity would be correlated with lower

educator burnout, greater socio-emotional development in the children, and higher

observed quality of care. It was also hypothesized that higher levels of burnout would be

correlated with lower socio-emotional development in the children and observed quality

of care.

There were no statistically significant correlations between any variables in this

study. This may have been due to small sample sizes resulting in low statistical power.

Future research on burnout as it correlates to professional development frameworks, child

development and quality of care should be conducted on larger, more diverse populations of early childhood educators and include more classroom samples for a more robust analysis. Other research-based socio-emotional frameworks should also be investigated as supports to equip early childhood educators with the skills needed to manage job stressors and support children's early development.

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Introduction

Approximately half of American children aged five and under are enrolled in childcare (Carson et al., 2016). Early childhood education can impact the healthy development of millions of children. A critical element to supporting the education and development of young children is the quality of the care they receive (Jalongo & Heider, 2006). Educators' emotional and psychological well-being are linked to their capacity to provide quality care (Cummings, 2016). Many of the working conditions in early childhood education are stress-inducing, such as low compensation and high job demands. In addition, the Covid-19 pandemic has created further challenges within this workforce over the last several years (Swigonski et al., 2021). If the stress of these conditions affects the well-being of early childhood educators, it can lead to poor teaching practices which may negatively affect the quality-of-care children receive (Kwon et al., 2020).

The COVID-19 pandemic created additional stress on this workforce. Ninety six percent of Head Start and California State funded early childhood education programs reported that as a result of the health and safety requirements necessary to operate during the pandemic, changes were made to the way programs were operated (Kim et al., 2022). The challenges brought on by the uncertainty of the pandemic and disrupted program operations may have had a perceived impact on children's socio-emotional development as observed by both parents and educators of young children (Watts & Pattnaik, 2022).

Early childhood education has been historically underfunded, even before the pandemic forced centers to close. Low compensation in this field causes financial

insecurity for many early educators. According to the Early Childhood Workforce Index 2020 produced by The Center for the Study of Child Care Employment (CSCCE) at UC Berkeley, 17% of early childhood workers in the state of California live in poverty. This is nearly double the poverty rate of the general workforce in California (8.7%). The CSCCE believes underfunding compromises not only the well-being of teachers, but also the consistency and quality of the care they are able to provide. They assert that financial and professional support are critical in sustaining high standards for the quality-of-care for young children (Gould et al., 2020).

Despite being considered "essential" during the COVID-19 pandemic, surveys showed that the financial concerns of early childhood educators were amplified (Swigonski et al., 2021). Financial concerns during this time, such as being able to afford food, utilities, and credit card payments were elevated compared to other workers surveyed. In addition, early childhood educators surveyed reported more than twice as many issues with being able to pay for health insurance and prescribed medication than the national sample (Swigonski et al., 2021).

Considering the professional and financial challenges prior to, during, and after the COVID-19 pandemic, further research is needed to ameliorate work stressors this essential workforce is facing. Professional support is necessary to equip educators to manage their job demands to maintain a sense of professional well-being and prevent burnout. The level of support educators receive may impact their job satisfaction and commitment to staying in the field. They need training and support to address the

demands of educating young children. Lack of support for professional well-being may also affect the developmental outcomes of the children in their care (Kwon et al. 2020).

Early childhood education affects the development of young children in many ways. For example, early educational experiences may predict higher academic achievement and standardized scores through the third grade and are associated with increased memory skills. However, poor quality-of-care may be associated with a lack of age-appropriate social skills, inferior academic work habits, and externalizing behavior challenges (NICHD Early Child Care Research Network, 2005). These trends suggest a potential deficit in the support children receive as they develop social and emotional skills in early childhood education settings. Teachers may need targeted training to build their competence in teaching these skills to children.

The Prosocial Classroom Model (Jennings & Greenberg, 2009) theorizes that enhancing early educators' professional well-being through building their social-emotional competence can support both educators and the healthy development of children in their care. This model emphasizes educators social-emotional competence in relation to teacher-child relationships, classroom management, and implementing social-emotional learning in the classroom. It aims to support the self-efficacy of early educators. It stresses the importance of supportive, responsive caregiving to facilitate the healthy social and emotional development of young children. In addition, it focuses on enhancing the social-emotional competence of children by embedding social-emotional learning opportunities in the classroom.

An example of a professional development model that is in line with the philosophy of the Prosocial Classroom Model is the Teaching Pyramid. The Teaching Pyramid is a tiered framework that enhances educator social-emotional competence with a focus on building relationships with children and teaching social-emotional skills. It includes instruction on assessing child behavior and providing positive behavior support for persistent challenging behavior. Within this framework is guidance for effective implementation, including training, coaching, and an observation tool to measure educators' adherence to utilizing the strategies as originally intended in the research setting (Fox et al., 2003).

The current study examined implementation of the Teaching Pyramid and its links to educator burnout, child developmental outcomes, and quality-of-care, in a rural non-profit organization serving preschool children in Northern California. Data were collected during the 2022/2023 school year, as programs were back in full operation following programmatic disruptions during the pandemic. The following literature review examines research concerns in early childhood education, with a focus on the Teaching Pyramid as a support for educators in promoting the social and emotional development of young children.

This study may add to the evolving body of research on professional support for early educators facing challenging child behavior and work-related burnout. It may provide insights into whether adapting this social-emotional framework correlates to educators' professional wellbeing, the socio-emotional development of the children in their programs, and the observed quality-of-care they provide. It was hypothesized that

higher Teaching Pyramid implementation fidelity would be correlated with lower educator burnout, greater social-emotional development in the children, and improved quality-of-care.

This study also examined whether the level of burnout educators reported was correlated with observed quality-of-care and child developmental outcomes. This study may contribute to a greater understanding of the potential of this framework for early childhood education programs and will further research on how professional development supports may impact educator burnout. It is hoped that such models will enhance the well-being of early childhood educators and thereby enhance children's social and emotional development.

Literature Review

The impact of childcare on attachment security

For over fifty years, researchers have investigated the effects of early childcare experiences on young children. A particular focus has been on the impact time in childcare has on young children's social-emotional development and attachment to their primary caregiver. John Bowlby's attachment theory posits that young children need a warm and consistent relationship with their mother (or primary caregiver) for healthy emotional development (Bowlby, 1977). A consistent and appropriately responsive relationship with a primary caregiver contributes to a child's sense of security. According to attachment theory, young children need a consistent, nurturing relationship with one or more adults in order to support their healthy development (Bretherton, 1992). Through such a relationship, an emotional bond (or attachment) is formed. The security of the attachments they form can promote their psychological well-being as they develop (Stevenson-Hinde, 2007).

As maternal employment began to increase in the later 20th century, so did concern about the impact of childcare on young children. Children being separated from a primary caregiver for substantial amounts of time during the day was a major research concern. Due to the complexities of the childcare environment, early research found mixed results regarding the impact of time in childcare on young children. Cummings (1980) believed these complexities accounted for the mixed results as certain elements of childcare may be beneficial, while other elements may be deleterious.

He sought to isolate features of quality care in relation to attachment theory by investigating the link between children's proximity seeking and responses to stable and non-stable caregivers when separated from their mothers. Caregivers who were deemed "stable" had spent an average of 735.8 hours with the children in care. "Non-stable" caregivers spent an average of 323.6 total hours with the children. In a study of 44 children (30 in childcare and 14 in home care) between the ages of 12 and 28 months, children preferred stable caregivers in the childcare environment, as measured by less crying at separation from their mother than when left with a non-stable caregiver. Children appeared to develop attachments to professional caregivers. The stability of caregivers was considered crucial to forming these attachments (Cummings, 1980).

Despite children's apparent ability to form attachments to professional caregivers, concerns remained about the impact of their time away from primary attachment figures. After reviewing reports on low-income samples indicating a link between children enrolled in care before age one and the formation of insecure attachments, Barglow et al. (1987) studied a middle-class sample of 110 children. They found that children enrolled in childcare at least four months prior to their first birthday had significantly higher rates of being insecurely attached to their primary caregiver than those who stayed home with their mother for the first year.

Several subsequent studies indicated that time in childcare exceeding 20 hours per week increased the risk of children forming insecure attachments to their primary caregiver. As time progressed, however, these results were not replicated. In 1997, the National Institute of Child Health and Human Development (NICHD) published a

thorough investigation on whether early and/or extensive experience in childcare impacted higher rates of insecure attachment in young children, or if parent-child factors had contributed to earlier results. A random sampling of 1,153 children recruited from 31 hospitals from 12 cities across the US were studied. Data were collected through several questionnaires related to maternal attitudes towards employment, infant temperament, and personality. Information on the children's childcare experience including the duration, frequency, age of entry, and observations of childcare environments with a focus on positive caregiving were collected. Observations of maternal sensitivity and responsiveness, as well as children's responses to their mother after a brief separation, were also measured.

The NICHD researchers found children's attachment security to their primary caregiver was predominantly influenced by maternal sensitivity. Additionally, they found that childcare variables such as positive caregiving ratings, duration, frequency and/or age failed to predict the attachment security of the children. Children who experienced both low maternal sensitivity and low-quality childcare were least likely to be securely attached to their mothers. However, attachment was more likely to be secure when the child received high-quality childcare. After accounting for variables such as child temperament and maternal sensitivity, childcare participation was not found to affect attachment security. These results indicated that childcare does not necessarily pose a risk or benefit to a child's attachment to their primary caregiver (NICHD, 1997).

As the NICHD further sought to understand the effects of early childcare, they investigated associations between early care and children's subsequent functioning in

primary school. In 2002, the NICHD conducted a longitudinal study examining quantity, quality, and type of childcare and its effects on school readiness. They found that quality childcare was linked to better language and pre-academic skills. However, an association was also found between children receiving more hours of care and teacher reported behavior challenges. In a follow-up study two years later, the NICHD analyzed a sample of 872 children from 10 locations across the U.S. as the children entered elementary school. By third grade, there was no longer a significant effect of time in early childcare and teacher reports of challenging behaviors (NICHD, 2005). Although it is reassuring that challenging behaviors improved over time, the question remains regarding what elements of early childcare may contribute to this.

If time in care does not negatively affect children's attachment to primary caregivers, the relationship quality with professional caregivers may be key to their social-emotional development and externalizing behaviors in the classroom. Furthermore, the attachment security children build with professional caregivers may potentially inhibit this development, thus increasing challenging behaviors. The role these relationships play, and the barriers to building secure attachments through these relationships, needs to be understood and addressed.

Considering the lack of research on attachment to non-primary caregivers, Hopkins (1990) examined healthy attachment as a mediator of early childhood mental health. He looked at attachment to non-primary caregivers, specifically fathers, and observed that though fathers are typically preferred in play, mothers are most often the preferred attachment figure when children are distressed. If the child has an insecure

attachment to the mother, the father may become the preferred attachment figure despite spending less time with the child. Though Hopkins' assertions relate specifically to fathers, a similar argument can be made regarding childcare providers as they may spend a comparable amount of time with young children. If children have an insecure attachment to their primary caregiver, then building an attachment to an outside caregiver may be beneficial in establishing feelings of trust and security with a caring adult.

Attachment theory provides insight into why children thrive when they have a sensitive and attuned relationship with an adult. When this type of positive relationship is formed with a professional caregiver, it can reinforce the development of secure attachments and be a model for developing healthy relationships throughout the child's life. Page (2018) stressed that while infants may begin their primary relationship with their mothers, there are often a range of adults with whom they interact regularly, such as early childcare workers. Page explains that for the teacher to be emotionally available enough to become attuned and sensitive to the children in their care, they first must have their own needs met. The professional well-being of the caregiver can affect their ability to nurture secure attachments of the children in their care. Researchers continue to investigate what is needed to support this workforce, looking closely at factors that contribute to educator well-being and child outcomes.

Professional Well-being and Burnout

The job demands of early childhood educators are multifaceted. The complexities of caring for young children, supporting their development, managing challenging behaviors, and balancing professional relationships are vast. Without support and skills to

manage these responsibilities, educators may begin to feel seemingly insurmountable stress in their jobs, resulting in burnout. This stress and burnout can impact their work performance and mental health (Aboagye et al., 2018). It is imperative to evaluate the effects of this stress and the systems available to ameliorate these effects in order to support quality childcare and educator well-being.

Maslach & Jackson (1981) identified three aspects of burnout found in employees who work in human services: emotional exhaustion, a cynical attitude towards those encountered on the job, and a negative perception of one's own work accomplishments. Teachers experiencing emotional exhaustion describe feeling tired and emotionally drained. The cynical attitudes that develop as a part of burnout, also known as depersonalization, can lead to distant and/or indifferent feelings and behavior toward children, families, and coworkers. A negative perception of work accomplishments can make teachers feel ineffective in their role of supporting children's development and managing their work responsibilities (Maslach & Jackson, 1981).

Hozo et al. (2015) surveyed 88 early childhood educators and found that one third of educators surveyed were at risk for burnout. One third of those surveyed had scores that showed they were in good condition, while another third reported signs that may lead to burnout, but they were not yet fully affected. This indicates that over half of those surveyed were predisposed to becoming burned out. Being at risk for burnout has the potential to impact many aspects of educators' professional experience. This may affect the way they view themselves, their role in the education of young children, and their dedication to the field.

Carson et al. (2016) examined how burnout related to the quitting intentions of childcare teachers. They assessed 50 early childhood educators using two burnout assessment scales. Three times during each workday, participants were prompted to identify their levels of emotional, physical, and cognitive exhaustion. During the third prompt of each day, participants were additionally asked about their overall feelings of job satisfaction and their intention to quit.

They found that the level of exhaustion reported positively predicted participants' intention to quit, and negatively predicted their feelings of job satisfaction at the end of the day. Exhaustion levels that lead to negative job perspectives can have a variety of implications, such as chronic absenteeism and lack of commitment to the field. This must be addressed before it impacts the way educators interact with the children in their care. The challenges educators face that lead to this stress and exhaustion need to be examined and mitigated.

Strategies that promote professional well-being are important to consider in preventing educator burnout. Lauermann & Konig (2016) assessed 119 educators from three schools on their professional knowledge, feelings of self-efficacy, and burnout. They hypothesized that the more knowledgeable educators were about their jobs, the higher their feelings of self-efficacy would be, ultimately leading to a greater sense of professional well-being. Findings revealed that educators' general knowledge about teaching young children was positively associated with feelings of teaching-specific self-efficacy. Additionally, general and teaching-specific self-efficacy were negatively correlated with burnout. This indicates that educators who access quality skill-building

opportunities may curb feelings leading to burnout by building more confidence in their abilities and feelings of efficacy in their jobs. Contextual factors like organizational support and opportunities for mastery experiences were suggested as important to both effectively manage professional tasks and increase feelings of professional well-being.

Feelings of burnout may affect educators' thoughts and behaviors, impeding work performance and the ability to build and maintain positive relationships. It is important to understand not just the potential causes of burnout, but its effects in the workplace. Children seeking a connection with a professional caregiver who is under chronic work-related stress may be met with irritable, inconsistent, or inappropriate responses to their bids for attention. This may decrease relationship security and increase challenging behaviors in children who are unable to build trust with their caregiver or feel at ease in the childcare setting.

Educator Burnout and Quality-of-care

Some research examines the link between educators' professional well-being and burnout on their relationships with the children in their care. In a cross-sectional study of 37 Head Start programs in Pennsylvania, Whitaker et al. (2015) conducted a wellness survey of 1001 preschool teachers. They found that educators experiencing more workplace stress due to high job demands reported more conflicts in their relationships with the children. Additionally, they found that teachers who reportedly felt less control and decision-making authority felt less close to the children in their care. Regular conflict and a lack of closeness between a caregiver and child can negatively affect the formation of a healthy relationship by impacting the caregiver's ability to respond consistently and

appropriately to the child's needs. Inconsistent responses disrupt the predictability that

children need in order to feel securely attached to their caregivers (Whistaker et al.,

2015). Job related stress that may impact caregivers' feelings about the children in their

care is concerning. If these feelings are linked to their behavior towards the children, the

development of healthy attachments may also be affected.

Not only can educator well-being and burnout be linked to the quality of the

relationships they form with the children in their care, but it may also be related to the

quality-of-care they provide. In addition to stress, educator mental health may also factor

into their perceptions and behavior towards children. Kwon et al. (2019) used the

Prosocial Classroom Model as a framework to examine the relationship between

teachers' depression level on classroom quality and child outcomes in Early Head Start

infant/toddler classrooms. They examined the self-reported depression symptoms of 197

teachers and assessment data on 275 children in the programs, measuring social

competence, orientation/engagement, emotional regulation, and receptive vocabulary. In

addition, they reviewed each program's Class Assessment Scoring System (CLASS)

scores. CLASS is a research-based observation tool that measures teacher-child

interactions, classroom management, and instructional support (Pianta et al., 2008).

Parents and teachers each reported on the children's social competence and behavior

problems. Additional assessments measured the children's engagement, emotional

regulation, and receptive vocabulary.

Kwon et al. (2019) found that 7.1% of their sample had clinically significant

levels of depression. Although they did not find a link between depressive symptoms and

child developmental outcomes, they did find teachers' depressive symptoms were linked to teacher-reported child behavior problems (Kwon et al., 2019). This indicates a potential for educator mental health, like workplace stress (Whistaker et al., 2015), to negatively affect perceptions of the children in their care. If there is a link between these perceptions and their behavior toward the children, there may also be a link to the consistency of supportive and nurturing interactions educators provide. Negative interactions may be linked to lower quality teacher-child relationships and provide challenges to their ability to foster children's healthy attachments to professional caregivers. They can also impact the quality-of-care they are able to provide.

Kwon et al. (2020) examined physical, psychological, and professional well-being in educators from 38 early childhood education programs. Forty (mostly female) educators reported on their depressive symptomology, work commitment, work environment, job stressors, and physical work demands. Their observed classroom quality was then assessed using the CLASS.

Many educators in the study reported that their work climate and environment were at least somewhat supportive. Nevertheless, a substantial number of participants experienced physical and psychological stress associated with their work. More than 50% of participants reported frequent headaches and 60% of participants reported experiencing pain. Depressive symptoms were reported at a rate of 24%, which was found to be significantly higher than the overall rate of depression for women in this country (10.4%). More than one third of participants reported experiencing work-related stress, such as challenging child behaviors.

When observed classroom quality was assessed using the CLASS, emotional, behavioral, and instructional classroom skills, such as relationships, teacher sensitivity, and behavior management, were rated in the low to middle range on a seven-point scale, which is considered lower quality. Teachers with a bachelor's degree were rated as providing higher quality-of-care, but also reported more conflicts with children and less commitment to their jobs than teachers without a bachelor's degree. This highlights how education level relates to quality but does not necessarily equate to professional well-being. If more highly skilled educators are less committed to the field, improvements need to be made in the support they receive to maintain their consistency in the workforce.

If the emotional state of educators is related to their perceptions, interactions, and relationships with the children, specific job stressors need to be addressed. Many early childhood educators feel frustrated as they struggle to provide a secure classroom environment and manage children's challenging behaviors (Fox et al., 2003). Educators report that children's challenging behavior negatively impacts their feelings of job satisfaction, and supporting these children is one of their top job-related training needs (Hunter & Hemmeter, 2009). Addressing training needs in the form of supportive professional development opportunities may be an effective way to support this workforce in gaining skills they need to prevent burnout.

Professional development must address the larger challenges early childhood educators face on the job. It should enhance their ability to build positive relationships with children, teach them social-emotional skills, and appropriately respond to

challenging behavior. Educators may also need support to develop their own social-emotional competence and manage their classroom effectively to promote their feelings of professional well-being and avoid burnout. Children in the care of nurturing, responsive caregivers who are exposed to intentional social-emotional learning experiences may learn skills that decrease externalizing behavior challenges and encourage social-emotional development. One such approach is the Prosocial Classroom Model.

Prosocial Classroom Model

The Prosocial Classroom Model posits that teachers' social-emotional competence impacts the classroom environment and relationships they have with children. Social-emotional competence includes emotional awareness of self and others, the ability to self-regulate and help others regulate their emotions, and relationship management skills. This model integrates attachment theory to underscore the importance of the relationship teachers build with children. In alignment with attachment theory, it emphasizes that supportive, consistent relationships with caregivers can give children a sense of security as they explore their environment and develop socially and emotionally (Jennings & Greenberg, 2009).

The Prosocial Classroom Model suggests that building educators' social-emotional competence and well-being can support healthy teacher/student relationships, improve teachers' ability to implement social-emotional learning opportunities for children, and assist them in effectively managing their classroom. These skills can support a healthy classroom climate and student outcomes. Furthermore, the foundation of this model is based on relationship management as essential to teaching social-emotional competence and classroom management.

Jennings & Greenberg (2009) emphasize that self-awareness and self-management influence teachers' abilities to cope with the emotional demands of working with young children. When child behaviors begin to consistently trigger a negative emotional response in a teacher, feelings of self-efficacy can decline, leading to burnout. Social-emotional competence supports teachers' ability to regulate emotional responses

as they cope with such stressors and maintain caring and responsive relationships with the children.

Garner et al. (2019) examined the links between early childhood educators' emotional competence, responsiveness, and comfort with teaching social-emotional skills, and the relationship quality observed with the children in their care. Using the Prosocial Classroom Model, they assessed 72 Early Head Start classroom teachers and 28 family childcare providers on their emotional competence and feelings about teaching social-emotional skills to the children in their care. They were observed interacting with the children during the fall, and then again in the spring.

There was no link between teachers' emotional understanding and the closeness of their relationships with the children. However, there was a link between teachers' ability to regulate their emotions and the closeness of relationships with children. Both emotional regulation and emotional understanding were positively associated with educator comfort in teaching social-emotional skills. These findings align with the Prosocial Classroom Model's assertion that teachers who are socially and emotionally competent are equipped to build supportive relationships with children and facilitate social-emotional learning in the classroom (Garner et al., 2019).

In the context of these supportive relationships, educators can facilitate social-emotional learning in the classroom. A variety of curricula and training models have been developed for educators to facilitate social-emotional learning in early childcare programs, but there are factors that may limit their effectiveness when put into use. Many of these programs assume educators are already socially and emotionally competent.

Therefore, they focus on how to teach these skills to children, neglecting to promote them in the educators (Jennings & Greenberg, 2009). Additionally, professional support that includes coaching on utilizing the curriculum can affect how well they are able to implement what they have learned from their training (Snyder et al., 2015).

A training model that enhances the social-emotional competence of both children and educators, equips educators with strategies to effectively manage their classroom, and helps them appropriately respond to challenging behavior is crucial to supporting the professional well-being of this workforce to possibly prevent widespread burnout. An effective model should also focus on the importance of building relationships with children to promote attachment to professional caregivers as a supportive factor in their social-emotional development. Considering the barriers to quality implementation outlined above, an effective model should include a thorough implementation plan that stretches beyond teacher training alone and is followed up with coaching to support implementation fidelity. An exemplary model that encompasses these elements is The Teaching Pyramid.

The Teaching Pyramid

The Center on the Social and Emotional Foundations for Early Learning (CSEFEL) developed The Pyramid Model for Supporting Social-Emotional Competence in Infants and Young Children. This framework was designed to equip educators with teaching practices to promote healthy development, prevent challenging behavior, and provide effective behavior interventions when needed (Fox et al., 2003).

The Teaching Pyramid is based on the framework developed by CSEFEL and addresses the key components outlined in the Prosocial Classroom Model. This framework focuses on furthering children's social-emotional development and appropriate behavior through positive behavior support. It emphasizes the importance of supportive teacher-child relationships in promoting children's sense of self-concept, and gives educators practical strategies for building relationships, providing high quality learning environments, and teaching social-emotional skills (Fox et al., 2003).

The Teaching Pyramid consists of tiered training modules that build on one another. The first tier focuses on building secure relationships with children, understanding what drives child behavior, and maintaining supportive classroom environments. The second tier addresses ways to teach children social and emotional skills through direct and indirect teaching opportunities. The third tier teaches educators how to provide intensive behavior support on an individualized basis when necessary. The Teaching Pyramid uses strategies similar to other intervention programs, and provides a framework for effective implementation. This approach goes beyond training and supporting teachers by extending the focus to the administrative level within the organization implementing it and the use of an observation tool (Hemmeter et al., 2006).

Implementation of The Teaching Pyramid

For this framework to be used as originally intended, it needs to be implemented with fidelity. O'Donnell (2008) explains fidelity of implementation as the degree in which the implementation of an intervention compares to the way it was originally designed during an efficacy study. Implementation fidelity research seeks to

operationalize and measure criteria that determine the level of adherence to an intervention's original program design. Researchers need to define fidelity measures that incorporate the crucial elements of the program. These measures should determine how to consistently implement an intervention over time and with different types of professionals. The most important features of implementation fidelity are adherence and integrity. Adherence refers to the extent that different components of the program are utilized as initially designed, and integrity refers to using the intervention as it was intended. Measuring the implementation fidelity of the Teaching Pyramid in programs adopting this framework is necessary to support lasting effects in classrooms.

Fidelity of implementation is crucial for putting the practices of the Teaching Pyramid into regular use by teachers. Implementation science focuses on the importance of individual and contextual factors that contribute to supporting sustained research-based interventions. It focuses on changing the behavior of adults to adhere to the intervention as it was designed, generalizing practices to outside of the research setting (Stirman & Beidas, 2020). The Teaching Pyramid embeds layers of support for effective implementation. This includes changing program policies to support changes in teaching practices with a trained coach, and program evaluation tools to measure how well teachers are putting strategies into practice (Hemmeter et al., 2006).

The *Teaching Pyramid Observation Tool* (TPOT) was developed with these important features in mind. This tool was designed to assess early childhood educator implementation of Teaching Pyramid teaching practices. It measures environmental arrangements, key practice subcomponents, and red flags. Environmental arrangements

include classroom set up, classroom materials, and visual representation of classroom expectations. Key practices include maintaining routines, teaching social and emotional skills, and methods to promote student engagement. Red flags are considered practices that are not in line with the Teaching Pyramid, such as chaotic transitions, lack of preparation, and reprimanding children (Synder et al., 2013).

Synder et al. (2013) conducted a psychometric integrity study of the TPOT on fifty preschool programs in Tennessee. Eighty-six percent of teachers in these programs had attended training on addressing challenging behavior or promoting social-emotional skills within the previous year. They administered the tool three times in each classroom through a two-hour observation and fifteen to twenty-minute interview with the teacher. Each observation was conducted by two raters, with interrater agreement calculated to be 92%. When assessing the classroom scores on this tool, they found classrooms were implementing between 26.7%-80.9% of the fidelity indicators. These findings indicate that without professional development and implementation support, teachers were implementing an average of only 50% of fidelity indicators. Traditional professional development for early childhood educators often entails "one off" trainings with the intention of building knowledge, but often lead to minimal and short-term changes in teaching practices (Schachter et al., 2019). In order to obtain higher rates of implementation fidelity, educators need follow up support after building their knowledge in training sessions to utilize what they have learned to make lasting changes to their teaching practices.

Snyder et al. (2015) explores Practice Based Coaching (PBC) as one form of support within the context of implementation science for teachers to effectively execute this model. They define coaching as a process between an expert and practitioner that builds desired professional skills. PBC consists of a cyclical process beginning with shared goals and action planning on specific teaching practices learned from the Teaching Pyramid module trainings. The trained coach conducts a focused observation of teachers implementing these practices, then meets with the teachers to give feedback and ask questions to help them reflect on their goal.

Hemmeter et al. (2016) evaluated the efficacy of implementing the Teaching Pyramid by teachers in public preschool classrooms. Forty teachers and 494 children participated in this two-year study. Teachers were randomly assigned to an intervention group which included workshops, materials to implement practices, implementation guides, and PBC on a weekly basis. Those assigned to the control group attended the workshop training, but did not receive coaching, nor did they receive materials or guides until after data had been collected. When the TPOT scores were averaged from each wave of data collection, they found the intervention group consistently scored higher than the control group in their implementation of the model. This is one example of how a comprehensive approach that includes coaching, support, and materials, can enhance measured implementation of this model.

The Teaching Pyramid is a promising framework to support early childhood educators in building relationships with children to encourage healthy attachments, teach social-emotional skills and manage challenging behavior. The additional support of PBC

can enhance educators' ability to implement the skills they learn from the training modules. In addition to PBC, using the TPOT to measure the fidelity of implementation gives this model practical ways to support and measure how educators put the knowledge they gain into practice. However, committing time and energy to being trained and coached in addition to managing other job duties could potentially increase their work-related stress and contribute to burnout. There is a dearth of research on whether implementing this framework is linked to educators' feelings of emotional exhaustion, depersonalization, and a sense of personal accomplishment. It may be compelling to assume that enhancing teaching skills that may reduce challenging behavior would ameliorate these aspects of burnout. Nevertheless, given the complexities of working in this field, this model may not have a positive effect, or any effect at all, on educator burnout. Research must look beyond the potential benefits of this framework on children's social-emotional development and assess whether there are also positive links to early childhood educators at risk for burnout.

The Present Study

Considering the current literature, more information is needed to examine implementation of the Teaching Pyramid framework as a support to not only children developing social-emotional skills, but also to early childhood educators in terms of providing quality care and preventing burnout. The current study examined links between Teaching Pyramid implementation and educator burnout in a rural non-profit organization that provides federal and state funded preschool programs to low-income families in Northern California.

Previous research has examined purported causes of educator burnout and suggested professional support as a potential moderator (Jennings & Greenberg, 2009; Whitaker et al., 2015; Laurman & Konig, 2016). The current study investigated Teaching Pyramid fidelity as a potentially important correlate to educator burnout, quality-of-care provided, and children's developmental outcomes. Additionally, it examined how educator burnout related to quality-of-care and children's developmental outcomes. It was hypothesized that higher fidelity of Teaching Pyramid implementation would be negatively related to educator burnout and positively correlated with higher quality teacher-child interactions and better child development. It was also hypothesized that educator burnout would be negatively correlated with the quality-of-care measure in the emotional support domain, as well as children's assessment scores in the social-emotional developmental domain.

Methods

Participants

Early childhood educators ($n =21$) working in nine different State and/or Head Start funded preschool programs located throughout Humboldt County, California participated in the fall semester data collection regarding educator burnout. The sample included a mix of classroom positions: lead teachers, associate teachers and assistant teachers. The lead teachers carry a title of Center Director and are responsible for the oversight, instruction, and supervision of children and additional classroom staff. Associate teachers are considered the second teacher in charge of the classroom, but do not supervise additional staff, and assistant teachers assist in instruction and child interactions as assigned by their supervisor. Sample demographics are listed in Table 1.

In addition, archival socioemotional developmental assessments of 111 children, ages 3-5, in the same educators' classrooms were collected. Sample demographics are listed in Table 2.

Table 1

Demographic Characteristics of the Participants

_____

Sample Characteristics	*n*	%
Gender		
Female	19	90.4
Male	1	4.8
Non-Binary	1	4.8
Age		
18-29	1	4.8
30-39	7	33.3
40-49	3	14.3
50-59	9	42.8
60+	1	4.8
Education		
High School	1	4.8
Some College	7	33.3
AA/AS	3	14.3
BA/BS or higher	10	47.6
Teacher Role		
Lead	9	42.8
Associate	7	33.3
Assistant	5	23.8
Years of Experience		
0-5 years	6	28.5
6-10 years	6	28.5
11-19 years	4	19.0
20+ years	5	23.8

Table 2

Demographics Characteristics of the Children

Sample Characteristics	n	%
Gender		
Female	62	55.8
Male	49	44.1
Age		
3-4 years	54	48.6
4-5 years	57	51.3

Procedure

Participants were recruited by email invitation through their agency of employment to take part in a university study on burnout in early childhood educators. They were informed that if they chose to participate, a research assistant would be making a scheduled visit to their work site during the fall semester to administer a short, confidential survey to measure indicators of educator burnout. Staff willing to participate were given a written informed consent statement with the survey (see Appendix 1). Those who chose to participate were informed that individual names would not be collected, but their burnout survey results would be associated with the classroom in which they were working by a confidential identification key. Therefore, results would be kept confidential but would not be completely anonymous.

Participants were given a paper copy of the Maslach Burnout Inventory-Educator Survey in the fall (between October and November) of 2022. The survey included additional questions on demographics, such as age, gender identity, level of education, position title, program type, and years working in early childhood education. Upon receiving each completed paper survey, the research assistant marked it with a code that linked it to the classroom in which each participant worked to ensure burnout scores were associated with the appropriate classroom assessment data. Scores were entered into an Excel spreadsheet by the lead research assistant using the confidential identification code. This ensured that when the data were received by the lead researcher, it was organized by classroom, but without access to the coding system, the lead researcher was unable to

associate survey responses with individual participants. Data sets were cleaned and checked by a research assistant other than the one who did the initial data input.

Participants were given a consent form to sign if they consented to a TPOT observation to measure Teaching Pyramid implementation conducted in their classroom. TPOT observations were conducted during the spring of 2023 by the lead researcher. In addition, participants were requested to consent to their Classroom Assessment Scoring System (CLASS) results being used in the study (see Appendix 2). Upon participant consent, shared data on participating classrooms that were collected by inter-agency certified CLASS observers during October and November of 2022 were requested from the participating agency. Thus, CLASS data were archival in nature. Also, the regularly collected child assessment information from the Desired Results Developmental Profile (DRDP) was requested from each participating program. These are also archival in nature and assess child socioemotional development.

Measures

Educator Burnout

The Maslach Burnout Inventory-Educator Survey (MBI-ES) consists of 22 questions where teachers rate how frequently they relate to each statement on a 7-point scale, with a score of 1 indicating they never feel that way and a score of a 7 indicating that they feel that way every day. See attached measure in Appendix 3. The MBI-ES is divided into three subscales: emotional exhaustion, depersonalization, and personal accomplishment.

The emotional exhaustion subscale consists of 9 items that include feelings of being both exhausted and over-extended by their work. The depersonalization subscale consists of 5 questions that describe feelings that lead to impersonal responses to the people they interact with in their work setting. The personal accomplishment subscale consists of 8 questions regarding feelings of success and achievement in their work (Maslach & Jackson, 1981).

The MBI-ES is meant to be assessed by looking at these three subscales independently, rather than providing a single score that measures overall burnout. Thus, high scores on the first two subscales of emotional exhaustion and depersonalization and lower scores on the personal accomplishment subscale indicate a high level of burnout. This measure has been translated into several languages and has shown construct validity in many countries (Kokkinos, 2006).

This is one of the most utilized scales to measure burnout around the world. Construct validity has been evaluated by six experts in the field of psychology who found

correlations between the total dimension scores and each individual item (Al-Adwan &

Al-Khayat, 2017). Cronbach alpha coefficients (*n*=4163) were .90 for Emotional

Exhaustion, .71 for Personal Accomplishment, and .79 for Depersonalization (Aluja et

al., 2005). To establish test-retest reliability, the MBI was administered to health

administrators and social welfare graduate students within two to four weeks of each

other, finding a coefficient alpha of .82 for Emotional Exhaustion,.80 for Personal

Accomplishment, and .60 for Depersonalization (Maslach et al., 1996). Alpha

coefficients for the present study are .91 for Emotional Exhaustion, .80 for Personal

Accomplishment, and .65 for Depersonalization. Due to small sample size, the entire

scale was used in the current study. Total summed scores for each participant were used

by reverse coding the Personal Accomplishment subcategory so one burnout score could

be analyzed for each participant.

Implementation Fidelity

The Teaching Pyramid Observation Tool (TPOT) was described previously. See

attached measure in Appendix 4. It is divided into fourteen subscales measuring different

key practices identified as indicators that the Teaching Pyramid framework is being

implemented with fidelity. It consists of a two-hour classroom observation and an

approximately thirty-minute teacher interview. The first eight subscales are rated by

observation alone, and rate practices such as *schedules and routines, teacher engagement,*

and *teaching social skills and emotional competencies*. The subsequent three subscales

are rated by both observation and teacher interview, and measure practices such as

teaching friendship skills and *how to express emotion*. The last three subscales are rated

by teacher interview only and gather information such as *interventions used for challenging behaviors* and *connecting with families*. There is also a list of 17 "red flags" that are considered practices that are contradictory to the framework.

Snyder et al. (2013) investigated the psychometric properties of the pilot version of this tool using generalizability and convergent validity analyses on data collected by trained raters in 50 early childhood education programs and found the tool showed less than 1% error variance in occasions and raters showing promise in dependably measuring implementation of this framework. When scores from six raters were averaged over three occasions, they found the Phi and G coefficients were .89 and .95 for key practices, .76 and .84 for red flags, and .23 and .29 for environmental arrangements. For convergent score validity, Pearson product-moment correlation coefficients between the key practices of the TPOT and domain scores for the Classroom Assessment Scoring System were .70 for emotional support and .73 for classroom organization (Hemmeter et al., 2016).

For the present study, the lead researcher established TPOT observer reliability through initially completing a multi-day training and electronic testing which determined reliability with a score of 80% or higher. In addition, two live observations were conducted with a reliable TPOT observer and trainer establishing inter-rater reliability at or above 80% in both trials.

Fidelity scores were organized into three categories for the data analysis for the present study. High fidelity was established by overall TPOT scores which were over 80%. Moderate fidelity was established by overall scores that were between 70-79%; and

low fidelity was categorized by scores that were below 70%. Cronbach's alpha was calculated across key practice subcategories for the eight observations used in the present study, producing an alpha of .92.

Fidelity cut off scores were determined by examining previous research. In the pilot investigation of this tool, the authors discuss the number of programs evaluated which scored over 70% and 80% (Snyder, 2013). Further research on the effects of coaching on implementing this framework indicated an 80% fidelity criterion but reported that scores between 70%-90% were considered effective (Godfrey-Hurrell et al., 2018). Additionally, research on implementation fidelity of positive behavioral intervention and supports found cut off points of 70% and 80% to be associated with student outcomes (Pas et al., 2019).

Observed Quality-of-Care

The Classroom Assessment Scoring System, also known as CLASS (Pianta et al., 2008) is an observation tool developed through research on adult-child interactions as the main driver for student learning and development. See attached measure in Appendix 5. The CLASS was designed after a review of literature and scales from classroom observation studies conducted by the National Institute of Child Health and Human Development (NICHD) Study of Early Care, and the National Center for Early Development and Learning (NCEDL) Multi-State Pre-K Study. It measures teacher-child interactions on a 7-point scale in the domains of emotional support, classroom organization, and instructional support only. Scores in the emotional support domain were utilized for this study. This tool is scored by inter-agency trained observers who

recertify as reliable annually. Scores are measured on a 1-7 Likert scale and collected for

four twenty-minute observation cycles, then averaged to produce an overall observation

score.

The emotional support domain is divided into four dimensions: positive climate,

negative climate, teacher sensitivity, and regard for student perspectives. The *positive*

climate dimension focuses on observable evidence of the teachers' relationships with the

children, positive affect and communication, and respect. The *negative climate* dimension

measures teachers' negative affect, punitive control, sarcasm/disrespect, and severe

negativity. The *teacher sensitivity* dimension measures teachers' awareness,

responsiveness, way of addressing problems, and the students' comfort in interacting

with the teachers. The *regard for student perspectives* dimension measures the teachers'

flexibility and student focus, level of support they show for children's autonomy and

leadership in the classroom, and how they facilitate student expression. Alphas across

four observation cycles in preschool programs (*n=240*) were .89 for *positive climate*, .86

for *negative climate*, .90 for *teacher sensitivity*, and .80 for *regard for student*

perspectives (Pianta et al., 2008). For the present study, Cronbach's alpha was calculated

for these dimensions across four observation cycles in four programs. There was an alpha

of .91 for the *teacher sensitivity* dimension and .93 for *regard for student perspectives*

dimension. Data from the *positive climate* and *negative climate* dimensions did not vary

between observation cycles, indicating an alpha of 1.0.

Child Developmental Outcomes

The Desired Results Developmental Profile (DRDP) is a teacher administered child assessment. See attached measure in Appendix 6. It was designed to measure learning and development in preschool aged children. The Center for Child and Family Studies at WestEd, and the Berkeley Evaluation and Assessment Research Center at UC Berkeley developed this tool to assess 43 areas of development (Nguyen et al., 2020). These areas are divided into the following developmental subcategories: approaches to learning- self regulation, social/emotional, language and literacy, cognition (including math and science), and physical/health. There is an additional category that assesses English language development in children who are dual language learners.

Measures from the social/emotional subcategory include identity of self in relation to others, social/emotional understanding, relationships/social interactions with familiar adults, relationships/social interactions with peers, and symbolic/sociodramatic play. Developmental information is collected by classroom teachers and is rated by the lead teacher in each classroom. Data from this subcategory were analyzed for this study by summing scores so each child received one score for socio-emotional development, ranging from 12 to 44.

Nguyen et al. (2020) investigated the psychometric properties of this measure using data collected on 2,031 preschool aged children during three data collection checkpoints during the program year. Using a five-factor analysis model, they found Cronbach's alpha was .88 for the fall checkpoint, and .91 for both the winter and spring

checkpoints. For the present study, data from the fall collection was used, producing an alpha of .78. See Table 3 for variable means and standard deviations.

Experience

The experience variable is drawn from the demographic portion of the burnout survey See attached measure in Appendix 7. Participants were asked whether they had been trained and coached on the Teaching Pyramid framework in the past, if they were currently being trained and coached, or if they had not been trained and coached. Training level was analyzed as an ordinal variable for the analyses with three levels to represent experience. Level three was coded for participants who had been trained, level two was coded for participants who were being trained, and level one was coded for participants who had not been trained.

Table 3

Variable Means and Standard Deviations

Variable	*n*	*M*	*SD*	Range
1. Burnout	21	1.78	.81	.9-3.05
2. Fidelity	8	1.94	.64	1-3
3. Experience	21	2.20	.88	1-3
4. Development	111	33.55	5.43	12-44
5. Quality of care	4	6.58	.33	5.81-7

Note: Development refers to children's socio-emotional developmental score

Hypotheses

Data collected on the measures described were analyzed to test the following hypotheses:

- Hypothesis 1: Teaching Pyramid fidelity will be negatively correlated with educator burnout, and positively correlated with quality-of-care and children's socio-emotional developmental outcomes.

- Hypothesis 2: Burnout scores will be negatively correlated with quality-of-care and children's socio-emotional developmental outcomes.

- Hypothesis 3: Receiving training and coaching on the Teaching Pyramid framework will be positively correlated with children's socio-emotional developmental outcomes and quality-of-care, and negatively correlated educator with burnout.

Results

Correlation analyses were conducted to examine the relationships between teacher burnout, fidelity of Teaching Pyramid implementation, children's socio-emotional development, quality-of-care, and experience being trained and coached on the framework. Normality and linearity assumptions for correlations were examined. Normality was assessed by performing Shapiro-Wilk normality tests on each data set. The value of all but one of these tests was well under .05, indicating that most of the data failed to meet this assumption. Linearity was assessed through visual representation of data through scatter plots. The scatter plots indicated the data sets were non-linear, thus the linearity assumption was not met. Logarithm and square root transformations were conducted to address assumption violations. These transformations were able to correct some of the linearity violations, but not the normality violations in all the data sets.

To address this, two different correlation analyses were run on the data collected: Pearson's product-moment correlation coefficient and Spearman's rank correlation coefficient. Spearman's rank correlation is considered more robust than Pearson's when assumptions are violated. The Spearman method converts the shape of the data into a flat distribution through a nonlinear transformation and is therefore a conservative test to use on data that is not normally distributed (Bishara & Hittner, 2015). However, Pearson's correlation was also conducted as a comparison to assess whether relationships were in any way inconsistent between the two analyses. Both analyses produced similar sized correlations, so Spearman's correlation coefficient will be reported hereafter. Data were standardized prior to running the analyses to account for the different scales by which

each variable was measured. To account for missing data in the two observation variables, a pairwise deletion method was used so only complete pairs were computed for the correlation analysis.

Hypothesis 1*:* There was no correlation between Teaching Pyramid implementation fidelity (M = 1.94, SD = .64) and educator burnout (M = 1.78, SD = .81), r(19)= -.06, p = .946. The direction of this correlation supported the hypothesis, but the results were not statistically significant.

There was no correlation between implementation fidelity (M = 1.94, SD = .64) and children's socio-emotional developmental outcomes (M = 33.55, SD = 5.43), r(109) =.17, p =.862. The direction of this correlation supported the hypothesis, but the results were not statistically significant.

There was no correlation between implementation fidelity (M = 1.94, SD = .64) and quality-of-care (M = 6.58, SD = .33), r(6) = .04, p = .963. This direction of this correlation supported the hypothesis, but the results were not statistically significant.

Hypothesis 2: There was no correlation between educator burnout (M = 1.78, SD = .81) and children's socio-emotional development (M = 33.55, SD = 5.43), r(109) = -.14, p = .894. The direction of this correlation supported the hypothesis, but the results were not statistically significant.

There was no correlation between educator burnout (M = 1.78, SD = .81) and quality of care (M = 6.58, SD = .33), r(19) = .38, p = .698. The direction of this correlation did not support the hypothesis, and the results were not statistically significant.

Hypothesis 3: There was no correlation between experience being coached on the Teaching Pyramid framework (M = 1.79, SD = .88) and burnout scores (M = 1.78, SD = .81), r (19) = .20, p = .837. The direction of this correlation did not support the hypothesis and was not statistically significant.

There was also no correlation between experience being coached on The Teaching Pyramid framework (M = 1.79, SD = .88) and quality of care scores (M = 6.58, SD = .33), r(19) = .22, p = .825. The direction of this correlation did support the hypothesis but was not statistically significant.

There was no correlation between experience being coached on the Teaching Pyramid framework (M = 1.79, SD = .88) and children's socio-emotional development (M = 33.55, SD = 5.43), r(109) = -.30, p = .763. The direction of this correlation did not support the hypothesis and was not statistically significant. See Table 4 for correlation matrix.

Table 4

Correlation Matrix

Variable	1	2	3	4	5
1. Burnout	-	-.06	.20	-.14	.38
2. Fidelity	-.06	-	-.22	.17	.04
3. Experience	.20	-.22	-	-.30	.22
4. Socio-emotional Development	-.14	.17	-.30	-	-.10
5.Quality of Care	.38	.04	.22	-.10	-

*Note *all p-values > .05*

Discussion

Hypothesis 1

Hypothesis 1 was not supported. Although teaching Pyramid fidelity was negatively correlated to educator burnout as predicted, these results were not statistically significant. Although not significant, the direction of the correlation is in line with Lauremann and Konig (2016). They found that general and teaching-specific self-efficacy was negatively correlated with burnout in their sample; they posited that being more knowledgeable about their job would increase educators' feelings of self-efficacy and ultimately lead to increased professional wellbeing (Lauremann & Konig, 2016). The lack of statistically significant results may be due to educators having the skill and capacity to teach young children social-emotional skills to fidelity within a framework but that may not equate to their internal beliefs in their abilities. Causes of burnout are nuanced, so educators' skill level and belief in their capacity to teach is likely only one of many factors contributing to or ameliorating burnout resulting in this positive correlation.

Implementation fidelity and children's social-emotional developmental outcomes were positively correlated as hypothesized, but this correlation was not statistically significant. The positive correlation does support Jennings and Greenberg's (2009) Prosocial Classroom Model which asserts that teachers with the skills to foster healthy relationships with children and teach them social-emotional skills can support positive student outcomes. More research is needed to determine if classrooms implementing Teaching Pyramid with fidelity may facilitate children's ability to feel securely attached

to their professional caregivers and their exposure to social-emotional teaching, as currently that is not what the present study found.

Although it was not statistically significant, there was a positive correlation between implementation fidelity and quality of care. Current results did not indicate a link between strategies early educators implement using this social-emotional framework and quality-of-care markers in the emotional support domain of the CLASS tool, previous research has. Behavioral indicators such as positive climate, teacher sensitivity, and regard for student perspective on the CLASS tool may be enhanced by skills utilized by implementing the Teaching Pyramid framework such as building and maintaining positive relationships with children and making positive descriptive acknowledgements about their prosocial behaviors.

Snyder et al. (2013) studied the convergent validity of these two observation tools and reported a correlation between TPOT scores and the emotional support domain of the CLASS tool that was stronger ($r = .64$) than the present study ($r = .04$). Snyder et al. (2013) analyzed the data from 50 classrooms to find their correlation coefficient, so the effect size found in the present study may be reflective of a small sample size.

Hypothesis 2

Teacher burnout scores and children's socio-emotional developmental outcomes were negatively correlated as predicted, though it was not statistically significant. Something to consider about these results is that the developmental outcomes used in this study are measured and rated by teacher observation. There is a possibility that teacher burnout levels affected their perception of the children in their care, thus affecting the

way they rate children's development. The child outcomes evaluated in this study were specific to the social-emotional developmental domain. Previous research has found links between poor teacher wellbeing and teacher-reported child behavior problems (Kwon et al., 2019). Similarly, Whitaker et al., (2015) found a link between educators reporting more workplace stress also reporting more conflicts in their relationships with the children in the classroom. Without understanding the mechanisms behind these relationships, it is possible that teacher perceptions affected these relationships.

It may be that teachers experiencing burnout are less capable of supporting healthy development in this domain, but it may also be that burnout affects educators' perception of the social-emotional development of the children. If teachers experiencing burnout are more likely to give lower developmental assessment ratings, there may be a potential confound contributing to this effect size. Unfortunately, burnout and quality-of-care scores had no power to detect a meaningful relationship due to small sample size and skewed distribution.

Hypothesis 3

Although not statistically significant, experience with being trained and coached on the Teaching Pyramid framework was positively correlated with educator burnout. Laurmann & Konig (2016) found a negative correlation between burnout and general and teaching specific self-efficacy. Therefore, these results were not in line with previous research, nor the hypothesis.

Experience being trained and coached was also negatively correlated with children's developmental outcomes. Although this correlation was not statistically

significant, it does suggest an avenue for future research to explore. This is counter to the positive, but not statistically significant, correlation found between implementation fidelity and children's socio-emotional outcomes.

These unexpected results may be an example of why fidelity measures are important to utilize. It may be that being trained and coached on this framework alone did not result in teaching practices that were as supportive to managing work-related stress or promoting children's socio-emotional development. Thus, it could have depended on whether or not teachers implemented the framework with fidelity.

Despite the lack of statistically significant correlations between the variables in this study, there is still some evidence from previous research that the Teaching Pyramid framework can be an effective support to young children and early childhood educators. In this study, fidelity of implementation trended in the predicted direction regarding quality-of-care and children's social-emotional developmental outcomes. There is a possibility that implementing this framework may be beneficial to children's early learning experience, but the sample size of this study was too small to detect this effect. Burnout was negatively correlated to fidelity of implementation, although this finding was not statistically significant. Additional research can determine if this professional development support may also be beneficial to early childhood educators at risk for burnout.

Limitations and Recommendations

There were several limitations in this study. There was a small sample size, giving the study low statistical power. This may have also had a role in normality and linearity assumptions being violated. Running a correlation analysis when assumptions have been violated can lead to inaccurate or misinterpreted results. Reporting a non-parametric correlation method, Spearman's rank correlation, was utilized because it is less sensitive to issues with violations and small sample size, but results may still have some inaccuracies. Scores were mostly in the high range, so there was also not a lot of variances between scores, which may have impacted the analysis.

There were also limitations related to the sample's characteristics. Participants were recruited from one organization in a rural part of northern California and may have a different experience than early educators in urban or suburban communities. The sample was almost entirely female, although this does reflect the field as a whole. Participants volunteered to participate; therefore, demographics may not have been representative of all educators eligible to participate, nor generalizable to the early education workforce at large. For example, 95% of the sample were over the age of 30, almost half reported having a bachelor's degree or higher, and 66% had been working in the field for more than five years. If the sample were more diverse, especially in the areas of age, gender, education, and experience, results may have varied.

Another limitation was that not all who consented to participate in the survey portion of the study also consented to having a TPOT observation in their classroom. Educators from eight of the nine participating classrooms consented, so burnout data was

not able to be compared to the fidelity scores of all classrooms. Also, available CLASS data was limited to four classrooms. This created additional limits in the sample size of observation data, resulting in low statistical power for these variables.

Future research on early childhood educator burnout should be done on larger and more diverse samples. Recruiting participants from different communities so there is a mix of data from both rural and urban educators may provide more diversity in demographics. This will also allow for a larger sample size and more statistical power for the analyses.

Additional methods, or multi-methods to assess children's development that involve more objective measures rather than teacher observation should be considered. As previous research indicates a link between educators reporting more workplace stress reporting more conflicts with the children, the developmental data may have been biased and could have affected the results. Using developmental data that is not rated by the teachers in the study can avoid this potential confound. Developmental data that is rated by parents, or perhaps through a research-based tool conducted by a school psychologist or other developmental professional should be considered in future research.

Another direction for future research is to investigate implementation fidelity in other research based social-emotional frameworks and their effects on educator burnout, quality-of-care and developmental outcomes. There are other professional development supports designed for early childhood programs that not only support children but may also have elements that support educators in their capacity to manage work related stress and be less vulnerable to burnout.

With approximately half of American children aged five and under enrolled in childcare (Carson et al., 2016), research on how to support early childhood classrooms can have real impacts on future generations. These children spend many hours a week with early childhood educators who work in a field that many consider to be underpaid and undervalued. Policy change is necessary to address the low wages these professionals receive to do this important work and invest in ways to support their skills. Research on the efficacy of training models to build job-related skills that improve educators' capacity to manage work stressors they encounter in the classroom and support healthy development can be beneficial to both the adults and children in early childhood education programs. This study calls for additional research to investigate a potential relationship between early childhood educators who implement a social-emotional framework and their ability to support children's socio-emotional development and provide higher care quality. Further research on professional development for early child educators may be beneficial in supporting resilience to burnout and promoting a beneficial learning environment for the children in their classrooms.

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APPENDIX A: Written Consent Statement

Your feedback is requested as a part of a thesis project on educator burnout in local early childhood educators. If you choose to participate, you will be given a short demographic questionnaire and a copy of the 22-item Maslach Burnout Inventory-Educator Survey. This survey will take approximately 15-20 minutes to complete. Answering some of the questions may cause discomfort as they have the potential to make you think of unpleasant feelings you may have about your job. You are also being given contact information for local mental health supports. The benefits of your participation in this study are that your responses will add to the body of research on supports for early childhood educators experiencing feelings of burnout.

Your name will not be requested, but you will be asked to list the name of the program you work in. Information acquired will be analyzed by group, and individual scores will never be seen by the lead researcher, your colleagues, or supervisor. The averaged survey scores from all teachers in each participating program will be compared to classroom observation and children's developmental assessment scores which are regularly collected by your agency throughout the school year to measure the impact educator burnout has on these measures. No individual scores will be analyzed or reported. The overall findings from this study will be shared with your employer and other early childhood organizations interested in mitigating educator burnout.

You are allowed to take this survey on work time, and you will be compensated with a $5 gift card regardless of your participation.

This study is being done as a thesis project of the researcher, April Frazer, who is also the Child Services and Staffing Director for NCS. Since the researcher is also an employment supervisor, we emphasize that your decision to participate is voluntary, it will not be known to the researchers, and declining will have no effect on your employment status.'
The Investigator will answer any questions you have about this study. Your participation is voluntary; refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled; and you may discontinue participation at any time without penalty or loss of benefits.

If you have any concerns with this study or questions about your rights as a participant, contact the Institutional Review Board for the Protection of Human Subjects at irb@humboldt.edu or (707) 826-5165.

If you have any additional questions regarding this study, you may contact Dr. Tasha Howe at tasha.howe@humboldt.edu or (707) 826-3759.

Online resources for teacher mental health:

50 Resources to Support the Mental Health of Teachers and School Staff

https://teach.com/resources/mental-health-resources-teachers-school-staff/

Teacher Wellness

https://www.edutopia.org/topic/teacher-wellness

Teach for America: Mental Health Resources for Teachers

https://www.teachforamerica.org/stories/mental-health-resources-for-educators

APPENDIX B: Study Consent

Hello_____,

This letter is to inform you of a research project I am conducting on early childhood educator burnout, Teaching Pyramid implementation, quality-of-care, and children's developmental progress. Your participation is being requested, but is totally voluntary, and you may opt out at any time.

I would like to have a research assistant schedule to come out to your site two times this school year to administer a brief, confidential survey on educator burnout (more information on that to come). In addition to that, I would like to schedule a visit to your classroom in the month of January to conduct a Teaching Pyramid Observation Tool-Short Form. I would also like to use data from your regular CLASS and DRDP scores to see if there are any correlations between level of burnout, Teaching Pyramid implementation, teacher-child interactions, and developmental progress. All observations will be done by classroom, and your individual name or any other identifying information other than your classroom will not be used.

This project intends to inform the agency and other early childhood programs about the effects of educator burnout and implementing the Teaching Pyramid on quality-of-care and children's development. Your participation will add to research and understanding on professional supports for early childhood educators.

This is being done as my thesis project, not as a part of my job duties, but the results will be shared with the agency and made available to you upon request. Since I am also an employment supervisor, I want to emphasize that your decision to participate is voluntary, and declining will have no effect on your employment status.

If you are willing to participate, please initial the following:

_____ I consent to a Teaching Pyramid Observation being conducted in my class

_____ I consent to my CLASS scores being used in this research project

_____ I consent to a research assistant scheduling a visit to my site to administer burnout surveys

Name_____   Date_____

Classroom_____

If you have any concerns with this study or questions about your rights as a participant, contact the Institutional Review Board for the Protection of Human Subjects at irb@humboldt.edu or (707) 826-5165.

If you have any additional questions regarding this study, you may contact Dr. Tasha Howe at tasha.howe@humboldt.edu or (707) 826-3759.

APPENDIX C: Maslach Burnout Inventory: Educator Survey

For use by April Frazer only. Received from Mind Garden, Inc. on April 1, 2022

Review Copy: MBI for Educators Survey

How often:		1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

How often 0-6	Statements:
1. _____	I feel emotionally drained from my work.
2. _____	I feel used up at the end of the workday.
3. _____	I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____	I can easily understand how my students feel about things.
5. _____	I feel I treat some students as if they were impersonal objects.
6. _____	Working with people all day is really a strain for me.
7. _____	I deal very effectively with the problems of my students.
8. _____	I feel burned out from my work.
9. _____	I feel I'm positively influencing other people's lives through my work.
10. _____	I've become more callous toward people since I took this job.
11. _____	I worry that this job is hardening me emotionally.
12. _____	I feel very energetic.
13. _____	I feel frustrated by my job.
14. _____	I feel I'm working too hard on my job.

I feel I'm working too hard on my job.

APPENDIX D: Teaching Pyramid Observation Tool

(TPOT^TM) for Preschool Classrooms RESEARCH EDITION

Subscale 1 Key Practice

TPOT Item		A. Number of indicators scored yes	B. Number of indicators scored no	C. Total possible (A + B)	Score (A / C * 100)
1	Schedules, Routines, and Activities*				
2	Transitions Between Activities Are Appropriate				
3	Teachers Engage in Supportive Conversations with Children*				
4	Promoting Children's Engagement*				
5	Providing Directions				
6	Collaborative Teaming*				
7	Teaching Behavior Expectations				
8	Teaching Social Skills and Emotional Competencies				
9	Teaching Friendship Skills				
10	Teaching Children to Express Emotions				
11	Teaching Problem Solving				
12	Interventions for Children with Persistent Challenging Behavior				
13	Connecting with Families				
14	Supporting Family Use of the *Pyramid Model* Practices				
Total Key Practices					

Subscale 2 Red Flags

Total Key Practices

\15-31	Red Flags			

APPENDIX E: Classroom Assessment Scoring System

CLASS Teacher: Observer:
Start time: End time:

Number of adults: Number of children:

		Circle appropriate score.

Positive Climate (PC)
• Relationships
  Positive affect
  Positive communication
• Respect
	Notes	1 2 3 4 5 6 7

Negative Climate (NC)
  Negative affect
  Punitive control
• Sarcasm/disrespect
• Severe negativity
	Notes	1 2 3 4 5 6 7

Teacher Sensitivity (TS)
• Awareness
  Responsiveness
  Addresses
  problems
  Student comfort
	Notes	1 2 3 4 5 6 7

Regard for Student Perspectives (RSP)
  Flexibility and student focus
  Support for autonomy and
  leadership
• Student expression
  Restriction of movement
	Notes	1 2 3 4 5 6 7

Behavior Management (BM) • Clear behavior expectations • Proactive Redirection of misbehavior • Student behavior	Notes	1 2 3 4 5 6 7
Productivity (PD) • Maximizing leaming time • Routines • Transitions • Preparation	Notes	1 2 3 4 5 6 7

APPENDIX F: Desired Results Developmental Profile

spatial relationships, cause and effect, classification, number sense of quantity, number sense of math operations, measurement, patterning, shapes, inquiry through observation and investigation, documentation and communication of inquiry, and knowledge of the natural world.

Physical Development–Health (PD-HLTH)

The PD-HLTH domain assesses motor development and the development of routines related to personal care, safety, and nutrition. The knowledge or skill areas in this domain include perceptual-motor skills and movement concepts, gross locomotor movement skills, gross motor manipulative skills, fine motor manipulative skills, active physical play, nutrition, safety, and personal care routines (hygiene, feeding, dressing).

History-Social Science (HSS)

The HSS domain focuses on learning about the expectations of social situations, how to participate within a group, and the relationship between people and the environment in which they live. The knowledge or skill areas in this domain include sense of time, sense of place, ecology, conflict negotiation, and responsible conduct.

Visual and Performing Arts (VPA)

The VPA domain focuses on awareness and engagement in four areas of artistic expression. The knowledge or skill areas in this domain include visual art, music, drama, and dance.

About the Measures of the DRDP (2015)

The levels for each DRDP (2015) measure describe a developmental continuum, ranging from earlier developing to later developing competencies. The DRDP (2015) includes three types of continua:

- **Full Continuum Measures:** describe development from early infancy to early kindergarten. These measures should be used with all infants, toddlers, and preschool-age children.

- **Earlier Development Measures:** describe development that typically occurs from early infancy through early preschool ages and may be used with preschool-age children under specific conditions (identified as Conditional measures).

- **Later Development Measures:** describe development that typically occurs from early preschool ages to early kindergarten. These measures should be used with all preschool-age children.

DRDP (2015)

Early Education PS Fundamental View
Rating Record

An Early Childhood Developmental Continuum

For use with Preschool-age Children in Early Care and Education Programs

Child's Name (First and Last): _____

Agency ID or SSID: _____

Assessment Period (e.g., Fall 2016): _____

Date DRDP (2015) was completed (e.g., 09/07/2014) _____ / _____ / _____
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　month　　　　　day　　　　　　year

The Rating Record is to be used with the DRDP (2015) Instrument to keep track of each child's developmental levels as you complete the assessment. Mark the developmental level the child has mastered for every measure.

Measure	Measure Name	Responding Earlier	Responding Later	Exploring Earlier	Exploring Middle	Exploring Later	Building Earlier	Building Middle	Building Later	Integrating Earlier	Not yet	Conditional Measure (not rated)	EM	UR
ATL-REG 1	Attention Maintenance*													
ATL-REG 2	Self-Comforting*													
ATL-REG 3	Imitation*													
ATL-REG 4	Curiosity and Initiative in Learning													
ATL-REG 5	Self-Control of Feelings and Behavior													
ATL-REG 6	Engagement and Persistence													
ATL-REG 7	Shared Use of Space and Materials													
SED 1	Identity of Self in Relation to Others													
SED 2	Social and Emotional Understanding													
SED 3	Relationships and Social Interactions with Familiar Adults													
SED 4	Relationships and Social Interactions with Peers													
SED 5	Symbolic and Sociodramatic Play													
LLD 1	Understanding of Language (Receptive)													
LLD 2	Responsiveness to Language													
LLD 3	Communication and Use of Language (Expressive)													
LLD 4	Reciprocal Communication and Conversation													
LLD 5	Interest in Literacy													
LLD 6	Comprehension of Age-Appropriate Text													
LLD 7	Concepts about Print													
LLD 8	Phonological Awareness													
LLD 9	Letter and Word Knowledge													
LLD 10	Emergent Writing													

Measure	Measure Name	Discovering Language	Discovering English	Exploring English	Developing English	Building English	Integrating English	Conditional Measure (not rated)	EM	UR
ELD 1	Comprehension of English (Receptive English)									
ELD 2	Self-Expression in English (Expressive English)									
ELD 3	Understanding and Response to English Literacy Activities									
ELD 4	Symbol, Letter, and Print Knowledge in English									

*These measures required for children with IEPs.

DRDP (2015): An Early Childhood Developmental Continuum　Preschool Fundamental View – June 24, 2019

DRDP (2015)

Special Education PS Fundamental View
Rating Record

An Early Childhood Developmental Continuum

For use with Preschool-age Children with Individualized Education Programs (IEPs)

Child's Name (First and Last): _____

Agency ID or SSID: _____

Assessment Period (e.g., Fall 2016): _____

Date DRDP (2015) was completed (e.g., 09/07/2014) _____ / _____ / _____
month   day   year

The Rating Record is to be used with the DRDP (2015) Instrument to keep track of each child's developmental levels as you complete the assessment. Mark the developmental level the child has mastered for every measure.

Measure	Measure Name	Responding Earlier	Responding Later	Exploring Earlier	Exploring Middle	Exploring Later	Building Earlier	Building Middle	Building Later	Integrating Earlier	Not yet	EM	UR
ATL-REG 1	Attention Maintenance												
ATL-REG 2	Self-Comforting												
ATL-REG 3	Imitation												
ATL-REG 4	Curiosity and Initiative in Learning												
ATL-REG 5	Self-Control of Feelings and Behavior												
ATL-REG 6	Engagement and Persistence												
ATL-REG 7	Shared Use of Space and Materials												
SED 1	Identity of Self in Relation to Others												
SED 2	Social and Emotional Understanding												
SED 3	Relationships and Social Interactions with Familiar Adults												
SED 4	Relationships and Social Interactions with Peers												
SED 5	Symbolic and Sociodramatic Play												
LLD 1	Understanding of Language (Receptive)												
LLD 2	Responsiveness to Language												
LLD 3	Communication and Use of Language (Expressive)												
LLD 4	Reciprocal Communication and Conversation												
LLD 5	Interest in Literacy												
LLD 6	Comprehension of Age-Appropriate Text												
LLD 7	Concepts about Print												
LLD 8	Phonological Awareness												
LLD 9	Letter and Word Knowledge												
LLD 10	Emergent Writing												

Measure	Measure Name	Discovering Language	Discovering English	Exploring English	Developing English	Building English	Integrating English	Conditional Measure (not rated)	EM	UR
ELD 1	Comprehension of English (Receptive English)									
ELD 2	Self-Expression in English (Expressive English)									
ELD 3	Understanding and Response to English Literacy Activities									
ELD 4	Symbol, Letter, and Print Knowledge in English									

DRDP (2015)

**Special Education
PS Fundamental View
Rating Record**

**For use with Preschool-age Children
in Early Care and Education Programs**

Child's Name (First and Last): _____

Agency ID or SSID: _____

Measure	Measure Name	Responding Earlier	Responding Later	Exploring Earlier	Exploring Middle	Exploring Later	Building Earlier	Building Middle	Building Later	Integrating Earlier	Not yet	EM	UR
COG 1	Spatial Relationships												
COG 2	Classification												
COG 3	Number Sense of Quantity												
COG 4	Number Sense of Math Operations												
COG 5	Measurement												
COG 6	Patterning												
COG 7	Shapes												
PD-HLTH 1	Perceptual-Motor Skills and Movement Concepts												
PD-HLTH 2	Gross Locomotor Movement Skills												
PD-HLTH 3	Gross Motor Manipulative Skills												
PD-HLTH 4	Fine Motor Manipulative Skills												
PD-HLTH 5	Safety												
PD-HLTH 6	Personal Care Routines: Hygiene												
PD-HLTH 7	Personal Care Routines: Feeding												
PD-HLTH 8	Personal Care Routines: Dressing												
PD-HLTH 9	Active Physical Play												
PD-HLTH 10	Nutrition												

APPENDIX G: Demographic survey

ECE Burnout Research Survey
Demographics

Please circle the answer that best describes you:

Age   Gender Identity
18-29   Female
30-39   Male
40-49   Non-Binary
50-59
60+

Education completed   Years working in ECE field
High School   0-5 years
Some college coursework   6-10 years
AA/AS   11-19 years
BA/BS or higher   20+ years

Position   Program Type
Center Director   Full day/full year
Teacher   Full day/School year
Team Teacher   Half day Head Start
Associate Teacher   Half day/State
Assistant Teacher

Which of the following applies to you?
I have been trained and coached on the Teaching Pyramid framework in the past
I am currently being trained and coached on the Teaching Pyramid framework
I have not been trained and coached on the Teaching Pyramid framework