AN EXPLORATION OF EARLY CHILDHOOD TEACHER STRESS AND WELL-BEING

By

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(Under the Direction of Stacey Neuharth-Pritchett)

ABSTRACT

This study analyzed the relationship between early childhood (EC) teacher stress, burnout, and self-care activities. Previous research has found EC teacher stress to be high, particularly increasing since the COVID-19 pandemic. This study seeks to expand these results by examining a broad range of self-care activities and multiple indicators of self-reported stress. Results indicated that EC teachers are reporting higher levels of stress since the pandemic. Burnout and the number of self-care activities engaged in are associated with EC teacher stress levels. The relationship between stress mindset, the number of challenges reported, and stress was not significant. This study expands previous findings by highlighting the large number of potential resources that EC teachers identify as being used to cope with stress. It also indicates the need for further support of EC teacher stress since an exogenous shock like the COVID-19 pandemic.

Keywords: early childhood educators, stress, job demands, COVID-19

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CHAPTER ONE

INTRODUCTION AND REVIEW OF THE LITERATURE

The COVID-19 pandemic and the years following have highlighted psychological stressors impacting early childhood teachers' sense of well-being. For example, over 65% of Australian early childhood educators in one survey reported low-level psychological distress brought on by the pandemic, with 21.5% reporting high levels of psychological distress (Berger et al., 2022). Across the globe, studies have documented teacher-reported stressors, including increased workload (Khalid & Pope, 2024), challenges with teacher-parent interactions (Neuberger et al, 2024), mental and physical exhaustion (Wolfe et al., 2024), anxiety and depression (Harding et al, 2024), and burnout (Jeon et al., 2024). Working from home during the pandemic, educators addressed communication challenges, technological difficulties, work-life balance challenges, and fewer interactions with co-workers. Despite these noted negatives, educators also noted working at home included a more flexible schedule, a less distracting environment, and continued compensation (Bigras et al., 2021).

Changes resulting from the pandemic, both positive and negative, were drawn from discrepancies in what school systems were able to provide for employees (Hanno et al., 2022), along with teachers' own personal physical and mental health status (Lipscomb et al., 2021a). For example, in one study, 46% of early childhood educators reported increased depressive symptoms since COVID-19 which were compounded with an increase in responsibilities and a decrease in compensation (Warner & Davis Schoch, 2024). Schedules for early childhood teachers were also greatly impacted, as these teachers often spent more time in planning and

communication rather than in instruction during remote learning (Steed et al., 2022), undoubtedly contributing to adverse child academic outcomes since 2020. Many early childhood educators have more limited education than K-12 teachers and must address unique stressors of working with younger children (Hindman & Bustamante, 2019b). Lower quality of early child care relationships has been found to be associated with higher rates of reported behavior problems and lower social competence by the start of kindergarten (Pluess & Belsky, 2009). Because relationships are a function of the teacher's mental health and well-being and relationships support successful child outcomes, determining the effects of stress on said mental and physical health status of teachers is especially salient.

Early Childhood Educators' Stress

Physical Stress

Various sources of stress, including physical sources, can impact early childhood educators' work. Kwon and colleagues (2021) found that the relationship between a teacher's sense of professional well-being was mediated by his or her sense of psychological well-being, which was preceded by physical well-being. Physical and psychological well-being and, therefore, professional well-being were strongly associated with the demands and resources of early childhood teaching. A work environment with a positive work climate along with work that physically was not taxing on the body was associated with better general health and lowered stress levels and mental health issues (Kwon et al., 2021). Increased physical demands and work stressors were associated with poorer physical and psychological well-being.

Physical well-being can also include additional personal health characteristics, such as diet quality, obesity and high blood pressure problems, sleep quality, and rates of physical activity (Lessard et al., 2020). Obesity rates in early childhood workers have been found to be

slightly higher than average among other professions, though health data on the early childhood education workforce is limited (Lessard et al., 2020). With the potential for poorer health quality in said workers, such quality is likely to influence the aforementioned physical demands of the job. Research has indicated that perceived physical health quality is associated with increased chronic health conditions (Snyder et al., 2019). These chronic conditions and other demands, such as difficulties paying for basic needs, are linked with perceived stress (Snyder et al., 2019). The prevalence of physical stressors is more common in the early childhood workforce than in national averages, with 25% of employees in one study reporting at least three of six health conditions (obesity, asthma, hypertension, diabetes/prediabetes, severe headaches/migraines, or lower back pain) (Whitaker et al., 2013). Likewise, quality of sleep, health, and overall life are lower and stress levels higher among Black, multiracial, and Latino teachers, which was exacerbated by the pandemic (Souto-Manning & Melvin, 2021). Other groups that have been historically marginalized including those with disabilities, chronic illnesses, and victims of abuse, were also even further impacted physically by the pandemic (Pattnaik & Jalongo, 2021).

Psychological Stress

Resources and demands in the work of early childhood educators can include more than just workplace physical demands. Those who report missing work for physical health conditions are also more likely to report missing days due to poor mental health (Whitaker et al., 2013), highlighting the impact of psychological stress as a demand.

Early studies of measures of workplace burnout found that those who reported themselves to be more emotionally exhausted (e.g., strained from working with people, burnout, fatigue) and working in depersonalized settings (negative views of people helped on the job) were perceived by co-workers as more physically exhausted and stressed, and as more upset and

angrier by spouses when compared to those who are not (Maslach & Jackson, 1981). Those who were lower in these areas yet higher in Personal Accomplishment (related to self-efficacy and self-worth) were reported to be more cheerful, take fewer breaks, have fewer sleep problems, and are less likely to leave the job. Although these data come from occupations in the "people-work" industry (Maslach & Jackson, 1981) beyond early childhood teachers, it is clear that job demands are related to factors beyond the workplace, exacerbating burnout. Although some teachers reported variable burnout, over 10% of early childhood teachers in one study reported feeling emotionally exhausted multiple times a month, a rate even higher for those in Head Start settings (Gardner et al., 2023). Educators who feel a stigma for working in the early education industry are less likely to be engaged in work (Li et al., 2024).

Personal psychological factors such as self-efficacy can also serve as resources rather than stressors. Factors such as professional support can predict higher work engagement for early childhood teachers (Lipscomb et al., 2021a). Personal beliefs can also be seen as a resource (Roberts et al., 2019). Having child-centered beliefs, believing learning is a form of exploration, is associated with lower levels of depression (Roberts et al., 2019). Viewing psychological beliefs as a resource is also related to the efficacy of well-being interventions for early childhood teachers. In one study, a latent class analysis of teachers participating in the MyTeachingPartner professional development intervention revealed three categories of teachers coded by stress and support (Bayly et al., 2020). Teachers who reported feeling higher levels of self-efficacy, positive school climate, and administrative support (i.e., the Confident and Supported class) benefitted the most from intervention in emotional and instructional support (Bayly et al., 2020). Given that many early childhood teachers began to feel as if they were taking on a more supportive role of

their students during the pandemic (Yildiz et al., 2022), support such as those provided by administrators in building teacher self-efficacy beyond just instruction are needed.

Understanding beliefs as a potential resource, it is important to consider that demands and resources can include individual characteristics. These resources can be seen by measuring the association between perceived work ability (perceived physical and mental ability) and job burnout (Viotti et al., 2019). Feeling that one has the mental and physical capabilities to work predicted higher enthusiasm and lower exhaustion later on, both of which measured less burnout (Viotti et al., 2019). Even whenever stress is present, individual perceptions of job stressors, known as "stress mindset," can influence later job turnover. Preschool teachers who believe that workplace stressors are opportunities for growth, otherwise known as a "stress-is-enhancing mindset," are less likely to view their jobs as stressful and less likely to leave within a year (Kim et al., 2020). Those who have a more negative mindset of stress, known as "stress-is-debilitating mindset," are more likely to have higher levels of job stress and leave the workforce. Whenever teacher age, salary, and experience are considered, research results support the likelihood that the negative mindset and, therefore, job turnover are more common in younger, less-experienced, lower-paid teachers. (Kim et al., 2020).

Another potential way to address early childhood educator well-being can be conceptualized through a job demand and resource model is through increasing a connection to one's work and work environment. For example, a study with Pennsylvania Head Start teachers found a negative correlation between the number of daily spiritual experiences and depression, even when controlling for exposure to adverse childhood experiences (Whitaker et al., 2021).

Environmental Stress

This connection to one's work is undoubtedly associated with whether or not the school environment contributes to stress through lack of resources to meet demands. Madill and colleagues (2018) used the 2012 National Survey of Early Care and Education to examine the relationship between formal and informal workplace support (resources) and teacher psychological distress. Formal workplace support included measures such as coaching, mentoring, professional development, and class size, and stability. Informal workplace supports included feelings of respect and help from coworkers. Resources such as stable class assignments, high teamwork, respect, and encouragement in the workplace were significantly negatively associated with psychological distress.

Resources and demands associated with stress can also be implicated in depression levels in early childhood teachers (Roberts et al., 2019). Resources including higher wages, health care, and not working multiple jobs are associated with lower depression levels, though other studies find no association (Kwon et al., 2021) or limited associations by demographics (Caven et al., 2021). Related to burnout is the likelihood that a teacher stays in the workforce. In one study, when kindergarten teachers were asked whether they would return to teaching, 61.4% of those with perceived insufficient resources to meet demands said they would return (Lambert et al., 2019). This outcome was compared to 87.6% of teachers with sufficient resources who said they would return to teaching (Lambert et al., 2019).

Caven and colleagues (2021) used the National Survey of Early Care and Education to analyze potential sources of job turnover in the early childhood workforce, including wages, nonwage benefits, center size and type, and race and education of the employee. They found a negative association between wages and turnover rate ($1 hourly wage increase with a 5%

turnover decrease), even adjusting for other factors. Centers with higher turnover rates include private pay centers, low-wage centers, and centers serving children birth to five years. Educators who were Black, less educated, or less experienced were more likely to work in higher-turnover and less-wage centers and have less access to nonwage benefits. A positive association was found with non-wage benefits and turnover in low-wage centers. This association and other expected turnover associations could not be determined causally. Studies suggest that many educators with less experience and education could be leaving to find more experience, maintaining qualifications for Medicare, or seeking employment in centers offering non-wage benefits. These findings support that centers can differ in demands and resources (Caven et al., 2021), yet these demands and resources are still tied to early childhood educators' work outcomes.

Similar findings have been supported after the onset of the pandemic (Eadie et al., 2021). Specifically, those who had more years in early childhood teaching in Australia had higher levels of professional well-being and lower rates of turnover during the pandemic than teachers who had less than five years of experience, potentially due to higher pay and fewer perceived demands from changes brought on by the pandemic (Eadie et al., 2021). Other environmental stressors exacerbated by the pandemic include high mortality, increased stress, and financial strain (Bornfreund & Fretwell, 2021). Changes in home life brought about by shifts in work from the pandemic likewise brought about higher stress (Quinn et al., 2022). With this in mind, institutions of higher learning began to provide resources through research to mitigate the increased demands, particularly considering racial divides exacerbated by the pandemic (D'Agostino et al., 2022).

Fortunately, intervention has been found to produce positive results in the classroom environment. Lipscomb, Hatfield, and colleagues (2021b) tested the *Roots of Resilience* intervention, an online program designed to increase resiliency for trauma survivors. The intervention comprises two parts—an online course component and an online coaching component, which can be taken independently, if needed (Lipscomb et al., 2019). The program was designed to be flexible for teachers so that they can learn how trauma can manifest in young children and incorporate trauma knowledge as a part of early childhood best practices. Teachers in the treatment group with course membership were observed to have higher emotional support, a less negative classroom environment, and higher teacher sensitivity (Lipscomb et al., 2021b). Among those with *Roots of Resilience* coaching, less negative engagement from children and modest mathematics score improvement were found. Teacher education level was also negatively correlated with emotional support. These findings provide support for a program-based intervention as another resource for teachers dealing with the demands brought on by trauma (Lipscomb et al., 2021b).

However, as with individual psychological stressors, environmental differences in school systems must be considered when providing interventions to reduce environmental stressors. In an analysis of child outcomes in schools receiving professional development, child outcomes improved after treatment, even in schools with collective high workplace stress (Hanno et al., 2021). In schools where collective workplace stress was found to be low, child socioemotional outcomes were found to improve (Hanno et al., 2021).

Social Stress

Child socio-emotional outcomes are highly related to the level of teacher stress and the quality of a teacher's relationships with his or her students. This is not surprising given that many

early childhood teachers cite student relationships as the most important and rewarding component of their profession (Spilt et al., 2011). Teachers who report feelings of closeness with a student have been found to have lower levels of stress; whenever students are overly dependent on or in conflict with teachers, these teacher stress levels increase (Gagnon et al., 2018).

Children's challenging behaviors are often observed as an additional demand, which is associated with lowered work engagement (Lipscomb et al., 2021a). Relationships with students characterized by high levels of conflict are associated with feelings of helplessness on the job, lowering an early childhood educator's sense of self-efficacy (Spilt et al., 2011). However, this only occurs if the teacher believes the quality of the child relationship is related to personal job goals, self-esteem, and relatedness to the teacher's identity (Spilt et al., 2011). Early childhood educators also reported lack of involvement from parents during virtual learning amid the pandemic that made this relationship more difficult (Ford et al., 2021).

When personal job goals are negatively impacted, stress and burnout ensue, which is associated with worsened levels of instructional support (e.g., providing feedback and other tasks related to teacher identity (Sandilos et al., 2020). Children have been found to have worse math achievement scores whenever a teacher's depression levels were higher, with the relation mediated by a teacher's relationship with her classroom's family (e.g., understanding of values, involvement in goals) (Jeon et al., 2024).

Social stress is not exclusive to relationships within the classroom. Data from a sample of preschool teachers in China during the pandemic who also were mothers of young children (Hong et al., 2021) lend to the idea of non-job-related demands impacting job stress. These preschool teachers were surveyed to determine if there was a relationship between work overload, parenting stress (both demands), and job satisfaction. Teachers reported feeling more

stressed and having a heavy workload from school and family as a result of the pandemic. Work overload and parenting stress (demands) were found to be negatively associated with job satisfaction. Parenting stress and job satisfaction were found to be mediated by both family-to-work and work-to-family conflict. The relationship between work overload and job satisfaction was also found to be mediated by work-to-family conflict but not family-to-work conflict. Researchers explained no association in the latter model due to the collectivistic and familial aspects of Chinese culture (Hong et al., 2021), which necessitates further potential study in cultural resources affecting early childhood educators' well-being.

Additional social stressors can be seen in the form of adverse childhood experiences (ACEs). The number of these experiences of trauma in teachers' childhoods, ranging from having incarcerated family members to abuse, have been found to be negatively associated with the quality of teacher-child relationships and classroom quality (Hubel et al., 2020). Such findings, along with the presence of ACEs in preschool children, highlight the need for implementing proven trauma-informed school environments to support ECE teachers (Holmes et al., 2014). Understanding the various components of teacher stress lends support for the use of the Job Demands and Resources theoretical framework.

Job Demands and Resources Framework

Successfully assessing early childhood education (ECE) teachers' well-being must start with a framework encompassing a teacher's entire environment. One helpful model for framing teacher well-being is the Jobs Demands and Resources (JD-R) model, which categorizes aspects of the workplace environment into factors that motivate and promote well-being for teachers in the form of resources and those that increase risks of stress and potential work burnout that are categorized as demands (Kwon et al., 2021). Developed by Bakker and Demerouti (Bakker et al.,

2003a, 2003b; Demerouti et al., 2001a, 2001b), the demands component of the JD-R model suggested that "Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs (Bakker & Demerouti, 2007, p. 312). Whereas, the job resources component of the model referred to "those physical, psychological, social, or organizational aspects of the job that are functional in achieving work goals, reduce job demands and the associated physiological and psychological costs, and stimulate personal growth, learning, and development (p. 312)." The model is also characterized by two processes. The first process is that underlying psychological processes contribute to the development of job strain where challenges with psychological concerns exhaust one's mental and physical resources. The second component of the process at play within the model is that motivational potential can lead to high work engagement, low cynicism, and increased performance. Specifically, job resources can support intrinsic motivation through fulfillment of basic human needs or extrinsic motivational needs by achieving work goals (Bakker & Demerouti, 2007). See Figure 1 for a representation of the model.

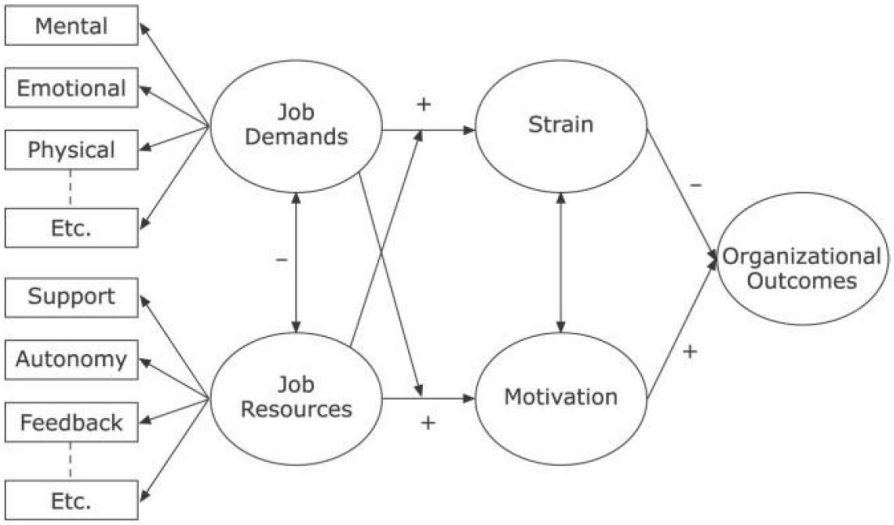

Figure 1. The Job Demands-Resources model

According to the JD-R model, whenever demands exceed resources, teachers feel less capable of handling the stressors of the job; whenever resources exceed demands, teachers feel more apt to handle those stressors (Lipscomb et al., 2021a). When teachers perceive they have proper resources, higher classroom organization levels are reported, even during the pandemic (Natale et al., 2023).

Provision of more resources during and after the pandemic are essential because of the effects seen on children whenever the early childhood workforce becomes overstrained. Teachers with a more supportive social climate have been found to have lower levels of depression by the end of the year than those who do not (Hindman & Bustamante, 2019a). Lowered depression levels in teachers across the year were strongly correlated with increased prosocial skills in children (Hindman & Bustamante, 2019a). Early learning and cognitive development have declined among children before and after the pandemic, respectively (Deoni et al., 2021). These findings highlight further potential demands that early childhood educators teachers face even after the pandemic ends. Given this, it is essential to understand the variety of ways in which demands can occur.

A recent study by Kwon and colleagues (2021) examining early childhood educator well-being, the authors assessed the job demands and job resources present in a sample of 262 early care and educator providers in the Midwest. The authors hypothesized that two aspects of early educators' work would predict their professional well-being as educators. Specifically, the authors measures job resources and job demands. Job resources centered on positive work climate, the quality of the physical environment, and instrumental resources which consisted of wages and insurance. Job demands included work-related stressors and physical job demands.

Hypothesized to mediate the relationship between resources, demands, and professional well-being were psychological well-being and physical well-being. Psychological well-being was operationalized as depression, perceived stress, and general mental health issues. Physical well-being was defined as ergonomic plan and the educator's general health condition. Results indicated that early childhood educators reported high professional well-being but that a high number also experiences concerns with perceived stress, depressive symptoms, work climate, and the quality of the physical environment. The study also revealed that wages and health insurance did not predict professional well-being. Another important finding was that physical well-being preceded psychological well-being in mediating associations between job demands/resources and professional well-being.

These findings parallel another study on job demands and resources from a sample of early childhood educators in Colorado. Schaack, Le, and Stedron (2020) found that teachers' emotional exhaustion and depersonalization was a function of their job control, lack of collegial relationship with coworkers, and challenging children's behaviors. They also found that teachers who experienced higher levels of collegiality were less likely to leave their positions and had lower levels of emotional exhaustion. Curbow and colleagues (2000) noted that teachers' job-related stress might undermine their ability to provide consistent and emotionally supported classrooms. Grining and co-authors (2010) noted that teachers who reported higher levels of stress sought fewer supports from mental health consultants, while Kim and colleagues (2020) found that teachers who believed in the potential benefits of stress experienced less job stress and were less likely to leave their positions.

Limitations

While the research findings summarizing teacher stress strongly support the use of the JD-R model, some reservations are needed. One potential caution is the challenge of measuring social and emotional development in children and tying that measurement to teacher well-being outcomes (Jones et al., 2016). Furthermore, associations are mostly correlative, though some of the abovementioned research supports causal pathways (Hindman & Bustamante, 2019a; Lipscomb et al., 2021b; Viotti et al., 2019;). While, there are diverse and nationally representative data sets on the JD-R model and early childhood educator well-being, these studies largely were limited to overwhelmingly female populations. This is understandable, given that the early childhood workforce is overwhelmingly female (Madill et al., 2018); more research could be done to find potential differences among the demands and resources of male and female early childhood teachers. Research findings suggest that teachers with the resources to meet the demands of working in the early childhood education field are better off in physical, psychological, and professional well-being. Teachers who feel supported through the work climate, proper pay, and have adequate ways of relieving stress have children and classroom environments that are more engaging and responsive. Given that the COVID-19 pandemic has exacerbated many existing problems in teachers' and children's lives, particularly those in marginalized groups, it is more important than ever to assess ways to reduce the discrepancy between perceived overwhelming demands and the few resources teachers have. Finally, while there are studies which examine the effects of interventions on EC teachers' well-being (Bayly, et al., 2020; Hwang et al., 2017; Sandilos et al., 2020), little research exists on the types of activities EC teachers engage in for self-care. These activities may help capture the ways that

teachers work to support physical, psychological, environmental, and social well-being whenever interventions or school supports cannot.

Current Study

The current study analyzes stress levels since the pandemic and how these stressors relate to burnout. We address two research questions in this study. First, we measure the changes in stress levels since the COVID-19 pandemic. With this, we can analyze whether teachers with varying stress levels differ in how much their stress levels have changed. Next, we examine the differences in the long-term impact of stress on mindset, burnout, challenges faced, and self-care activities. Stress mindset, challenges faced, and burnout will be measured to help further explore the different components of physical, social, psychological, and environmental stress. The following research questions are addressed in this study:

1. Do teachers with varying stress levels differ in their change in stress since the pandemic?
2. What differences exist in those with changes in stress following the COVID-19 pandemic with current levels of stress, stress mindset, burnout, challenges faced, and self-care activities?

CHAPTER TWO

METHOD

Participants

The current study summarizes data collected from primary school teachers in the United States. Prekindergarten through third-grade teachers received an online Qualtrics survey by email. This survey asked about the well-being and support of early childhood teachers since the start of the pandemic. Teachers began to receive surveys in late spring 2024 and data collection concluded in early Fall 2024. Teachers were incentivized for their time in completing the survey with a gift card.

Of the 99 teachers who received the survey, 88 fully completed all items of the questionnaire. Demographic information is provided for all 99 teachers, although some analyses were conducted on a smaller number of teachers based on missing data. The participants were asked to provide basic demographic data on the survey. With regard to gender, 95% of participating teachers were female. Three percent of the teachers were aged 18-24, 38% were aged 35 to 44 years, 26% were from 45 to 54 years old, and 4% were over age 55. Regarding education, 60% had obtained a bachelor's degree or higher, with a majority (73%) having some sort of additional early childhood teaching credentials. Most participants self-reported their race and ethnicity as White (61%**)** and non-Hispanic (95%).

Participants, on average, had 14.69 years of teaching experience (SD = 7.529), with 11.16 years (SD = 7.42) teaching at their current grade levels. Participants were polled about the grades they were currently teaching. Of the participants, 57% taught pre-kindergarten, 7% taught

kindergarten, 7% taught first grade, 11% taught second grade, and 8% taught third grade. Some teachers indicated they were teaching multiple grades, such as kindergarten and first grade (10%). Participants were also asked whether they had worked in their current school system when schools closed in the Spring of 2020 due to the pandemic. Of the participants, 90 were teaching in their schools in Spring 2020, and an additional six teachers were engaged in student teaching during that time.

Table 1

Demographic Statistics of the Participants (n= 99)

Baseline characteristic		
	n	*%*
Gender		
Female	95	95
Male	3	3
Transgender	1	1
Hispanic, Latino, or Spanish origin?		
Yes	4	4
No	95	95
Race/Ethnicity		
American Indian or Alaska Native	1	1
Asian	3	3
Black/African American	29	29
White	61	61
Other	1	1
Prefer not to answer	1	1
Multiracial	3	3
Age		
18-24 years	3	3
25-34 years	27	27
35-44 years	38	38
45-54 years	26	26
Over 55 years	4	4
Prefer not to answer	1	1

Table 2

Education Level

	n	%
Educational Level	3	3
Some college, no degree	5	5
Associate's degree	31	31
Bachelor's degree	52	52
Master's degree	5	5
Professional degree	3	3
Professional degree (MD, DDS, DVM)		
Teacher Role		
Teacher	85	85
Paraprofessional	1	1
Special Education Teacher	10	10
Other	3	3
Credential in Early Childhood		
Yes	73	73

Measures

The online survey consisted of 49 questions divided into six sections. Data for the current study comes from five sections of the survey. The sections were designed to gather information on how the COVID-19 pandemic has disrupted participants' personal lives and teaching, and the level of stress and support teachers have had since the pandemic. For each item, participants were given the option "prefer not to answer."

COVID Events and Disruptions

Participants were asked from a list of options what socioeconomic and health concerns have occurred since the start of the pandemic. For each concern chosen, participants were then asked to provide a level of stress on a 5-point Likert scale ("Not at all stressful" to "Extremely Stressful"). Sample questions included listing the social and economic events or disruptions that

the teacher or their immediate family had during COVID-19 and the months and years that followed (e.g., increased workload/work responsibilities; inability to pay bills, work-life balance challenges).

Teaching Experiences

Participants answered nine items that gauged teacher experiences. These questions included how many semesters teachers had taught since Spring 2020 and whether the participants changed schools. Participants were also asked to indicate their likelihood of not returning to teaching and to provide (if marked) why they would not return.

Challenges and Stressors

Participants additionally answered 14 items gauging the challenges and stressors of teaching. A list of stressors and their impacts and a six-point Likert scale measuring stress levels was provided. Sample questions included "I had trouble communicating with parents," "I had trouble balancing teaching with other outside-school responsibilities," "I felt isolated in my job," "I had trouble controlling my class." Depression and stress symptoms and their frequencies over the past month were also measured, in addition to whether stress levels have changed.

Stress Mindset

The Stress Mindset Measure (SMM) developed by Crum, Salovey, and Achor is widespread measurement of stress mindset. The survey consists of eight questions based on a five-point Likert-scale with responses ranging from "Strongly Disagree (0)" to "Strongly Agree (4)" with a neutral response ("Neither Agree nor Disagree" (2)). The SMM-G is designed to measure one's view of stress across contexts. Questions assess the level at which stress facilitates one's health, performance, and growth *and* the level at which it debilitates one's health, performance, and growth. A person who endorses the former is said to have a view of stress as

being “enhancing,” with an individual endorsing the former questions at a higher-level perceiving stress as “debilitating.” The Cronbach alpha of the SMM-G (the general version used in this study) was .86 (Crum et al., 2013).

Burnout

To assess burnout, participants filled out the MBI Educators Survey. This survey consists of 22 items and is measured on an eight-point Likert Scale (frequency measured from “Never” to “Every Day”). The original form was created using participants from various supporting occupations, including teachers (Maslach & Jackson, 1981). The scale consists of three subscales of burnout: Emotional Exhaustion, Depersonalization, and Personal Accomplishment (the optional Involvement subscale was not used). Emotional Exhaustion was operationalized as feelings of being emotionally overextended and exhausted by one’s work (e.g., “I feel burned out from my work”). Depersonalization items describe unfeeling or impersonal responses toward recipients of one’s care or service (e.g., “I have become more callous toward people since I took this job). Higher scores on emotional exhaustion and depersonalization indicate higher degrees of experienced burnout. The Personal Accomplishment subscale measured feelings of competence and successful achievement with one’s work with people (e.g., “I deal very effectively with the problems of my students.”). The personal accomplishment subscale was also described as being independent, or not opposite of, emotional exhaustion and/or depersonalization.

Each scale has a frequency and intensity mean. Test-retest reliability for the subscales were 0.82 (frequency) and 0.53 (intensity) for Emotional Exhaustion, 0.80 (frequency) and 0.68 (intensity) for Personal Accomplishment, and 0.60 (frequency) and 0.69 (intensity) for Depersonalization (Maslach & Jackson, 1981). Validity data in the original sample supports

burnout as a separate construct related to observed outcomes such as job dissatisfaction, physical fatigue, anger, and desire to leave one's job.

Well-Being: Self-Care Activities and Supports

Finally, participants were asked to choose from a list of activities they engaged in regularly that promoted well-being (e.g., setting a specific time of day to address student needs, getting a good night's sleep, connecting with colleagues about instructional issues). Participants also chose from another list of activities they engaged in for self-care (e.g., time management, conflict resolution, relaxation training, exercise, religious or spiritual activities). Participants answered on an eight-point Likert scale the frequency of these behaviors. Additionally, participants provided information on access to well-being resources.

Analytic Approach

The following study is descriptive in its analysis; no treatments were implemented. Survey answers are analyzed by looking at correlations, variance, and mean differences. The study aims to determine the relationship between teachers' stress, teacher characteristics, and differences in stress levels and how stress levels have changed. No causal determinations are made; they are associational. Analyses were performed using IBM SPSS Software Version 28. Data was first derived through means and frequencies of the demographic data. Stress levels were reduced from four categories to three for the analysis. An analysis of variance (ANOVA) was performed to determine differences in the groups by stress level. A multiple comparisons analysis was run to determine differences in the variance in changes in stress since the pandemic.

CHAPTER THREE

RESULTS

Research Question 1: Do Teachers with Varying Stress Levels Differ in Their Change in Stress Since the Pandemic?

A description of the demographic characteristics of the participants is provided in Table 1. These data, along with education level, were previously discussed in the Methods section. Although data are listed for the entire set of respondents (n = 99); analyses are performed without participants who had missing data.

Participants were asked to provide their overall stress level and change in stress since the start of the pandemic. Results are listed in Table 3, where 43% indicated high or very high stress levels. Additionally, 51% of respondents indicated their stress levels had increased somewhat or significantly. To analyze current levels of stress, data were collapsed by researcher judgment into three categories: “Low,” “Moderate,” and “High;” these are listed in Table 4. “Very limited” and “somewhat limited” were recategorized into “Low,” “moderate” into “Moderate,” and “high” and “very high” into “High.” This was done to increase the number of participants in each category for analysis.

Table 3

Overall Stress and Change of Stress

	Frequency	Percent
Very limited	5	5
Somewhat limited	14	14
Moderate	30	30

	High	20	20
	Very high	23	23
Since the Pandemic, Overall Stress Has:			
	Decreased significantly	11	11
	Decreased somewhat	17	17
	Stayed the same	13	13
	Increased somewhat	24	24
	Increased significantly	27	27

Table 4

Teacher's Current Level of Stress

		Total		
		%	N	%
Teachers' overall current stress rating	Low	16.3	19	21.6
	Moderate	22.4	27	30.7
	High	61.2	42	47.7
Total		100	88	100

Once teachers were grouped into levels of low, moderate, or high stress, a descriptive analysis was conducted to examine differences among stress levels along differing demographic groups. Stress level by gender and ethnicity is presented in Table 5. For the statistical analyses, non-female participants were excluded. Almost half of the female respondents indicated high stress levels (47.7%). These data are similar for the non-Hispanic participants, given the vast majority of the participants listed themselves as non-Hispanic. Further, 90% of the participants described themselves as Black or White. As seen in Table 6, 42.3% of Black EC teachers listed

their stress levels as high (n = 11), compared to 50% of White EC teachers (n = 27). Participants who identified themselves as male or transgender were removed from the analysis given the low numbers of each group in the sample,

Table 5

Gender, Ethnicity, and Stress Level

Teacher Current Stress Level	Gender	Ethnicity	
	Female n (%)	Hispanic/Latino Origin n (%)	Non-Hispanic/Latino Origin n (%)
Low	19 (21.6)	2 (50.0)	17 (20.2)
Moderate	27 (30.7)	0 (0.0)	27 (32.1)
High	42 (47.7)	2 (50.0)	40 (47.6)

Table 6

Race and Stress Level

Teacher Current Stress Level	Race					
	American Indian or Alaskan Native n (%)	Asian n (%)	Black/African American n (%)	White n (%)	Multiracial n (%)	Prefer Not to Answer n (%)
Low	1 (100.0)	0 (0.0)	10 (38.5)	7 (13.0)	1 (33.3)	0 (0.0)
Moderate	0 (0.0)	1 (33.3)	5 (19.2)	20 (37.0)	1 (33.3)	0 (0.0)
High	0 (0.0)	2 (66.7)	11 (42.3)	27 (50.0)	1 (33.3)	1 (100.0)

Finally, teachers' changes in stress levels were noted by their levels of stress (Table 7). 55.7% of the respondents across all groups indicated an increase in their stress levels (n = 49); just under a third of respondents reported their stress levels decreased (30.7%, n = 27). Of those with low-stress levels, 57.9% reported that their stress levels stayed the same or decreased (n =

11). Further, 40.7% of those with reported moderate stress levels indicated their stress levels increased (n = 11). Of those with high reported stress levels, none reported their stress levels stayed the same; 71.4% reported an increase (n = 30). A Chi-Square Tests analysis indicated that these differences in groups are greater than expected by chance, $X^2(4, 88) = 15.446, p = .004$.

Table 7

Change in Stress, by Stress Level

Teacher's change in stress		Decrease		Same		Increase		Total	
		N	%	N	%	N	%	N	%
Teacher Overall Current Stress	Low	7	25.9	4	33.3	8	16.3	19	21.6
	Moderate	8	29.6	8	66.7	11	22.4	27	30.7
	High	12	44.4	0	0.0	30	61.2	42	47.7
Total		27	100	12	100	49	100	88	100

Research Question 2: What Differences Exist in The Long-Term Impact of Stress Following the COVID-19 Pandemic on Stress Mindset, Burnout, and Self-Care Activities?

Statistical analyses were performed to determine the relationship of stress following the COVID-19 pandemic on teachers' stress mindset, burnout, and self-care activities. Table 8 presents outcomes from an analysis of variance test to determine the differences between groups. There was a statistically significant difference between groups in Emotional Exhaustion $F(2, 83) = 5.923, p = .004$. There was also a difference among groups in Personal Accomplishment, $F(2, 83) = 3.281, p = .043$, and in Depersonalization, $F(2, 83) = 4.371, p = .016$. Teachers between groups likewise differed in the number of self-care activities in which they engaged, $F(2, 83) = 3.057, p = .052$.

Table 8

Differences Among Groups

		M (SD)	N	F	Sig.
Stress Mindset Measure	Decrease	2.510 (.586)		.436	.65
	Same	2.601 (.545)			
	Increase	2.422 (.684)			
	Total	2.473 (.635)	86		
Emotional Exhaustion	Decrease	3.769 (1.086)		5.923	.004*
	Same	3.315 (1.445)			
	Increase	4.601 (1.443)			
	Total	4.169 (1.425)	81		
Personal Accomplishment	Decrease	6.057 (.592)		3.281	.04*
	Same	5.364 (1.068)			
	Increase	5.628 (.906)			
	Total	5.718 (.875)	83		
Depersonalization	Decrease	2.003 (1.062)		4.371	.02*
	Same	1.733 (.920)			
	Increase	2.717 (1.417)			
	Total	2.364 (1.311)	83		
Total Number (of 30) Self-Care Activities	Decrease	11.24 (6.495)		3.057	.05^
	Same	8.08 (5.178)			
	Increase	8.13 (4.566)			
	Total	9.05 (5.420)	83		
Total Number (of 30) Challenges	Decrease	7.667 (5.582)		1.514	.23
	Same	7.000 (5.673)			
	Increase	9.735 (6.598)			
	Total	8.727 (6.223)	87		

^*Indicates marginal significance*

A follow-up post-hoc comparisons analysis was performed to determine mean differences in the groups. These data are presented in Table 9. The post-hoc follow-up analysis indicated a difference in Emotional Exhaustion for those whose stress level stayed the same compared to those whose stress increased.

Table 9

Multiple Comparisons

	Teacher's change in stress rating (I)	*Teacher's change in stress rating (J)*	*Mean Difference (I-J)*	*Std. Error*	*Sig.*	*95% Confidence Interval*	
						Lower Bound	*Upper Bound*
Stress Mindset Measure	Decrease	Same	-.091	.223	.920	-.6471	.465
		Increase	.087	.155	.854	-.2993	.474
	Same	Decrease	.091	.223	.920	-.4649	.647
		Increase	.178	.206	.688	-.3348	.692
	Increase	Decrease	-.087	.155	.854	-.4738	.299
		Same	-.178	.206	.688	-.6915	.335
Emotional Exhaustion	Decrease	Same	.454	.473	.633	-.7260	1.634
		Increase	-.832	.334	.050	-1.6634	.0002
	Same	Decrease	-.454	.473	.633	-1.6341	.726
		Increase	-1.286*	.436	.016	-2.3725	-.199
	Increase	Decrease	.832	.334	.050	-.0002	1.663
		Same	1.286*	.436	.016	.1988	2.373
Personal Accomplishment	Decrease	Same	.693	.299	.075	-.0531	1.438
		Increase	.429	.211	.132	-.0961	.955
	Same	Decrease	-.693	.299	.075	-1.4382	.053
		Increase	-.263	.275	.635	-.9498	.424
	Increase	Decrease	-.429	.211	.132	-.9551	.096
		Same	.263	.275	.635	-.4237	.950
Depersonalization	Decrease	Same	.269	.443	.831	-.8347	1.373
		Increase	-.714	.312	.079	-1.4926	.064
	Same	Decrease	-.269	.443	.831	-1.3734	.835
		Increase	-.984	.408	.060	-2.0005	.033
	Increase	Decrease	.714	.312	.079	-.0639	1.493
		Same	.984	.408	.060	-.0331	2.0005
Total Number (of 30) Self-Care Activities	Decrease	Same	3.157	1.858	.242	-1.48	7.79
		Increase	3.112	1.309	.065	-.15	6.38
	Same	Decrease	-3.157	1.858	.242	-7.79	1.48
		Increase	-.044	1.711	1.000	-4.31	4.22
	Increase	Decrease	-3.112	1.309	.065	-6.38	.15
		Same	.044	1.711	1.000	-4.22	4.31

Total Number (of 30) Challenges Noted	Decrease	Same	.667	2.147	.953	-4.681	6.015
		Increase	-2.068	1.483	.382	-5.763	1.627
	Same	Decrease	-.667	2.146	.953	-6.015	4.681
		Increase	-2.735	1.993	.394	-7.700	2.230
	Increase	Decrease	2.068	1.483	.382	-1.627	5.763
		Same	2.735	1.993	.394	-2.230	7.700

CHAPTER FOUR

DISCUSSION AND IMPLICATIONS

General Discussion

The purpose of this study was to examine changes in stress levels for EC teachers since the start of the COVID-19 pandemic. The relationships between stress, stress mindset, burnout, and self-care activities were also explored. These analyses were performed to gain insight into the well-being of EC teachers after facing a widespread exogenous shock such as the pandemic. The increase in stress for EC teachers reported in this sample is consistent with other findings in the literature on an increasing level of stress globally for EC teachers since the pandemic (Berger et al., 2022; Khalid & Pope, 2024). EC teachers face a broad number of challenges. This is within the context of teachers losing the formerly reported "benefits" of the pandemic, including flexible work schedules and working from home (Bigras et al., 2021).

An exploration of the findings presented in Table 7 indicated a majority of teachers have had an increase in stress since the pandemic. The increase in stress differed by groups, with less than a third of those in the moderate stress group having an increase in stress versus three-quarters of those in the high stress group. This means most EC teachers who were stressed became even more stressed, exacerbating differences in group outcomes. Considering the results in Table 8, there was no significant difference in stress mindset. It is possible that self-care activities explain this difference. Acting as a resource, these self-care activities teachers engage in might serve as a "buffer" from stressors faced. It is possible that those EC teachers who are mindful of their stress engage in a wide variety of self-care activities to help stress. Alternatively, the findings could indicate that those who are more stressed are those who have engaged in

numerous failed self-care activities, increasing stress. Further exploration of the third of EC teachers who reported a decrease in stress will be needed to help understand these differences. The number of challenges faced was not significant. One explanation could be that all teachers face high levels of stressors or challenges, to where the difference in effect is miniscule (since all experience so many). Alternatively, the number of challenges might not differ due to the resources (self-care activities) on which EC teachers have to rely. That said, the reporting of challenges across a variety of stressors, from physical to psychological stressors, is consistent with the interactions of physical, psychological, and social well-being (Kwon et al., 2021).

Although questions on physical stress were not directly analyzed, there are still consistencies with the literature indicating physical symptoms with stress. Emotional exhaustion, even if psychological, is still consistent with feelings of fatigue (Maslach & Jackson, 1981). EC teachers reported challenges including dealing with sickness and death since the pandemic. Given that sickness and dealing with said symptoms are related to perceived stress (Snyder et al., 2019), one can predict these reported stress levels are associated with physical health outcomes. In examining psychological stress, the relationship between stress and burnout experiences is unsurprising. Previous research indicates that those with reported emotional exhaustion are viewed by others to be stressed (Maslach & Jackson, 1981). The lack of a significant relationship with stress mindset to stress and burnout is inconsistent with previous research in psychological stress (Kim et al., 2021). One explanation could be due to the context of the survey, where EC teachers were viewing stress in relation to the pandemic. This could have reduced any positive views of the pandemic. Alternatively, those who particularly view stress as debilitating might have left early on in the pandemic, affecting who completed the survey. Finally, the finding of a negative association between personal accomplishment to stress and burnout is consistent with

findings that having a personal connection to the workplace is helpful for overall well-being (Whitaker et al., 2013).

In environmental stress, it is surprising to see an educated sample reporting such high levels of stress. This is despite the relationship between education and stress in EC teachers (Eadie et al., 2021). Further research is needed to parse out the associations between school resources in supporting teachers since the pandemic. Participants were able to select challenges and self-care activities which they experienced at both home and school. This highlights the relationship between EC teachers' work and home environments (Hong et al., 2021).

Socially, reported burnout is consistent with teacher reports of physical and mental exhaustion from social stressors (Neuberger et al., 2024; Wolfe et al., 2024). Depersonalization and stress being linked is consistent with the findings that EC teachers desire close relationships with their students (Spilt et al., 2011). They report lower stress with these positive relationships (Gagnon et al., 2018). Finally, these challenges in the context of an exogenous shock such as a pandemic add to another example of adverse childhood experiences for students that can affect teacher-student relationship quality (Hubel et al., 2020).

In the context of the Jobs Demands-Resources framework, a significant relationship between self-care activities and stress and burnout reflects the resources from which EC teachers can draw upon (Bakker & Demerouti, 20007; Lipscomb et al., 2019a; Natale et al., 2013). The self-care activities teachers engaged in at both home and school reflect the formal and informal supports that are helpful for managing stress (Madill et al., 2018). It likewise reflects the change in demands since the pandemic that are social and financial, not just health-related (Bornfreund & Fretwell, 2021). Within the context of the JD-R framework, burnout symptoms and stress reported by EC teachers fit well in the category of strains, whereas personal accomplishment

seems consistent with motivation (Bakker & Demerouti, 2007). These findings thus strongly support a need to address an individuals' stress in the context of resources available.

Strengths, Limitations, and Future Directions

This study contributes several strengths to the overall literature. First, the findings indicate that EC teacher stress can change. Given the relationship between stress and self-care activities, the findings support that providing teachers with further resources and interventions can make a difference in their stress levels. The number of self-care activities (a type of support) reported was extensive. Many of these self-care activities were at little to no cost, done from school or at home, and ranged from individual to collective activities. This approach helped to capture a larger range of ways that teachers may relieve stress in addition to traditional, structured, and often costly methods. Given this, measuring self-care activities supports the understanding that resources are broadly defined as any support (Bakker & Demerouti, 2007, p. 312). EC teachers may (and need) to rely on as many resources as possible to ensure that resources exceed demands to help ensure better well-being (Lipscomb et al., 2021a).

Stress was likewise measured broadly. This included overall stress, changes in stress, stress mindset, and burnout levels, allowing for an exploration of how stress is expressed over time. Finally, this study also included EC teachers who teach primary and early elementary grade levels, not often included with preschool, pre-kindergarten and Head Start teachers.

The study comes with limitations. This sample was a more educated sample than what is typical of EC teachers, driven in part by the 43% of primary and elementary grade teachers in the sample. This inclusion meant a population primarily of public school teachers; no analysis was made of teachers from private centers. Consistent with previously identified limitations in the field, the number of males in the sample was limited. While the list of self-care activities was

extensive, no analyses were done to see the relationship between specific types of self-care activities and stress. Finally, while stress was measured from multiple components, these data were mostly from retrospective survey questions. A direct measurement of physiological health could have helped to gather a more direct measure of physical stress. Factors like class size and director and administration support could have helped to measure environmental support more directly.

Beyond addressing the current study's limitations, future research is needed to analyze EC teacher stress. Nearly a majority of teachers report a high level of stress, with the majority reporting increases in stress (as seen in Table 7). Future research can explore those whose stress was low or decreased. The relationship with self-care activities may indicate a buffering effect from stress. For those with high stress who reported even further increases, future research into interventions will need to target this vulnerable group. This longitudinal data over time can support the already noteworthy findings that teachers of different stress levels varied in how they reported their stress over time. This moment-to-moment data could be combined with research on specific interventions and their relations to stress, such as just-in-time interventions. Further research will likewise need to explore the effects of workplace climate (Hanno et al., 2021), given the relationship between social climate and EC teacher outcomes (Hindman & Bustamante, 2019b). Research on specific interventions and self-care activities will be helpful to explore how specific activities contribute to physical, psychological, environmental, and social well-being. Including self-care activities with intervention research will be essential, as not every teacher benefits from intervention (Bayly et al., 2020). Furthermore, these self-care activities may be a more realistic measurement of contribution to physical well-being; without measuring physical well-being, a true understanding of psychological and professional well-being is

incomplete (Kwon et al., 2021). Further research can help classify these self-care activities and supports into specific categories relating to physical, social, environmental, and psychological well-being.

Conclusion

The findings of this study indicate that EC teachers differ in their stress levels and changes in stress since the COVID-19 pandemic. Teachers who reported high levels of stress were more likely to report an increase in stress than those who had low or moderate stress. A relationship was likewise found between stress and burnout outcomes, including higher rates of emotional exhaustion and depersonalization and lower levels of personal accomplishment as stress increased. There was likewise an association between stress and the number of self-care activities engaged in.

Understanding stress and burnout is important for understanding EC teacher job satisfaction. Environmental, social, physical, and psychological stress are all interrelated (Kown et al. 2021). Considering the findings of this study in the context of JD-R framework, stress and burnout can be helped if the right supports are in place for teachers. This keeps EC teachers in the field (Lambert et al., 2019). While it is not clear what the relationship is with specific self-care activities, it is clear that EC teachers can choose from a wide variety of low-cost and low-effort activities to help with their well-being. Teachers without this support and activities are more likely to give worse instructional support (Sandilos et al., 2020). Managing this stress will help EC teachers meet the needs of children at a critical point in their development.

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