

Promoting caregiver and child resilience: The ACHIEVER Adult Resilience Curriculum

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Abstract

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Extensive literature to date supports the importance of early childhood education in promoting positive outcomes across the life span. The important role of early childhood educators is more readily recognized at present due to current policy initiatives focused on improving the quality of early childhood education across the United States. Current literature indicates high levels of occupational stress and low levels of social-emotional wellbeing impact the retention of high quality providers and the effectiveness of their practices.

The present study employed a mixed-methods randomized delayed-control design to pilot the ACHIEVER Adult Resilience Curriculum (AARC), a resilience curriculum designed to teach providers skills and routines that can help manage stress and enhance social-emotional wellbeing. The main goal of this pilot study was to examine the social validity to determine whether providers find it acceptable, appropriate, and useful. A secondary goal of this study was to examine the effectiveness of the AARC to produce lower levels of stress, greater resilience and self-efficacy, and improved job satisfaction. Preliminary results indicated that the participating providers perceived AARC to be socially valid and acceptable. Quantitative analyses were unable to demonstrate statistically

significant differences between the treatment and control groups on outcome measures, and providers' baseline level of stress did not moderate the effect of the intervention. However, qualitative results indicated promising effects of the intervention when implemented within the context of a setting where it can be practiced daily. Recommendations for modification of the curriculum and future directions for research including implementing the AARC within the context of a coaching relationship are provided.

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DEDICATION

For my grandmothers: whose love, patience, courage and strength as they fought their own battles with mental illness inspired me to help.

For the children in my life now, and those to come: above and beyond everything else, this work is for you.

Chapter I: Introduction

Extensive literature to date supports the importance of early childhood education in promoting positive outcomes across the life span. Children who receive high-quality early education demonstrate higher levels of academic achievement, better social skills, less grade retention, higher graduation rates, fewer behavioral problems, more economic productivity and less criminal involvement than those who do not (Schindler & Yoshikawa, 2012; Center for the Child Care Workforce, 2013; Karoly, Kilburn & Cannon, 2005; Nelson, Westhues, MacLeod, 2003; Schweinhart, Barnes & Weikart, 2005; Olds, Eckenrode, Henderson et al., 1997; Temple, Reynolds & Miedel, 2000).

Given the importance of early childhood education and its high return on investment (Aos, Lieb, Mafield, Millier & Pennucci, 2004; Karoly, Killburn & Cannon, 2005; Barnett & Masse, 2007; Temple & Reynolds, 2005; Heckman, Seong, Pinto, Savalyey & Yavitz, 2009), the demand for high-quality early learning programs in our country is increasing. Currently, there are many federal and state public policy initiatives dedicated to improving the quality of early childhood education programs through the implementation of evidence-based practices (U.S. Department of Education, 2014).

The charge of improving the quality of education is no easy task. Educators today are being asked to take on more diverse educational practices with higher needs children and families than any other time in educational history (Whitebook & Darrah, 2013). In nation-wide studies, education consistently ranks as one of the occupations with the highest level of stress (Jarvis, 2002). Indeed, teacher stress, burnout and attrition are some of the most longstanding issues facing education, with stress being cited as one of the primary reasons educators leave the profession (Whitebook & Darrah, 2013; Ingersoll, 2001; Provasnik & Dorfman, 2005). This is particularly true for early childhood educators whose

salaries are 30-50% less on average than those of K-12 teachers (U.S. Department of Labor, Bureau of Labor Statistics, 2014).

Literature indicates that enhancing program quality through the implementation of evidence-based practices is largely dependent on a committed, stable, and motivated workforce (Manlove & Guzell, 1997). While many current early childhood initiatives and policies set high standards for the implementation of evidence-based practices, many do not address provider characteristics that impact the fidelity of implementation, nor consider methods of retaining highly skilled providers (Barnett, 2003).

One of the factors that has been consistently linked to insufficient fidelity of implementation, as well as impairments in professional effectiveness, is the amount of stress educators experience or, alternatively, impaired social-emotional wellbeing (Darling-Hammond, 2001; Goleman & Guo, 1998; Jorde-Bloom, 1986; Howard & Johnson, 2004; Montgomery & Rupp, 2005). In addition, stress has been continuously linked to lower job commitment, diminished life satisfaction, and increased likelihood for physical illness (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Lazarus, 1999; Rasmussen, Scheier, & Greenhouse, 2009). Furthermore, the quality of caregiver-child attachment relationships is substantially affected by the social-emotional wellbeing of the caregiver (Hamre & Pianta, 2004).

While the evidence-based-practice movement has identified effective practices for use in early childhood education, it has been somewhat narrow-sighted in its approach. It has largely fallen short in considering the wellbeing of implementers as an important aspect of the adoption and implementation of evidence-based practices and ultimately retaining them once they have developed the capacity to deliver evidence-based practices.

A large body of research has been established over the past decade focusing on investigating the factors that predict teacher stress and wellbeing including: teacher self-efficacy, job satisfaction, school climate, and outcomes of stress including: attrition, academic achievement, motivation and limited fidelity of implementation. While the correlates and impact of teacher stress are well documented, few studies have implemented interventions to directly identify and address important components in promoting teacher resilience.

The main thesis of this research is that program improvement initiatives should integrate provider resilience and wellness supports for early childhood educators. In so doing, programs will promote the retention of high-quality staff, and providers will be able to more effectively adopt and implement evidence-based practices that target improving child outcomes and promote longevity of teachers in the field.

Given the need to address resilience in early childhood educators, the purpose of the current mixed methods study was to explore the stress and resilience profile of early childhood educator participants and to pilot the implementation of the ACHIEVER Adult Resilience Curriculum (AARC), a curriculum designed to improve early childcare providers' social-emotional wellbeing and decrease stress. Through quantitative and qualitative analysis, we explored the intervention's social validity and effectiveness. We drew conclusions regarding modifications that should be made to the curriculum and its delivery to support a comprehensive, usable program that may be implemented on a large scale in the field of early learning. Specifically, the research was conducted from a Participatory Action Research framework. The curriculum was provided in a series of in-service trainings delivered to childcare providers working at two early childcare organizations in the Puget Sound region of the United States. Data was collected on a pre,

post and four-month follow-up basis on a range of measures including job related stress, resilience, job satisfaction and teaching efficacy. The hypotheses guiding this research is that the stress and resilience profile of our participants is similar to others early childhood educators in the field, that the training possesses social validity and that the AARC intervention helps decrease perceived stress and increases teaching efficacy, resilience and job satisfaction. As will be discussed below, all of these outcomes are proven to play important roles in predicting wellbeing and positive caregiver-child interactions as well as promoting the implementation of evidence based practices in early learning settings.

Chapter II: Literature Review

The purpose of this portion of the paper is to review the background literature that builds a case for the study at hand. This chapter will begin with a discussion of literature addressing the importance of high quality early childhood education and the impact of caregiver social-emotional wellbeing on the children under their care. Then, we will discuss the literature about the potential implications for the provision of high-quality care on the mental health of children and educators as well as current policies related to quality improvement practices in early learning. The focus then shifts to theoretical models of occupational stress and resilience, with a particular focus on Lazarus's transactional model of stress and stress-related outcomes as well as resilience and positive outcomes associated with resilience. Following the literature review, the chapter closes with a specific description of the intervention and its underlying theories of change as well as several research questions that served to guide the present study.

The Impact of Early Childhood Education

Statistics in the United States indicate that many children are at higher risk for academic and social-emotional challenges due to the presence of negative early experiences (Shonkoff & Phillips, 2000). Young children with family risk factors such as substance abuse, mental health conditions, domestic violence exposure, adverse neighborhood characteristics and low family income are two to three times more likely than children without these risk factors to experience problems with aggression, anxiety, depression, and hyperactivity (Whitaker, Orzol & Kahn, 2006; Cooper & Masi, 2009). Between 9.5 and 14.2 percent of children between birth and age five experience social-emotional problems that negatively impact their development and school-readiness (Brauner & Stephens, 2006). By the time students reach school age, in any given classroom, one out of every five

students has a diagnosable mental health disorder (Costello, Mustillo, Erkanli, Keler, & Angold, 2003; Hoagwood & Erwin, 1997) and many more exhibit milder forms of social-emotional problems that are associated with an increased likelihood of short- and long-term negative outcomes (Beesdo & Knappe, 2012; Forness, Freeman, Paparella, Kauffman & Walker, 2012).

In general, educators are being asked to serve an increasingly diverse array of students with different abilities, different learning styles, from differing cultural and linguistic backgrounds and with different presenting risk factors (Benson, Scales, Leffert, & Roehlkepartain, 1999). In addition to serving a more diverse child population, there has been heightened political attention devoted to the importance of high-quality early childhood education.

The heightened political attention to quality early care is no surprise given the overwhelming evidence that investing in the early years of a child's life has long-term impacts on both individual and societal levels, serving as a protective factor against many of the potential risks listed above. Up to 50 percent of the impact of low income on children's development and wellbeing can be mediated by interventions targeting high quality parenting and early care (Duncan & Brooks-Gunn, 2000). Children who receive high-quality early childhood education demonstrate better higher-order thinking skills and attention, better reading writing and mathematics achievement, better social skills, less grade retention, higher graduation rates, fewer special education placements, fewer behavioral problems, less social disengagement, more economic productivity, less dependency on welfare, less criminal involvement and higher sense of social stability up to three decades later (Schindler & Yoshikawa, 2012; Center for the Child Care Workforce,

2013; Karoly et al., 2005; Nelson et al., 2003; Schweinhart et al., 1993; Olds et al., 1997; Temple et al., 2000).

Early childhood education also demonstrates large returns on investment. Early childhood education programs such as the Perry Preschool Project and the Chicago Parent Centers have shown benefit-cost ratios from \$4 to \$14 (Aos et al., 2004; Karoly et al., 2005; Barnett & Masse, 2007; Temple & Reynolds, 2007; Heckman et al., 2009). It is important to note that this return on investment is dependent on the delivery of high quality, evidenced-based early care just as it occurred in the studies described above (Schindler & Yoshikawa in Welsch & Farrington, 2012). These types of results can only be expected in programs where evidence-based practices are implemented with fidelity and barriers to fidelity of implementation are addressed. As discussed below, teacher stress and burnout is demonstrated to be a barrier to the delivery of high quality care.

Attachment relationships in early care. In addition to playing an important role in the delivery of evidence based instructional practices, a provider's social and emotional connection to the children in their care is also important. Literature indicates that a child's own social and emotional wellbeing is closely tied with that of their caregivers, particularly their primary caregivers (National Scientific Council on the Developing Child, 2004). However, many children also form close relationships with non-parental caregivers in other settings such as childcare centers and family childcare homes (Shonkoff & Phillips, 2000). Therefore, it is exceedingly important to consider the wellbeing of caregivers as instrumental in the process of healthy social-emotional and cognitive child development.

Non-familial caregivers who report depressive symptoms are more likely to be detached, insensitive and interact less with children in their care than those who are not depressed (Hamre & Pianta, 2004). For this reason it is important that caregiver are

particularly aware of their own social-emotional wellbeing and its potential influence on their interactions with young children. Caregivers who are aware of the role of the temperament of a particular child on their own emotional reactions are more capable of mindfully attending to their own responses to meet the needs of a particular child (Dawson & Ashman, 2006). Young children with challenging behaviors may become caught in loops of negative interactions which can impact the nurturing adult-child relationships and limit support for the child's healthy social and emotional development (Powell, Dunlap & Fox, 2006). This often occurs when teachers are not certain of how to deal effectively with extreme behavioral challenges or they are too emotionally exhausted to cope with the challenge (Buscemi, Thomas & Deluca, 1996; Yoshikawa & Zigler, 2000).

Provider compensation. As is evidenced above, early childhood educators often serve as key players in the development of young children. Though the literature recognizes the importance of the role of providers, there is substantial evidence that they are paid less than comparably educated workers and that this discrepancy is growing (Johnson, Berg & Donaldson, 2005). A large pay discrepancy exists between early childhood and elementary educators with the mean hourly wage for childcare workers at \$9.88, the mean hourly wage for preschool teachers at \$16.61 an hour, while the mean earnings for elementary teachers is \$37.02 an hour (U.S. Department of Labor, Bureau of Labor Statistics, 2014). For this reason alone, many high quality teachers choose to pursue work in K-12 schools over early childhood settings (Whitebook, Sakai, Gerber & Howes, 2001). Compensation also matters for teacher morale and for teaching behaviors that directly contribute to educational effectiveness, even apart from the teacher's formal education (Barnett, 2003). Many current, up-and-coming policy initiatives in early care attempt to close this gap in income by providing comparable wages to early care educators as their elementary counterparts as

well as similar education and professional development requirements (The White House, Office of the Press Secretary, 2013). However, these policy initiatives are in the very early stages and little is known about how they will play out in practice. As will be discussed further in this essay, these salary increases may serve to retain early childhood professionals, but they do not fully mitigate other factors that impact provider wellbeing.

Educator Stress and Burnout

With the increased push for high quality early care comes an inevitable component of occupational stress for early childhood educators who are responsible for implementing practices that research has shown to improve outcomes for young children. To meet the current demands of improving early childhood education through the implementation of evidence-based practices (EBPs), a committed, high quality and stable work force is required (Manlove & Guzell, 1997). One of the factors that has been linked to insufficient fidelity of implementation of EBPs, as well as impairments in professional effectiveness, is their own levels of stress and impaired social-emotional wellbeing (Spring & Hitchcock, 2009; Darling-Hammond, 2001; Goleman & Guo, 1998; Jorde-Bloom, 1986; Howard & Johnson, 2004; Montgomery & Rupp, 2005).

Statistics in the area of early childhood education indicate that an average over 30% of early childcare providers leave the field each year, citing extensive stress and burnout as the primary causes (Whitebook & Sakai, 2003; Ingersoll, 2001; Provasnik & Dorfman, 2005). Of those who remain in the profession, a significant proportion experience high levels of stress that interferes with their effectiveness as a provider and compromises delivery of evidence-based practices (Belsky, Vandell, Burchinal Clarke-Stewart, McCartney & Owen, 2007). Similar patterns of stress and attrition exist in K-12 education as well. An estimated nine percent of K-12 teachers leave the profession after their first

year in the classroom and an estimated 25-50% of beginning teachers will leave the profession in the first five years (Darling-Hammond, 2003; Ingersoll & Smith, 2003). There is a very clear trend in teacher turnover in schools with lower student achievement levels, higher poverty rates, higher rates of behavior problems and more students of color. Additionally, teachers who stay in teaching, but change schools, tend to move to schools with fewer minority students and more affluence (Johnson, Berg & Donaldson, 2005; National Center on Educational Statistics, 2012).

Work is an important life domain that has an impact on one's overall wellbeing (Vallerand, 1997). Kahneman (2006) found that work is the life domain in which Americans citizens report the lowest levels of wellbeing. Information discussed above emphasizes the need for an increased focus on mental health in the workplace (Kelloway & Day, 2005; McDaid, Curran, & Knapp, 2005; Turner, Barling, & Zacharatos, 2002).

Physical and mental health problems. A large body of literature exists demonstrating the connection between job satisfaction and numerous health factors including psychosomatic symptoms, anxiety, depression and cardiovascular problems. Maintaining physical health as well as social and emotional health is very important in stress reduction (Eastman, 1996). Watson, Harper, Ratliff & Singleton (2010) found a significant relationship between the amount of stress individuals perceive and how well they feel physically. Adults working in childcare centers have higher rates of depression than found in the general population (McDonnell & Gold, 2003). In a recent study comparing the physical and mental health of women in Pennsylvania Head Start with the health of US women from similar socio-demographic characteristics, several health indicators were higher in Head Start staff than other women, including fair or poor health (14.5% vs.5.1%), frequent unhealthy days (28.3% vs. 14.5%), diagnosed depression (23.5%

vs. 17.6%), and three or more physical health conditions (21.8% vs. 12.6%) (Whitaker, Becker, Herman & Gooze, 2013).

Decreases in the number of quality teachers in the field. Teacher quality makes a difference in child learning and child outcomes. A teacher may be the “single most important factor in the academic growth of students.” (Sanders & Horn, 1998, p. 3). Retention of high quality teachers in early care is a problem. On average, teachers who leave the profession are more highly qualified than those who stay (Murnane & Olsen, 1990). The retention of well-qualified preschool teachers (those with at least a BA) over time has been found to strongly affect the ability of programs to maintain quality over time (Whitebook et al., 2001). Further, educational effectiveness suffers from high turnover and low morale because teachers who are less career-committed demonstrate lower occurrence of effective teaching strategies (Berk, 1985). High turnover also makes it difficult for children and non-familial caregivers to maintain good social and emotional relationships which are important for children’s cognitive and social-emotional development. Among the adverse effects relating to high teacher turnover is increased aggression observed in children (Howes & Hamilton, 1993).

Decreases in teaching efficacy and job satisfaction. Sense of teaching efficacy is defined as a teacher’s “judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be challenging” (Tschannen-Moran & Woolfolk Hoy, 2001, p. 783). According to Bandura (1997), self-efficacy beliefs are thought to impact our behavior in many different ways. We tend to continue to engage in behaviors where we experience success, feel motivated and experience positive emotions and avoid situations where we perceive ourselves to be less competent. Additionally, the levels of stress and anxiety we experience when completing

tasks is influenced by our own self-efficacious beliefs. The concept of teaching efficacy has been linked with many important classroom level variables including better classroom management (Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010) and effective teaching strategies (Guskey, 1988; Ross, 1994; Woolfolk Hoy & Burke-Spero, 2005) as well as individual level factors such as the educator's overall wellbeing (Egyed & Short, 2006; Smylie, 1988; Tschannen-Moran & Woolfolk Hoy, 2001) and the amount of stress they experience (Klassen & Chiu, 2010).

Teaching efficacy as a protective factor becomes exceedingly important when considering challenging child behavior. It appears that when the stress of a child's misbehavior or emotional distress is accompanied by feelings of inadequacy (i.e., reduced teaching efficacy), the stressors have a detrimental impact on job satisfaction. However, if the stressors are not accompanied by feelings of inadequacy (i.e., the provider feels competent in her ability to manage the child's challenging behaviors) educators tend to report greater levels of job satisfaction and lower levels of personal stress (Watson, Harper, Ratliff & Singleton, 2010).

Decreases in social-emotional competence. The majority of the research in the area of social-emotional learning has focused on the many benefits for young children associated with direct instruction of social-emotional skills (Joseph & Strain, 2003). One of the most powerful predictors of teacher stress is a teacher's comfort with implementing social emotional teaching and learning in their classrooms (Collie, Shapaka & Perry, 2011). High levels of comfort with SEL are negatively associated with stress related to student behavior problems and discipline and positively associated with self-efficacy in one's teaching as well as with overall job satisfaction (Collie, Shapaka & Perry, 2011). Educator's own social-emotional competencies are negatively associated with burnout and positively

associated with teaching efficacy and job satisfaction (Brackett, Palomera, Mojsa-Kaja, Reyes & Salovey, 2010).

However, simply teaching social-emotional skills to children may not be enough to ensure the social emotional well-being of educators. Jennings and Greenberg (2011) argue that teachers require their own form of direct instruction in social-emotional skills and stress management. They state that direct instruction to educators in social-emotional competence practices “provides the necessary skill base and disposition to help (caregivers) form supportive relationships, manage their classrooms effectively and successfully implement social-emotional learning with children.” (Jennings, 2011, p. 135).

This concept comprises the “burnout cascade” model presented by Jennings and Greenberg (2009). The burnout cascade model implies that when presented with difficult child behaviors and few tools to respond, teachers experience increased levels of emotional exhaustion. Over time, educators resort to more reactive and punitive responses as opposed to practicing proactive behavior management strategies, which may improve classroom climate and therefore decrease the presence of problematic behaviors.

Current State of Policy and Quality Improvement Efforts

Some elements of identified need related to teacher wellbeing have been addressed in the recent federal legislation around high quality early care. In the Race to the Top Early Learning Challenge, funding was awarded to 14 states that agreed to raise the bar on the quality of their early learning programs, establish higher standards, and provide critical links with health, nutrition, mental health, and family support (The White House, Office of the Press Secretary, 2013).

Most recently, President Barak Obama’s high quality preschool proposal investment (\$75 billion over ten years) partners with states to provide high quality, full-day preschool

for all four-year-olds from families whose incomes are at or below 200 percent of the poverty line (\$47,100 for a family of four) (The White House, Office of the Press Secretary, 2013). The Preschool for All proposal defines high-quality care as:

Preschool programs that include: a full-day program; high staff qualifications, including a Bachelor of Arts degree for teachers; low adult-to-child ratios and small class sizes; developmentally-appropriate, evidence-based curricula and learning environments; ongoing program evaluation; comprehensive services; and teacher salaries that are comparable to K-12 teaching staff. (U.S. Department of Education, 2014)

Many of these requirements have the potential to impact teacher preparedness, stress, and wellbeing by providing additional environmental and professional development supports. Critics state that the work force development portion of the plan is the most challenging as it pushes states to consider how they will provide help and incentives to current teachers to ensure they become experts in child development and creating learning environments that match the developmental needs of children, something largely not considered in early childhood education until recently (Bornfreund, 2013).

These policies address the importance of early childhood education and consider some elements of a high quality teaching work force. However, the demands are largely reliant on the implementation of evidence-based practices. Current policy does little to address barriers, such as teacher stress, that impede the implementation of evidence-based practices and ensure good returns on investment. Simply guaranteeing that early care educators are highly trained and fairly compensated does not ensure their wellbeing or the wellbeing of the children they serve. This concept is illustrated in the medical field. While

medical doctors are some of the most highly trained and compensated professionals, they also experience the highest level of occupational stress and its associated negative outcomes (Hawton, Clements, Malmberg & Simkin, 2004). One major criticism about the use of many models of program improvement in early care is that they stay focused on what teachers need to know and be able to do, with little emphasis on what *they need* from their work environments and their own social-emotional wellbeing that will enable them to apply what they are learning in their real world classrooms (Whitebook & Darrah, 2013).

According to a recent report from the Child Care Exchange Program (2013)

Criteria in quality rating and improvement systems — arguably the most widely accepted quality improvement strategy — are mostly silent on issues of educators’ rights such as adequate opportunities for teachers to share ideas and learn from one another, paid time for planning, and policies to promote initiative, personal wellbeing and teamwork among teaching staff. (p.21)

Taking the high occupational expectations of providers as well as the costs associated with provider turnover into account, it is surprising that few receive professional development or training in how to address the social and emotional demands of teaching and combat the associated burn-out effects (Jennings, 2011).

It is important to note that some states have responded to the need for expanding their QRIS systems beyond the strict promotion of early learning frameworks and standards. As part of Early Achievers, Washington State’s Quality Rating and Improvement System, additional components such as the promotion of cultural competence, resilience practices and the use of professional learning communities are included within the coaching

framework, which guides early learning coaches in their coaching practices with providers (Early Achievers Washington, 2013).

Theoretical Models of Occupational Stress

Research in the area of educator stress and attrition is increasing. Large bodies of literature on educator stress and burn-out borrow from the greater literature on occupational stress. Many different theories and models of stress have been presented and evaluated over time. Prominent models of occupational stress which appear to be most relevant to research in the area of educator stress and burnout are the Person-Environment Fit Model (Caplan, Cobb, French, Harrison & Pinneau, 1975), the Demand-Control Model (Karasek, 1979) and the Goal Theory Model (Ames, 1992). These models of stress are briefly described below followed by discussion of the Transactional Model of Stress (Lazarus, 1966). Lazarus's Transactional Model and the concept of resilience serve as the underlying theory of change for the current intervention.

Demand-Control Model. At its most basic level this model implies that individuals only experience stress when job demands are not mitigated by the ability to exercise personal decision making power and autonomy in the environment (Karasek, 1979). The Demand-Control model does not consider individual, within person characteristics. The level of stress experienced is only the result of environmental factors such as workload and autonomy in the workplace (Guglielmi & Tatrow, 1998).

Locus of Control and Goal Theory. Locus of Control and Goal Theory emphasize the role that cognition, particularly locus of control, plays in moderating stress. Cognitive dispositions consistent with mastery orientation allow individuals to focus on the demands of the task and work on steps that lie within their control. They are more likely to maintain a focused, task-oriented effort that will lead to competence and success (VandeWalle, Cron

& Slocum, 2001). In contrast cognitive dispositions associated with failure avoidance involve individuals who tend to take failures personally, impacting their overall effectiveness. This orientation is associated with increased anxiety and self-doubt (or low and/or uncertain self-esteem) relating to limited self-efficacy (Martin, Marsh, Williamson & Debus, 2003; Brewer & McMahan, 2004).

Person-Environment Fit Model. This model suggests that a person experiences stress when there is a discrepancy between the requirements of a job and the person's real or perceived ability to meet those demands. Under this theory individuals possess intrinsic characteristics which serve as modifiers for how they cope with stress. Differences in perceptions of the environment, skills, tolerance for stress and vulnerability to dysfunctional outcomes all influence the degree to which individuals perceive environments or situations as stressful (Caplan et. al, 1975). Under this model, stress reduction interventions are largely aimed at individual level variables, not environmental workplace variables. Combatting occupational stress involves working with individuals to increase their distress tolerance and individual resilience by teaching skills that promote stress management and self-efficacy.

The Transactional Model of Stress and Coping. The Transactional Model of Stress and Coping conceptualizes stress as a transactional phenomenon dependent on the meaning of a stimulus to the receiver (Lazarus, 1966; Antonovsky, 1979). The Transactional Model of Stress and Coping considers stress to be a person-environment transaction. The transaction depends on the impact of an external stressor mediated firstly by the person's appraisal of the stressor (primary appraisal) and secondly on the financial and cultural resources that are available to them (Lazarus & Cohen, 1977; Antonovsky & Kats, 1967; Cohen 1984).

The primary cognitive appraisal of stressor involves a person's judgment about the significance of an event as stressful, positive, controllable, challenging or irrelevant. The secondary appraisal involves dispositional coping or an individual's evaluation of the controllability of the stressor and consideration of their coping resources (Cohen, 1984). The secondary appraisal addresses what one can do about a situation including problem solving strategies to address how to offset the potential impact of a stressor. From these appraisals arise coping efforts at regulating the problem, which in turn lead to outcomes of the coping process (Glanz, Rimer & Lewis, 2002).

Parker, Martin, Colmar & Leim (2012) tested the Transactional Model of Stress in education, essentially defining the model as a combination of the goal theory, self-efficacy and the demand-control model. In summary, this study found that one's goal orientation and self-efficacy predicted certain types of coping strategies which ultimately predicted wellbeing in teachers. Mastery orientation predicted high levels of wellbeing and engagement while failure avoidance predicted low levels of wellbeing and engagement (Parker et al., 2012). Additionally, emotion-focused coping (interpreting or changing the meaning of threats as opposed to engaging in strategies or behaviors which directly solve the challenges) (Lazarus, 1990,1993) was a consistent and strong predictor of teachers' burnout and disengagement.

Resilience. For the purpose of this paper, we will conceptualize resilience as the ability to survive and thrive in the face of the demands of everyday life. Resilience is not only about one's ability to positively adapt and be effective in the face of adverse or challenging circumstances (i.e., survive); it is also about learning the positive skills, strategies and routines that enable one to live a happy, fulfilling, and successful life (i.e., thrive). This includes being able to navigate stressful situations effectively, bounce back

from difficult situations, do what matters most in work and life, feel good emotionally and physically, and live a satisfying and fulfilling life (Masten, 2009; Beltman, Mansfield & Price, 2011). Research has shown that resilience is teachable and that individuals are capable of practicing and learning resilience skills, which has been shown to actually re-work the structural and functional aspects of the brain so that people become more integrated neurologically, cognitively, and behaviorally (Siegel, 2012).

Some studies have implemented interventions to directly address teacher resilience. The small number of research studies that examine the actual promotion of teacher resilience explore either the characteristics of the teacher or the teaching context which encourages teacher retention. Some qualitative studies have used teacher interviews where teachers are asked to self-report qualities in themselves or their environments which aided them in overcoming stressful situations and staying in the profession. In summary resilient teachers are individuals who have been able to find a great sense of personal satisfaction in their work. They are resourceful individuals who go out of their way to independently seek supportive networks among colleagues, friends, family and community supports (Stanford, 2001). They are aware of the “heart” and values surrounding their work and stay in their profession to work in service of those values such as using education as a means to achieve social justice (Brunetti, 2006). They expressed a true joy in their purpose as teachers and go out of their way to seek opportunities for professional development (Williams, 2008). They find ways to balance their personal and school lives (Gu & Day, 2013) and understand that flexibility is important. They direct their energy to find concrete and feasible solutions for themselves by advocating and collaborating with others (Patterson, Collins & Abbot, 2004). They intentionally search for the positives in their work (Critchley & Gibbs, 2012)

and use mindfulness practices in their classrooms (Jennings, Snowberg, Coccia & Greenberg, 2011).

Teachers who have confidence in their ability to engage and form attachments with children, manage behavior struggles, and use effective instructional strategies may be able to minimize the impact of stressors on their job satisfaction. Helping teachers to establish a greater sense of self-efficacy through mindfulness, cognitive behavioral and positive psychological strategies is recommended in the literature as a potential intervention for stress inoculation for educators.

The current study used Lazarus's Transactional Model of Stress and the concept of resilience as overarching theories to draw from when designing the intervention. We propose that the starting points in addressing teacher stress and burn out should be individual level interventions which address things such as cognitive appraisals, dispositional coping, seeking out social supports, maintaining good physical health and working in service of one's values. These individual level factors are seen as important in mediating the relationship between stress and negative outcomes such as emotional problems, physical illness and attrition and promoting positive outcomes such as teaching efficacy, social-emotional wellbeing, and overall job and life satisfaction. Additionally, while many other factors have been linked to teacher burnout and stress, the coping strategies in the proposed intervention are practices that are dependent solely on the individual provider and not on any systems-level variables, allowing for autonomy and control in their practice.

The ACHIEVER Adult Resilience Curriculum (AARC)

Taking into account much of the literature described previously surrounding factors that contribute to educator wellbeing and retention and the impact of stress in quality program improvement, we designed the ACHIEVER Adult Resilience Curriculum (AARC).

Prior to developing the AARC, a logic model depicting the relationship between provider resilience, classroom programming and child outcomes was developed based on the bio-ecological theory and much of research reviewed above (see Figure 1). According to this logic model, provider resilience represents a precondition to being an effective early childcare provider. It is through resilience that providers are able to optimize their relationships with children and parents, effectively translate evidence-based practices into the classroom, and establish and maintain a positive classroom climate. Consequently, these critical ingredients have been shown to produce improved child outcomes (Reynolds, Rolnick, Englund, & Temple, 2010).

These resilience practice areas taught in AARC are predicated upon three main theories of change: (1) positive psychology, (2) cognitive behavior therapy, and (3) new wave acceptance and commitment and mindfulness approaches. The following is a brief discussion of each of the main theories of change that guided the development of the AARC practice areas.

Theories of Change

Positive Psychology. Positive psychology is a branch of psychology that focuses making every-day life experiences more meaningful, satisfying and fulfilling (Csikszentmihaly, Rathnude, & Whalen, 1993; Masten & Reed, 2002; Seligman & Peterson, 2000). Positive psychology involves teaching individuals skills, strengths, and

routines to promote effective management of emotions, maintain a positive outlook on life, and establish and maintain positive relationships with others (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). This positive focus stands in contrast to traditional educational and psychological theories that have emphasized disease-based models of human functioning and performance (Seligman & Csikszentmihalyi, 2000). Under the disease-based lens, the main focus has been placed on pathology, primarily through the identification and treatment of problems, deficits, or debilitating conditions (Terjesen, Jacofsky, Froh, & DiGiuseppe, 2004). Although the disease-based approach has been shown to be effective, it has limitations, including being a reactive approach that focuses on the presence of problems or deficits rather than promotion of positive traits or skill development. In contrast, positive psychology emphasizes the teaching and nurturing of strengths, skills, and protective factors that contribute to life success. There is a growing body of evidence supporting it as an approach to enhance wellbeing and life satisfaction (Reed, 2000; Seligman, 2002; Sin & Lyubomirsky, 2009).

Cognitive Behavior Therapy. Cognitive behavior therapy (CBT) combines elements of cognitive therapy with elements of behavior therapy to create a comprehensive approach that addresses the interconnection between thoughts, feelings, and behavior. The cognitive therapy aspect of CBT focuses on thoughts, assumptions, and beliefs underlying behavior (Beck, 1975) and includes the following components: (1) raising self-awareness of emotions and thoughts, (2) identifying and disputing unhelpful thinking patterns, and (3) teaching cognitive problem-solving scripts, coping strategies, and verbal self-mediation. The behavior therapy aspect of CBT, on the other hand, focuses on specific behaviors and the environmental features that can be altered to support improved behavior (Skinner, 1974; Bandura, 1977) and places an emphasis on the following components: (1) learning specific

skills or replacement behaviors, (2) gradual exposure to emotion-provoking situations, (3) receiving performance feedback, and (4) setting up reinforcing experiences to support value-oriented behavior. Multiple studies evaluating the efficacy of interventions have demonstrated that CBT represents a powerful theoretical perspective that helps people manage their emotions, develop more helpful ways of thinking, and ultimately engage in more effective behaviors (Barrett, Farrell, Pina, Peris & Piacentini, 2008; Shortt, Barrett, & Fox, 2001; Kazdin & Weisz, 2003; Kendall, Safford, Flannery-Schroeder, & Webb, 2004; Lipsey & Wilson, 2001; Rhode, Clarke, Mace, Jorgensen, & Seeley, 2004). While CBT is traditionally used to treat mental health disorders, many of the skills and strategies are important for people when responding to everyday life stressors.

New Wave Acceptance, Commitment and Mindfulness Approaches. There has been a rise in research and interest in new wave therapeutic approaches to supporting the wellbeing and success of people who are experiencing difficulties handling life stressors and mental health problems (Hayes et al., 2006; Ost, 2008). Namely, these new wave approaches include Acceptance and Commitment Therapy (ACT) and Mindfulness-based approaches. ACT focuses on empowering people to notice, accept, and embrace their internal and external experiences, particularly the unwanted ones, rather than attempting to control their emotions (Hayes, Stroschal, & Wilson, 1999). ACT also emphasizes the importance of clarifying values and committing to behave consistent with one's values despite unwanted thoughts, feelings, or experiences. Consistent with ACT, mindfulness-based practices focus on helping individuals learn how to develop the skills to achieve a mental state characterized by present-moment and non-judgmental awareness (Kabat-Zinn, 2003). A major aim of such interventions is to improve stress management and emotional wellbeing by challenging individuals to increase their awareness through formal and

informal practices of noticing their thoughts, sensations, feelings, and surroundings and examining them from a perspective of openness and curiosity (Chiesa & Serritti, 2009; Grossman, Niemann, Schmid, & Walach, 2004).

We developed the AARC taking into account the existing literature regarding teacher stress and burnout, the Transactional Model of Stress and Coping, the notion of resilience and the above change models. The AARC is specifically designed to address individual level components that early child care providers can learn and feel empowered to implement in their everyday lives; aiming to maximize human effectiveness and life satisfaction and improve outcomes for both providers and children.

The Eight ACHIEVER Practice Areas

The ACHIEVER acronym represents eight practice areas that could be useful in promoting resilience in early childcare providers. The eight practice areas were designed to stand-alone and ideally be implemented within the context of a coach-provider or mentor teacher-provider relationship. As such, research has shown that each practice independently contributes to increased resilience and wellbeing. Therefore, the practices do not have to be addressed in a particular sequence. Although use of all eight practices would be expected to yield the greatest benefits, all eight are not required for positive outcomes. It is expected that some practice areas will resonate more with some early childcare providers than others. In addition, maximum benefit from the curriculum is expected when providers engage in the practices frequently overtime and receive support from others (ie., mentor teachers, coaches, fellow providers, program directors, those in their personal lives).

The current study aims to explore the acceptability and effectiveness of the AARC. Originally, the intervention was designed to be used as part of a quality rating and improvements system (QRIS) process in the context of an early learning coach-provider

relationship. However, due to the Participatory Action Research (PAR) nature of the intervention, modifications in delivery of the curriculum had to be made to meet the needs of the participating childcare centers. Further details regarding the study design are discussed below. In short, for the purposes of the current study, the AARC was removed from the context of the coaching relationship and delivered in a series of in service trainings for early care providers. The eight practices that make up the ACHIEVER Adult Resilience Curriculum are summarized below.

Awareness and empowerment through mindfulness practices. Mindfulness is about non-judgmental present moment awareness as experiences unfold in the here and now (Kabat-Zinn, 2003). As indicated above, mindfulness-based practices have been shown to enhance awareness of self, others, and surroundings, thus empowering people to be liberated from their uncomfortable thoughts, feelings and experiences and able to make better decisions when faced with stressful situations (Hayes, Strosahl & Wilson, 1999). AARC integrates specific mindfulness-based practices that can be integrated into early childcare providers' daily lives. Specifically, they are taught the Mindful STOP (stop or pause briefly, take a slow deep breath, observe and notice, and proceed positively) as a practice that can be used during challenging or difficult situations. They are also encouraged to practice mindful commuting to and from work, mindful breathing exercises during scheduled times, mindful observing and labeling and mindful daily routines (e.g., meals, getting ready for work, etc.).

Choosing your attention and practicing gratitude. Cognitive science has shown that people have the ability to purposefully choose what they devote their attention to rather than being a victim of their own biology and circumstances (Fredrickson, 2001). When individuals intentionally choose to attend to the positive aspects of their lives, they are

more likely to feel better mentally and physically (Cozolino, 2002). Grounded in positive psychology, this skill focuses on encouraging individuals to attend to the positive aspects of situations and step away from narrowly focusing on the negative, stressful aspects of situations. One form of choosing to attend to the positive is the notion of practicing gratitude. Through various practical activities, including gratitude journaling, thank you notes, and gratitude activities with children, individuals are encouraged to recognize and appreciate the positive aspects of their work specifically and lives more broadly.

Helping and doing good deeds for others. Scientific studies from the field of neuroscience have shown that humans are hard-wired to be compassionate to one another (Post, 2005). This practice works to encourage the integration of helping others into different aspects of their work and personal lives. Activities encourage doing good deeds for others as part of one's individual practice, but also the use of these activities into family and classroom life. Through altruistic actions participants are able to feel greater connection to others, experience greater physical and emotional wellbeing and feel a sense of empowerment from the act of doing as well as a greater sense of perspective about what one has to share with others.

Identifying unhelpful thoughts and reframing them to be more helpful. Adapted from cognitive behavior therapy, this skill represents the process of cognitive restructuring, which entails identifying unhelpful or faulty thoughts, disputing them with evidence, and altering them to be more helpful (Beck, 1975). The end result is that people are more likely to think and behave effectively, which promotes their mental health and problem-solving abilities. This practice area focuses specifically on helping providers recognize when their thinking is unhelpful to the situation at hand and their own wellbeing, boss their thoughts back with a variety of tools, and alter them to be more optimistic, positive, and/or helpful.

Establishing good role models and social support. Early childcare providers often operate in isolation with limited contact with other providers (Cohen & Kauffman, 2005). Research shows the positive effects modeling, role models and social supports can have (Feiman-Nemser, 2001). Role models who embody qualities desired by providers and who demonstrate, or model, those qualities serve as meaningful examples and potentially as mentors. Providers who have role models have exemplars after which they can refine their practices. Identifying existing social supports is an important strategy to reduce feelings of loneliness, to bolster confidence and to enhance feelings of wellbeing. By identifying social supports, providers can alleviate the stress they experience when they perceive their work to be endured alone. Instead, they know whom to turn to during tough times, can identify colleagues with experience from whom they can draw insight and have role models upon whom they can refer for exemplary behavior.

Values clarification and commitment. When individuals live consistently with what they value the most, they experience less stress, a greater sense of fulfillment and are more effective interpersonally (Aponte, 1985). Unfortunately, stressful and difficult situations arise often, which can cause people to lose sight of their values and engage in behaviors they later regret. This practice area works with providers to identify their values, assess the degree to which they are being the provider they want to be and develop a values-based action plan to ensure they behave consistent with their values in the face of stressful and difficult situations.

Exercise, eat well, and engage in good sleep. Establishing the basic physiology for wellbeing is essential to becoming a resilient person. Exercising on a regular basis with a balance of strength and aerobic conditioning has consistently shown to improve physical and psychological wellbeing (Ensari, 2014). Eating well with a balanced diet contributes to

one's health, serves as fuel for performing optimally both mentally and physically and optimizes stability of mood and emotion (Bodnar & Wisner, 2005). Finally, engaging in good sleep is essential for learning, mental and physical health and performance, emotion management and self-regulation (Coble, Kupfer, Taska, Kane, 1984). Collectively, this practice area gets providers to focus on nurturing their bodies and minds through healthy living habits.

Reward yourself through relaxation and recreation. One of the most effective ways to promote low levels of stress is to schedule in relaxing (i.e., calming) and recreational (i.e., fun) activities throughout the week (Shapiro, Schwartz, Bonner, 1998). Stress is cumulative and without engaging in deliberate relaxation and recreational activities to diminish stress, it can have a toll on decision-making, mental and physical health, relationships with others, and job effectiveness. This practice area discusses a variety of strategies providers can employ to hit the relaxation response and engage in fun, recreational activities.

Gaps in the Current Research Base

Although several researchers have investigated the impact of stress on early childcare and the importance of social-emotional competence, there are very few programs that have been developed. As a result, there is a need to develop specific programs that can be used to support early childcare provider wellbeing. Program development inherently requires an iterative process whereby materials and professional development activities are piloted, assessed and modified based on preliminary findings and feedback from participants.

Purpose of the Study

This study serves as a pilot study intended to investigate the iterative development and innovation of a new intervention, the AARC, to address early childcare providers' stress and burnout, as well as promote their resilience and wellbeing. Due to the fact that the study was crafted using a Participatory Action Research framework, some modifications in the delivery of the intervention were made in order to meet the needs of the participating childcare centers. Because this is a pilot study of the AARC intervention, the main purpose of this study was to examine the social validity of the intervention, namely the feasibility, acceptability, and appropriateness of AARC, as well as adherence to the practices covered in the training. In addition, data collection and analyses focused on examining pre-post changes in the levels of stress and resilience of early childcare providers to examine the promise and efficacy of the current version of AARC and the format in which it was delivered. Last, attention was also paid to the collection of data that would better help the team understand modifications that may need to be made to the intervention and to provide information that will aid in implementing the intervention in the context of a quality rating and improvement system as well as pursuing funding for further larger scale studies targeting both teacher and child outcomes.

Research Questions

Given the purpose of this study, the following research questions were formulated to inform the methods and data analytic procedures used in this study:

1. What are the baseline levels of early childcare providers' stress, self-efficacy, life satisfaction and resilience?
2. Are providers' baseline levels of stress and wellbeing predicted by their demographic characteristics?

3. To what extent do provider recipients perceive the AARC to be feasible, acceptable, appropriate, and useful (i.e., social validity)?
4. To what extent does the AARC result in participant adherence to the specific resilience practices covered in the training as well as the at home practice portion of the training?
5. To what extent does the AARC significantly impact improvements in teaching efficacy, job satisfaction, and resilience and decreases in perceived stress?
6. To what extent does providers' baseline level of stress moderate the effect of the AARC on outcomes?
7. To what extent do participants continue to engage in resilience practices after the completion of the training?

Hypotheses

H1: It is predicted that baseline levels of stress and wellbeing and predictors of stress and wellbeing in providers will be consistent with prior literature in the field, indicating that providers will likely vary significantly in their levels of stress, efficacy, resilience and job satisfaction (Belsky, Vandell, Burchinal Clarke-Stewart, McCartney & Owen, 2007).

H2: It was hypothesized that the participating early childcare providers will perceive the AARC to be socially valid. Specifically, they will report that they found it to be feasible, acceptable, appropriate, and useful to educators involved in the training.

H3: There will be a significant effect of the intervention on outcome measures including an increase in job satisfaction, teaching efficacy and resilience and decrease in perceived stress.

H4: The effect of the intervention will be moderated by the level of stress the provider experiences at baseline. Those providers with high baseline levels of perceived stress will demonstrate the greatest changes on outcome measures.

H5: Participants who continue to engage in at home practice after the training will report continued benefit at four-month follow-up.

Chapter III: Methods

Setting and Participants

Participants from this study were from two childcare settings in an urban area in the Puget Sound Region of the United States. Both of these sites have the mission and vision of providing high- quality evidence-based early learning to support school readiness for children age birth to five. Each site serves high numbers of children from culturally diverse and economically disadvantaged populations. Both centers have infant, preschool and prekindergarten programs. Each classroom has a lead teacher and two to three assistant teachers. Each age group program also has mentor teachers which serve as role models and consultants to classroom staff. Both centers have center directors and family support workers which serve as community liaisons and engage in in-home behavioral support services for high risk populations of very young children. Every other Friday is dedicated to professional development activities at both centers. The centers elected to use three hours of professional development time on four separate mornings to allow for the AARC curriculum to be delivered as an in service training for both treatment and delayed control groups. Prior to and during the study neither childcare center implemented any formal interventions to address educator stress and wellbeing.

In service training participants. This training was offered to all staff including assistant teachers, lead teachers, family support workers, home visitors and directors. There was no exclusionary criterion for participating in the study. All together 54 participants enrolled in the study. Out of the 54 initially consented participants, 45 participants completed the two training sessions and pre/post surveys. There was an attrition rate of 17%, mostly due to failure to attend both sessions or to complete surveys. Of the 22

providers in the control group, 17 went on to attend the full delayed control AARC in service a month after the treatment group completed the intervention.

Demographic characteristics of the two groups are represented in Table 1.

Treatment and control groups were relatively similar demographically between groups. Comparison of percentages of participants in each category is listed below (control % vs. treatment %). Demographic data for both groups is as follows: males (9% vs. 0%), females (91% vs. 100%), Caucasian (36% vs. 76%), African American (0% vs. 12%), Hispanic, (27% vs. 0%), Asian (23% vs. 6%), Other (14% vs. 6%). Comparison of percentages of control vs. treatment groups on education level was as follows: high school education (5% vs. 0%), some college (32% vs. 22%), Associates degree (27% vs. 17%), Bachelor's degree (32% vs. 40%), Masters (4% vs. 22%), respectively. Control versus treatment percentages for job title and field of study are as follows: Lead teacher positions (36% vs. 41%), assistant teacher (50% vs. 41%) and other (family support, home visitor, director) (14% vs. 18%), degree in ECE (53% vs. 33%), related field (20% vs. 40%) and non-related field (26% vs. 20%). Primary language: English (81% vs. 80%), Spanish (9% vs. 0%), other (9% vs. 20%); worked with children age 0-2 years (14% vs. 20%), children ages 3-5 years (86% vs. 70%) and worked with both groups (0% vs. 10%) .

In addition, there were no significant differences between the control and treatment groups with regard to age (control $M= 39.64$, $SD= 9.49$ and treatment $M= 41.49$, $SD= 8.71$), years of experience (control $M= 12.08$, $SD= 7.83$ and treatment $M= 16.19$, $SD= 9.11$), and hours worked per week (control $M=36.73$, $SD= 4.43$ and treatment $M= 38.16$, $SD= 9.50$). In general, it appears that providers in the treatment group had higher levels of education and years of experience than those in the control group, though not statistically significantly different.

Four-month follow up participants. Eight providers of the original 45 (18%) participated in the four-month follow-up survey. 11% (n=5) of them were from the treatment group and 7% (n=3) were from the control group. The average age of participants who completed the four-month follow-up ($M = 41.95, SD = 7.55$), which was not significantly different than those who did not ($M = 40.29, SD = 9.40$). Moreover, the average years of experience in the field was not significantly different from those who completed the four-month follow-up ($M = 18.21, SD = 10.03$) to those who did not ($M = 13.31, SD = 8.23$).

Procedures

A participatory action research (PAR) framework guided this research. Site administrators from two early learning centers in an urban area in the western United States initially contacted this researcher to consult regarding implementing a resilience intervention for their early childcare providers. The current study served as an opportunity to pilot the AARC intervention and collect preliminary data regarding social validity and effectiveness. A collaborative arrangement was established between the organization and the authors in which “pilot exploratory research on the intervention would be traded for professional development.” As a result, this study was not funded by a grant and the research aspect of this collaboration had to be tailored to the specific needs of the programs and aligned with the programs’ visions for improving child outcomes.

Originally, the AARC was intended to be delivered within the context of a quality rating and improvement system (QRIS). QRIS systems often involve coaching relationships between and early learning providers and a mentor teacher or coach who supports their efforts towards program improvement. Given the organizational structure of the two centers, the initial proposed research design included having the researchers train the

mentor teachers from both centers to reliability on implementation of the AARC and best practices in supporting the delivery of the curriculum in the context of the mentor teacher-provider relationship. However, as with many PAR studies, modifications had to be made to the initial study design and delivery of the intervention based on the requirements of the centers participating in the study. Specifically, instead of implementing the intervention in the context of the provider-mentor teacher relationship, the centers requested that the intervention be delivered by the researchers as an in service training for all staff. In addition, center directors stipulated that all staff needed to be offered the training opportunity and instead of teaching the eight ACHIEVER practices individually over the course of an extended period of time, the participating childcare centers were only able to allow four, three-hour blocks of professional development time for the delivery of the AARC. Therefore, the delivery of the material had to be condensed into two, three-hour in service trainings (provided once for treatment group and once for delayed control group).

This study was approved by the Institutional Review Board of the University of Washington. Participants were enrolled in April 2014. Participants for the study were provided with an informed consent letter and provided with all the details regarding their participation in the study. Their participation was completely voluntary and all data was kept confidential and maintained in a secured location. Participants could still participate in the AARC training even if they did not want to be included as subjects in the study. Following the consent from the participants from each of the two centers were assigned a participant number. A random number generator was then used to randomize equal numbers of participants from each center into one of two groups: the business as usual professional development group and the AARC intervention group. Therefore, each participant had an equal chance of being randomized to the treatment and control groups.

Pre and post qualitative and quantitative data was collected at baseline prior to the first session and at the end of the last session, respectively. Paper and pencil surveys were administered at baseline and post intervention. During the initial baseline data collection, demographic information was collected. In addition, at the start of the second session another short survey was completed to gather information about the at home practice that may have occurred between the sessions. An online survey to collect qualitative and quantitative data was used at four month follow-up. A four month follow-up survey was used per request of the program administrators. Program administrators requested that the researchers not contact the participants while they were on their summer break. The data collection process took roughly 20 minutes at each of the pre and post intervention data collection waves, for a total of 40-minutes across both waves. The four-month follow-up online survey also took roughly 20 minutes.

Intervention Group- The AARC Intervention. The intervention group participated in two, three-hour trainings using the AARC and was encouraged to complete daily practice of the skills during the time between the training sessions, by following the At Home Practice Plan they created at the end of each session. The trainings were delivered by the two principal investigators on this study. These sessions took place in a conference room at one of the centers. The training sessions were completed two weeks apart. The first session provided general information about teacher stress and resilience and covered the ACHIEVER practices of Values clarification and commitment, Awareness and Empowerment through mindfulness practices and Choosing your attention and practicing gratitude.

At the end of the first session each participant was asked to compile a At Home Practice Plan. This plan included identifying what practices they planned to integrate into

their daily lives and strategies about how they would go about integrating the practices. They were also asked to identify one practice partner at home and one at work and determine how that partner might be the most helpful to them (i.e., encouraging them, holding them accountable, and participating with them).

At the start of the second session, the participants completed a short paper and pencil survey (approximately five minutes in length), reporting how they did on their practice plan in order to examine treatment adherence. The second training session covered the remaining ACHIEVER areas including Helping and doing good deeds for others, Identifying unhelpful thoughts and modifying them to be more helpful, Establishing good role models and social supports, Exercise, eat well and engage in good sleep, and Reward yourself through relaxation and recreation. Participants then completed another Practice Plan and post intervention quantitative and qualitative surveys.

Control Group- Professional Development as Usual. The control group received two professional development trainings as usual (business as usual (BAU)) on the same days and times that the intervention group received the AARC training. These BAU trainings consisted of professional development in best practices for early childhood education and were delivered by leadership staff from the two facilities. The control group completed pre and post surveys at the start and end of their BAU trainings.

Given the delayed control nature of this research, the control group participated in the AARC training following the intervention group. A control follow-up (CFU) set of surveys was also collected upon the control group's completion of the AARC training. The control group was also included in the four-month follow-up survey.

Measures

Demographics. Demographics data were obtained using a participant enrollment form. Each participant completed this form after signing informed consent.

Teacher Self Efficacy Scale. A modified version of the General Self Efficacy Scale (Schwarzer and Jerusalem, 1995) called the Teacher Self Efficacy Scale has been demonstrated as a reliable and valid measure of teacher self-efficacy (Schwarzer, Schmitz, & Daytner, 1999). This scale was used to assess providers' confidence and self-efficacy related to their ability to work effectively with young children. Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997). For the purposes of this study, internal consistency estimates ($\alpha = .79$) indicated that it possessed adequate reliability.

Perceived Stress Scale. A modified version of the Perceived Stress Scale (Cohen, Kamarck, Mermelstein, 1983) was used to evaluate providers' perceptions of stress experienced in their work with young children and life in general. The PSS includes 10-items that measure different aspects of perceived stress and it has been shown to be a reliable and valid measure of life stress. For the purposes of this study, internal consistency estimates ($\alpha = .82$) indicated that it possessed adequate reliability.

The Satisfaction with Work and Life Scales. The SWLS is a scale that measures the extent to which a person is satisfied with their life as a whole (Emmons, Larsen & Griffin, 1985) This instrument has been modified and validated by numerous researchers to measure work satisfaction and is known as the Satisfaction with Work Scale (SWWS) (Blais, Lachance, Forget, Richer & Dulude, 1991). In this paper, we refer to this measure as the measure of Job Satisfaction.

The Brief Resilience Scale. Currently, there are numerous resilience scales in the early stages of development, but no current 'gold standard' exists (Windle, Bennett &

Noyes, 2011). The BRS is one such scale. It contains six-items that assess the ability to bounce back and recover from stress. According to the authors (Smith, Dalen, Wiggins, Tooley, Christopher & Bernard, 2008) it is predictably related to personal characteristics, social relations, coping, and health. It is negatively related to anxiety, depression, negative affect, and physical symptoms. We chose this measure due to its brief nature. However, it is important to note that as with the majority of other resilience measures, limited empirical validation of the instrument is currently available (Windle, Bennett & Noyes, 2011).

Social validity. One of the main objectives of this study was to explore the social validity of the AARC, namely the feasibility, acceptability, appropriate, and usefulness of the intervention. These data were collected from the participants via the consumer satisfaction survey which included quantitative and qualitative questions at post and four-month follow-up. Specifically, consumers' perceptions of the social importance of the effects, social significance of the intervention's goals, and the social appropriateness of its procedures were assessed. This scale also solicited qualitative feedback regarding what was challenging and what was helpful about the AARC practices and encouraged participants to reflect and provide feedback about what they learned from the training, suggestions for modification and how they might use what they learned.

Practice plan and treatment adherence. The 'train-and-hope' approach to professional development assumes that individuals will successfully and accurately implement content learned in professional development seminars (Sugai & Horner, 2006). However, without system level supports and frequent practice, long term behavior change is unlikely (Center on Positive Behavior Interventions and Supports, 2004; Sugai & Horner, 2006.)

It is widely known in the field of professional development and mental health that continued rehearsal and use of the practices repeatedly between training or therapy sessions results in the greatest long-term, sustainable behavior change (Stokes & Baer, 1977). For this reason, participants were oriented to Hebb's Rule, which states that there is an increase in synaptic efficacy from repeated stimulation between presynaptic and postsynaptic cells (Hebb, 1949). We encouraged participants to establish and at home practice plan. The practice plan involved helping participants to establish when and how they would include the resilience practices in their everyday lives. In addition, participants identified a professional and personal practice partner to support them in their practice. Providers completed the practice plan at the end of both training sessions.

Fidelity monitoring. At the start of the second training session and at the four-month follow-up participants completed the Week Two Reflection Activity. This instrument assessed fidelity of implementation of the practice plan as well as quantitative and qualitative measures of feasibility, acceptability and noted benefits of the practices.

Data Analytic Strategy

Taking into account the participatory action research and exploratory nature of this study, a two-group delayed control concurrent triangulation multi-methods design was used to examine qualitative and quantitative research outcomes. Both qualitative and quantitative data were collected at baseline, during the intervention, at post intervention and at four month follow-up for both treatment and control groups. Qualitative and quantitative data were integrated during data interpretation. Statistical analyses were performed by using SPSS ver. 17.0.

Quantitative Data Analytic Strategy. Prior to analysis, job satisfaction, perceived stress, teaching efficacy and resilience were examined through various SPSS programs for

accuracy of data entry, missing values, fit between their distributions and the assumptions of multivariate analysis. Missing values were replaced by the mean of the variable for all cases. Cases with more than 5% of missing values were deleted. One case with extremely low z score on baseline measures of job satisfaction was found to be an outlier in the data set. This outlier was eliminated prior to conducting analysis by winsorizing the outlier data to next highest value (Dixon, 1960). To improve linearity and reduce extreme kurtosis, values were transformed by using square root transformations to improve normality of the distribution of data. All research questions were addressed to some degree using quantitative analysis.

Descriptive statistics in the form of measures of central tendency and variability were computed to describe the participants' scores on the measures on the DVs for pre, post and change scores. Inferential statistics in the form of bivariate analysis by Pearson's correlation coefficient was used to test linearity of the relationship between demographic characteristics and measures of perceived stress, job satisfaction, teaching efficacy and overall resilience at baseline. A p -value of $<.05$ was considered statistically significant.

Inferential statistics in the form of independent samples t -tests were computed to determine whether there were significant differences between the control and treatment groups on the outcomes measures. Pre-post change scores were used as the dependent variables, which results in commensurate findings to that of a Mixed Factorial ANOVA on the same data set. A p -value of $<.05$ was considered statistically significant.

High and low groups were also created using a median split method based on baseline levels of perceived stress to examine whether baseline level of stress moderated the impact of the AARC. A series of 2 x 2 between subject ANOVA's were computed to compare the main effect of stress level, treatment condition and the interaction of stress level and

treatment condition on the change scores in the dependent variables. Change scores were used to determine change and the direction of the change in each of the variables. A p -value of $< .05$ was considered statistically significant. We chose to use omega-squared estimates of effect size outlined by Murphy and Myors's standards (2004). An important reason we chose to use omega squared estimates is because they are generally unaffected by small sample sizes Field (2013), p.473). According to Murphy and Myors's standards a small effect $\omega = 0.02$, a medium effect $\omega = 0.06$ and a large effect $\omega = 0.14$.

Qualitative Data Analytic Strategy.

An Exploratory Thematic Analysis was used to analyze qualitative data. This enabled us to interrogate the outcomes derived from the data collected during pre, post and during-intervention surveys and to enhance our understanding of the provider's experience of stress and resilience both personally and professionally as well as understand their qualitative input regarding social validity and effectiveness of the intervention. This qualitative strand enabled us to examine in more detail elements of the training that were acceptable and helpful, elements that were unhelpful and factors that served as supports and barriers to them gaining full benefit from the trainings. Our Exploratory Theme Analysis consisted of three steps (i) we initially reviewed all of the qualitative answers, underlining data we initially thought were important and relevant to our research questions (Riessman, 1993). (ii) We then used the strategy of cutting and sorting where we transcribed quotes that seemed important and then arranged them into piles of things that seemed to go together. We used cutting and sorting because it is noted to be the most versatile technique and allows for the different levels of abstraction. (Ryan & Bernard, 2003). At this point, any themes that did not have enough data to support them or were too diverse were discarded. (iii) Once we had a clear idea of the various themes and how they fitted together,

we defined them, named them and examined them in relationship to our research questions.

Qualitative data analysis was used to address research questions 3, 4,5 and 7.

Chapter IV: Results

Descriptive Statistics

As indicated previously, early childcare providers from two early childcare centers were randomly assigned to treatment and control groups. Readers are referred to Table 2 for descriptive statistics concerning pre, post and change scores on measures of job satisfaction, teaching efficacy, perceived stress and resilience for each group.

Research Question 1: What are the baseline levels of early childcare providers' stress, self-efficacy, life satisfaction and resilience? Examination of the mean scores for both groups on wellbeing scales at baseline were noted to be negatively skewed with responses falling on the higher end of the Job Satisfaction, Resilience and Teaching Efficacy Scales and the positively skewed with responses falling on the lower end of the Perceived Stress Scale.

On baseline measures of Job Satisfaction, the maximum possible score is 35 indicating the highest level of job satisfaction. Baseline measures on the Job Satisfaction Scale were as follows: control group ($M = 26.00, SD = 2.78$) and treatment group ($M = 22.52, SD = 3.66$). On the Teaching Efficacy Scale the maximum score possible is 40, indicated the maximum self-reported level of teaching efficacy. Baseline measures on this scale were as follows: control group ($M = 34.18, SD = 3.49$) and treatment group ($M = 33.38, SD = 4.03$). Maximum score possible on the Resilience Scale is 30 indicated the highest level of self-reported resilience. Baseline reports on the Resilience Scale were as follows: control group ($M = 21.13, SD = 2.77$) and treatment group ($M = 22.32, SD = 2.60$). Lastly, the maximum score on the Perceived Stress Scale is 40 points. This indicates the highest possible rating of perceived stress. Results on baseline levels of perceived stress were as follows: control group ($M = 21.17, SD = 7.09$) and treatment group ($M = 20.97, SD$

=5.61). See Figure 2. Initial examination of these data indicated that due to the negative skew of the wellbeing data and positive skew of the perceived stress data, there were issues with regard to the restrictive range of the data creating a ceiling effect that could potential make it more challenging to detect change from pre to post. This is discussed further in the following chapter.

It is important to note that groups were not statistically significantly different at baseline on measures of teaching efficacy $t(43) = .71, p > .05$, perceived stress $t(43) = .21, p > .05$, and resilience $t(43) = -1.49, p > .05$. There were significant differences between the two groups on baseline measures of job satisfaction. On the pre-test Job Satisfaction Scale, individuals in the control group ($M = 26.00, SD = 2.78$) demonstrated higher levels of job satisfaction than those in the treatment group ($M = 22.52, SD = 3.66$), $t(43) = 3.58, p = .001$. For this reason, when looking at group differences in subsequent sections of the paper, in addition to the independent sample t -test, for job satisfaction we computed an ANCOVA analysis including pre-test score as a covariate and the post-test score as the dependent variable.

Descriptive statistics for change scores: treatment and control groups. Examination of the descriptive statistics on the mean change scores on the scale of job satisfaction indicated that providers in the treatment condition were associated with slightly greater net increase in job satisfaction as measured by change scores from pre to post intervention ($M = 0.55, SD = 4.52$) when compared to the control condition ($M = 0.27, SD = 3.71$), see Figure 3. Examination of the mean change scores on the scale of teaching efficacy indicated that providers in the treatment condition were associated with greater net increase in teaching efficacy as measured by change scores from pre to post intervention ($M = 0.14, SD = 4.00$) when compared to the control condition ($M = 0.12, SD = 3.30$), see Figure 4.

Mean change scores on the scale of perceived stress indicated that providers in the treatment condition were associated with lower increases perceived stress ($M = 2.70, SD = 5.22$) than the control group ($M = 4.49, SD = 6.11$), see Figure 5. Providers in the treatment condition experienced smaller increases in measures on the Resilience Scale ($M = -0.03, SD = 2.85$) than controls ($M = 0.11, SD = 0.80$), see Figure 6.

Baseline Predictor Variables

Research Question 2: Are providers' baseline levels of stress and wellbeing predicted by their demographic characteristics? Pearson Product Moment correlations were computed to assess the relationships between the predictor variables of age, years of experience, job title (therefore, salary), hours worked per week and measures of job satisfaction, teaching efficacy, perceived stress and overall resilience of both groups combined at baseline. Readers are directed to Table 3 for these results.

There was a strong positive correlation between age and years of experience, which was statistically significant ($r = .68, n = 45, p = .01$). There was a positive correlation between education level and total resilience at baseline ($r = .34, n = 45, p = .05$) and years of experience and total resilience at baseline ($r = .30, n = 45, p = .05$). Increases in education level and years of experiences were correlated with increases in ratings of resilience at baseline. There was a significant negative correlation between years of experience and job satisfaction total at baseline ($r = -.24, n = 45, p = .05$). Increases in years of experience were associated with decreases in job satisfaction reported at pretest. No other significant correlations were noted between the demographic variables and the baseline levels of the outcome variables.

Social Validity

Quantitative results

Research Question 3: To what extent do recipients perceive the AARC to be feasible, acceptable, appropriate, and useful (i.e., social validity)? It was hypothesized that the participating providers would perceive the AARC to be feasible, acceptable, appropriate and useful.

Various questions were included in the surveys to assess the social validity of the intervention. Participants were asked to rate their experience on a scale of 1 to 5: 1= strongly disagree, 2= disagree, 3= neutral 4= agree 5= strongly agree. Readers are directed to Table 4 for social validity results.

To assess appropriateness, participants were asked if they considered resilience an important concept to address in professional development for early childhood educators. 48.9% stated they strongly agreed, 33.3% said they agreed, 2.2% were neutral and 15.5% did not answer the question ($M = 4.57, SD = 0.51$). There were no scores below 3 on this item indicating that most providers felt resilience to be an important topic to address in the professional development of early childhood educators.

To assess acceptability, we asked if participants found the training experience to be valuable. 40% stated they strongly agreed, 42.2% said they agreed, 4.4% were neutral and 13.3% did not respond ($M = 4.40, SD = 0.55$). There were no scores below 3 on this item. We also asked if the training was of high quality 33% strongly agreed, 44.4% agreed, 8.9% were neutral and 13.3% did not respond to the question ($M = 4.28, SD = 0.61$). There were no scores below 3 on this item. Regarding if participants would recommend the training to a valued colleague and friend 42.2% strongly agreed, 44.4% agreed and 13.3% did not

respond to the question ($M = 4.50$, $SD = 0.47$). There were no scores below 4 on this item. Overall, the majority of providers agreed or strongly agreed that the training was valuable, of high quality and that they would recommend it indicating high levels of acceptability.

In order to assess provider's opinions regarding the appropriateness of the material to their lives, participants were asked if they thought that the material taught in the training was relevant to their personal and professional lives. Overall, 28.9% of participants stated that they strongly agreed that the practices taught were relevant to their professional life, 46.7% said they agreed, 4.4% were neutral, 4.4% disagreed and 15.5% did not respond to the question ($M = 4.20$, $SD = 0.70$). Additionally, 31.1% strongly agreed that the practices taught were relevant to their personal lives, 51.1% agreed, 2.2% were neutral and 15.5% did not respond to the question. Again, there were no answers below 3 on this question. With the exception of two participants who reported that they disagreed with the training being professionally relevant, the majority of participants found the material to appropriate and relevant to their personal and professional lives. In addition, 97.1% of participants stated that based on what they had learned from the training, they thought that the ACHIEVER practices could help providers be more effective when working with young children.

On a question examining if the participants learned something new in the training 40.2 % strongly agreed or 42.0% agreed, 2.2% were neutral and 13.3% did not respond to the question. Participants were asked to evaluate which of the ACHIEVER practices they found to be the most useful and helpful. 26.9% of participants found Exercise, eat well and engage in good sleep to be the most helpful practice, followed by 23.1% indicating Awareness and Empowerment through mindfulness practices to be most helpful. 10.2% found Choosing your attention and practicing gratitude to be the most helpful; 9.0 % found

Values clarification and commitment to be most helpful and 7.7% found Helping and doing good deeds for others, Identifying unhelpful thoughts and modifying them to be more helpful and Establishing good role models and social supports to most helpful, respectively. The training appears to be useful in teaching providers something new and helpful.

Based on the quantitative analysis of social validity, we can conclude that the intervention was acceptable and useful to the majority of participants.

Adherence

Research Question 4: To what extent does the AARC result in participant adherence to the specific resilience practices covered in the training as well as the at home practice portion of the training? To assess participants' adherence to the professional development trainings, they were asked to evaluate the amount of effort they invested during the training sessions. Overall 20% of the participants endorsed strongly agreeing that put effort into participating during the training, 51.1% reported that they agreed, 26.7% were neutral and one person did not answer the question. Overall, it appears that most people reported being engaged and adhering to the AARC during the in-person in service trainings.

As indicated in Chapter 3 of this paper, one important factor to consider in the long term effectiveness of professional development trainings delivered via direct instruction is the use of between session practice of the skills as a way to develop and apply concepts in the real world. At the start of the second session, each participant completed the Week Two Reflection Activity in order to assess fidelity of implementation of their At Home Practice Plan.

On measures of homework effort participants were asked to respond to the following statement: I put effort into completing the at home practice assignments using the scale 1= strongly disagree, 2= disagree, 3= neutral 4= agree 5= strongly agree. 6.7%

reported they strongly disagreed, 4.4% reported they disagreed, 53.3% reported they were neutral, 8.9 % reported they agreed and 6.7% reported they strongly agreed. These results indicate moderately low to low levels of treatment adherence to the At Home Practice Plan portion of the intervention.

When asked what was challenging about completing the at home practice 45.7% of providers endorsed more than one challenge ranging from difficulties finding the time to motivation to remembering to integrate practices into their daily lives. 8.6% of the participants reported that the only barrier was finding the time to complete the practice and 37.1% said that the only barrier was remembering to integrate the practices in their daily routine and 2.9% said other circumstances made it challenging. 5.7% of participants did not respond to the question. It appears that finding the time to do the practice and making the practice a habitual part of daily life were the biggest barriers to adhering to the At Home Practice Plan.

To promote adherence to the practices between training sessions, participants were encouraged to identify a personal and professional practice partner that could serve as a social support and accountability partner. 60% of the participants indicated that they did not use a practice partner at home or at work, 14.3% indicated that they had a practice partner at work, 20% indicated that they had a practice partner at home, and 5.7% said they had a practice partner at both work and home. These findings indicate that only a small percentage of participants adhered to the AARC recommendations of having a practice partner at home and work.

Four-month follow-up adherence. Similar questions were posed at four-month follow-up to examine the at home practice of the providers after the completion of the trainings. Only 8 providers completed the online survey at four month follow-up. 5 of these

providers were from the treatment group and 3 were from the control groups. Of the 8 providers who answered the follow up questions 44.4% stated that they engaged in self-care activities almost daily since the training, 22.2% said they engaged in self-care a few times per week and 22.2% said one time weekly and 11.1% said a few times per month. Practices that participants reportedly engaged in post-intervention are as follows: 100% of participants reported using the Exercise, eat well and engage in good sleep practice, 50% reported using Awareness and Empowerment through mindfulness practice, 75% reported using Choosing your attention and practicing gratitude; 62.5% reported using Helping and doing good deeds for others, Identifying unhelpful thoughts and adjusting them to be more helpful and Reward yourself with relaxation and recreation, respectively. 37.5% reported using Establishing good role models and social supports and Values clarification and commitment, respectively. 12.5 % said they used a practice partner while 87.5% said they did not. Results of four-month follow-up are difficult to generalize, since only a small portion of all the participants responded to the follow-up survey. However, responses appear to be similar to post intervention surveys in that few participants were adherent to the practice partner component of the AARC. The reported use of the practices after the trainings aligns similarly with post intervention reports from providers regarding which practices they found to be most helpful.

Qualitative Results

Social validity. The thematic analysis that was applied elicited key concepts that were evidenced in the data. These themes are viewed as essential in helping us better understand the social validity of the intervention in order to make modifications to the treatment in the future. Qualitative responses confirm quantitative data indicating that many providers viewed to training as appropriate, acceptable, useful and feasible.

Acceptability. Regarding the theme of acceptability, participants provided the following qualitative feedback on post intervention data collection.

“I really enjoyed how everything in the training involved self-care. The snacks were good and even the door prizes had a self-care theme.” (S23)

“I found the presentation of the research behind some of the skills to be very interesting. It made me buy in to the importance and relevance of the material more.” (S2)

“It was great how we got to engage in self-care during the training by practicing mindfulness, writing thank you notes and thinking about our own helpful and unhelpful thoughts. I liked to actually do the activity instead of be told about it.” (S9)

“I like the ACHIEVER acronym as a way to remember all the important parts of resilience.” (S16)

“I think the presenters were great. They were powerful speakers and had a lot of good concrete examples of how to apply things in real life.” (S1)

“It would have been nice to be able to have more training sessions that were a little shorter in duration. Three hours is a long time to sit.” (S7)

“I would have liked to go outside during the training when you are talking about nature and mindfulness.” (S41)

Appropriateness. Regarding the theme of appropriateness and relevance of the intervention to one’s professional and personal lives, providers indicated the following responses.

“This training experience has changed the way I work with kids... all of your suggestions were amazing.” (S33)

“After this training, I am more aware of what children need. I am better able to help and understand them just by being more aware of what they need instead of jumping to my own conclusions.” (S22)

“I think this information is so important for [teachers] to learn, especially new teachers. Recognizing that when teachers are better able to deal with their own emotions, they are more equipped to support young handle their strong emotions will help so many young professionals.” (S9)

“This stuff really helped in my life at home with my family too. As a family, we are eating more veggies with each meal and more fruits as snacks.” (S13)

“I liked how we got to practice self-care during the week. I started hiking with my family and it has really helped many situations in my life including stress and relationships and overall feeling more positive about life.” (S25)

“I have started a gratitude practice at dinner time. I share with my husband. This also gives me social support.” (S39)

Treatment adherence. Numerous participants reported desire to engage in at home practice, but as quantitative data above indicates only a small percentage put in extra effort to do so. Understanding barriers to adherence to this part of the AARC is essential in helping to develop a program that promotes consistent use of the ACHIEVER practices in one’s daily life. As with quantitative data, primary themes that emerged from analyzing qualitative data were the presence of the barriers including time management and remembering to do the practices.

“My stress level and energy at work was a big factor in my willingness to do the practice. I also go to school full time at night and my work load at home is another factor that gets in the way.” (S34)

“Sometimes I wanted to go exercise and run, but the weather was really bad this month and I don’t have the money to belong to a gym.” (S22)

“I know resilience and self-care impacts everything- It’s just remembering to do them/making them habit that is hard for me.” (S4)

“I didn’t find the practices unhelpful, I just didn’t take part in them due to lack of time.” (S6)

“We spend so much time concerned with the needs of others that we put ourselves last. Finding time to do this was just too complicated for me. I wish there could be some little reminder told me to be mindful, or slow down, or something.” (S12)

Evaluating Effectiveness of the AARC

Quantitative Results

Research Question 5: To what extent does the AARC significantly impact improvements in teaching efficacy, job satisfaction, and resilience and decreases in perceived stress? We hypothesized that there would be significant effect of the AARC intervention in decreasing perceived stress and increasing job satisfaction, teaching efficacy and resilience when comparing treatment and control groups using change scores from the outcome measures. Findings revealed that there were no significant differences between treatment and control groups on Job Satisfaction $t(43) = -.23, p > .05$, Teaching Efficacy $t(43) = -.02, p > .05$, Perceived Stress $t(43) = 1.16, p > .05$, or Resilience $t(43) = 1.56, p > .05$. See Table 5. Given the significant differences between groups at baseline, we calculated an ANCOVA on the outcome of Job Satisfaction. We did this to evaluate whether the post-test means, adjusted for pre-test scores, differed between the two groups on measures of Job Satisfaction. There was no significant effect of the intervention on post scores of Job Satisfaction controlling for Job Satisfaction at baseline $F(2,42) = 3.51, p > .05$. See Table 6.

Research Question 6: To what extent does providers’ baseline level of stress moderate the effect of the AARC on outcomes? In addition, it was hypothesized that the

intervention would be more effective on outcome measures for individuals who were experiencing higher levels of stress and most effective for individuals experiencing higher levels of stress that were in the treatment condition.

High and low stress extreme groups were created to assess the effect of the intervention for individuals with high and low levels of reported stress at baseline. The median score of both groups on baseline measure of perceived stress was used to divide the groups into high and low stress. Those with a perceived stress score of 21 or higher were placed in the high stress group ($n=24$) ($M = 16.12$, $SD = 2.97$) and those with a score of 20 or lower were determined to be in the low stress group ($n=21$) ($M = 26.5$, $SD = 4.08$). Four 2 (condition; fixed, between-groups) x 2 (stress level; fixed, between groups) factorial ANOVA's were performed to evaluate this hypothesis on all outcome measures.

Job Satisfaction. A 2x2 factorial ANOVA on pre-post change scores of job satisfaction showed no significant interaction effect $F(1,41) = 1.09$, $p > .05$. Moreover, there were no significant main effects of condition $F(1,41) = 0.03$, $p > .05$ or stress level group $F(1,41) = 0.22$, $p > .05$ on job satisfaction. See Table 7.

Teaching Efficacy. A 2x2 factorial ANOVA on pre-post change scores of teaching efficacy showed no significant interaction effect $F(1, 41) = .003$, $p > .05$. There was no significant main effect of condition $F(1,41) = .01$, $p > .05$. There was a main effect of stress level group indicating that changes in teaching efficacy were significantly greater for low stress participants ($M = 1.23$ $SD = 2.86$) than for high stress participants ($M = -1.21$, $SD = 3.44$) $F(1, 41) = 5.03$, $p < .05$, $\omega^2 = .09$ controlling for treatment condition. This effect size is large according to omega-squared estimates of effect size outlined by Murphy and Myers's standards (2004). See Table 8 and Figure 8.

Resilience. A 2x2 factorial ANOVA on pre-post change scores Resilience showed no significant interaction effect $F(1, 41) = 1.39, p >.05$. There was also no main effect of condition $F(1,41) = 2.28, p >.05$. There was a main effect of stress level group indicating that changes in Resilience were significantly greater for low stress participants ($M = 0.48$ $SD = 3.46$) than for high stress participants ($M = -0.60$ $SD = 1.22$) $F(1, 41)= 6.22, p < .05, \omega^2 = .02$ controlling for treatment condition. This effect size is small according to omega-squared estimates of effect size outlined by Murphy and Myers's standards (2004). See Table 9 and Figure 9.

Perceived Stress. First, we calculated the point biserial correlation between stress level group and change scores of perceived stress to ensure there was not a perfect correlation between the two variables, as we used measures of perceived stress at baseline to create the extreme groups. We found a strong, but not perfectly negative relationship between the two variables $r_{pb} = -.61, p <.01$. This allowed us permission to conduct with subsequent analysis.

Following the point biserial correlation, a 2x2 factorial ANOVA on pre-post change scores of Perceived Stress demonstrated an interaction effect that approached significance $F(1, 41) = 1.40, p = .08, \omega^2 = .03$. While both treatment and control groups experienced increases in perceived stress, examination of the means indicated that those individuals with low baseline levels of stress who engaged in the treatment experienced a significantly smaller increase in perceived stress ($M = 4.84, SD = 5.56$) than low stress controls ($M = 8.69, SD = 3.82$). Moreover, interpretation of the effect size indicates a small to medium effect according to omega-squared estimates of effect size outlined by Murphy and Myers's standards (2004).

Results also showed no main effect of condition $F(1,41) = 1.24, p > .05$, but a significant main effect of stress level group $F(1,41) = 26.91, p > .001, \omega^2 = .35$. See Table 10 and Figure 10

Research Question 7: To what extent do participants continue to engage in resilience practices after the completion of the training? Of those participants who answered at the four-month follow-up 22.2% said they felt that their workplace had integrated aspects of the AARC into the work environment since the training, 77.8% said AARC practices had not integrated aspects of AARC.

Of importance is the fact that 87.5% of participants said they felt that the use of resilience practices had impacted their interactions with coworkers, children and families; while 12.5% said it had not impacted their interactions. 87.5% of respondents also indicated that they believed that implementing AARC in their life had impacted their overall wellbeing. Of those individuals who engaged in at home practice, 77.1% reported that they noticed benefits in their mood, how they felt or how they dealt with stress, 22.9% said they noticed no difference.

Qualitative Results

Several response themes emerged from the qualitative analysis on the effectiveness of the AARC that are notable. Emergent themes demonstrated an increased knowledge and use of practices stemming from the underlying theoretical orientations from which the intervention was designed including cognitive behavioral theory, positive psychology and third wave acceptance and commitment and mindfulness theory.

The importance of self-care in early childhood education. One theme that emerged in examining effectiveness data illustrated that providers gained knowledge about the

importance of self-care and its relationship to teacher child interactions and evidence-based practices.

“It [resilience] will help my interactions be more positive and reflective.” (S36)

“It [resilience] helps you center yourself and center your work.” (S11)

“As we become more aware ourselves we are able to be aware and are able to help and understand young children and families.” (S43)

“If you practice self-regulation you can teach it better, fail or succeed you can relate better.” (S37)

“Resilience practices help me to calm myself, especially when there are challenges, which help me be a better teacher.” (S16)

Physical and mental health connection. Many providers also spoke to the connections they noticed between their mental and physical health as a result of engaging in the AARC trainings.

“Exercising two days per week has helped me have more motivation in all aspects of my life.” (S9)

“I walked for 45 minutes consistently on my lunch break and I felt great!” (S34)

“I ate more healthy food rather than getting fast food because I was tired.” (S21)

“It increased my level of energy and ability to accomplish different tasks, it limited by guilty feelings about what I was eating. I have gained about 50lbs since working at my current job [early childcare] and have been diagnosed with a weight-related medical condition, which is very stressful. I am glad to be back on my diet as a result of this training.” (S14)

“I noticed that I have been more able to sleep without sleep aids.” (S1)

“I noticed I’m not so grumpy since eating breakfast and more balanced meals.”
(S40)

“I am resting better, sleeping better, I’m less tired and more aware.” (S22)

Cognitive Behavioral Concepts. Providers indicated an increased understanding of helpful and unhelpful thinking patterns and the connection between thoughts, feelings and behaviors. Some demonstrated effectiveness in their ability to modify thoughts and change behaviors to be more helpful.

“The biggest concept I took away from this training was that I have control over my thoughts and how I feel. In addition, I can strengthen my control over my thoughts and feelings by taking care of my body, exercising, eating well and getting enough sleep.” (S12)

“I was constantly reminding myself to be more positive when something negative was happening. I wasn’t letting negative outside things affect my mood, which made work more fun.” (S30)

“You can step back and examine your thoughts for what they are and choose to reframe them. I learned how to separate my emotions from my thoughts and not feel like I have to respond right away to every thought or feeling. (S28)

“I was more aware of what is happening in the moment, not dwelling on negatives.” (S36)

“I noticed that I was laughing more with others, especially the children.” (S17)

“I felt better about doing something for myself.” (S42)

“I was able to manage my frustrations better and enjoy the music better.” (S7)

“I felt happier, with less tension.” (S18)

Third wave acceptance, commitment and mindfulness concepts. Analysis of themes also indicated several qualitative responses which demonstrated increased knowledge and effective use of ACT and mindfulness practices.

“I liked mindfulness because it is simple and easy to implement and the results are immediate.” (S39)

“Anytime we are mindful we will participate in our work more fully.” (S2)

“I have continued to use mindfulness daily during my commute. I turn off the radio and just pay attention.” (S11)

“I already engage in mindfulness, but this week I tuned into part of my existing spiritual practice that you brought forward in a new way.” (S25)

“I was less focused on “ALL” I had to do, but rather focused on one task at a time. I focused on slowing down and being in the moment.” (S13)

“It felt easier letting go of things.” (S9)

“I felt an increased calm from the breathing.” (S28)

“I just gave myself time to stop and think before reacting. I began being mindful to talk to each child every day.” (S11)

Positive psychology. Increased understanding about positive psychological theory and interventions were identified throughout qualitative data analysis.

“Writing in the gratitude journal caused me to be more aware and appreciate people more.” (S23)

“I loved the idea of finding meaning in ourselves when a situation cannot or does not change. Currently I am involved in work situation where I feel stressed by

many things that I can't control. Having the concept of values reinforced throughout the training was helpful and it is what will continue to get me by." (S5)

"Sometimes I forget what I'm working for. I'm like a chicken with my head cut off. If I just stop for a minute and remember what I'm here for, that is usually when I notice something really great that one of the kids is doing." (S14)

"This training encouraged me to get back to volunteering. It reminded me of my value of helping others and I incorporated weekly volunteering into my daily routine as a small step in service of my larger value." (S27)

Qualitative four month follow up

Providers who responded to the online four-month follow-up survey also provided qualitative findings that indicate continued effectiveness and benefit of the intervention beyond the immediate post treatment effect.

"Somehow lately I can go with the flow more. I'm deciding to not stress out about decisions at work that are beyond my control." (S27)

"In general, I'm better equipped as a teacher if I'm feeling good: sleeping well, exercising, etc. I'm more patient and can make better decisions and am more upbeat." (S39)

"Staying present and focused has helped me to let go of grievances and identifying unhelpful thoughts has helped me to gain perspective. Exercise and nutrition gave

me much needed release and fuel. Rewards made me feel relaxed and less consumed by work. Helping others always makes me feel valued and kind and like a good person.” (S6)

Chapter V: Discussion

Summary and Implications of Findings

This study utilized a Participatory Action Research framework to conduct a pilot study exploring the social validity and preliminary effectiveness of the ACHIEVER Adult Resilience Curriculum (AARC) on early childcare providers’ wellbeing-related outcomes. The AARC is an intervention that was designed to decrease early childcare provider stress and promote their resilience and wellbeing. Caregiver wellbeing has proven to be an important factor in promoting the implementation of evidence-based practices and high-quality provider-child interactions (National Scientific Council on the Developing Child, 2004; Spring & Hitchcock, 2009). A mixed-method randomized delayed control trial design was used. Formative and summative data were collected at baseline, after the first week of the intervention, post intervention and at four-month follow-up to examine the stress and resilience profile of the providers at baseline as well as the social validity and preliminary efficacy of the intervention.

Baseline Stress and Resilience Profile

In general, the stress and resilience profile of early childcare providers in the study appeared to be disparate from the larger population of early childcare providers. Overall, providers in our sample reported lower levels of perceived stress and higher levels of job satisfaction, teaching efficacy and resilience when compared to current literature in the field. Providers in our study also have higher levels of education than most early childcare providers, particularly those that run family childcare programs (National Survey of Early

Care and Education Project Team, 2013). There were 15-20% more providers in our sample with Bachelor and Master Degrees than the national average.

One explanation for the above discrepancy is that the providers who participated in our study worked in an early childcare setting with a focus on recruiting staff who were well-suited to implement evidence-based, high-quality care. In addition, the literature has linked higher levels of education with higher levels of resilience (Murnane & Olsen, 1990) and years of experience in the field is correlated with higher levels of resilience and decreased attrition. Moreover, research has indicated that those who stay in the field for at least five years are much more likely to stay (Whitebook et al., 2013). This relationship was found in our study, with both years of experience and education level being moderately positively correlated with higher levels of resilience. We did not find a statistically significant correlation between years of experience and teaching efficacy as the literature would indicate might be present (Murnane & Olsen, 1990).

It is also worth noting the finding indicating a weak negative relationship between years of experience and job satisfaction. Based on our findings, it appears that teachers with more years of experience were less satisfied with their jobs. Interestingly, these same individuals are those who reported higher levels of resilience. While the Brief Resilience Scale used in this study measures personal characteristics that enable individuals to bounce back and recover from setbacks and adversity, the Satisfaction with Work Scale measures job conditions and job quality. It appears that higher levels of an individual's resilience may serve as a protective factor, encouraging providers to stay in the field, though they may not be highly satisfied with the conditions of their work.

Social Validity Findings

As part of the iterative development process of the AARC, one of the main goals of this study was to examine evidence in support of its social validity. Overall, the findings from both the quantitative and qualitative analyses revealed that the AARC intervention was perceived as socially valid by participants in both the treatment and delayed control groups. The majority of participants indicated that they strongly agreed that the concept of resilience and self-care was an important concept to address as part of professional development for educators. Qualitative themes indicated that many providers often believed resilience and self-care to be important because they believed their ability to care for themselves would be influential in their ability to better care for and help children and families. The majority of participants also reported that they believed the training to be valuable, of high quality and that they would recommend this training to a colleague.

Most providers indicated that they learned something new and valuable during the training. The majority indicated that the resilience practices taught were relevant to their professional lives. Analysis of themes indicated that many providers had an increased awareness of the importance of their own self-care and its role in their work with young children and the implementation of high quality early care and teacher child interactions.

Providers also indicated that the training taught practices that were relevant to their personal lives. In particular, many discussed the concepts of exercising, eating well, engaging in good sleep supported their personal wellbeing and also promoted the wellbeing of those in their family with whom they share meals or exercise. In addition, many discussed using awareness and mindfulness, choosing your attention and practicing gratitude and identifying unhelpful thoughts and spinning them to be more helpful as relevant to their personal relationships with their own children, friends, family and partners.

Many discussed feeling like these practices could help them be more mentally healthy and better able to engage with their own families.

Regarding what they thought to be the most valuable part of the training, most providers stated that they following practices were most useful and relevant: (a) exercising, eating well and engaging in good sleep, (b) awareness and empowerment through mindfulness practices, (c) choosing your attention and practicing gratitude and (d) identifying unhelpful thoughts and modifying them to be more helpful. They also reported appreciating the examples of different research studies that provide empirical support for each of the different practices and their potential impact to improve wellbeing.

Regarding acceptability and feasibility of the professional development sessions, participants reported enjoying the “self-care” theme of the delivery of the intervention including presentation of research behind the interventions, food and drinks provided during the sessions and engagement in self-care activities (writing a gratitude note, mindfulness activities, thought logs) during the sessions. Individuals also reported the ACHIEVER acronym was a helpful mnemonic device to remember the elements of self-care. Various participants also provided positive feedback regarding the knowledge of the presenters and their ability to engage the audience. Suggestions for improving the feasibility of the professional development sessions included holding part of the training outside, allowing for more frequent breaks during the training and spreading the training out into several hour-long sessions instead of just two, three-hour-long mornings.

In general, the majority of the participants indicated that they agreed or strongly agreed that they put effort into participating during the training, while about a quarter of the participants endorsed that they neither agreed for disagreed regarding their participation during the trainings. One area of the AARC that is in need of improvement was

participants' adherence to the at home practice. It appears that feasibility of the at home practice portion of the intervention was low. Less than one fourth of the participants agreed or strongly agreed that they put effort into completing the at home practice assignments. This was the only social validity measure where providers endorsed ratings of 1 or 2 indicating that they strongly disagreed or disagreed with putting effort into completion of the practice. In addition, over half of the participants stated that they did not use a practice partner to help them complete their Practice Plan. Only a small portion of the original sample responded to the four-month follow-up. While all the participants at four-month follow-up reported using some of the resiliency practices, ranging from once per month to daily, only one of the eight respondents reported using a practice partner.

Participants reported several barriers that interfered with their ability to complete the at home practice, including finding the time to complete the practice, finding the motivation to complete the practice and remembering to include the practice in their daily routine. Considering the importance of at home practice in promoting behavior change, it is likely that one contributing factors to the limited effect of the intervention is that many of the providers did not engage in the skills outside of the training. These findings are concerning considering that they represent important components of the AARC that were designed with the intention to help individuals generalize the practices beyond the training. Components such as homework, accountability partners, and coaching have been shown to be essential ingredients to effective training (Garet, Porter, Desimone, & Birman, & Yoon, 2001; Joyce & Showers, 2002). Future recommendations regarding modifications to this portion of the AARC will be presented below.

Effectiveness of the AARC

After examining the social validity of the AARC, the next step was to analyze the quantitative and qualitative data regarding the efficacy of the AARC. Overall, the quantitative findings indicated there were no statistically significant differences between the treatment and control groups on the outcome measures. There were mean differences trending in correct direction on measures of job satisfaction, teaching efficacy and perceived stress, though not significant. The findings regarding resilience were unexpected. Specifically, inspection of the group means indicates that those who did not participate in the study's resilience increased while levels of resilience for those who did participate, decreased slightly.

There was one interaction effect approaching significance between stress level groups and treatment and control conditions. The 2 x 2 factorial ANOVA indicated that individuals with low stress levels at baseline in the treatment group were associated with the lowest increase in perceived stress when compared to those who did not engage in the treatment. It can be concluded that an intervention of this brief nature may be most effective for stress management in individuals whose level of baseline stress is low.

Overall, quantitative data analysis did not yield the results we had anticipated. This could be due to various reasons including complications with data collection, selection of measures, insufficient practice and interpersonal support to facilitate statistically significant behavior change and the small sample size of the study. These limitations will be discussed further in the section below.

Though the results from the quantitative analyses examining the effectiveness of the AARC were largely non-significant, a qualitative strand to data collection was included considering the pilot nature of the study and small sample size. The inclusion of the

qualitative data enabled participants to provide more detailed responses regarding their experience with the AARC and allowed us to analyze the data to identify particular response themes.

Based on descriptive analysis, we found that all of the participants reported an increase in their knowledge about ACHIEVER resilience practices. Providers indicated that they learned and implemented concepts from the training in their personal and professional lives. Thematic analysis yielded evidence that providers learned practices and strategies from the three underlying theoretical orientations that drove the creation of the intervention, positive psychology, cognitive behavioral theory and acceptance and commitment theory. This represented important data demonstrating that the intervention was effective in teaching practices that were informed by the theories of change.

Qualitative findings indicated that providers reported that they experienced an improved awareness and an increased ability to notice their own emotional states and the emotional states of those around them, including the children in their classrooms. They reported an increased ability to use mindfulness practices for emotion regulation and to increase calmness and awareness. Many providers endorsed using positive psychology exercises including gratitude to access positive emotions and several providers reported benefit from modifying their eating, sleeping and exercise habits. Some of the providers reported that they noticed improvements in their mood, in their interactions with others and in their levels of stress.

Limitations of Present Study

Clearly, as with most preliminary studies, this study is not without its limitations. Firstly, there are limitations regarding our quantitative data and outcome measures. The baseline data in our sample was negatively skewed on measures of wellbeing and positively

skewed on measures of perceived stress. For this reason, there are likely issues with ceiling effects of our quantitative data, limiting the ability to produce and detect an intervention effect. If a scale only goes up to five and most providers have baseline measures of three or four (as with our measures), it may be difficult to detect an effect, or the relationship between variables may seem weaker than it really is due to a ceiling effect (Koedel & Betts, 2008). In summary, test-score ceilings restrict individuals' gains as score levels rise. Roberts (1978) indicates that the test-score-ceiling effect is commonly seen as the tendency for improvements in individual's test scores to be smaller if the individual's score is toward the top end of the distribution, simply because the individual has little room for improvement given their baseline-level score. Overall, he indicates that an intervention that is intended to raise the score will have little opportunity to add value (Roberts, 1978). The skewness associated with the distribution of data was representative of the population of participants included in our sample. As was stated above, there may be less stress and more resilience inherent in a more highly experienced and educated population such as the sample in this study. The results of this analysis have limited generalizability beyond the sample included in this study and potential to detect significant effects may be due to test-ceiling effects.

This issue with ceiling effects on our baseline data highlights a larger limitation likely present in our study regarding the validity, reliability and sensitivity of some of our instruments in detecting change as response to the intervention. Regarding measures of resilience, as mentioned previously, there is currently no 'gold standard' measure available and there is little evidence of the validity and reliability of the Brief Resilience Scale, beyond publications by its authors (Windle, Bennett & Noyes, 2011), which may in part explain the pattern of mean differences we found using this scale. In addition, the

instruments we used in the study have been used on a limited basis to detect change as a response to intervention. Of all the instruments, the Job Satisfaction Scale is the only scale which has shown sufficient sensitivity to be potentially valuable to detect change during the course of a clinical intervention (Pavot & Diener, 2009). It may be the case that the instruments used were not sensitive enough to detect change related to such a brief intervention, particularly in light of potential ceiling effects.

According to the Institute of Educational Sciences (IES), the average cost for supporting a school-based randomized control trial is between \$3-\$3.5 million (Slaven, 2008). As with our study, many PAR studies consist of cost-neutral partnerships between research organizations or universities and those putting research into practice in places like schools. Often times, there is not extensive funding for this type of research (Wallerstein & Duran, 2006) and conducting cost-neutral research doesn't allow for the extremely large scale studies necessary to establish the substantive power required to make stringently significant conclusions. In our case, apriori power analysis using G Power software indicated that in order to detect an effect size of .25 (commensurate with APA and IES standards) in a two tailed analysis with 80% power we would need a sample size of 128 participants. With no funding, it was beyond our capability to recruit this number of subjects for the current study.

In the case of our study, operating from a PAR framework involved modifying the delivery of the AARC to a marked degree. Initially, the AARC was designed to be implemented within the context of a provider-coach relationship and involve several sessions that elapsed over time. This form of delivery was based on pre-existing literature regarding effective professional development programs and mental health interventions that promote long-lasting behavior change (Sugai & Horner, 2006). However, due to the needs

of the childcare centers involved in our study, we had to implement the intervention as an in service training over two, three hour blocks of time. Therefore, the AARC, which was initially designed to be implemented across several coaching sessions spanning a few months, had to be significantly shortened and the ongoing coaching component was not implemented. The end results was that AARC was delivered as a “train and hope” approach, which as stated previously, has demonstrated limited effectiveness in changing behavior (Center on Positive Behavior Interventions and Supports, 2004; Sugai & Horner, 2006).

Moreover, one important factor in any mental or physical wellbeing program is the consistent practice and engagement in the program over time (Stokes & Baer, 1977). Our results indicate that while the intervention was socially valid, only a small percentage of the participants engaged in at home practice and utilized a practice partner. It is likely that this is a contributing factor in to the limited effectiveness of the intervention as measured by quantitative data. Future research should explore methods of encouraging greater participation in homework and how to arrange accountability partners that help facilitate use of learned practices beyond the training session.

Future Directions

Results of this study indicate that the AARC intervention possessed evidence in support of its social validity. However, notwithstanding these positive findings, there are several recommendations for future research using the AARC or other resiliency curricula designed for early childcare providers. First, it is recommended that researchers consider using other measures that may be more sensitive to change in response to clinical intervention and that have a wider range to detect significant effects so that the problem of ceiling effects can be avoided. Second, obtaining a larger sample size of participants would

allow for ample power to detect an effect of the intervention, which was not possible in the current study. Third, given the changes that had to be made to the intervention due to the PAR framework, it will be beneficial to implement the intervention within the context of a coach-provider relationship, as it was originally designed, to examine whether embedded supports by coaches help people adopt and use resiliency practices and ultimately change their behavior. It will also be beneficial to examine the social validity and effectiveness of different formats of implementing AARC over a longer period of time, perhaps addressing one ACHIEVER practice every few weeks. Involving leadership teams as key stake holders in the process of implementation of the intervention may support greater treatment adherence and encourage integration of the practices on an organizational level, something largely not present in our study.

Fourth, considering the major limitations in adherence to the at home practice portion of the intervention, modifications to the curriculum should be considered in order to help support the consistent use of ACHIEVER practices between coaching or in service training sessions. Some ideas regarding how to improve treatment adherence include incentives for engaging in practices, reminders (such as phone app or reminder email) to encourage adherence, encouraging centers to include resilience practices in to the work environment (exercising together at lunch time, healthy meal planning, gratitude and/or mindfulness exercises during staff meetings or in classroom meetings with young children, setting up a professional learning community to address self-care and resilience). If the intervention is delivered within the context of coach provider relationship, the coach may also serve as a social support and practice partner to encourage planning of self-care practices and adherence to the practice plan.

Lastly, future research could look beyond addressing provider-level outcomes and consider the effect of the intervention on teacher-child interactions, classroom climates and child-specific outcomes such as children's social-emotional wellbeing and cognitive development. These represent important outcomes in and of themselves to be researched in future studies.

This study will hopefully stimulate future grant funded research. The Institute of Educational Sciences funds research projects under different research goals. Our study is promising in that it appears to demonstrate outcomes in accordance with Goal 2 of the IES Goal Structure (Development and Innovation). This goal includes "developing innovative education interventions that produce benefits on student outcomes when implemented in authentic education delivery settings." (Institute of Educational Science, 2015, p.7). Taking into account the modifications to the AARC described above, the data on the iterative development of AARC could be utilized to apply for a Goal 2 project, which purpose is to:

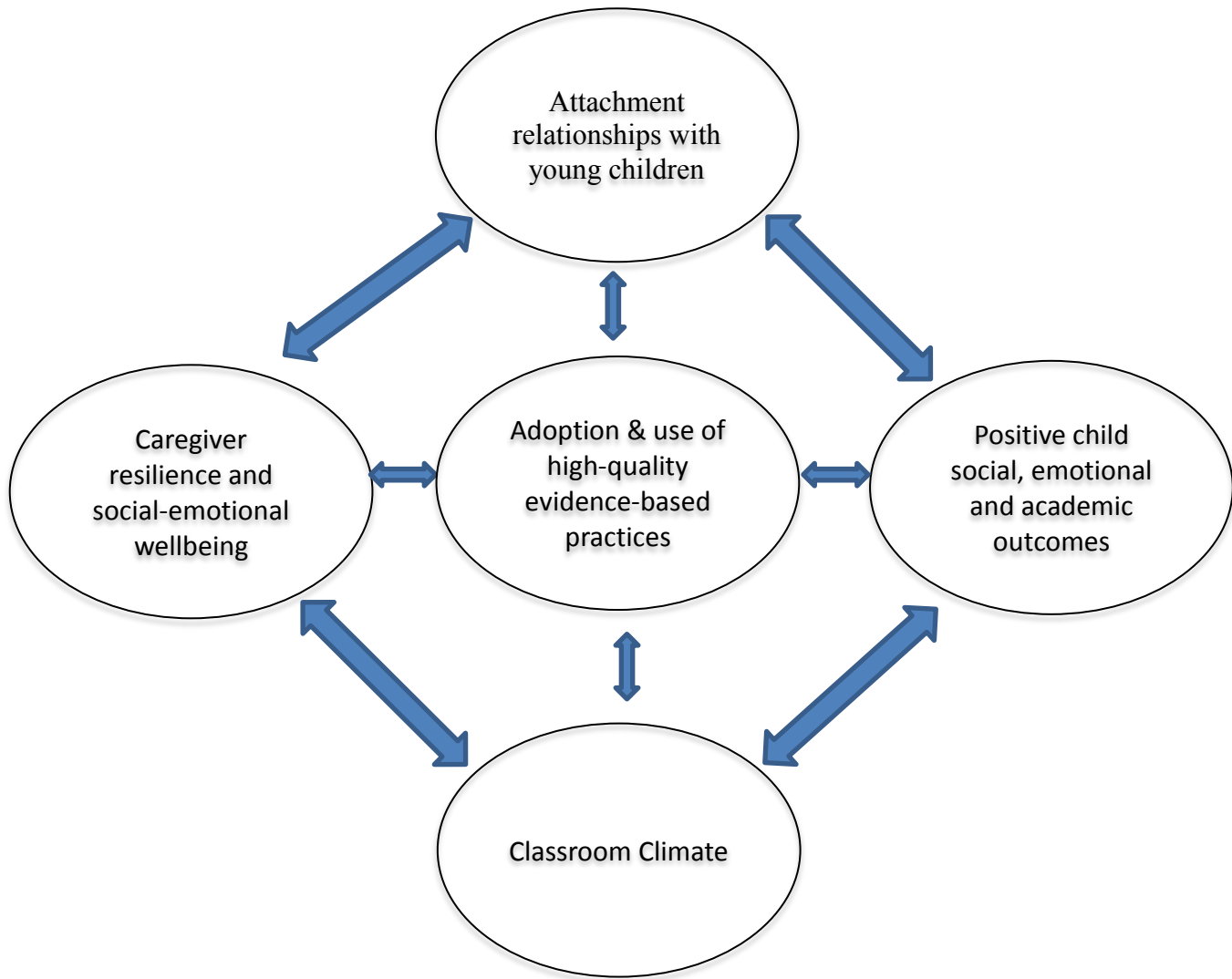
Develop a well-specified theory of change for the intervention, gather evidence that the intended end users understand and can use the intervention, data that demonstrates users can feasibly implement the intervention in a authentic education delivery setting, pilot data regarding the intervention's promise for generating intended benefit on student outcomes and reaching the feasibility of implementation considered necessary. (IES, 2015, p. 8-10).

The importance of early childhood education and the wellbeing of early childhood educators are undisputable. This study represents an important preliminary investigation in the development and innovation of a resiliency curriculum that targets promoting provider wellbeing in early learning, an important area of research that is in its infancy. While the current study did not employ large-scale efficacy design, it did examine important aspects

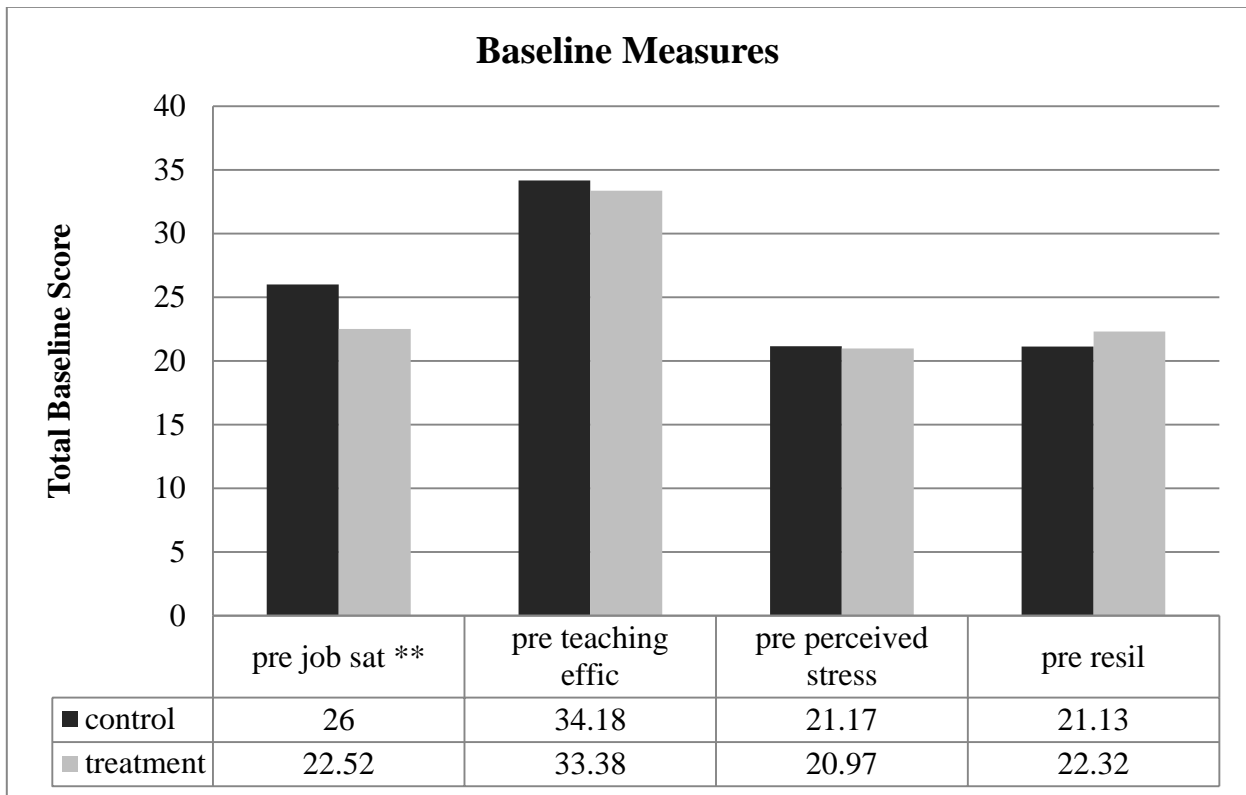
of the social validity of the curriculum and identify pinpoints for future refinements and improvements to the intervention and study methods. This study illustrates that the AARC possessed high levels of social validity and promising qualitative data demonstrating the potential efficacy of it to improve wellbeing and decrease stress.

The increased charge to provide high-quality early learning for all children in our country is an important one and addressing provider stress and wellbeing as a key component in improving quality early care. By providing early childhood educators with the resources and supports necessary to feel effective and satisfied with their work and resilient in the face of many of the stressors inherent in their jobs, we are ultimately honoring the importance of their work and investing in one of the most important resources for the future of our world, young children.

Figure 1. Logic Model



Figures 2. Baseline Measures of Dependent Variables



Note:

** Significant different at baseline, $p, <.01$

Maximum obtainable score on job satisfaction is 35

Maximum obtainable score on teaching efficacy is 40

Maximum obtainable score on perceived stress is 35

Maximum obtainable score on resilience is 30

Figure 3. Mean Scores: Pre-Post Job Satisfaction

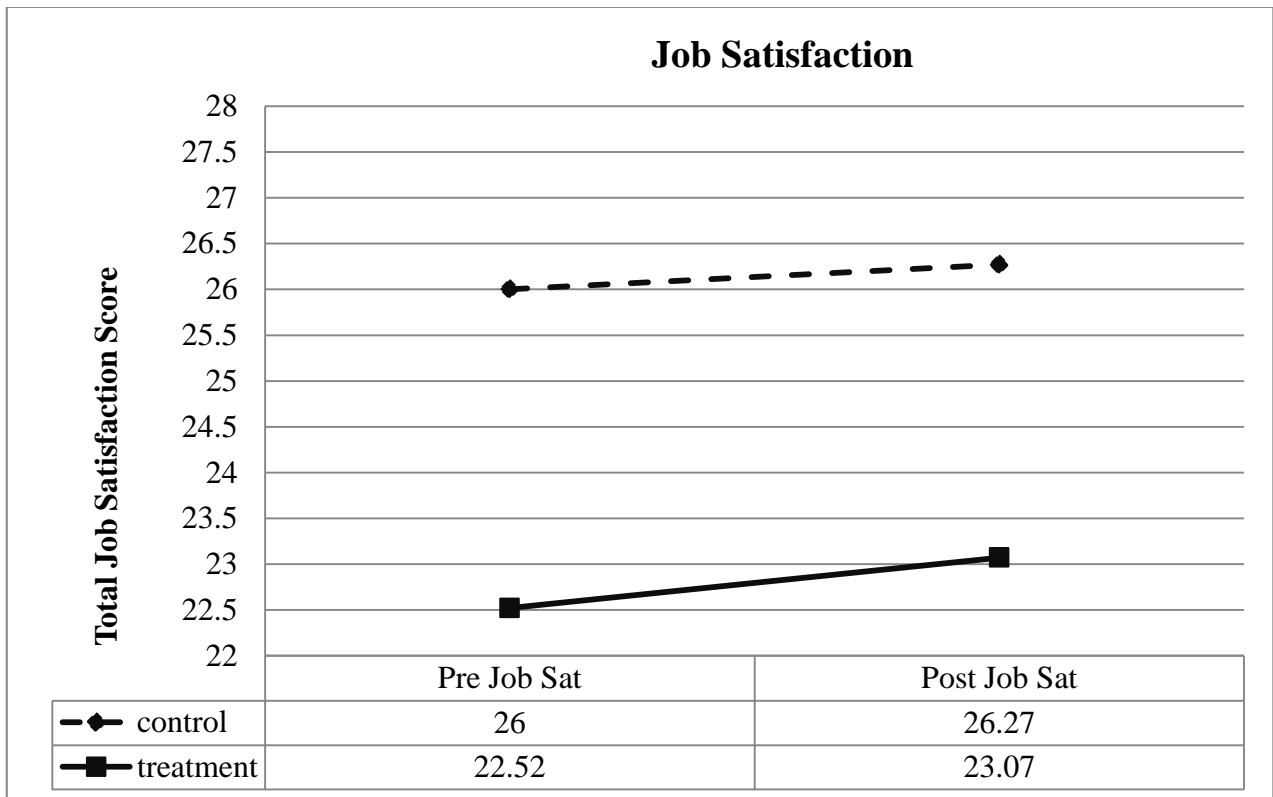


Figure 4. Mean Scores: Pre-Post Teaching Efficacy

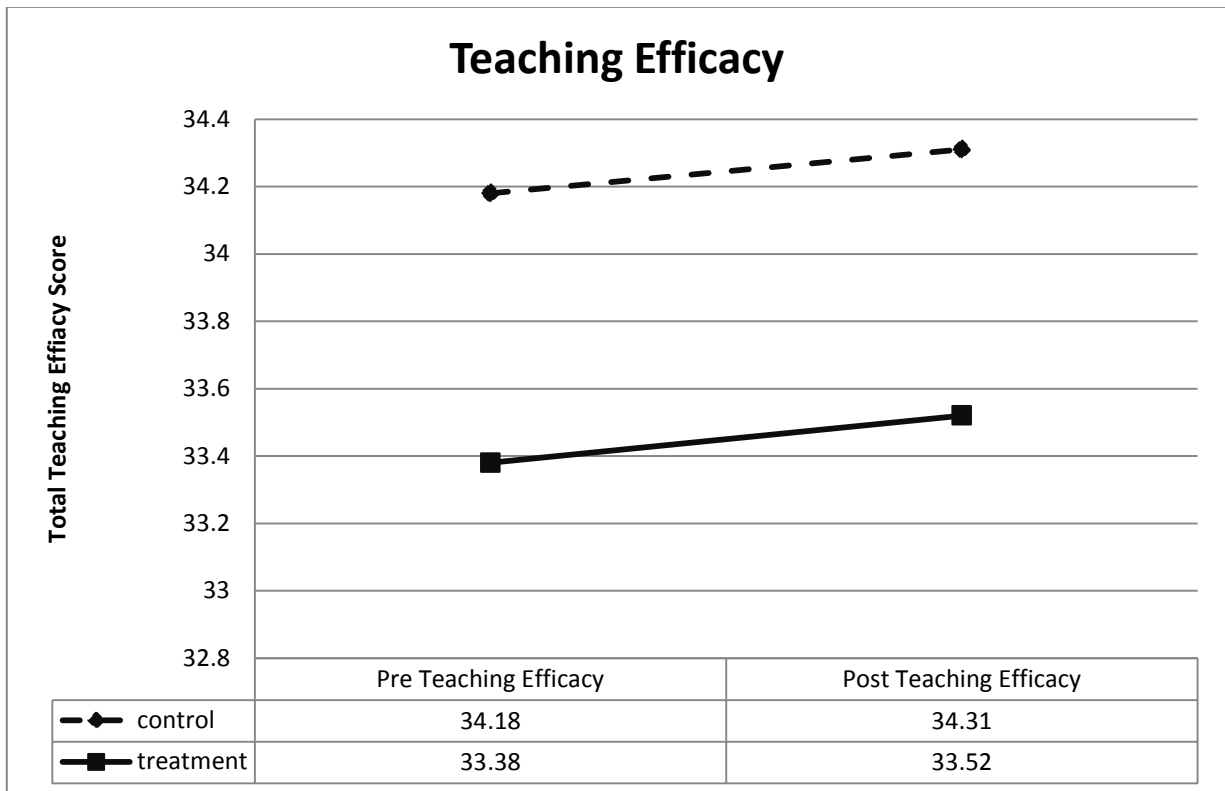


Figure 5. Mean Scores: Pre-Post Perceived Stress

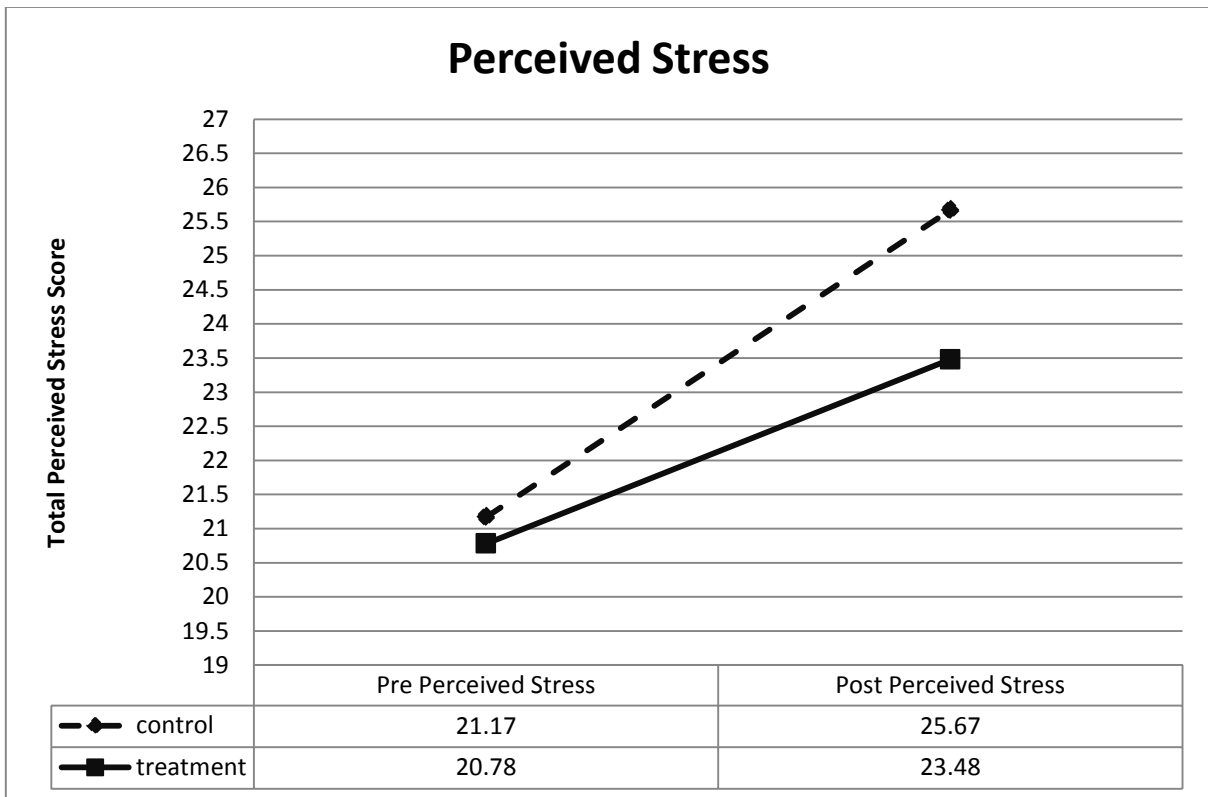


Figure 6. Pre-Post Scores: Resilience

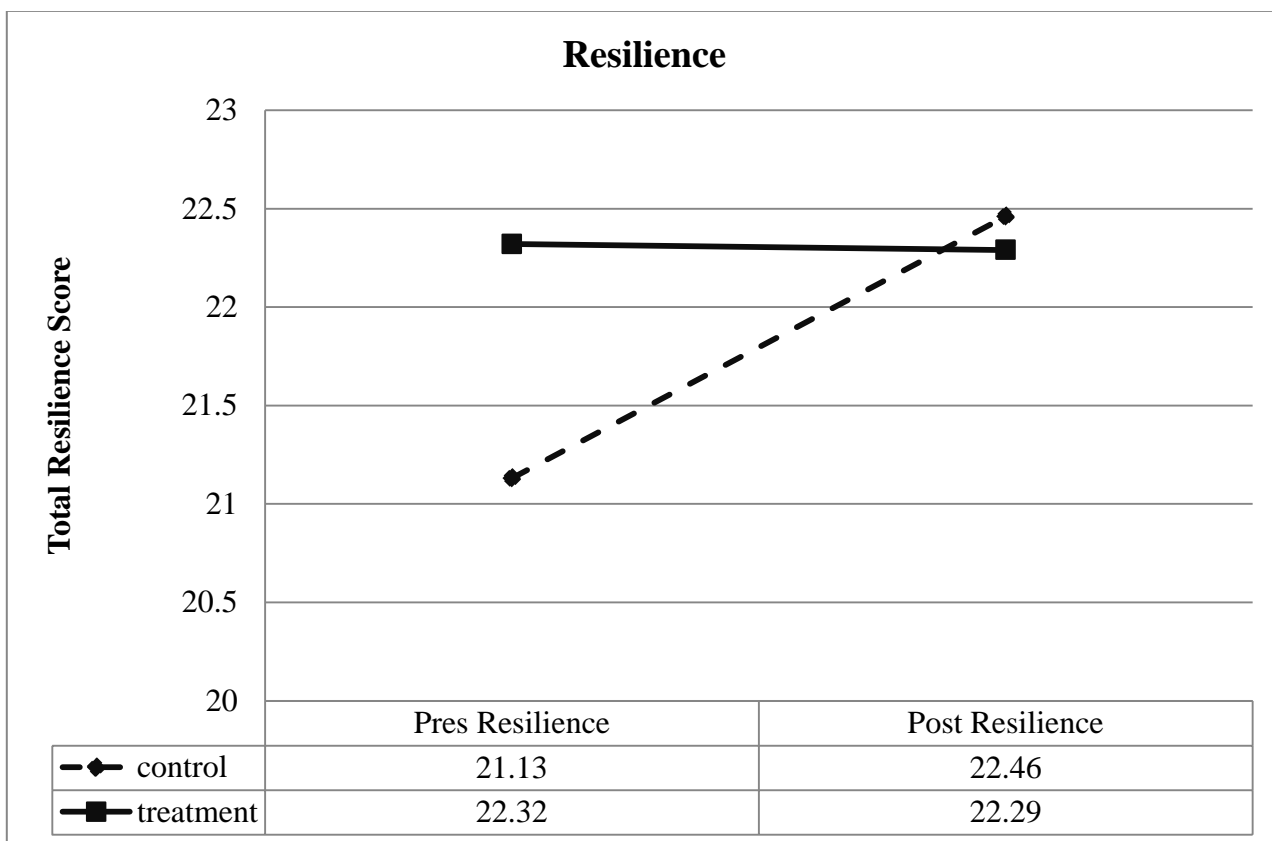
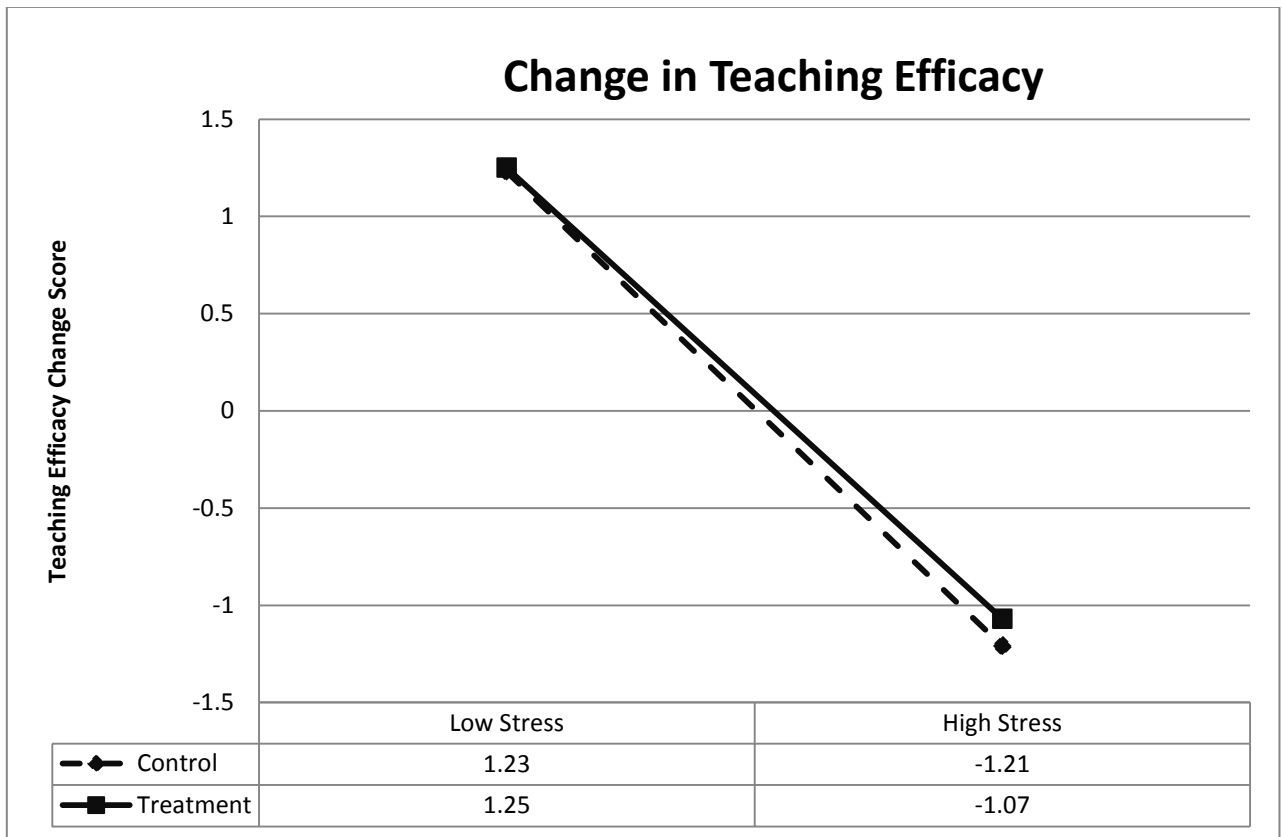
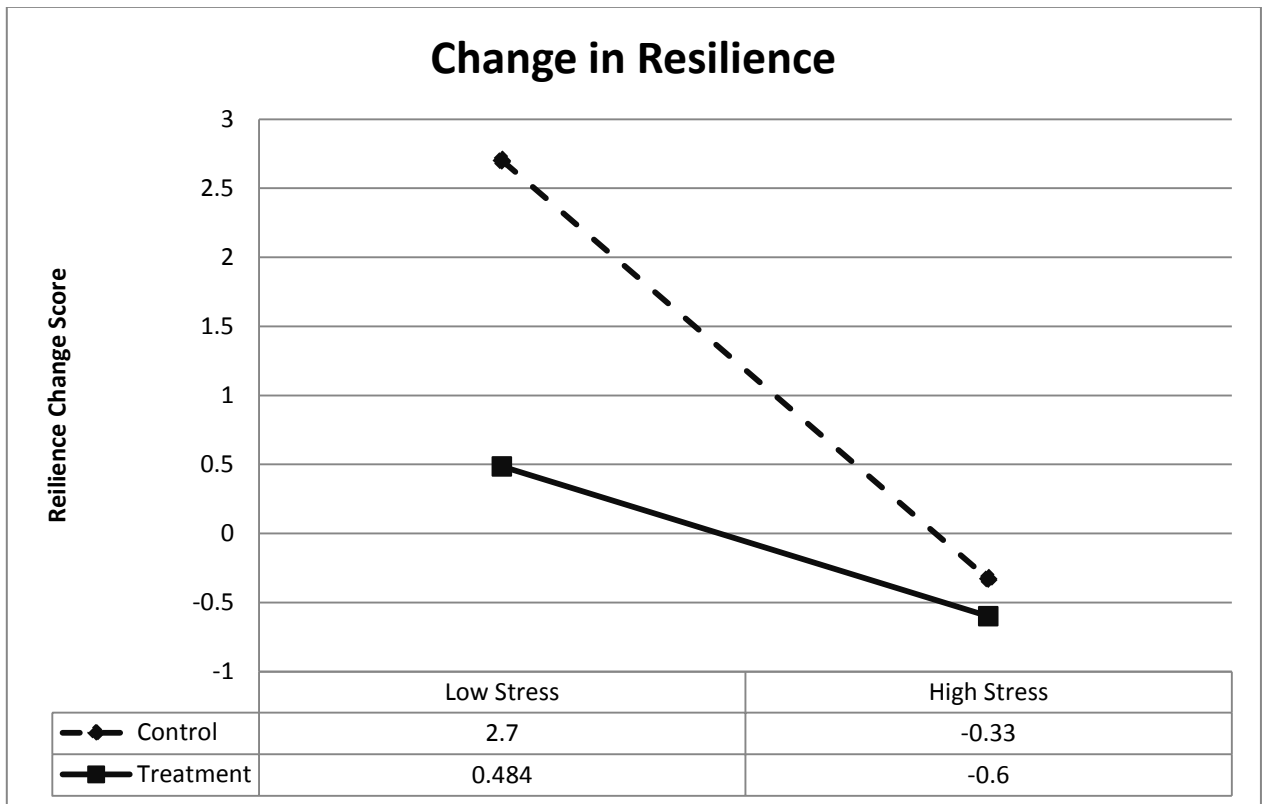


Figure 8. Effects of Condition and Stress Level Group on Teaching Efficacy



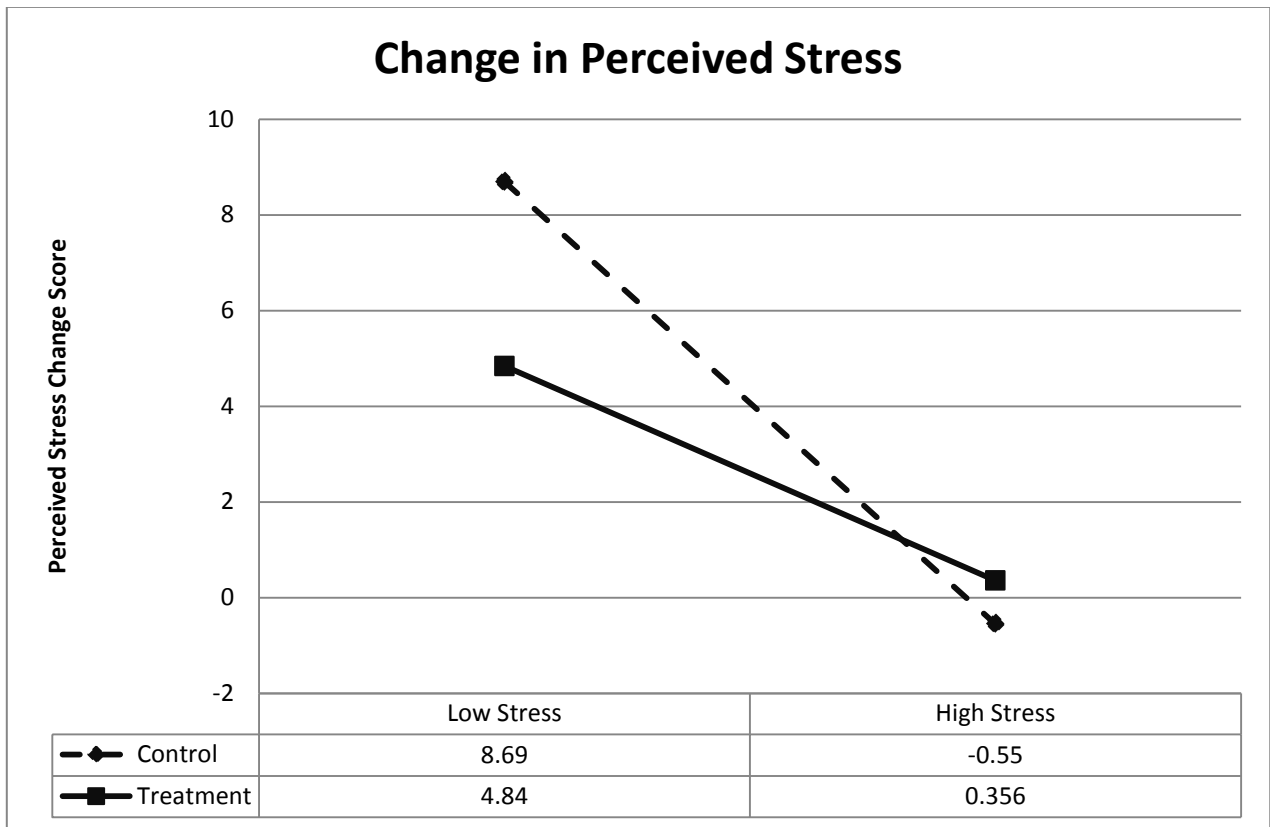
Significant main effect of Stress Level Group on Changes in Teaching Efficacy, $p < .05$, $\omega^2 = .09$

Figure 9. Effects of Condition and Stress Level Group on Resilience



Significant main effect of Stress Level Group on Changes in Resilience, $p < .05$, $\omega^2 = .02$

Figure 10. Effects of Condition and Stress Level Group on Perceived Stress



Effect approaching significance on interaction of Stress Level Group and Condition on Perceived Stress, $p = .08$, $\omega^2 = .03$

Significant main effect of Stress Level Group on Changes in Perceived Stress, $p < .05$, $\omega^2 = .35$

Table 1. Socio-Demographic Information

	Control Group (N=22)		Treatment Group (N=23)	
Dichotomous/ Categorical Variables				
Female	91%		100%	
<i>Race</i>				
Caucasian	36%		76%	
African American	0%		12%	
Hispanic	27%		0%	
Asian	23%		6%	
Other	14%		6%	
<i>Education Level</i>				
High School	5%		0%	
Some College	32%		22%	
Associates	27%		17%	
Bachelors	32%		40%	
Masters	4%		22%	
<i>Position</i>				
Lead Teacher	36%		41%	
Assistant Teacher	50%		41%	
Other	14%		18%	
<i>Education Field</i>				
Degree in ECE	53%		33%	
Related Field	20%		40%	
Other	26%		20%	
<i>Primary Language</i>				
English	81%		80%	
Spanish	9%		0%	
Other	9%		20%	
Continuous Variable				
	M	SD	M	SD
Hours worked per week: mean	36.73	4.43	38.16	9.5
Days engaged in self-care per week before training	3.79	1.9	4.1	3.35
Age: mean (range)	39.64 (23-65)	9.49	41.49 (31-62)	8.71
Years experience: mean (range)	12.08 (1-30)	7.83	16.19 (3-40)	9.11

Table 2. Descriptive Statistics

Group/ Outcome Measure	Pre		Post		Change Score	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Control						
Job Satisfaction	26.00	2.78	26.27	3.8	0.27	3.71
Teaching Efficacy	34.18	3.49	34.31	2.01	0.12	3.30
Resilience	21.13	2.77	22.46	2.73	0.11	0.80
Perceived Stress	21.17	7.09	25.67	3.8	4.49	6.11
Treatment						
Job Satisfaction	22.52	3.66	23.07	3.29	0.55	4.52
Teaching Efficacy	33.38	4.03	33.52	2.95	0.14	4.00
Resilience	22.32	2.60	22.29	2.63	0.03	2.85
Perceived Stress	20.97	5.61	23.48	4.29	2.70	5.22

Table 3. Predictor Variables

Variables	1	2	3	4	5	6	7
1. Age	--						
2. Education Level	.08	--					
3. Years Experience	.68**	.20	--				
4. Hours worked per week	-.3	.29	.10	--			
5. Baseline Job Satisfaction	-.18	-.24	-.24*	-.02	--		
6. Baseline Teaching Efficacy	-.06	-.02	-.02	.06	.276	--	
7. Baseline Resilience	.10	.34*	.30*	.24	.078	.24	--
8. Baseline Perceived Stress	-.20	-.07	-.07	.01	.10	.19	-.30

* $p < .05$
** $p < .01$

Table 4. Social Validity

Social Validity immediately post intervention

n=45

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Did not answer question
Resilience is an important concept to address in PD for ECE educators	48.9%	33.3%	2.20%	0%	0%	15.5%
The training experience was valuable	40.0%	42.2%	4.40%	0%	0%	13.3%
The training was of high quality	33.0%	44.4%	8.90%	0%	0%	13.3%
The practices taught were relevant to my professional life	33.3%	48.9%	2.20%	0%	0%	15.5%
The practices taught were relevant to my personal life	31.1%	51.1%	2.20%	0%	0%	15.5%
I put effort into participating during the training sessions	20.0%	51.1%	26.70%	0%	0%	2.2%
I put effort into the at home practice	6.7%	8.9%	53.3%	4.4%	6.7%	0%

Table 5. T-tests on Change Scores for Dependent Variables

Job Satisfaction	<i>t</i>	<i>p-value</i>	<i>Df</i>
Treatment vs. Control	-0.23	.82	43
Teaching Efficacy			
Treatment vs. Control	-.02	.98	43
Perceived Stress			
Treatment vs. Control	-.23	.29	43
Resilience			
Treatment vs. Control	1.56	.13	43

Table 6. Follow-up ANCOVA on Post Job Satisfaction to account for baseline differences in Job Satisfaction

Experimental Conditions	Post Job Sat		Condition			Pre Job Sat		
	<i>M</i>	<i>(SD)</i>	<i>F</i>	<i>(df)</i>	<i>p</i>	<i>F</i>	<i>(df)</i>	<i>p</i>
			3.51	1, 42	.07	3.10	1, 42	.085
<i>Condition</i>								
Control	26.27	(3.80)						
Treatment	23.08	(3.29)						

Table 7. Descriptives and Results (2x2 Factorial ANOVA) Change in Job Satisfaction

	Low Stress at Baseline		High Stress At Baseline	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
<i>Condition</i>				
Control	-0.07	(4.86)	0.66	(1.73)
Treatment	1.45	(4.04)	-0.43	(4.99)
<hr/>				
Model Results	<i>F</i>	<i>(df)</i>	<i>p</i>	ω^2
<i>Main Effects</i>				
Condition	.03	1	.87	.02
Stress Level Group	.22	1	.65	.01
<i>Interactions</i>				
Condition*Stress Level Group	1.09	1	.30	.01

Table 8. Descriptives and Results (2x2 Factorial ANOVA) Change in Teaching Efficacy

	Low Stress at Baseline		High Stress At Baseline	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
<i>Condition</i>				
Control	1.23	(2.86)	-1.21	(3.44)
Treatment	1.25	(5.03)	-1.07	(2.09)
<hr/>				
Model Results	<i>F</i>	<i>(df)</i>	<i>p</i>	ω^2
<i>Main Effects</i>				
Condition	0.01	1	.94	.02
Stress Level Group	5.03	1	.03	.09
<i>Interactions</i>				
Condition*Stress Level Group	0.00	1	.95	0.86

Table 9. Descriptives and Results (2x2 Factorial ANOVA) Change in Resilience

	Low Stress at Baseline		High Stress At Baseline	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
<i>Condition</i>				
Control	2.70	(2.72)	-0.33	(2.57)
Treatment	0.48	(3.46)	-0.60	(1.99)
<hr/>				
Model Results	<i>F</i>	<i>(df)</i>	<i>p</i>	ω^2
<i>Main Effects</i>				
Condition	2.28	1	.14	.02
Stress Level Group	6.22	1	.01	.02
<i>Interactions</i>				
Condition*Stress Level Group	1.39	1	.245	.007

Table 10. Descriptives and Results (2 x 2 Factorial ANOVA) Change in Perceived Stress

	Low Stress at Baseline		High Stress At Baseline	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
<i>Condition</i>				
Control	8.69	(3.82)	-0.55	(4.18)
Treatment	4.84	(5.56)	0.36	(3.79)
<hr/>				
Model Results	<i>F</i>	(<i>df</i>)	<i>p</i>	ω^2
<i>Main Effects</i>				
Condition	1.24	1	.27	.002
Stress Level Group	26.91	1	.00	.35
<i>Interactions</i>				
Condition*Stress Level Group	3.23	1	*.08	.03

*Approaching significance of .05

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