The Evaluation of an Emotions Education Training on Early Childhood Preservice Teachers'
Emotion-Related Awareness and Behaviors

by

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Abstract

This study examined the effectiveness of an emotions education program (SELF-AWARE) for preservice teachers on their emotional awareness and their emotion-related social behaviors when interacting with children at the Auburn University Early Learning Center (AUELC) as observed by Head Teachers. It was hypothesized that preservice teachers that received SELF-AWARE would have an increase in emotional awareness in comparison to a control group of students, and an increase in their emotion-related social behaviors in comparison to nonparticipating AUELC preservice. Regression analyses were conducted to examine how posttest scores of emotional awareness and emotion-related behaviors differed from pretest scores of those variables. Anxiety, attachment, and training dosage were included as control variables, along the interaction of condition and time. The regressions indicated an increase in emotional awareness and emotion-related behaviors irrespective of the condition. An interesting finding existed; reported insecure attachment was related to participants reporting a greater ability to describe their emotional experiences at posttest.

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Teachers' Emotion-Related Awareness and Behaviors

Over the last decade, there has been a burgeoning interest in understanding emotional experience and its associations with development, learning, and adaptive functioning. Researchers investigating these relationships have used different terms to describe the overarching abilities associated with emotion-related knowledge, behavior, and skills, such as emotional intelligence, social emotional competence, and meta-emotion philosophy.

Mayer and Salovey (1997) define emotional intelligence as involving "the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings to facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p. 10). They reference four branches of emotional intelligence: The first branch, perception, appraisal, and expression of emotion, focuses on abilities related to identifying emotions and emotional content. The second branch involves the use of emotional events to facilitate emotional processing, or the emotional facilitation of thinking. The third branch refers to the ability to understand emotions and to employ emotional knowledge. The final branch is the reflective regulation of emotions to promote emotional and intellectual growth. These emotion-related abilities and processes begin developing in early childhood "at the lowest branch" and increase in psychological complexity throughout life.

Another conceptualization of emotional experience involves categories of social emotional competence (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2008). In their review of these competencies as applied to classroom educators, Jennings and Greenberg (2009) describe the four sets of characteristics that define social emotional competence: self-awareness, social awareness, self-management, and relationship management. Self-awareness competencies include being able to recognize one's emotions and emotional patterns and know how to use those emotions to motivate oneself. Social awareness competencies include the recognition and accurate interpretation of emotional expression in others, perspective-taking, and empathy. Self-management competencies include the ability to manage emotional arousal, impulses, and behaviors. Relationship management competencies incorporate all of the previous competencies in the service of taking into account how one's actions and decisions affect relationships between oneself and others.

Another framework used to explain emotion-related behavior, specifically among parents, is what Gottman and colleagues (Gottman, Katz, & Hooven, 1996; Katz, Maliken, & Stettler, 2012) refer to as parental meta-emotion philosophy (PMEP). PMEP consists of a parents' set of thoughts and attitudes about emotions, and guides how they view their children's emotions and socialize their children to respond to emotional situations. An emotion-coaching, or emotion-accepting, philosophy uses emotions as a time for learning and coaching children through their emotions; in contrast, emotion-dismissive philosophies neglect to respond to children's emotions or dismiss or punish them.

Both philosophies mirror how adults themselves deal with emotions. Gottman, Katz, and Hooven (1996) found that children who are emotion coached at five years of age by their parents demonstrate more social competency at eight years of age compared to their counterparts. This

suggests that children who were emotion-coached from a young age came to possess tools that allow them to be in touch with and learn from their emotions during emotionally challenging situations (Gottman et al., 1996).

The idea that parents socialize their children's emotions through their own emotion regulation and expression is seen also in the work of Dix (1991), who described the effects of unregulated emotions on adults' abilities to effectively parent. Parental emotion regulation is an important variable impacting the regulation of parental communication with children, and in turn what reactions their children have. Dysregulated parental emotions can undermine the ability to effectively parent their children which can lead to overly positive, overly negative, or poorly timed responses (Dix, 1991).

While we have seen positive outcomes for children who have parents knowledgeable about their emotions, having an increased knowledge has also been associated with psychological and interpersonal benefits. Young adults who participated in emotional intelligence training reported increases in emotional intelligence along with an increase in life satisfaction, happiness, social functioning, accompanied by a decrease in somatic complaints (Nélis et al., 2011). Just as emotion-related competencies have consequences for the parent-child relationship and children's socialization, other adult-child relationships have been shown to enhance these competencies. The teacher-child relationship has also demonstrated impact in developing a children's socialization of emotion.

Teachers who are warm and supportive of their students foster better relationships with them and are able to handle the negative emotionality that can frequently arise in classrooms (Jennings & Greenberg, 2009). Emotionally competent teachers who are able to understand and appropriately manage their emotions are better able to foster those warm relationships despite

classroom stressors. Similarly, since the most challenging emotional events in classrooms typically involve emotionally dysregulated children, emotionally competent teachers can coach children through those emotions. Denham, Bassett, and Zinsser (2012) described the importance of teachers' ability to discuss their own emotions with children and react supportively to children's emotions. Teachers who discuss emotions with their students give them tools to help them express or regulate their emotions. Similarly, a teacher's positive reaction to student's emotions is related to the student's ability to regulate their emotions and their knowledge about emotions.

Swartz and McElwain (2012) suggested that preservice teachers (students who are receiving training on how to be an educator) should have emotion education training. They found that teachers who used a positive emotion regulating strategy (reappraisal) for their own emotions showed more positive, supportive responses to children's negative emotions, as opposed to nonsupportive responses. These teachers also held more positive beliefs about children's emotions. Given this, Swartz and McElwain suggested that emotion regulation of preservice teachers can be strengthened by training designed to increase awareness of teachers' emotions (2012).

Efforts to assist adults to change how they experience emotions have frequently focused on mindfulness training. Although mindfulness and emotions education programs both focus on emotions as important experiences in life, there are differences between the two approaches. Mindfulness training tends to enhance focus and awareness of emotions without judgment, whereas the emphasis of emotions education training is to increase individuals' understanding of their own and others' emotions, emotional self-management and emotion-coaching. While mindfulness can be incorporated into emotion education training it is a separate skill set.

Research on the effectiveness of mindfulness training for both teachers and parents has used both self-reported measures (e.g., of awareness and coping skills) as well as behavioral observations (e.g., of adult-child interactions). Mindfulness training has been shown to help teachers be more aware of their emotions and less judgmental of their emotional experiences. Teachers who received mindfulness trainings also improved their coping skills; skills that they in turn transferred to their students (Napoli, 2004). The Stress Management and Relaxation Techniques in Education mindfulness training program for teachers and parents also found similar increases in mindfulness, but found that teachers made greater increases in mindfulness than parents, suggesting the heightened importance of these programs for teachers (Benn, Akiva, Arel, & Roeser, 2012).

There are a number of mindfulness parenting programs, but few emotion education programs for adults. One emotions educations program for adults, Tuning in to Kids, was developed by Havighurst and colleagues (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010). They found that parents gained more emotional knowledge and that they were able to learn that emotional situations were a time to become close to their children. In terms of emotion education programs for teachers, Jennings, Foltz, Snowberg, Sim, and Kemeny (2011) created the Cultivating Emotional Balance program for teachers, which saw some changes in teachers, but also saw mixed results when utilizing larger, randomized samples. Results from the studies of teachers may be affected by the length of time that teachers have been teaching. Those who have been teaching for a number of years may have engrained patterns of behavior that makes emotions education programs more beneficial for preservice teachers who do not have such patterns.

It is important that preservice teachers receive emotions education training for a variety of reasons. First, preservice teachers have their own, potentially misguided, theories about the emotional development of children (Swartz & McElwain, 2012) that, left unchecked, can lead to inappropriate responses to children's emotional needs. Second, children's emotional competencies are critical to their ability to learn and relate well to others (CASEL, 2008); teachers are both models for and instructors of these competencies (Jennings & Greenerg, 2009). Third, teachers' emotional competencies are essential to the healthy emotional climate of the learning environment (Jennings & Greenberg, 2009). Furthermore, as the number of early education settings designed to address the needs of disadvantaged children expands, the ability of teachers to respond to and assist these children to manage their emotions becomes increasingly necessary when parents of these children do not have time to focus on nurturing the emotional knowledge of their children.

The purpose of the present study is to examine an emotions education training designed to increase emotional awareness and emotion-related behaviors in a sample of preservice teachers. Preservice teachers received the SELF-AWARE training program, a 6 hour training program that took place over 6 sessions within a college course focusing on effective child guidance. In early sessions, participants learned about the physiological and neurological aspects of emotions, in general, and engaged in activities that examined the physiology of their own "hot button" emotions and the interpretation of the thoughts and feelings that accompany those emotional signals. The training went on to focus on emotional literacy, building an emotion vocabulary, and interpreting and responding to one's emotional experience in the early childhood setting as informed by one's values and personal strengths. Subsequent sessions addressed skills associated with emotional self-management, the awareness of others' emotions,

and emotion coaching. The training delivered its content through the use of lecture, discussion, and small and large group activities.   For the purposes of this study, self-report and teacher observations of training participants were compared over time with information gathered from two groups of students not receiving the training.

Review of Literature

I reviewed the following literature that focuses on emotion and various emotions education programs in the form of mindfulness, along with the few existing emotions education programs. I begin by providing the theoretical background by which this research is guided, and then move to reviewing previous programs that focused on assessing and changing emotion-related knowledge and behaviors of parents and teachers, and in some cases their students or children.

Theoretical Background

Key ideas and concepts guide the thinking about emotional experience in the current study. In general, emotions play a functional role in daily life, serving as signals of our evaluations about the world around us (Campos, Mumme, Kermoian, & Campos, 1994). Through emotion-regulation, emotions can be avoided, displaced, transformed, minimized, inhibited, or intensified (Campos et al., 1994). Attachment theory looks towards emotions as fundamentally important for emotion regulation strategies later in life. Children learn those strategies by attempting to maintain proximity to a caregiver in a stressful situation, and in turn co-create either a secure or insecure attachment. Those with a secure attachment to their caregivers regulate distress with strategies that seek comfort and support (Keiley, 2002). Those with an insecure attachment have caregivers who are unavailable, rejecting, or inconsistent, and inhibit children's abilities to regulate affect. Avoidant-insecure attached individuals have learned to restrict communication of anger and distress. Ambivalent-insecure attached individuals, in contrast, heighten distress via anger and fear.

Mindfulness Training for Teachers and Parents

Swartz and McElwain (2012) examined the relationship between preservice teachers'
emotion regulation styles and cognitions, and the behaviors they demonstrated in response to
children's emotionality in the classroom. The researchers expected that teachers who reported
using reappraisal strategies when dealing with their own emotions would provide supportive
responses to children, while teachers who reported using more suppression strategies would
provide less supportive responses. They also expected that reporting more accepting beliefs
about emotions and having higher levels of perspective taking would be associated with
providing more supportive responses to children's emotions.

They hypothesized moderate associations between teacher's cognitions about emotions
and responses to children's emotions, and that emotion regulation and cognition would
contribute to teacher's responses to children's negative emotions. Researchers observed 24
teachers at least four times over a semester-long practicum at an accredited university early
childhood center, live coding children's emotional displays (as positive, negative-sadness, and
negative-anger) and corresponding teacher behaviors. Observers coded teachers' affect
matching, physical affection, problem solving with the children, labeling emotions for the
children, providing verbal support, discouraging emotion, distracting, seeking support from
another teacher, or no response at. Teachers also completed questionnaires that assessed their
emotion-regulation style (using the 10-item Emotion Regulation Questionnaire; Gross & John,
2003) and emotion cognition (using the 40-item Caregivers' Beliefs About Feelings
Questionnaire; Hyson & Lee, 1996).

Results showed that preservice teachers responded to children's positive and negative
emotions, but verbal support was more frequently used in response to negative emotions while

teachers matched positive emotions. When nonsupportive responses to negative emotions were used, the most common behaviors were to either discourage the children's emotion or not to respond to it. Teachers who reported more frequent use of reappraisal self-regulation strategies, and were more likely to show supportive responses to children's negative emotions, and higher acceptance of beliefs about children's emotions, and less likely to exhibit nonsupportive responses to children's positive emotions. Because, preservice teachers with more emotional knowledge exhibited supportive emotional behaviors, Swartz and McElwain (2012) recommended that preservice teachers receive training about emotion regulation and how to become more aware of their emotions and their emotion-related cognitions about children's emotionality.

Recently, research has been conducted on mindfulness training programs with both teachers and parents. Mindfulness entails increasing the awareness of your physical, physiological, and emotional experience of the world and acceptance of this experience. The following section reviews the research on mindfulness training interventions targeting teachers and parents that have been designed to decrease psychological symptoms, physiological symptoms, and occupational stress and burnout, with the objective of changing how parents and teachers interact with children. Some of these programs derive from Mindfulness Based Stress Reduction (MBSR; Kabat-Zinn, 1982), while others are adapted from behavioral interventions to include mindfulness components. Mindfulness has recently come to the forefront for educators and parents, so the literature presented is recent and includes small sample sizes, pilot studies, and in some cases qualitative results.

One such study, Napoli (2004), studied the effects of a mindfulness training program on teacher's behaviors and perception of their students and also in their personal lives among a

small sample of one fourth grade and 2 third grade teachers. A semi-structured 90 minute post-training interview was designed to assess if the teachers benefited from being mindful and if they were able to use mindfulness practices in their personal and professional lives. Three teachers and their classes of students received bimonthly mindfulness training in the classroom for over a year. In addition, the teachers received 150 hours per week of "intensive" mindfulness training for eight weeks. The classes were structured to include meditation, body scan, movement, feedback on homework assignments, and group discussion about mindfulness. There was also on 8-hour day of silence included in the training.

Themes that emerged from teachers' qualitative data included being better able to deal with conflict and anxiety by using breathing techniques, an improved quality of teacher's personal life, and potential changes in the classroom. Teachers reported that being able to deal with conflict and anxiety using breathing techniques was the most beneficial for students. Students were able to reduce testing anxiety, enable better decision-making during conflicts, and help to redirect attention when off task. Napoli concluded "if teachers practice mindfulness, they are better able to cope themselves and to transfer these skills to their students to help them focus and reduce stress" (Napoli, 2004, p. 34).

Gold, Smith, Hopper, Herne, Tansey, and Hulland (2010) conducted a mindfulness study as part of a two-part project: (1) to train teachers to be more mindful; and (2) to use those teachers to teach mindfulness to their pupils. In their study, 11 primary school teachers participated in an 8-week course taught by a trained MBSR teacher. Teachers in this study also had a silent day for five hours. The researchers looked at emotional status, stress level, and mindfulness. Mindfulness was studied using the Kentucky Inventory of Mindfulness Skills (Baer, Smith, & Allen, 2004), a 39-item self-report measure that contains four subscales related

to mindfulness: Observe, Describe, Act with Awareness, and Accept Without Judgment. Researchers concluded that the sample did not have any statistically significant improvements on anxiety, but did exhibit decreasing amounts of depression (2010). Comparing before and after the MBSR training, teachers scored higher on the Accept Without Judgment subscale and total mindfulness score, but other subscales did not reach significance. These teachers were able to be more mindful overall and more accepting of their emotional experience.

Flook, Goldberg, Pinger, Bonus, and Davidson (2013) examined a mindfulness training program developed for teachers, assessing changes in mindfulness and other psychological and teacher-related outcomes such as burnout and effective classroom practices. To do this, researchers studied 18 elementary school teachers who were divided into a 10-teacher intervention group and an 8-teacher waitlist control group. The teachers receiving the intervention participated in an 8-week Mindfulness-Based Stress Reduction training that was modified to add more sessions, guided practice, and school-related activities. Psychological distress, mindfulness and self-compassion, and burnout were measured using self-report measures; while teacher classroom behaviors were observed using coding techniques outlined in the Classroom Assessment Scoring System (CLASS). Sustained attention and affective attentional bias were measured using a battery of neurocognitive tests. Cortisol levels were measured by taking saliva samples over a span of three days. These measures were administered before the program, observational data were collected during training program, and posttest data were collected during three weeks after the program ended.

Mindfulness was measured using the Five-Facet Mindfulness Scale (Baer et al., 2008), a 39-item scale that includes five subscales mirroring dimensions of mindfulness: Observation of Sensation, Feeling, and Thought; Noticing and Describing Experience with Words;

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Nonjudgment of Experience; Nonreactivity to Experience; and Acting with Awareness. Participants also recorded the amounts of formal and informal meditation practice they did in practice logs.

The intervention group showed an increase in mindfulness from pre-intervention to post-intervention on the Observe and Describe subscales. They also exhibited better observer-rated classroom behavior as evidenced by better CLASS scores on the Classroom Organization subscale. Teachers who received the intervention experienced a significant decrease in psychological symptoms and a decrease in burnout. From this relatively small sample, researchers concluded that teachers were able to observe their bodily sensations and describe their experiences with words after being a part of a mindfulness intervention. They were in turn better able to control themselves in the classroom.

Benn, Akiva, Arel, and Roeser (2012) implemented mindfulness training for 35 teachers and 25 parents of children in special education in elementary, middle, and high school. The expectation was that the training would foster mindfulness, increase well-being, decrease stress and symptomatic distress, and provide positive changes in relational and caregiving competence. Researchers used the SMART-in-Education program (Stress Management and Relaxation Techniques; Cullen & Wallace, 2010) taught in nine two-and-a-half hour sessions in addition to two full-day sessions over five weeks. This program mirrored Kabat-Zinn's Mindfulness-Based Stress Reduction and included more content focusing on "emotion theory and regulation, forgiveness, kindness and compassion, and the application of mindfulness to parenting and teaching" (Benn et al., 2012, p. 1479). The effects of this intervention on a treatment group and a randomized waitlist control group were monitored at three time time-points: baseline (one

week prior to mindfulness training), completion (one week after training), and a follow-up two months after training.

Researchers included measures to assess stress, symptomatic distress, personal growth, self-compassion, forgiveness, empathic concern, teaching self-efficacy, emotion regulation self-efficacy, parenting self-efficacy, and the quality of parent-child interaction. Researchers measured mindfulness using the Five Facet Mindfulness Questionnaire (Baer et al., 2008). Positive and negative affect were measured using the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), a 20-item self-report measure asking respondents about their positive and negative moods throughout the week. At the one-week completion and follow-up time points, the treatment group showed higher levels of well-being as indicated by all measures compared with the control group. Although the subscale scores for mindfulness were not reported, the researchers concluded that mindfulness training helped increase participants' abilities to be more aware and present to their surroundings, and to notice their physical sensations and internal mental processes. In addition, they were more descriptive of their experiences and less judgmental.

Roeser et al. (2013) examined whether teachers could learn and apply mindfulness skills in order to reduce stress and feelings of burnout in their professional lives. To examine this, 58 Canadian and 55 American public school teachers participated in an 8-week mindfulness training program with an intervention and a randomized waitlist-control group. These teachers participated in the same program previously used by Benn et al. (2012). A self-report measure of mindfulness was used in this study and was taken at three time points: baseline, post-intervention, and a subsequent follow-up three months later. Mindfulness was assessed using the Five Factor Mindfulness Questionnaire (Baer et al., 2008). Teachers reported greater overall

levels of mindfulness on the Five Factor Mindfulness Questionnaire at post-intervention 3 month follow-up and greater occupational self-compassion at 3 month follow-up for teachers in the United States (Roeser et al., 2013). Teachers who received the intervention also reported slightly less occupational stress and burnout at post-intervention and at a follow-up three months later.

Studies that utilized mindfulness training for teachers presented similar results. Teachers self-reported that they were more observant and were more descriptive when describing their emotions. Teachers also reported being able to accept their emotions. In addition to these aspects of mindfulness, teachers experienced a decrease in psychological symptoms and burnout, and their classrooms had improved behaviors. This provides implications for the current study would be able to better control their classrooms and have better psychological outcomes. Researchers have also examined mindfulness training for parents. The following section reviews this work.

Altmaier and Maloney (2007) evaluated a mindfulness training program intended to assist parents to become more aware of their own responses and to become better connected with their children. The Mindful Parenting Program is a 15-hour training program that was delivered to a group of 12 parents, ages 24-47, over a period of 12 weeks. Parents who participated in the program learned to be mindful by using meditation, breathing, body awareness, and centering, behaviors intended to aid parents in becoming more aware of how their responses influence their actions (2007). Researchers evaluated the effectiveness of the program by looking at changes in mindfulness using the Toronto Mindfulness Scale (Lau et al., 2006), a 10-item self-report measure. They evaluated parent-child connectedness using the Parenting Stress-Index Short Form (Abidin, 1995) and observational coding of dyadic processes and parental responsiveness, reflection, and validation at pre- and post-intervention. The researchers found that 50% of their

sample practiced some amount of mindfulness daily throughout the study, but the amount of time they did so was not related to a higher post-treatment mindfulness scores. Although overall mindfulness scores increased, no significant differences were found on the Parenting Stress-Index Short Form or on the behavioral observation measure.

Duncan, Coatsworth, and Greenberg (2009) used an evidence-based preventive parenting intervention with an added component of mindfulness to assess if parents of adolescent girls were receptive to mindful parenting and mindfulness. In a separate study by researchers, mindful parenting was defined as developing parenting skills across five dimensions related to mindfulness: listening with full attention, nonjudgmental acceptance of the parent and child, emotional awareness of the parent and child, parental self-regulation, and compassion for the parent and child (Duncan, Coatsworth, and Greenberg, 2009). To teach parents mindfulness and mindful parenting, the researchers added five new activities into an already established program for behavioral intervention, The Strengthening Families Program: For Parents and Youth 10-14. The five new activities included listening with full attention, learning about emotional awareness of self and child, self-regulation in the parenting relationship, nonjudgmental acceptance of the self and child, and compassion for the self and child (2009). Five families of adolescent girls participated in this program for 2 hours per night for seven weeks, with both parents and the adolescents participating in the program. Parents noticed that they were less reactive in interactions with their children and had greater awareness of how their emotions affect their reactions. Parents found that they were also able to stop and think before reacting. Overall, using this program was helpful for parents in terms of changing how parents perceived that they were reacting to their children.

In sum, Duncan et al. (2009) and Altmaier and Maloney (2007) both studied mindfulness training program for parents, and similar to research with teachers, found mixed results in terms of reactions of parents. The qualitative reports of parents who participated in the Strengthening Families Program and learned about emotional awareness, regulation, non-judgment, and compassion in addition to a behavioral intervention indicated that they were less reactive and aware. Quantitative results from Altmaier and Maloney (2007) showed that parents increased in self-reported awareness and decreased in reactivity, but these changes were not associated with the quality of parents' interactions with their children.

These studies all include an aspect of mindfulness training. These mindfulness interventions involve teaching the parents and teachers acceptance of their emotions in addition to nonjudgment of emotions and using meditation and other mindful practices to help foster that practice. The following studies discuss emotional education programs for teachers and parents that emphasize increasing emotional competence by learning emotional self-awareness and self-regulation.

Emotions Education Programs for Adults

Jennings, Foltz, Snowberg, Sim, and Kemeny (2011) conducted two studies that addressed the effects of the Cultivating Emotional Balance (CEB) program, an emotions education program designed to increase teachers' well-being and their social and emotional competence. The researchers described social and emotional competence in terms of five domains, of which the CEB program highlights self-awareness, self-management, and social awareness. The 8-week program combined secularized meditation practices with training focusing on attention, emotional awareness of oneself and others, and empathy. It emphasized experiential practices and assigned homework related to meditation and emotion.

The first study was designed to examine whether 13 preschool and primary school teachers who were part of a larger group of teachers who had previously participated in the CEB program had a more positive classroom climate compared to 8 teachers who had not participated in the CEB. Classroom climate was observed and rated using the Classroom Assessment Scoring System (CLASS; La Paro & Pianta, 2003) and the Classroom Atmosphere Rating Scale (CARS; Conduct Problems Prevention Research Group, 1999). The CLASS is a rating system that assesses 3 factors of the classroom climate: social/emotional climate, classroom management, and quality of instruction. The CARS assesses child behavior in the classroom in terms of disruptive behavior and compliance; cooperation, communication and problem solving; and interest level, focus, responsiveness. Researchers utilized Mann-Whitney U nonparametric tests due to small subgroup sizes, and thus median scores were reported. Results showed that teachers in the intervention group had higher median scores on the productivity subscale of the CLASS classrooms than the control classroom, but these differences were not statistically significant (2011). Similarly, intervention classrooms were better able to handle transitions as indicated by the CARS, but statistically, the difference was marginal.

The second study was a randomized control trial of the CEB program that assessed the instructional quality and psychological well-being of a new sample of 23 preschool and primary school teachers both before and after the CEB intervention for treatment and control groups. In addition to the CLASS assessment, researchers measured well-being using the Beck Depression Inventory (Beck, Rial, & Rickets, 1974), Rumination-Reflection Questionnaire (Trapnell & Campbell, 1999), Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1998), and Trait Anxiety Inventory (Spielberger, O'Neil, & Hansen, 1970). Mindfulness was assessed using the Mindfulness Attention Awareness Scale (Brown & Ryan, 2003) and the Five Facet

Mindfulness Questionnaire (Baer et al., 2008). Teachers also participated in a semi-structured interview about a "challenging student," that was coded according to the nine dimensions (outlined in the Teacher Relationship Interview; Stuhlman & Pianta, 2002): Sensitivity of discipline, teacher's role as secure base, perspective-taking, neutralizing negative affect, agency/intentionality, helplessness, anger/hostility, positive affect, and coherence. These assessments were collected pre- and post-intervention.

The second pilot study yielded only a few significant pre-to-post differences: the intervention group reported less negative affect and higher levels of mindful observing at post-intervention and higher levels of mindful observing at 3-month follow-up. There was no evidence that CEB participation resulted in affecting how teachers interacted with their students or managed their classrooms (Jennings et al, 2011). In summary, the CEB training helped teachers be more mindful overall and emotionally observant. There was little significant change in classroom climate with the exception of gains in classroom productivity and better handling of transitions.

Havighurst, Wilson, Harley, Prior, and Kehoe (2010) researched 207 mothers and 9 fathers of mostly intact families who participated in the Tuning in to Kids parenting program (Havighurst & Harley, 2007), a 6-week program with two "booster sessions" bimonthly after the training program was complete. In Tuning In To Kids, Havighurst and Harley taught parents five steps of emotion coaching presented by Gottman and Declaire (1997) through psycho-education and experiential exercises. Parents were taught to become more aware of the physiology of their own emotions, as well as their children's. They were also taught self-emotional regulation skills and reflection on their own family of origin. Researchers assessed if parent's self-awareness, emotional regulation, and emotion coaching was improved after the

program, as well as if changes occurred in the children's behavior (Havighurst et al., 2010). In order to measure these outcomes, a number of self-report measures as well as observational assessments were used for both parents and children. Self-report measures were collected pre-intervention, post-intervention, and 6 month follow-up for parents and pre-intervention and 6 month follow-up for teachers who also gave reports of children's behavior. Observed emotional behaviors were collected at pre-intervention and 6 month follow-up.

Parents completed Difficulties in Emotional Regulation Scale (DERS; Gratz & Roemer, 2004), a 36-item questionnaire that measures acceptance of emotions, ability to engage in goal-directed behavior when distressed, impulse control, awareness of emotions, access to strategies for regulation, and clarity of emotion. Parents' emotion coaching and beliefs about their children's emotions were measured using a 21-item modified version of the Maternal Emotional Style Questionnaire (MESQ: Lagacé-Séguin & Coplan, 2005). This measure asks mothers to rate how they cope with their child's negative emotions (sadness and anger) and determines whether it is done via emotion dismissing or emotion coaching. Parents' empathy and emotional connection to their children was measured using 5-items from the previously created Parental Emotion Style Questionnaire intended to measure empathy and connection.

In addition, emotion coaching was observed using a structured parent-child storytelling task where they were asked to act out four emotional events that were designed to elicit fear, anger, sadness, and happiness in the children. These interactions were coded for parents' use of "emotion labels" and how often parents asked their children to label emotions, what causes them, and what happened during and emotional event. Children's emotional knowledge was assessed using the subtests of the Emotion Skills Tasks (Denham, 1986) that measured causal knowledge of emotion and emotional identification and knowledge about situational resolution. Children's

behavior was assessed by parents and teachers using the Eyberg Child Behavior Inventory 6 (ECBI; Eyberg & Pincus, 1999), a 36-item scale of conduct behaviors.

Havighurst et al. (2010) found a number of statistically significant parental outcomes. Parents in the intervention group reported statistical improvement in emotional awareness and regulation at 6 month follow up. Parents also reported being more empathic, less dismissive, and using more emotion coaching at post-intervention and at follow-up. They were also observed to use more emotion labels and exploration of emotion at follow-up. In terms of child outcomes, researchers found statistically significant for improvement in emotion knowledge throughout the study. They also found that children whose parents were involved in the training program had better observed emotion knowledge at follow-up than children whose parents were in the waitlist control group, and reduced behavior problems as reported by parents and teachers.

Effects of Emotional Intelligence Interventions

Nélis, Quoidbach, Mikolajczak, and Hansenne (2009) examined the benefits of a training program designed to improve young adults' emotional intelligence. The four sessions of training took place over a four-week period with each session lasting two and a half hours. The training was based on the four-branch model of emotional intelligence by Mayer and Salovey (1997). A group of 19 participants with a mean age of 21 years participated in the training group and 18 participants made up a control group that did not receive any training. Self-report measures were used and collected prior to training sessions, after the training sessions, and at 6-month follow-up. Emotional intelligence was assessed using the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2009), a 153-item questionnaire that assesses global trait emotional intelligence, along with four factors (well-being, self-control, emotionality, and sociability) and 15 subscales of emotional intelligence. Emotion regulation was measured using the Emotion

Regulation Profile Questionnaire (ERP-Q; Nélis, Quoidbach, Hansenne, & Mikolajczak, in-preparation), which uses vignettes to determine potential reactions to adaptive or maladaptive reactions to emotional situations.

Strategies that were considered adaptive included positive reappraisal, social support seeking, and acceptance. Maladaptive strategies included avoidance, substance abuse, and rumination. Emotion regulation was assessed using the Emotion Management Abilities (EMA; Freudenthaler & Neubauer, 2005), a 42-item measure that assesses the interpersonal and intrapersonal management of emotions. The ability to identify emotions was assessed using the Dimensions of Openness to Emotional Experiences – Trait Version (DOE; Reicherts, 1999) and the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, &Taylor, 1994). The Dimensions of Openness to Emotional Experiences scale is a 36-item questionnaire that assesses emotion processing in 6 dimensions: emotion processing, communication and expression of emotions, perceptions of internal and external bodily indicators, emotion regulation, and limitations of emotional openness. The Toronto Alexithymia Scale is a 20-item sale that assesses difficulty in identifying and describing emotions, and external oriented thinking. Finally, emotional understanding was measured using the Situational Test of Emotional Understanding (STEU; MacCann & Roberts, 2008); a 42-item measure that allows participants to choose which emotions would be elicited in described emotional situations.

Researchers found an increase in emotional intelligence, adaptive emotion regulation strategies, emotion management abilities, and were more able to identify emotions, and a decrease in difficulty identifying emotions pre-training to post-training. There were no significant increases or decreases from post training to 6-month follow up, suggesting that increased competencies were long lasting. The researchers did not find any changes in

emotional understanding, but suggested that perhaps the STEU does not predict changes based on the types of training sessions given to participants.

Pool and Qualter (2012) added to Nélis et al.'s (2009) work by incorporating a larger, more diverse sample size, and including a control group.   A total of 11 weekly 2-hour training modules were given to university students. Training that utilized lectures, case studies, and experiential techniques to teach participants the four branch model of emotional intelligence (Mayer & Salovey, 1997). Researchers assigned participants a journal, essay, and case study report to assess participants formally for class participation. The training was given to 66 participants, while 68 participants were in the control group. Emotional intelligence and emotional self-efficacy were assessed at pre- and post-intervention using the online version of the Mayer-Salovey-Caruso Emotional Intelligence Test Version 2.0 (MSCEIT; Mayer, Salovey, & Caruso, 2003) and a modified version of the Emotional Self-Efficacy Scale (ESES; Kirk, Schutte, & Hine 2008), respectively. The MSCEIT is a 141-item measure that assesses the four branches of emotional intelligence created by Mayer and Salovey. The ESES in the current study was a 27-item measure that created four subscales of emotional self-efficacy that were described by researchers as "using and managing own emotions, identifying and understanding own emotions, dealing with emotions in others, and perceiving emotion through facial expressions and body language" (2008). Cognitive ability was also assessed using grade point average from participant's first year in school.

Researchers found significant differences in understanding and managing emotions for the intervention group, along with significant results for identifying, understanding, using and managing one's own emotions, dealing with emotions in others, and using physical cues to determine emotions of others. Results indicated that the two groups had similar understanding of

emotions pre-intervention, but that the intervention group made improvements post-intervention. Intervention group differences in ESES subscales of Using and Managing, as well as, Identifying and Understanding Own Emotions was non-significant pre-intervention between the intervention and control group, the intervention group increased significantly post-intervention, signifying that the intervention group experienced themselves as better able to understand and manage their emotions in the long term. The Dealing With Emotions in Others subscale pre-intervention was significantly lower among the intervention group, but at post-intervention showed a non-significant difference, suggesting that initial deficits in emotional self-efficacy in this area were remediated by the intervention (2012). Perceiving Emotion Through Facial Expression and Body Language subscale of the ESES was not significant between either groups at time 1, but significantly improved for the intervention group.

Nélis et al. (2009) and Pool and Qualter (2012) assessed emotional intelligence of young adults after emotional intelligence trainings. Both studies found significant changes in emotional knowledge of themselves and others, while Nélis et al. (2009) also found changes in emotion regulation. These changes in emotional knowledge and regulation were sustained post-intervention.

Nélis et al. (2011) conducted two studies of undergraduates who participated in an 18-hour training intervention that focused on knowledge about emotions and training them in emotion-related skills. The authors hypothesized that these sessions would enhance specific emotional competence in understanding and regulating emotions, identifying one's own and other's emotions, and would enhance well-being by fostering positive emotions. The intervention took place either over three 6-hour sessions or six 3-hour sessions and utilized lectures, discussions, role-playing games, and dyadic work. Following the intervention,

participants received e-mail reminders that emphasized theories discussed in training and offering practice exercises. The researchers investigated the effects of this emotional competency training via two studies. Study 1 involved 58 undergraduates in an intervention group and a control group. The purpose of this study was to investigate whether or not emotion competence could be changed among young adults, and if this training could lead to changes in personality traits. A number of self-report measures were used to assess emotional competence, emotion regulation and understanding, and personality traits. Global emotional competence and emotional understanding were measured using the Trait Emotional Intelligence Questionnaire (Petrides & Furnham, 2003) and Situational Test of Emotional Understanding (MacCann & Roberts, 2008). Emotion regulation was measured using the Emotion Regulation Profile– Revised (ERP-R; Mikolajczak, Nélis, Hansenne, & Quoidbach, 2008; Nélis, Quoidbach, Hansenne, & Mikolajczak, in press). Personality was assessed using the revised NEO Five-Factor Inventory (NEO-FFI-R; McCrae & Costa, 2004). These measures were taken at pre-intervention, post-intervention after a 6-week Internet follow-up, and at 6-month follow-up. Researchers found significant interactions in the training group at pre-intervention, post-intervention, and follow-up for global emotional competence, emotion regulation, and emotion understanding.

Study 2, involving 92 undergraduate students was designed to replicate Study 1 and included new measures of psychological, social, somatic, and work adjustment. It added a drama improvisation group in order to eliminate any influences that group leaders or dynamics may have introduced in Study 1. Each of the three groups of students chose to participate in either the emotional intelligence group or the drama improvisation group. Emotional intelligence and adjustment was measured using both self-reports and observer reports. Global emotional

inelligence was assessed using the 30-item short form of the Trait Emotional Intelligence Questionnaire (TEIQue-SF; Petrides & Furnham, 2006). Peer reports of global emotional intelligence were assessed using the Trait Emotional Intelligence Questionnaire-360-Short Form (TEIQue 360°-SF; Petrides, Niven, & Mouskounti, 2006). A close friend or relative completed the 15-item measure that represents 15 dimensions from the TEIQue (Petrides, 2009). Emotion regulation was measured using the ERP-Q (Mikolajczak et al., 2008). Measures of psychological, social, somatic, and work adjustment were assessed using a number of self-report measures. Psychological adjustment was measured using the 53-item self-report Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). Participants assessed their own happiness and overall life satisfaction using the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) and Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Social adjustment was self-reported using a 17-item measure designed by researchers to assess relationship quality, social support, and proficiency in social relationships. These measures were taken pre-intervention and after 6-week follow-up.

Researchers found that those participants who received the emotion competency training had an increase in self-reported and observer-reported emotional competence and emotion regulation from pre-intervention to post-intervention. They experienced an increase in happiness, life satisfaction, and social functioning; while also experiencing a decrease in somatic complaints and psychological symptoms. The drama improvisation group also experienced significant increases in happiness and social functioning, marginally significant increases in life satisfaction, and marginally significant decreases in somatic complaints and psychological symptoms. Given that there were no significant differences for any emotional competence measures or employability, between groups researchers concluded that beneficial outcomes

couldn't be explained by "experimenter demand, expectation of improvement, or other group processes" (Nélis et al., 2011, p. 361).

Kotsou, Nélis, Gregoire, and Mikolajczak (2011) examined the long-term effects of an emotion intelligence training, and whether age, sex, IQ, and baseline levels of emotional intelligence moderate the effects of training. The researchers expected an increase in emotional intelligence and an improvement in social, psychological, and somatic adjustment. A treatment group of 72 participants, and 60 wait-list controlled participants received an emotional competency training using behavioral and experiential teaching methods over a 15-hour, two-and-half-day program. This program was aimed at helping individuals to observe, recognize, and understand relationships between emotions, thoughts, actions, and habitual responses, use various emotion regulation strategies in appropriate contexts, listen to and express emotions in relevant contexts, and use emotions to clarify needs and priorities.

Researchers found significant increases in emotional intelligence as measured by the Trait Emotional Intelligence Questionnaire–Short Form and the Trait Emotional Intelligence Questionnaire–360 –Short Form, two self-report and informant-report scores. These changes were still significant one year post-intervention. The intervention group had significant decreases in stress (via self-report measures and cortisol levels) and somatic complaints and experienced a significant increase life satisfaction and self- and informant-reports of quality of interpersonal relationships (Kotsou et al., 2011). Taken together, Kotsou et al. (2011) and Nélis et al. (2011) suggest that emotional intelligence training can be effective in achieving both short-term and long-term changes in emotional intelligence, stress reduction, relationship quality, and life satisfaction.

SELF-AWARE Program

The SELF-AWARE training program is a 6-hour training program, which was given to preservice teachers in six 50-minute class meetings. There were two parts to the training. The first part involved an overview of current understandings about emotions, including an examination of their physiological and neurological bases and the social and linguistic aspects that contribute to their interpretation. Activities encouraged participants to explore their own physiological signs of emotional arousal, emotional literacy, and emotions as signals of their beliefs, values, preferences, needs, and wants. The second part of the training involved building the skills that are associated with being socially emotionally competent, as defined by CASEL (2008), involving self-awareness, self-management, and social awareness.

The Current Study

Given some of the research presented focusing on teachers' emotional knowledge, we expected there might be limited change in the present study. The literature presented includes programs that were long lasting -- ranging from 8-week programs to 12-week programs in contrast to the SELF-AWARE program used in this study, which was administered over 2 weeks with 6 hours in total. We also expected some differences in the results of this study, compared to previous studies, as a consequence of examining a training delivered to a sample of inexperienced preservice teachers, as opposed to the typically studied samples of classroom teachers. These teachers have previous experiences, behavior patterns, and habitual ways of responding to emotion events in the classroom, and thus it may be that these patterns are more difficult to change. We might expect preservice teachers would not have these previous teaching experiences and would have behaviors that were more amenable to change. We believe that this sample of preservice teachers might, however, also be more amenable to change because they

also received guided practice from experienced teachers in the Auburn University Early Learning Center in addition to the 6-hour SELF-AWARE training program.

Research Questions

Previous research shows that adults can change the way that they experience their emotions. However, although some studies reported that teachers were more observant and better at describing their emotions as a result of emotions education or mindfulness training, there were no observed changes in teacher behaviors in the classroom. Most of the current research has investigated the benefits of being able to change experiences of emotions in teachers, as opposed to preservice teachers. Thus, the current study intends to investigate if an emotions education program (i.e., SELF-AWARE) given to preservice teachers changes their emotional awareness and emotion-related behaviors. A treatment group of preservice teachers will receive the training, while two control groups will not. Study hypotheses are as follows:

H1: We expect emotional awareness to increase from pre-training to post-training for the treatment group.

H2: We expect emotional awareness to increase more for the treatment group in comparison to the control groups of both participating students and non-participating preservice teachers.

H3: We expect that emotion-related behaviors, as observed by preservice teachers' supervisors, will increase from pre-training to post-training for the treatment group.

H4: We expect that emotion-related behaviors, as observed by preservice teachers' supervisors, will increase more for the treatment group when compared to a control group of non-participating preservice teachers.

Method

Participants

The participants in this study were recruited from classes in the Human Development and Family Studies Department (HDFS), including preservice teachers who were receiving training at the Auburn University Early Learning Center (AUELC). Forty-five preservice teachers working in the AUELC a minimum of 4 hours per week were invited to participate in the SELF-AWARE training, and 24 agreed to participate. These preservice teachers were also students in the course in which the training was provided as part of course content during the Spring semester of 2014. A total of 22 of these students completed both pre- and posttest surveys. Of the 69 students recruited as control group participants from a human sexuality course, 37 students completed both pre- and posttest surveys.

The demographic information for this sample is presented in Table A1. The overall sample had an average of 21.6 years old ($SD = 3.44$), with a range of 19 to 44 years old. Approximately 98% were females, while 91% identified themselves to be White or Caucasian. Their average grade point average (GPA) ranged from 2.25 - 3.98, averaging at 3.15 ($SD = .44$). The treatment group had an average age of 22.7 years old ($SD = 5.09$), with ages ranging from 20 to 44 years old. This group was comprised of females only, with 95.5% identifying themselves to be White or Caucasian. They had an average GPA of 3.07 ($SD = .45$; range = 2.25 – 3.92). The average age of the HDFS control group was 20.8 years old ($SD = 1.31$), with ages ranging from 19 to 25 years old. The group was 97.1% female with 88.2% of the group

identifying as White or Caucasian. This control group had a mean GPA of 3.23 ($SD = .43$)

ranging from 2.35 to 3.98

Procedures

Data were collected as a part of a broader study investigating changes across a range of

emotion-related constructs as a result of the Self-Aware training. Treatment group participants

consisted of students who were enrolled in HDFS 3460 for the Spring 2014 semester that

automatically received the training as part of their course requirements.   The two control groups

consisted of students who did not receive the SELF-AWARE training: (1) the AUELC control

group containing preservice teachers at the AUELC who were invited to participate in the SELF-

AWARE training but chose not to do so; and (2) the HDFS control group, recruited from a

Human Sexuality course and consisting of students who did not work at the AUELC. Study

participants were recruited by the principal investigator, who went to their classes, described the

study, reviewed the informed consent process, noted potential risks and incentives, and invited

them to participate. Those who chose to participate in the study received incentives through

potential extra credit points and a $20 iTunes e-gift card. Students received two copies of the

Informed Consent form, one to keep for their records and the other to submit (signed if they

decided to participate, unsigned if they did not). A graduate student handled the forms in order

to keep students' identity anonymous to the principal investigator and AUELC teachers.

The SELF-AWARE training program was given to treatment group participants for 6 50-

minute class meetings. Approximately one week prior to the training, both the treatment and

control groups were given electronic versions of the pretest survey via e-mail and were given one

week to complete the survey. Five weeks post-training, electronic posttest survey assessments

were sent via e-mail. Again, students were given approximately one week to complete this

survey. AUELC head teachers also made behavioral observations of the treatment group and AUELC control group. These observations were made by teachers of each of their students one week prior to receiving the training. Teachers then observed students again six weeks post-training.

Measures

 Emotional Awareness. The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), a 39-item measure that divides elements of mindfulness into five subscales, was used to measure emotional awareness. Participants were instructed to indicate their opinion of what is true for them from *never or rarely true* (1) to *very often or always true* (5) for each item. Emotional awareness in this study was measured using the Observing and Describing subscales. The Observing subscale consists of 8 items such as "When I'm walking, I deliberately notice the sensations of my body moving," and "I pay attention to sensations, such as the wind in my hair or sun on my face." The Describing subscale contains 8 items, three of which are reverse coded as instructed in Baer et al. (2006): "it's hard for me to find the words to describe what I'm thinking," "I have trouble thinking of the right words to express how I feel about things," and "When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words." These items were summed to create a subscale total. For the current study, this measure was found to be reliable at pre- and posttest surveys with a Cronbach's alpha of .83, and .89, respectively. Both subscales were also found to be reliable. At pretest, the Observing subscale had an alpha of .80; and the Describing subscale had an alpha of .88. Posttest alphas were similar, with the Observing subscale having an alpha of .88 and the Describing subscale having an alpha of .86.

Emotion Related Behaviors. Preservice teachers were assessed by AUELC head teachers using a scale created for this study adapted from Kremenitzer (2005). The 15-items in this measure are based on three of the four branches of Mayer and Salovey's emotional intelligence framework: the perception, appraisal, and expression of emotion; understanding and analyzing emotions; and reflective regulation of emotions. Examples of items observed include: "Engages with children when they are experiencing HIGH intensity NEGATIVE emotions," "Perceives children's LOW intensity POSITIVE emotions (e.g., excitement, enthusiasm, delight, joy)," and "In response to a child's emotions, shows empathy and attunement to the child's needs." Head teachers, who were blind to which preservice teachers received SELF-AWRE, observed preservice teachers' interactions with children and indicated the extent to which preservice teachers had developed those skills. Ratings were made on a 5-point scale ranging from *not at all developed* (1) to *very well developed* (5). Behaviors not observed were coded as a (0). The average of all non-0 items was computed, with higher scores representing higher levels of attunement to children's emotions. This newly developed measure was found to be reliable at pre- and posttest with Cronbach's alphas of .92 and .88, respectively.

Control Variables. Participants' attachment security, anxiety and stress levels were included as control variables. Attachment security of participants to their parents was measured using the parent subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). Participants were asked to answer 28-items indicating how true statements were in regards to their relationship with their parents. Examples of questions include: "My parents respect my feelings," "I feel it's no use letting my feelings show," and "My parents help me to understand myself better." Each of these questions was answered using a 5-point scale from (1) *never true* to (5) *always true*, which created three subscales Trust, Communication and

Alienation. The alienation subscale and all negative items are reverse coded. A total score was calculated by summing the scores of the trust and communication subscales and subtracting the alienation subscale score. Higher scores indicate more secure attachment. The overall scale was found to be reliable with a Cronbach's alpha of .75; the trust subscale was found to be reliable (α = .88), but the communication and alienation subscales were less so (α = .64 and α = .43, respectively).

Anxiety was measured using the 7-item Generalized Anxiety Disorder scale (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006), designed to assess the frequency of being bothered by problems such as "Feeling nervous, anxious, or on edge" and "Worrying too much about different things." Participants indicated over the past two weeks the frequency of these problems from (0) *not at all* to (3) every day. Responses were summed, with higher scores representing more severe anxiety. This measure was found to be reliable in the current study (α = .87 for pretest and .90 for posttest).

Stress was measured using the 10-item Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). Participants rated their stress over the past month on a 5-point scale *never* (0) to *very often* (4) by responding to questions such as: "How often have you felt nervous and 'stressed,'" and "How often have you felt that you were on top of things?" The PSS is scored by reverse coding negative items and then totaling all items. Pre- and posttest Cronbach's alpha scores were .84 at pretest and .63 at posttest.

A control variable which represented the dosage of the treatment was also included. This variable consisted of the number of SELF-AWARE training sessions attended by study participants, with a possible range of zero to six sessions. Both the HDFS control group and the AUELC control group were assigned 0 as their dosage.

Missing Data

Only those who completed both pre- and posttest self-report measures were included in these analyses. This resulted in 56 cases to be analyzed. In order to reduce the loss of additional cases due to missing data, the mean of each scale or subscale was calculated for the number of items that participants had completed. Means of key study variables were subsequently used in the analyses.

Descriptives and Means Comparisons

Histograms were examined for all key study variables and found to be normally distributed. Mean scores and standard deviations of those variables for the treatment group and HDFS control group can be found in Table A2. Dosage, a control variable not included in Table A2, ranged from 3 to 6 sessions for the treatment group, with an average dosage of 5.27 sessions ($SD = .83$); for the control groups, dosage was 0.

Means were analyzed to examine relationships among key study variables within- and between-groups. Tables A3 and A4 present paired and independent samples t-test results. Analyses yielded few statistically significant results. The means of observed Emotion Related Social Behaviors increased significantly from pre- to posttest for both the treatment ($t(21) = -9.34, p < .01$) and AUELC control group ($t(16) = -6.58, p < .01$). Only one statistically significant difference was found between the treatment group and HDFS control group, with the control group reporting more secure attachment to parents at pretest ($t(54) = 1.67, p < .05$).

Bivariate Analyses

Correlations were estimated to examine initial relationships among key study variables for both the treatment and control group. Correlations for the treatment group can be found in Table A5. There were statistically significant correlations between pre- and posttest scores for the Observing subscale ($r = -.76$, $p < .01$), Describing subscale ($r = .69$, $p < .01$), and Emotion Related Social Behaviors ($r = .71$, $p < .01$); such that for the Observing subscale, a lower pretest score was associated with a higher posttest score, for the Describing subscale and Emotion-Related Behaviors, higher scores at pretest were associated with higher scores at posttest. At posttest, there was a positive correlation between the Observing and Describing subscales ($r = .46$, $p < .05$), indicating that, at posttest, higher scores on one subscale was associated with higher scores on the other subscale. In terms of other key variables, the Describing subscale was negatively correlated with Perceived Stress Scale (PSS) scores ($r = -.45$, $p < .05$) and the 7-item Generalized Anxiety Disorder scale (GAD-7; $r = -.53$, $p < .05$) at posttest. Emotion Related Social Behaviors also yielded significant correlations for the PSS ($r = -.45$, $p < .05$) and the GAD-7 ($r = -.49$, $p < .05$). There were also significant correlations between dosage and other key variables. Dosage and the Describing subscale were found to be significantly positively correlated ($r = .45$. $p < .05$) such that more sessions attended was associated with higher pretest Describing subscale scores. Dosage was also significantly correlated with the PSS ($r = -.65$, $p < .05$) and GAD-7 ($r = -.45$, $p < .05$), where lower dosage is associated with more stress and anxiety in the treatment group at pretest.

Correlations of key variables for the HDFS control group can be found in Table A6, and yielded few significant relationships. As with the treatment group, there were significant correlations between pretest and posttest scores on the Observing ($r = .68$, $p < .01$) and

Describing subscales ($r = .41, p < .05$). Thus, higher pretest Observing and Describing subscale

scores were associated with higher posttest Observing and Describing subscale scores. There

were significant correlations between the Observing and Describing subscales at posttest ($r =$

$.36, p < .05$), which similar to the treatment group, indicated that higher scores on one subscale

were associated with higher scores on the other subscale.

Regression Analyses

A series of multiple regressions were then fit to examine the main effects of time and

condition and interaction effects of time by condition for the three outcomes of posttest

Observing and Describing subscale scores and posttest observed Emotion-Related Social

Behaviors scores. Four regression models were fit for each outcome and summaries are

presented in Tables A7, A8, and A9. Model 1 regressed each posttest score on its pretest score.

Model 2 added condition (treatment vs. control). Control variables were then added in Model 3.

Because the Perceived Stress Scale and the GAD-7 (7-item Generalized Anxiety Disorder scale)

were highly correlated with each other, the decision was made to include only one of these

variables in the regression analyses. The combination of the stronger reliability of the GAD-7

measure and results of bivariate analyses led to the decision to include the GAD-7 in the model

along with IPPA and dosage of the training. Model 4 added the interaction term of time by

condition.

Table A7 summarizes the regression analyses for the Observing subscale. Models 3 and

4 explained most of the variance in posttest Observing subscale scores, each with an R^2 of .51,

but only Model 1 (entering only pretest scores) showed a significant change in R^2 ($F = 51.29, p <$

$.001$). Pretest Observing subscale scores had statistically significant betas in each model, but no

other statistically significant variables (Model 1: $\beta = .76, p < .001$; Model 2: $\beta = .77, p < .001$;

Model 3: $\beta = .77$, $p < .001$; M4: $\beta = .83$, $p < .05$). Taking into account this information, Model 1

best predicts Observing subscale scores. The regression equation for this variable is:

Observing$_{posttest}$ = .76 + .76 × Observing$_{pretest}$, suggesting that, on average, a 1-unit increase in

pretest Observing scores was associated with a .76 increase in Observing posttest scores. This

also indicates that participants' observing subscale scores were better at posttest irrespective of

participation in SELF-AWARE.

Summaries for the regression analyses of the Describing subscale are found in Table A8.

Model 1 explained the least amount ($R^2 = .29$) and Models 3 and 4 explained the most ($R^2 = .39$

for both models). There was a significant change in R^2 in Model 1 after adding pretest scores (F

$= 21.77$, $p < .001$). The betas of pretest Describing subscale scores were significant in the first

three models (Model 1: $\beta = .58$, $p < .001$; Model 2: $\beta = .58$, $p < .001$; Model 3: $\beta = .56$, $p < .001$;

Model 4: $\beta = .59$, $p = .17$). Models 3 and 4 also presented significant betas for the IPPA ($\beta = -$

$.26$, $p < .05$; for both models). No other models or variables showed significant results, thus,

Model 3 best predicts posttest Describing subscale scores. Describing$_{posttest}$ = .84 + .56 ×

Describing$_{pretest}$ + .33 × Condition - .06 × GAD-7 - .47 × IPPA - .03 × Dosage represents the

regression equation for this model. A 1-unit difference in posttest Describing subscale scores

was associated with a .56 difference in pretest Describing subscale scores. Model 3 also

suggests that participants were better able to describe their emotions over time, irrespective of

whether or not they received the training. Furthermore, it suggests that the change in Describing

subscale scores from pretest to posttest is affected by the attachment security of participants.

Insecurely attached individuals, on average, score higher on posttest Describing subscale scores.

The final regression analysis summary for observed Emotion Related Social Behaviors

can be found in Table A9. Note that, unlike the previous two series of analyses that included the

HDFS control group, this series compares the treatment group with the 17 students in the ELC control group. Model 4 accounted for the most variance with an R^2 statistic of .64, while Model 1 accounted for the least variance and the only statistically significant R^2 change after adding pretest scores ($R^2 = .58.$ $F = 23.25, p < .001$). Models 1, 2, and 3 had significant betas for pretest ERSB, while no variables in Model 4 were significant (Model 1: $\beta = .73, p < .001$; Model 2: $\beta = .73, p < .001$; Model 3: $\beta = .62, p < .05$; Model 4: $\beta = -.47, p = .80$). Thus, Model 1($\text{ERSB}_{\text{posttest}} = 1.58 + .73 \times \text{ERSB}_{\text{pretest}}$) is the best fit for the data. This suggests that over time, for preservice teachers working in the AUELC, observed emotion-related social behaviors increased in quality regardless of whether or not a participant was involved in the training, and that a 1-unit difference in posttest Emotion-Related Social Behavior scores was associated with a .73 increase in pretest ERSB scores.

Discussion

The purpose of this study was to examine the effects of an emotion education training program for preservice teachers on their awareness of their emotional experiences and the quality of their emotion-related behaviors as observed by experienced head teachers. We hypothesized an increase in emotional awareness for the treatment group when compared to a control group of HDFS students who were not preservice teachers. We also hypothesized an increase in observed emotion-related behaviors for the treatment group in contrast to a control group of preservice teachers that did not receive the training. We did not find support for these hypotheses, but did find a main effect for time and an effect of attachment.

Although within-group means comparisons suggested that, on average, preservice teachers' awareness increased while HDFS teachers' awareness decreased, more rigorous regression analyses indicated the average study participant experienced an increase in the ability to observe emotional experience over time with or without the SELF-AWARE training. Similarly, preservice teachers were observed to show higher quality in their emotion-related social behaviors over time regardless of whether or not they received SELF-AWARE.

Implications for Prior Research and Practice

Results pointing toward difficulty in changing adults' emotional awareness in the current study are similar to the findings of Gold et al. (2010) whose Mindfulness-Based Stress Reduction intervention focused on teaching educators how to change their relationship with stressful situations by decreasing their emotional reactivity. Researchers did not find significant changes in teachers' abilities to observe and describe their emotional experiences. However, other

studies have shown that changes in the ability to observe emotional experience are possible. For example, Flook et al. (2013) and Benn et al. (2012) researched the effects of mindfulness training among small samples of teachers and parents who attended mindfulness training programs. Benn et al.'s (2012) 5 week Mindfulness-Based Stress Reduction training added elements that focused on emotion theory and application of mindfulness; while Flook et al.'s (2013) also conducted a modified Mindfulness-Based Stress Reduction training that lasted 8 weeks. Their training included guided practice of mindfulness and school-related activities that differed from traditional MBSR. Both of these studies were able to find evidence to suggest that their intervention group had significant increases from preintervention to postintervention on their ability to observe and describe their emotions. Given that these studies were able to find significant changes, perhaps there is some added element of MBSR that differs from SELF-AWARE that is salient for teachers, and allows them to change their perception of emotional experiences.

The significant improvement of preservice teachers' observed emotion-related behavior from pretest to posttest, regardless of whether they received the training, points to the importance of the experiential portion of preservice students' training in the Auburn University Early Learning Center. Commonly referred to as practice-based learning (Neuman & Cunningham, 2009), preservice teachers were given the opportunity to practice new skills under the supervision of experienced teachers. Research has found that combining classroom training with coaching in the teachers' classroom is significantly more helpful than classroom training alone (Neuman & Cunningham, 2009). No studies reviewed included an explicit practice-based component in their training. In addition, no evidence exists within the education literature discussing the effectiveness of traditional professional development (e.g., in-service training,

educational workshops, etc.) versus practice-based learning. Practice-based learning embeds

professional development strategies into hands-on practice (Koh & Neuman, 2009). In helping

educators teach children literacy and language skills, it has been found to be significantly helpful

when compared to teachers who strictly attended traditional professional development (Neuman

& Cunningham, 2009). Our findings add to the idea that practice based learning is not only

helpful in effectively teaching children academic skills, but also emotional skills.

Jennings et al. (2011) created Cultivating Emotional Balance (CEB), a program designed

to increase teachers' social emotional competence, similar to SELF-AWARE. CEB lasted 8

weeks with trainings on 4 weekends and 4 week days, while SELF-AWARE lasted 6 sessions.

This training was also given to teachers who worked in preschools or primary schools, similar to

the AUELC, which serves preschool-aged children. In keeping with our findings, those

researchers did not find any significant changes in teachers' interactions with their students.

Interestingly, results indicated an increase in participants' ability to describe their

emotional experiences from pretest to posttest, but when attachment was included the significant

main effect disappeared. Findings suggested that, when attachment was included in the model,

the change from pretest scores to posttest scores was higher for those who were insecurely

attached and lower for those who were securely attached. This finding represents precisely why

attachment security was included as a control variable, due to the nature of how emotions map

onto attachment. Those who are securely attached regulate distress in a way that seeks comfort

and security, while those who are insecurely attached regulate their distress in a way that

heightens or minimizes anger, distress or fear (Keiley, 2002). Securely attached individuals,

theoretically, have the tools needed to adequately describe their emotional experiences, while

insecurely attached individuals need more assistance in developing these skills; the current study supported this finding and found significant differences for those preservice teachers.

Implications For Future Research and Practice

In looking at the significant differences for all preservice teachers in the current study in their emotion-related social behaviors, results suggest the utility of early childhood education programs building into their preservice teacher training efforts emotions education programming that includes a practice-based component, where preservice teachers learn about their emotions and simultaneously receive guidance from experienced teachers when working with students in the classroom when in emotional situations.

Future research might also look the SELF-AWARE training program itself. Other mindfulness or emotions educations training lasted for much longer, ranging from 5 weeks (Benn et al., 2012) to 8 weeks (Jennings et al., 2011), while SELF-AWARE was a 6-hour training program disseminated to students over two weeks. This could have limited participants' abilities to increase their emotional self-awareness and their emotion-related behaviors, in ways that that would have distinguished them from the preservice teachers who received only input from Head Teachers as part of their supervision.

In addition, when looking at comparisons between MBSR trainings and SELF-AWARE, the latter included less guided practice and applied examples during the training. SELF-AWARE spends time teaching preservice teachers about their emotions, but it does not provoke preservice teachers to become highly emotionally aroused to the point at which a knowledgeable trainer could deescalate the arousal and lead constructive discussions about their emotional reactions in a safe space. Thus, in the future, recommendations for SELF-AWARE include lengthening the program, including more real-life practice incorporated into the training, and

helping preservice teachers experience and identify strong emotions during the actual training as well as in emotional situations with children.

When looking at the lack of significant results within-groups, it is possible that the measure used to assess emotional self-awareness in the current study, i.e., the Five Facet Mindfulness Questionnaire (Baer et al., 2008) does not capture adequately the character of the emotional awareness processes emphasized in the SELF-AWARE program. Future research might also utilize different methods of data collection to assess the quality of the information learned in the program. Attachment, for example, could be measured through both self-report measured as in the current study and also include a qualitative interview.

Limitations and Strengths

This study presented a number of limitations, the first being the homogenous sample. The total sample size was limited to 56 participants (including 22 preservice teachers who received SELF-AWARE), who, although they may perhaps be representative of students in the Human Development and Family Studies Department at Auburn University, are not representative of all preservice teachers. In addition, the sample of preservice teachers was non-randomized. Preservice teachers in the AUELC volunteered to participate in the training, in contrast to the ELC Control group, whose members chose not to participate. While it is unclear how these differences might have biased the results, future research should endeavor to randomize treatment participation. Thus, the small nonrandomized sample makes it difficult to generalize the results to all preservice teachers. Furthermore, the relatively small sample also inhibits the emergence of statistically significant results.

Another limitation of the current study was the use of a global observational measure to assess the emotion-related behaviors of preservice teachers. Although it was a strength of the

study to include an observational measure at all, the use of independent observers that coded specific behaviors, for example, similar to research by Swartz and McElwain (2012), might have eliminated observer bias resulting from Head teachers possibly using their knowledge of their preservice students' general progress in their interactions with children as a proxy for the specific questions posed about students' emotion-related behaviors.

The pretest-posttest design was a strength of this study. It allowed us to view change between the treatment and control group and make conclusions about the effectiveness of the SELF-AWARE training program in our small sample and to see change from pretest to posttest. Similarly, the use of two control groups was also a strength. The addition of the AUELC control group, in particular, allowed us to come to better conclusions about SELF-AWARE and head teachers. If the AUELC control group was not included, our evidence might have suggested that SELF-AWARE helped to increased preservice teachers' emotion-related behaviors instead of pointing towards the importance of practiced-based learning. The HDFS control group allowed us to see how effective SELF-AWARE was for preservice teacher in comparison to other students that were not preservice teachers.

Conclusion

In summary, SELF-AWARE did not succeed in increasing the emotional knowledge or observed emotion-related social behaviors of preservice teachers to any significant degree. Despite not supporting initial hypotheses, initial within-group comparisons that showed differences in means suggest that with a larger sample size, more significant findings might be found. This points towards the continued importance of working with preservice teachers to help them be able to better cope with their emotional experiences, and learn how to functionally do

so, and with a larger sample size being able to find statistically significant results to further

support this notion.

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Appendix A

Tables

Table 1

Descriptive Statistics For Study Sample (Treatment and HDFS Control)

Participant Characteristics	Total Sample (*n* = 56)	Treatment (*n* = 22)	HDFS Control (*n* = 34)
	Mean (SD)	Mean (SD)	Mean (SD)
Age	21.58 (3.44)	22.67 (5.09)	20.77 (1.31)
GPA	3.15 (.44)	3.07 (.45)	3.23 (.43)
	Percentage	Percentage	Percentage
Females	98.3	100	97.1
Race			
White or Caucasian	91.4	95.5	88.2
Black or African-American	6.9	4.5	8.8
Hispanic or Latino	1.4	0	2.9
HDFS Majors	60.3	95.5	35.3

Table 2

Descriptives for Key Study Variables for HDFS Control and Treatment Groups (n = 58)

Variable	Mean (SD)	Minimum	Maximum	Skewness (SE)
Pretest				
Observing	3.23 (.67)	1.63	4.75	-.02 (.32)
Describing	3.53 (.67)	2.00	5.00	-.36 (.32)
ERSB	1.95 (.59)	.60	2.80	.51(.52)
PSS	1.78 (.70)	.30	3.78	.45 (.32)
GAD-7	.82 (.65)	.00	2.86	.99 (.32)
IPPA	3.41 (.40)	2.18	4.00	-1.20 (.32)
Posttest				
Observing	3.23 (.73)	1.63	5.00	-.08 (.32)
Describing	3.55 (.73)	2.25	5.00	.23 (.32)
ERSB	2.89 (.61)	1.80	4.07	.24 (.51)
PSS	1.68 (.58)	.20	3.10	-.25 (.32)
GAD-7	.81 (.62)	.00	3.00	1.03 (.32)
IPPA	-	-	-	-

Note. Observing = Observing subscale of FFMQ; Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment. IPPA only reported at pretest.

Table 3

Paired Samples T-test of Key Study Variables at Pre- and Posttest

	Treatment			Control		
	Pre	Post		Pre	Post	
	Mean (SD)		*t*	Mean (SD)		*t*
Observing	3.17 (.66)	3.29 (.68)	-1.21	3.27 (.68)	3.19 (.77)	.84
Describing	3.54 (.81)	3.73 (.75)	-1.43	3.52 (.58)	3.43 (.71)	.73
ERSB	1.95 (.59)	2.89 (.61)	-9.34***	2.29 (.68)	3.16 (.71)	-6.58***
PSS	1.59 (.59)	1.61 (.62)	-.12	1.91 (.74)	1.73 (.57)	1.75
GAD-7	.74 (.67)	.69 (.50)	.39	.87 (.65)	.89 (.69)	-.24
IPPA	3.27 (.47)	-		3.51 (.33)	-	

Note. Observing = Observing subscale of FFMQ; Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment. AUELC control group is used for ERSB. IPPA only reported at pretest.
***$p < .01$.

Table 4

Independent Samples T-test of Key Study Variables at Pre- and Posttest

	Pretest			Posttest		
	Treatment	Control		Treatment	Control	
	Mean (SD)		*t*	Mean (SD)		*t*
Observing	3.17 (.66)	3.27 (.68)	.55	3.29 (.68)	3.19 (.77)	-.51
Describing	3.54 (.81)	3.52 (.58)	-.11	3.73 (.75)	3.43 (.71)	-1.50
ESRB	1.95 (.59)	2.29 (.68)	-1.63	2.89 (.61)	3.16 (.71)	-1.24
PSS	1.59 (.59)	1.91 (.74)	1.67	1.61 (.62)	1.73 (.57)	.76
GAD-7	.74 (.67)	.87 (.65)	.70	.69 (.50)	.89 (.69)	1.20
IPPA	3.27 (.47)	3.51 (.33)	2.18[**]	-	-	

Note. Observing = Observing subscale of FFMQ; Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment. AUELC control group is used for ERSB. IPPA only reported at pretest.
[**]$p < .05$.

Table 5

Correlation Matrix of Key Study Variables for Treatment Group (n =22)

Variables	1	2	3	4	5	6	7	8	9	10
1. Observing	**-.76*****	.46**	-.10	.10	-.02	-	.12	.10	.24	.05
2. Describing	.34	**.69*****	.36	-.44**	-.53**	-	.30	.52**	.34	.16
3. ERSB	-.15	-.03	**.70*****	-.45**	-.49**	-	.20	.27	.16	.21
4. PSS	-.39	-.64**	-.15	**-.45****	.79***	-	-.36	-.13	-.39	.02
5. GAD-7	-.39	-.39	-.18	.49***	**.50****	-	-.25	-.28	.38	-.14
6. IPPA	-.41	-.32	-.24	.34	.25	-	-	-	-	-
7. Age	.19	.43	.12	-.48**	-.29	-.56**	-	-	-	-
8. GPA	.14	.37	.16	.03	-.12	-.03	-.29	-	-	-
9. Dosage	.31	.45**	.27	-.65**	-.45**	-.29	.15	-.21	-	-
10. Condition	-.03	.01	.27	-.21	-.09	-.20	.26	-.21	.19	-

Note. Observing = Observing subscale of FFMQ; Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment. IPPA only reported at pretest. Diagonal contains correlations between variables at pre- and posttest. Below diagonal are correlations among variables at pretest. Above diagonal are correlations among variables at posttest.
**$p < .05$; ***$p < .01$, two-tailed.

Table 6

Correlation Matrix of Key Study Variables for HDFS Control Group (n =34)

Variables	1	2	3	4	5	6	7
1. Observing	**.68*****	.36**	-.38**	-.11	-	.18	-.20
2. Describing	.05	**.41****	-.03	.05	-	-.19	-.16
3. PSS	.03	-.09	**.62*****	.53***	-	-.20	.24
4. GAD-7	.10	.00	.78***	**.56*****	-	-.02	.22
5. IPPA	.06	.25	-.03	-.04	-	-	-
6. Age	.02	-.10	-.20	-.05	.06	-	
7. GPA	-.21	-.30	.20	.23	-.20	-.28	-

Note. Observing = Observing subscale of FFMQ; Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment. IPPA only reported at pretest. IPPA only reported at pre-test. Diagonal contains correlations between variables at pre- and posttest. Below diagonal are correlations among variables at pretest. Above diagonal are correlations among variables at posttest.
**$p < .05$; ***$p < .01$, two-tailed.

Table 7

Summary of multiple linear regression analyses predicting Observing subscale scores

(N =56)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	*SE B*	*B*	*SE B*	*B*	*SE B*	*B*	*SE B*
Intercept	.76***		.48		.84		.69	
Observing	.76***	.11	.77***	.11	.77***	.11	.83**	.34
Condition			.18	.14	.35	.79	.47	.10
GAD-7					-.09	.12	-.10	.12
IPPA					-.12	.19	-.13	.20
Dosage					-.04	.15	-.03	.15
Condition * Time							-.05	.24
R2	.49		.50		.51		.51	
F for change in *R2*	51.29***		1.58		.34		.04	

Note. Observing = Observing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment.
*** $p < .001$; ** $p < .05$.

Table 8

Summary of multiple regression analyses predicting Describing subscale (N = 56)

	Model 1		Model 2		Model 3		Model 4	
Intercept	.76***		.48		.84		.69	
Variable	*B*	*SE B*	*B*	*SE B*	*B*	*SE B*	*B*	*SE B*
Describing	.58***	.12	.58***	.12	.56***	.13	.59	.42
Condition			.29	.17	.33	.92	.37	1.14
GAD-7					-.06	.13	-.06	.14
IPPA					-.47**	.21	-.47**	.22
Dosage					-.03	.17	-.03	.18
Condition * Time							-.02	.27
R^2	.29		.32		.39		.39	
F for change in R^2	21.77***		1.58		1.78		.00	

Note. Describing = Describing subscale of FFMQ; ERSB = Emotion-Related Social Behaviors; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment.
***$p < .001$; **$p < .05$.

Table 9

Summary of multiple regression analyses predicting observed Emotion-Related Social Behaviors (N =39)

	Model 1		Model 2		Model 3		Model 4	
Intercept	1.58***		1.59***		3.52		6.96	
Variable	*B*	*SE B*	*B*	*SE B*	*B*	*SE B*	*B*	*SE B*
ERSB	.73***	.15	.73***	.19	.62**	.23	-.47	1.78
Condition			-.02	.39	-.42	1.03	-3.67	5.39
GAD-7					-.27	.28	-.29	.29
IPPA					-.16	.24	-.18	.24
Dosage					-.12	.18	-.12	.19
Condition * Time							1.06	1.72
R^2	.58		.58		.62		.64	
F for change in R^2	23.35***		.00		.51		.38	

Note. ERSB = Emotion-Related Social Behaviors; PSS = Perceived Stress Scale; GAD-7 = 7-item Generalized Anxiety Disorder Scale; IPPA = Inventory of Parent and Peer Attachment.
***$p < .001$; **$p < .05$.

Appendix B

Five Facet Mindfulness Questionnaire

Emotion-Related Social Behaviors

Five Facet Mindfulness Questionnaire

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes <u>your own opinion</u> of what is <u>generally true for you</u>.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.

_____ 2. I'm good at finding words to describe my feelings.

_____ 3. I criticize myself for having irrational or inappropriate emotions.

_____ 4. I perceive my feelings and emotions without having to react to them.

_____ 5. When I do things, my mind wanders off and I'm easily distracted.

_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____ 7. I can easily put my beliefs, opinions, and expectations into words.

_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.

_____ 9. I watch my feelings without getting lost in them.

_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.

_____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.

_____ 12. It's hard for me to find the words to describe what I'm thinking.

_____ 13. I am easily distracted.

_____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.

_____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.

_____ 16. I have trouble thinking of the right words to express how I feel about things

_____ 17. I make judgments about whether my thoughts are good or bad.

_____ 18. I find it difficult to stay focused on what's happening in the present.

_____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.

_____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.

_____ 21. In difficult situations, I can pause without immediately reacting.

_____ 22. When I have a sensation in my body, it's difficult for me to describe it because

I can't find the right words.

_____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.

_____ 24. When I have distressing thoughts or images, I feel calm soon after.

_____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.

_____ 26. I notice the smells and aromas of things.

_____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____ 28. I rush through activities without being really attentive to them.

_____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.

_____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____ 32. My natural tendency is to put my experiences into words.

_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.

_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 36. I pay attention to how my emotions affect my thoughts and behavior.

_____ 37. I can usually describe how I feel at the moment in considerable detail.

_____ 38. I find myself doing things without paying attention.

_____ 39. I disapprove of myself when I have irrational ideas.

ASSESSMENT OF EMOTION-RELATED SOCIAL
BEHAVIORS
(adapted from
Kremenitzer, 2010)

Based on your observations of the student's behavior in her interactions with the children (and others, if relevant)
at the AUELC, please assess how well the student has developed the following skills.

0	1	2	3	4	5
Can't Assess (Not Observed)	Not at All Developed	Beginning to Develop	Developing	Fairly Well Developed	Very Well Developed

_____1. Perceives children's LOW intensity NEGATIVE emotions (e.g., boredom, loneliness, discouragement, irritability, worry).

_____ 2. Engages with children when they are experiencing LOW intensity NEGATIVE emotions.

_____ 3. Perceives children's LOW intensity POSITIVE emotions (e.g., contentment, pleasure, satisfaction).

_____ 4. Engages with children when they are experiencing LOW intensity POSITIVE emotions.

_____ 5. Perceives children's HIGH intensity NEGATIVE emotions (e.g., anger, panic, despair, grief, rage)

_____ 6. Engages with children when they are experiencing HIGH intensity NEGATIVE emotions.

_____ 7. Perceives children's HIGH intensity POSITIVE emotions (e.g., excitement, enthusiasm, delight, joy)

_____ 8. Engages with children when they are experiencing HIGH intensity POSITIVE emotions.

_____ 9. In response to a child's emotions, uses a calm, positive, warm tone of voice.

_____ 10. In response to a child's emotions, uses appropriate words that reflect the child's feelings.

_____ 11. In response to a child's emotions, avoids using power (e.g., greater strength, size, psychological control)
to pressure the child to feel or display feelings differently.

_____ 12. In response to a child's emotions, shows empathy and attunement to the child's needs.

_____ 13. Can sensitively assist a child to move from a negative mood state into a neutral or positive mood state.

_____ 14. Can move herself/himself from a negative mood state into a neutral or positive mood state.

_____ 15. Can openly communicate about her/his own feelings in a professional manner.

Appendix C

Perceived Stress Scale

Inventory of Parent and Peer Attachment

Generalized Anxiety Disorder

Study Participant Demographics

Perceived Stress Scale
Cohen et al, 2003

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset
   because of something that happened unexpectedly?.................................... 0 1 2 3 4

2. In the last month, how often have you felt that you were unable
   to control the important things in your life?.. 0 1 2 3 4

3. In the last month, how often have you felt nervous and "stressed"? 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability
   to handle your personal problems?.. 0 1 2 3 4

5. In the last month, how often have you felt that things
   were going your way?... 0 1 2 3 4

6. In the last month, how often have you found that you could not cope
   with all the things that you had to do? 0 1 2 3 4

7. In the last month, how often have you been able
   to control irritations in your life?.. 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things?..... 0 1 2 3 4

9. In the last month, how often have you been angered
   because of things that were outside of your control? 0 1 2 3 4

10. In the last month, how often have you felt difficulties
    were piling up so high that you could not overcome them?........................... 0 1 2 3 4

Inventory of Parent and Peer Attachment

(Armsden & Greenberg, 1987)

Please place a check in the box that describes how true each statement is for you.

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Always True (5)
a) My parents respect my feelings.					
b) I feel my parents are successful as parents.					
c) I wish I had different parents.					
d) My parents accept me as I am.					
e) I have to rely on myself when I have a problem to solve.					
f) I like to get my parents' point of view on things I'm worried about.					
g) I feel it's no use letting my feelings show.					
h) My parents sense when I'm upset about something.					
i) Talking over my problems with my parents makes me feel ashamed or foolish.					
j) My parents expect too much from me.					
k) I get upset easily at home.					
l) I get upset a lot more than my parents know about.					
m) When we discuss things, my parents consider my point of view.					
n) My parents trust my judgment.					
o) My parents have their own problems, so I don't bother them with mine.					
p) My parents help me to understand myself better.					
q) I tell my parents about my problems and troubles.					
r) I feel angry with my parents.					

s) I don't get much attention at home.

t) My parents encourage me to talk about my difficulties.

u) My parents understand me.

v) I don't know whom I can depend on these days.

w) When I am angry about something, my parents try to be understanding.

x) I trust my parents.

y) My parents don't understand what I'm going through these days.

z) I can count on my parents when I need to talk get something off my chest.

aa) I feel that no one understands me.

bb) If my parents know something is bothering me, they ask me about it.

Generalized Anxiety Disorder

Spitzer et al 2006

Over the last <u>2 weeks</u>, how often have you been bothered by the following problems?

	Not at All (0)	Several Days (1)	More than Half the Days (2)	Every Day (3)
1. Feeling nervous, anxious, or on edge				
2. Not being able to stop or control worrying				
3. Worrying too much about different things				
4. Trouble relaxing				
5. Being so restless that it is hard to sit still				
6. Becoming easily annoyed or irritable				
7. Feeling afraid as if something awful might happen				

STUDY PARTICIPANT DEMOGRAPHICS

1.   What is your age? _____

2.   What is your sex?
M___F____

3.   What ethnic or racial group do you identify with or belong to?
    a. White or Caucasian
    b. Black or African-American
    c. Hispanic or Latino
    d. Asian or Pacific Islander
    e. American Indian or Native American
    f. Other (please specify): _____

4.   What is your major?
    a. HDFS
    b. HDFE
    c. ECE
    d. Other (please specify):

    4a. If you are an HDFS major, what track are you currently following?
          Child Life ____ Infant/Preschool ____ Adolescent _____ Not sure ____

          Other (please specific):_____

5.   Before this semester, have you ever been enrolled in HDFS 3460 (Effective Guidance of Young Children) taught by Dr. Ellen Abell?
No _____ Yes _____

6.   Have you had previous experience working in the AU Early Learning Center?
No _____ Yes _____

    2a. If yes, please estimate the total number of hours you have spent working in the AUELC (not counting this semester). ____

7.   What semester and year do you expect to graduate from AU? _____

8.   What profession or occupation do you aspire to enter after graduation? _____