

Examining the Relationship between Work Stress, Emotion Regulation, and Adult-Child Interactions among Family Child Care Providers

by

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A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Master of Science

Auburn, Alabama
December 14, 2013

Keywords: Work stress, emotion regulation, adult-child interactions

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Abstract

This study examined work-family stress, emotion regulation, and how the combination of these variables affect the quality of adult-child interactions in a sample of family child care providers. I hypothesized that family child care providers who reported using cognitive reappraisal in conditions of higher work-family stress would have higher observer ratings in the quality of their interactions with the children for whom they care when compared with family child care providers with high work-family stress who use expressive suppression. Conversely, I hypothesized that family child care providers who reported using expressive suppression in conditions of higher work-family stress would have lower observer ratings in the quality of their interactions with the children for whom they care when compared with family child care providers with high work-family stress who use cognitive reappraisal. Years of experience, household income, and depression served as control variables in regression analyses. Bivariate correlations were seen between child care providers' reported use of cognitive reappraisal and the control variables, years of experience and depression. However, hierarchical regression analyses did not demonstrate the expected results. As these findings contradict existing theory and research about adult emotional self-regulation, the discussion considers conceptual and methodological reasons for this. Future studies should examine further links among work-family stress, emotion regulation, and adult-child interactions.

Acknowledgments

I, the author, would like to thank Dr. Ellen Abell for all of your time, patience, and dedication. You went far and beyond what your job role requires to better assist and support me through both professional and personal adversities. You helped to keep me calm, centered, and on a path to completing this degree in the timeframe allotted. I wish nothing but happiness for you and your family, and I will never forget all of the memories we shared.

Thank you to Dr. Jennifer Kerpelman who met me wide-eyed and nervous the first day I began my graduate school experience. I had no idea what I was about to embark upon, and you had the confidence and faith in me to succeed. I look up to you so much and have gained a lot of valuable experience working for you in my assistantship and having you on my committee.

Thank you to Dr. Jackie Mize for contributing your time and feedback to this thesis. Your knowledge in the field is astounding and I have never had a dull moment speaking and listening to you. Your energy and love for working with children is infectious and I feel honored to have had you on my committee.

Thank you to my husband, Kenneth, who has supported me in every way through this graduate school experience. Without your confidence, encouragement, and support, I don't know how I would have succeeded. You are an amazing husband and father, and I will forever be proud to be your wife. I love you with all my heart and am so excited for the new journey we are about to embark upon.

To my little boy Eli, you are my pride and joy and I am so proud of you. Never in my wildest dreams could I have imagined being a mom to such an amazing child. Not a day has gone by while being in graduate school that I haven't thought how blessed I am to have you as my son. I love you more than words can express.

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I. INTRODUCTION

Quality child care is characterized as a safe, stable, educationally resourced environment in which a well-adjusted, intentional caregiver is knowledgeable about child development and engages children in developmentally appropriate care-related and educational activities (NICHD Early Child Care Research Network, 2005). A key component of child care quality that can impact children's development is the quality of the daily interactions they have with their child care provider (Shonkoff & Phillips, 2000). However, certain things can threaten the quality of adult-child interactions. Work-family stress is one variable that has been found to negatively affect the adult-child relationship.

When discussing parents' work and how it can affect their relationships at home, Repetti, Wang, and Saxbe (2009) use the term "spillover," which they define as physiological arousal and negative mood originating outside the family, but experienced and expressed within the family. However, it is important to note that spillover is bi-directional and the original stress could originate from home and then spillover to affect a person's work as well. Emotions make up an important component of spillover stress. Parents who experience stress at work are more likely to emotionally and behaviorally withdraw from their children upon returning home, show less positive emotional expression, and use a less positive and more negative emotional tone with their children (Repetti, 1994; Repetti & Wood, 1997). Among fathers of infants in low-income rural families, lower levels of fathering quality was

observed on days when fathers reported high levels of workplace stressors (Goodman, Crouter, Lanza, & Cox, 2008). In contrast, fathers who did not experience job stress were observed to be more sensitive and/or engaged with their infants upon returning home (Goldberg, Clark-Stewart, Rice, & Dellis, 2002).

Like parents, child care providers interact with children in a broad range of activities and must respond to children's needs for care and guidance. Family child care providers who provide paid care to unrelated children within their own homes make up a specific subset of the child care profession. For such providers, the work of paid child care comes with its own set of stressors.

Comparing mothers who are family child care providers to mothers who work outside the home and non-employed mothers, family child care providers reported higher stress when compared to either group. Specifically, they experienced higher family demands (cared for a higher number of their own children) and possessed fewer resources (less education and lower household income) (Atkinson, 1992). Research comparing the job stress of family child care providers to child care center providers found that family child care providers reported higher job demands because of working longer hours, purchasing supplies with their own money, caring for their own children while working, and the need to be professional and personable with the parents (Curbow, Spratt, Ungaretti, McDonnell, & Breckler, 2000). Furthermore, researchers found that 23% of the variance in caregiver stress among family childcare providers was explained by working in isolation, higher child-caregiver ratio, more caregiver-reported child problem behaviors and a lower tolerance for these behaviors, and lack of co-worker support (Rusby, Jones, Crowley, & Smolkowski, 2012). Family child care providers who

reported low stress were more likely to provide positive attention to children compared with caregivers reporting moderate stress (Rusby et al., 2012). In sum, these findings reveal that family childcare providers face a variety of challenges and stresses in their work, some of which arise out of conflicts between the demands of work and the needs of their own families. Hence, it is reasonable to suggest that they are subject to exhibiting similar stress-related emotional behaviors to those seen in studies of the effects of work-family spillover on parent-child interactions.

The ability to regulate the emotions that arise during stressful, emotionally arousing events is an important component of the ability to engage in behaviors that support positive interactions. Emotion regulation can be defined as intrinsic and extrinsic processes responsible for observing, evaluating, and adjusting emotional reactions to achieve one's goals (Thompson, 1994). In the domain of parenting, Dix (1991) posits that emotion regulation is important because it influences what parents communicate to their children and, consequently, what reactions their children would likely have. Emotion regulation is a process that has been addressed by various researchers (e.g. Cassidy, 1994; Thompson, 1994; Gross & John, 2003). A process model of emotional regulation was developed that conceptualizes emotion regulation responses as being either antecedent-focused or response-focused (Gross & John, 2003). Antecedent-focused emotion regulation can involve behavior change at any of the following points prior to the fully experienced emotional event: (1) selection of the situation; (2) modification of the situation; (3) deployment of attention; and (4) change of cognitions. Response-focused emotion regulation involves behavior change after the emotional reaction is already underway and the response tendencies have

already been produced. Cognitive reappraisal is one antecedent-focused strategy that works to change how one thinks about a potentially emotion-eliciting situation, thus altering its emotional impact (Lazarus & Alfret, 1964). Expressive suppression is a response-focused strategy defined as a “form of response modulation that involves inhibiting ongoing emotion-expressive behavior” (Gross & John, p. 349). When comparing the consequences of responding to emotional events using expressive suppression versus cognitive reappraisal, the use of suppression was found to be more disruptive in the give and take of emotional communication. For example, suppressors were more distracted during conversation and less responsive in conversation, and their interaction partners experienced an increase in their blood pressure (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003).

The use of competent emotion regulation strategies by adults provides important information to children about how to regulate their own emotions. Adults serve as models for their children’s emotional self-management by virtue of their own emotional behaviors and their responses to their children’s emotional behavior (Denham, 2012; Morris, Silk, Steinberg, Myers, & Robinson, 2007). For example, a significant predictor of a child’s use of suppression as an emotion regulation strategy is the maternal use of suppression (Bariola, Hughes, & Gullone, 2012). Given that children’s emotion regulation is positively related to social competence and predictive of both internalizing and externalizing problem behaviors (Eisenberg, Valiente, Morris, Fabes, Cumberland et al., 2003), addressing adult emotion regulation seems warranted.

Other than parents, child care providers and teachers spend the most time with children and offer them additional models of emotion regulation in the course of their

interactions. Effective classroom management and healthy teacher-student relationships rely on teachers' emotional self-regulation (Jennings & Greenberg, 2009; Sutton, 2004). A study of pre-service early childhood teachers examined how their tendencies to use reappraisal and suppression as emotion regulation strategies influenced their responses to children's emotions in the context of normal interactions in their early childhood classrooms (Swartz & McElwain, 2012). Teachers who reported using reappraisal were observed to provide fewer non-supportive responses to children's positive emotions and more supportive responses to children's negative emotions. Researchers concluded that pre-service teachers who are more inclined to utilize reappraisal may have better emotional resources to employ when children become distressed, sad, or frustrated and are better able to manage their emotions and respond more supportively (Swartz & McElwain, 2012).

Family child care providers face multiple stressors from the work environment and their own family circumstances that can spillover and affect their interactions with the children they care for. The purpose of this study is to examine how the emotion regulation strategies used by providers may affect their ability to engage in high quality adult-child interactions in the context of their work-family stress. Family child care providers will report on their level of work-family stress and on their use of emotion regulation strategies. I will analyze this information in combination with independent observational ratings of the quality in the family child providers' interactions with children. I expect to find that family child care providers' work-family stress will interact with their primary emotion regulation strategy (reappraisal versus suppression) to predict provider-child interaction quality. Specifically, high work-family stress when

combined with the use of reappraisal will result in higher quality adult-child interactions relative to the combination of high work-family stress and the use of suppression. It is hoped that the findings of this study will contribute to an emerging body of research investigating how adult emotional self-regulation is associated with the quality of adult-child interactions. In addition, it is hoped that the results of this study will help inform efforts to educate and support family child care providers in managing their stress-related emotional behavior so that they are able to effectively provide positive interactions with children.

II. REVIEW OF LITERATURE

Although child development researchers have accumulated a large body of literature on children's emotion socialization, much less focus has been placed on the daily emotional experience of the adults who are children's primary emotion socialization figures. However, increasing attention is being paid to adults' experience of their own emotions—emotional arousal, emotion recognition, emotional expression, emotion management—especially in light of changing perspectives about the nature and function of emotional experience and its significance for cognition and behavior, as well as its influence on the quality of adult-child relationships and child development outcomes. One source that can potentially elicit adults' emotions is work stress. When an adult's work stress increases, it often is followed by a change in their behavior when he or she returns home (Perry-Jenkins, Repetti, & Crouter, 2000).

I begin this review by first summarizing key findings from studies focusing on the relationship between workplace stress and the quality of adults' emotional interactions with children. Second, I review studies focusing on early childhood caregivers, in particular, family child care providers, and their workplace stress and interactions with the children for whom they provide care. Next, I provide an overview of ideas proposed about the functional nature of emotions, processes proposed to be important to emotional self-regulation, and research examining how emotion self-regulation strategies support or inhibit healthy individual functioning and interpersonal interactions. Finally, I apply these findings to the research question that is the focus of

my work and present my study hypotheses.

The Effects of Job Stress on Emotional Behavior in Adult-Child Interactions

A substantial body of literature indicates that chronically stressful conditions in the workplace affect an individual's physical, cognitive, and emotional functioning (Perry-Jenkins, Repetti, & Crouter, 2000). These effects have, in turn, been shown to spill over into parent-child interactions. Research published over the last two decades by Repetti and her colleagues has explicitly focused on the effects of workplace stress on emotional expression within the family. Across a variety of studies of dyadic (marital and parental) relations, adults have been observed coping at home with workplace stress by reducing their social engagement and their expression of positive emotion with family members (Repetti, Wang, & Saxbe, 2009). For example, in a study of the effects of daily work stress on the interactions of 30 employed, low-to-middle-class mothers (50% African American and Latina) and their preschool children, researchers examined mothers' self-reports of stress before the start of the workday and at the end of the workday and videotaped reunion behaviors with their children each day. On days when mothers reported overload and distressing social interactions at work, they were observed in subsequent interactions with their children to show more irritability, fewer expressions of warmth and affection, and less speaking than on less stressful days (Repetti & Wood, 1997).

Similar effects were found for fathers' social behaviors in a study examining the relationship between fathers' workplace stress (air traffic controllers at a major United States international airport) and their interactions with their children (ages 4-10 years) at home. Fathers reported daily on the quality of their interactions with their children using

a 32-item scale created by the authors that was factor analyzed into the following subscales of parent-child interaction: positive feelings, negative feelings, high involvement behaviors, and discipline behaviors. Additionally, five team members independently completed a 22-item assessment of the air traffic controllers' work place social climate. The assessment included statements such as, "There are often conflicts among the people who work here," and "There is not much group spirit." Scores were combined with the participant's score on the same assessment to create a total composite workplace climate score. Results revealed that a negative workplace climate was associated with fathers' decreased involvement behaviors (such as helping with homework), decreased positive emotional tone, and increases in use of discipline and negative emotional tone (Repetti, 1994).

Stressors that have consequences for adult-child interactions can also originate from outside the workplace. For example, Li-Grining, Raver, Champion, Sardin, Metzger, and Jones (2010) conducted an examination of the effects of the workplace and personal stressors on the classroom behavior management and emotional climate for 138 Head Start teachers. The personal stressors assessed included teachers' socioeconomic resources, family structure, prior classroom experience, and psychological well-being. Professional stressors included job control, job demands, and job resources as assessed by a shortened version of the self-reported Child Care Worker Job Stress Inventory (Curbow et al., 2000). Classroom emotional climate and behavior management was assessed by observation using the Classroom Assessment Scoring System (LaPora, Pianta, & Stuhlman, 2004). The quality of teachers' supervision, discipline, and staff-child interactions was measured observationally using

the Early Childhood Environment Rating Scale-Revised (Harms, Clifford, & Cryer, 2007). Findings indicated that, although workplace stressors identified by the researchers did not predict the quality of teachers' behavior management and social interactions with their students, the personal stressor of inexperience in the classroom predicted lower classroom quality scores. Moreover, analyses detected a decline in the observed quality of the emotional climate in the classroom with each additional personal stressor reported (Li-Grining et al., 2010).

Studies of classroom teachers of older children indicate that teachers' emotions are an additional factor that contributes to the quality of adult-child interactions. Research on the emotions that primary and secondary teachers feel in response to their students' behavior and performance indicated that disappointment, worry, enthusiasm, pride, and hope, among others, are common (Hargreaves, 2000). Further qualitative work has identified that the number one negative emotion that teachers report in the classroom is frustration (Sutton, 2007). Teachers' ability to effectively regulate these emotions not only affects teaching, but can positively or negatively influence the students as well (Sutton & Wheatley, 2003).

To better understand how teachers regulate their emotions in the classroom, Sutton (2004) conducted semi-structured interviews with 30 middle-school teachers living in northeast Ohio about the strategies they used to manage emotional situations in the classroom. For example, teachers were asked, "Do you ever try to control, regulate, or mask the emotional experiences in the classroom?" If teachers responded affirmatively, they were asked to explain by describing an example of such a situation. Findings revealed key beliefs supporting teachers' emotional expression: (1) emotion

regulation supports their effectiveness as teachers; (2) lack of emotional control is shameful and emotionally disturbing to students; (3) lack of emotional control harms teacher-student relationships; and (4) lack of emotional control is counterproductive to student learning. Once emotionally aroused, most teachers reported using various methods to modify the physiological, expressive, or experiential components of the emotion. These included physically moving away, deep breathing, pausing, and controlling facial features. However, five teachers' stated that they did not know how they regulated their emotions and/or they "just did it" (Sutton, 2004). In a review of the literature examining the impact of teachers' emotions on their teaching in the classroom, Garner (2010) concluded that the quality of classroom teaching can be disrupted if teachers are unable to attend to their emotions when overwhelmed and control their physiological arousal and behavior.

The ability to manage emotional arousal is one of a number of competencies referred to in a model outlined by Jennings and Greenberg (2009) of linkages between teachers' social emotional competence (SEC) and students' social, emotional, and academic outcomes. They define SEC in terms of (1) self-awareness of one's own emotions, emotional tendencies, strengths and weaknesses; (2) social awareness of the emotions of others, of the connections between emotions and behaviors in others, and of the effects of one's own emotional expression on interactions with others; and (3) self-management of ones impulses and behaviors, especially in emotionally challenging situations. Based on an extensive review of research addressing teacher effects on student and classroom outcomes, classroom climate and management, and the implementation of social-emotional-learning programming, Jennings and Greenberg

(2009) concluded the following: (1) Teacher SEC is an important component for building supportive teacher-student relationships; (2) Teachers with higher SEC are more likely to be proactive and effective in their classroom management; (3) High SEC teachers are better able to encourage enjoyment and enthusiasm of learning and manage student behaviors; (4) Teachers with higher SEC are outstanding role models of desirable emotional and social behaviors and able to apply emotional and social curricula more effectively. The researchers noted that stressors in teachers' lives outside of the workplace, as well as stressors in their classroom, school, and community contexts can affect teachers' overall well-being and efficacy, which can then influence children's social-emotional behaviors in the classroom (Jennings & Greenberg, 2009).

The research summarized in this section has shown that stress and emotions experienced by parents and teachers have consequences for their behaviors in their interactions with children. Like parents and teachers, child care providers are also responsible for the care and education of young children and subject to similar life and workplace stressors. The following section reviews the literature on the effects of stress and emotions on child care providers.

Child Care Providers and Work Stress

Multiple research studies have been conducted on job stress in child care workers and found that child care workers face multiple sources of stress. For example, Atkinson (1992) conducted phone interviews with 918 rural mothers who were either family day care providers, employed outside the home, or not employed. Mothers' psychological and psychophysiological stress was assessed using a shortened, 8-item version ($\alpha = .73$) of Langner's 22-item test ($\alpha = .77$) (Johnson & Meile, 1981) asking whether participants

were in “very good, good, low or very low spirits most of the time.” Results revealed that 40 mothers who were family child care providers had higher stress scores when compared to mothers working outside the home and those not working at all. The researchers reported that sources of high stress included balancing multiple roles, maintaining an internal sense of accomplishment about work efforts, and upholding positive relationships with parents.

Curbow (1990) conducted a literature review of the causes of job stress in family child care providers using the person-environment fit model of job stress (Harrison et al., 1987) to frame her discussion. She concluded that both perceived job stressors (e.g., job environment factors such as perceived demands, perceived repetitiveness, and perceived role conflict) and objective job stressors (e.g., pay and benefits, working hours) are important and should be identified. Curbow noted that four primary groups of people affect the family child care provider (the worker, the worker’s family members, the children, and the children’s family members) and all have a mutual influence on each other. Higher job stress can compromise the well-being and health of the child care provider, thus, affects all members in the network. A subsequent literature view conducted a decade later on the potential stressors experienced by child care workers across both family child care and child care centers found that the most common sources of work stress involved work conditions that were both tangible (e.g., number of hours worked, pay and benefits, physical demands) and intangible (e.g., being bombarded by unpredictable stimuli); relationships with their co-workers, parents, and children; and stress experienced on a psychological level, including the pressure to achieve and maintaining an internal sense of accomplishment (Curbow et al., 2000).

Guided by the results of this latter review of literature, Curbow et al. (2000) conducted a series of qualitative studies designed to identify job stressors among child care center workers and family child care providers in the Baltimore area. The first study conducted face-to-face interviews with 100 randomly selected family child care providers and asked about their work stressors. The second study collected the same information from 17 focus groups drawn from a random sample of family child care providers and child care center workers. The third study collected physiological and interview data from 31 child care center workers and 96 family child care providers. Data from the three studies were combined and used to develop the Child Care Worker Job Stress Inventory (CCW-JSI; Curbow et al., 2000).

The CCW-JSI contains three job stress subscales--job control, job demands, and job resources--each of which consists of 17 items rated using a 5-point scale (1 = rarely/never and 5 = most of the time). The job demands subscale includes items such as, "Parents come late to pick up their children," and "Parents bringing in children who are sick." The job resources subscale includes items such as, "I have fun with the children" and "I feel respected for the work I do." The job control subscale contains statements such as, "Getting parents to be consistent with you on a behavior problem." Construct validity of the measure was established by comparing it to measures of external and internal resources and stressors used by the National Institute of Occupational Safety and Health job stress model (Hurrell, 1987) using a new, randomly selected sample of 90 family child care providers and 98 child care center workers.

Comparing the two samples of providers, family child care providers (FCPs) were older in age, more likely to be married, and more likely to live with their children under

18 years of age in their home than child care center workers (CCWs). CCWs were more likely to be members of a racial minority and have achieved higher education, but to report making less money and being the only source of income for their family. When assessing differences in job demands between the FCPs and CCWs, CCWs had higher scores on their demands when dealing with children with behavior problems. CCWs reported higher scores on a group of parent-related demands that included bringing in sick children, blaming the day care for bad behavior, parents coming late to pick-up their children, stress in the children's lives, slow/late to pay, and feeling that they should be paid more for their work. In addition, a significant difference was found between the two groups when looking at the lack of job control, with FCPs reporting higher levels of control. FCPs also had higher scores on job demands in the following areas: buying supplies out of their own money, being a friend and business person with the parents, working long hours (averaging 12 hours more per week in comparison to CCWs), and looking after the needs of their own children. Interestingly, when assessing the responses to overall job resources, the two groups did not differ significantly.

In a separate research project, Curbow and her colleagues collected data from 98 randomly selected childcare providers through focus groups in which the participants were asked questions regarding their stressors at work, spillover between work and their family, coping strategies, and suggestions for making their work better (Curbow, McDonnell, Spratt, Griffin, & Agnew, 2003). Results from the focus groups revealed seven common themes among the participants including fatigue, negative emotions at home, working all of the time (for FCPs), being able to get all of the work done (for CCWs), compromising family life and work, and negative emotions at work. From these

data, the researchers then developed the Work-Family Interface Scale (W-FIS) and used the same sample described above (Curbow et al, 2000) to assess its validity. Results indicated that work-family spillover moderated the relationship between job resources and depression such that, for providers who reported low work-family spillover, depression and job resources were not significantly associated with each other; however, for providers who reported high work-family spillover, a lower level of resources was associated with higher levels of depression. Researchers concluded by identifying two conditions that would improve provider well-being: maximizing the level of rewards (resources) and minimizing the level of conflict between work and family.

The research summarized in this section has discussed various sources of job stress that child care providers, specifically family child care providers, must manage. Stressors likely to accompany being a family child care provider include the need to balance multiple roles, work long hours, maintain positive relationships with parents, handle the demands of caring for both one's own and others' children, and deal with fatigue and negative emotions. When providers perceive that work-related stress is spilling over into their family and/or that family-related stress is spilling over into their work, providers who reported having fewer resources (i.e., in the sense of not being valued or being seen as doing an important job) experienced higher levels of depression. Thus, the nature of child care work can result in the activation of stress-related emotions that may affect providers' interactions with the others around them.

Emotions and Emotion Regulation

Traditional approaches to conceptualizing and studying emotions have emphasized their intrapersonal, discrete nature (e.g., Izard, 1991). In contrast, a

functionalist approach to emotion (Campos, Mumme, Kermoian, & Campos, 1994) holds that emotions are not simply a within-person phenomenon; rather, emotions are relational, in that they are person-event transactions in which one responds to what is perceived as a significant event by trying to “establish, maintain, change, or terminate” ones relation to the event (Campos et al., p. 285). Thus, this perspective sees emotions as flexible, connected to context, goal-directed, and serving to regulate actions and action tendencies.

In this vein, Dix (1991) proposes that emotions play an organizing role in parents’ ability to respond to “significant events” in parent-child interactions, either promoting or undermining effective parenting responses. When events occur that are relevant to their significant goals and concerns, parents’ emotions are activated, meaning that they begin to cognitively and emotionally appraise the situation. Once emotions are activated, parents may become engaged in cognitively processing their own reactions to the situation. This process can prompt a wide range of engagement behaviors, such as efforts to protect, comfort, stimulate, or discipline their children. Alternatively, if parents’ emotions are not activated or they do not become emotionally engaged, parenting responses may show insufficient persistence, intensity, or regularity (Dix, 1991).

Effective parenting requires that adults be able to regulate their emotional arousal so that they may organize responses that promote desirable outcomes for the child, parent, and the parent-child relationship (Dix, 1991). Adults in a negative state of arousal are less sensitive to children’s positive behaviors and more sensitive to their negative behaviors. A parent in a negative emotional state may respond with avoidant,

punitive, overly controlling, or hypersensitive behaviors, focusing on self-related concerns rather than on their child's concerns. Such emotional states may induce motives, appraisals, and reactions that obstruct the requirements of parenting tasks at hand. Thus, emotion regulation is a basic component of parents' ability to actualize their plans and concerns with their children and to engage with them in the constructive ways that promote the parent-child bond (Dix, 1991).

Thompson (1994) defines emotion regulation (ER) as a combination of intrinsic and extrinsic processes accountable for evaluating, monitoring, and adapting emotional reactions in order to attain one's goals. Emotion regulation encompasses a range of processes involving physiological arousal, neurological activation, cognitive appraisal, attention processes, and response tendencies. A person's ER behaviors can speed or slow down the onset of recovery from emotional arousal and enhance or subdue the intensity of the experienced emotion (Masters, 1991). When regarded functionally, ER serves the regulator's goals for a particular situation. People commonly regulate their emotions by managing the encoding of internal cues of emotional arousal and by controlling and predicting the emotional requirements of the situation (Thompson, 1994).

Developmentally, early emotion regulation depends on external influences in the immediate context (Thompson, 1994). For example, parents' prompt and sensitive responses to the distress cries of their infant or to the emotional arousal of their young child's separation distress regulate the emotional experience of the child. Parents also externally regulate young children's emotional experiences by adjusting the emotional demands of the physical and social environment. For example, if it is nearing the child's nap time and it is a source of conflict, the parent might take steps to reduce the

conditions that make nap time unattractive (e.g., limit the stimulation in the room by dimming the lights or eliminating outside noises) and increase conditions that make it attractive (e.g., snuggling or reading a book or playing soothing music). “Caregivers can extrinsically manage children’s emotion experience through the emotional demands that they impose on young children and the interpersonal supports that they provide for containing emotional arousal within reasonable limits” (Thompson, 1994, p. 41 - 42).

How parents (and caregivers) understand the emotional demands of a situation, how they define the reasonable limits within which emotions should be contained, and how they respond to those demands on behalf of their children have been described as parental meta- emotion philosophy (Gottman, Katz, & Hooven, 1996). This philosophy is related to positive parenting and the inhibition of parental negative affect, both of which directly affect a child’s regulatory physiology and, in turn, the child’s ability to regulate his or her own emotions. Researchers identified four types of philosophies about emotions and responding to them: (1) The “dismissing style” involves ignoring or disregarding a child’s emotions as significant or worthy of attention; (2) the “disapproving style” entails punishment or criticism of a child’s emotional expressions; (3) the “laissez-faire style” permits a child to express any kind of emotion without limits or guidance on the appropriate behavior; and (4) the “emotion coaching style” involves providing empathy and effective guidance in response to a child’s emotions. In comparison with the other styles, parents who utilized an emotion coaching approach had children who showed less stress physiologically when faced with emotionally challenging situations (Gottman et al., 1996).

A review of research pertaining to the development of ER in children and

adolescents as a consequence of family context led to the development of a tripartite model of familial influence (Morris, Silk, Steinberg, Meyers, & Robinson, 2007), in which parenting practices and parents' responses to children's emotions (for example, as influenced by parents' meta-emotion philosophy) was just one pathway through which children's ER was affected. Also important to the development of children's ER were observational processes, such as modeling and social referencing (i.e., of the emotional behaviors of adults and other family members), and the emotional climate of the family, including parental attitudes about children that contribute to the emotional climate (Morris et al., 2007).

Although the development of emotion regulation in childhood has been a subject of research for some time, less research has focused on this topic in adult development. The traditional view has been that as children mature they gradually internalize ER abilities, which they then carry into their adult lives. However, lifespan development researchers have begun to examine emotion regulation processes in adulthood and note that research from different disciplines confirms that developmental tasks, goals, and competencies related to ER are as important throughout adulthood as they are in childhood and adolescence (Diamond & Aspinwall, 2003).

Emotion Regulation Strategies and Their Consequences

Emotion regulation has been conceptualized in a variety of ways, for example Garnesfski and Kraaij (2007) focus on cognitive strategies such as ruminating, refocusing on planning, catastrophizing, and other-blame. Others conceptualize it more broadly to involve emotional awareness and understanding (Gratz & Roemer, 2004) or as part of emotional intelligence (Lopes, Salovey, Cote, & Beers, 2005). In the area of experimental social

psychology, Gross and John (2003; Gross, 1998; John & Gross, 2004) developed a model to explain the process of emotion generation and regulation. The conception of the emotion-generative process holds that emotions begin with emotional cues that, when evaluated, coordinate a set of response tendencies that involve physiological, experiential, and behavioral systems. Emotions are conceived as being generated in a process that can be regulated at the following five points (Gross & John, 2003): (1) selection of the situation; (2) modification of the situation; (3) deployment of attention; (4) change in cognitions (termed, cognitive reappraisal in later work); (5) modulation of physiological, experiential, and behavioral responses (termed, suppression in later work). Emotions are referred to as antecedent-focused because they are enacted “before the emotion response tendencies have been fully activated and have changed our behavior and peripheral physiological responding” (Gross & John, 2003, p. 348). Regulation strategies occurring at the fifth time point are referred to as response-focused because they are enacted after an emotional response tendency has already been generated (Gross & John, 2003). Gross and John (2003) focused specifically on points four (cognitive reappraisal) and five (suppression). Cognitive reappraisal is an antecedent-focused ER strategy defined as construing a potentially emotion-eliciting situation in such a way as to alter its emotional impact (Lazarus & Alfret, 1964). Suppression is a response-focused ER strategy defined as “a form of response modulation that involves inhibiting ongoing emotion-expressive behavior” (Gross & John, 2003, p. 349).

Gross and John (2003) conducted a series of studies to validate a measure of these two ER strategies, examine individual differences in their use, and determine the consequences of using them for individual and interpersonal functioning. Participants in

these studies rated themselves on the 10-item Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) using a 7-point Likert scale. An example of a statement designed to assess the use of reappraisal is, “I control my emotions by changing the way I think about the situation I’m in.” An example of a statement designed to assess the use of suppression is, “When I am feeling negative emotions, I make sure not to express them.”

Results revealed that participants who used suppression as a means to regulate their emotions experienced and expressed less positive emotion, reported more depressive symptoms, felt less satisfied with life, had lower self-esteem, and were less optimistic. The use of suppression was negatively associated with the use of venting to as a coping strategy. People who used suppression were less likely to express that they were upset. These individuals were strongly aware of their lack of authenticity and that they purposefully misled others about their beliefs, outlook, and true inner feelings. In contrast, participants who used reappraisal strategies showed fewer symptoms of depression, were more satisfied with their lives, had better self-esteem, and were more optimistic. Participants using reappraisal to regulate their emotions were found to experience and express more positive emotions (via self-reported and peer-reported measures). The use of reappraisal was associated with coping through reinterpreting stressors, by looking for something good, and by making active efforts to repair bad moods. Interestingly, both suppressors and reappraisers perceive their ER efforts as successful (Gross & John, 2003).

Further, related to the consequences for social relationships of using reappraisal and suppression, peers of those who used suppression were able to detect their suppression efforts. Suppressors were less likely to share with others both their negative

and positive emotions and were more avoidant (uncomfortable with closeness and sharing) in close relationships. Cognitively, suppressors showed poorer memory for social information. In contrast, reappraisers had closer relationships with friends and family and were comfortable sharing their emotions (both negative and positive) with others. Two studies conducted by Butler, Egloff, Wilhelm, Smith, Erickson, and Gross (2003) examined suppression and its social effects. The first study consisted of 72 women from the Stanford University area. Its goal was to compare cognitive reappraisal to expressive suppression by introducing two women who had never met before. The participants had blood pressure cuffs attached, and a television placed in front of them, with a partition placed in between them so that they could not view each other. A 3-minute film was originally shown to get a baseline for their blood pressures, followed-up by a 16-minute documentary on war and the aftermath of a nuclear bomb dropped in Hiroshima and WW II. Prior to the film, random assignment was used in assigning each participant to utilize suppression, reappraisal, or be part of the control group. The participant/partner groups were assigned to be either the regulator or the uninstructed partner. If chosen to be the suppression regulators, the students received a tape-recorded message through headphones instructing them on how to suppress emotions. For example, “During the conversation, behave in such a way that your partner does not know you are feeling any emotions at all” (p. 52). If chosen to be the reappraisal regulator, students were guided via a recording and headphones with instructions like, “During the conversation, think about your situation in such a way that you remain calm and dispassionate” (p. 52). Partitions were then removed between the participant partners and they were asked to discuss their feelings and thoughts of the film, and its religious

and political relevance. Participant responses were videotaped and coded from the Specific Affect Coding System (Gottman & Levenson, 1992). Once the conversation ended, partitions were placed back-in, and participants individually responded to self-report measures (including measures of rapport, task difficulty, emotion experience, and distraction, using an 11-point Likert scale). Physiological responding was assessed by measuring their blood pressure throughout the baseline film and conversations with their partners.

The second study, consisting of 84 undergraduates from the Stanford area, was conducted to replicate the findings in Study 1, and was identical, except for the initial, baseline film, which was shown for 6 minutes (versus 3) in order to improve the reliability of the blood pressure and self-report measures. Results from the two studies revealed that expressive suppression affected relationships by disrupting communication, increasing levels of stress, and producing non-normative blood pressure readings in both suppression regulators and their partners (Butler et al., 2003).

In summary, ER strategies available to individuals to adapt to the demands of an emotion-eliciting event can be differentiated in terms of their focus on aspects of the event prior to the full activation of an emotion or on the emotion once it has been fully engaged. Experimental studies have shown that the use of the antecedent-focused ER strategy of cognitive reappraisal is associated with positive individual and interpersonal consequences, while the use of the response-focused ER strategy of suppression is associated with poor individual and interpersonal functioning. It is because of the ability of this measure to show distinct consequences for interpersonal functioning that this conceptualization of ER will be used to guide the measurement of this variable in

the current study.

Emotion Regulation and Adult-Child Interactions

Very few empirical studies have examined differences in adult emotion regulation styles and their consequences for adult-child interactions. Bariola, Hughes, and Gullon (2012) looked at the relationship between the ER style used by parents and children's ER style using a metropolitan, Australian sample of 379 youth between the ages of 9 and 19 and their parents (358 mothers and 207 fathers). The parents completed the ERQ (Gross & John, 2003) and the children and adolescent participants completed a modified version of the ERQ (ERQ for Children and Adolescents, p. 445) created to better suit their age by adjusting the response scales and wording. For example, an item for suppression included, "When I'm feeling happy, I am careful not to show it," and an example for reappraisal included, "I control my feelings about things by changing the way I think about them." Results revealed that a significant, positive correlation existed between paternal reappraisal and maternal reappraisal. In addition, children's suppression was significant and positively correlated with their mothers' use of suppression.

Swartz and McElwain (2012) looked at the effects of pre-service teachers' emotion regulation and their responses to children's positive and negative emotional displays in their early childhood classrooms. Twenty-four undergraduates who were in training as early childhood educators participated in the study and were recruited from an introductory course on early childhood curriculum development. Observations were conducted during regular practicum hours at the university preschool. Each participant was observed on at least four separate occasions (from an observation booth) in a variety of settings including snack times, outdoor play, free time, and routine transitions. A two-

step process was used when observing; narrative records were made during the live observations and later these narrative records were coded for child emotions and teacher responses. The participants completed the 10-item ERQ (Gross & John, 2003), which was used to assess their reappraisal and suppression (ER) strategies in response to emotional situations. Results revealed that emotion regulation strategies (e.g. reappraisal and suppression) were associated with the quality of preservice teachers' responses to children's emotions. Specifically, preservice teachers' self-reported higher use of cognitive reappraisal was associated with fewer nonsupportive responses to children's positive emotions and more supportive responses to children's negative emotions. Preservice teachers who reported using low to moderate levels of expressive suppression were observed to provide more supportive responses to children's negative emotions. With regard to the association of ER strategies with preservice teachers' emotion-related cognitions, the use of reappraisal was associated with the more perspective-taking and acceptance of children's negative emotional states. These findings suggest that the strategies adults use to regulate their own emotions have consequences for the quality of emotion-related thinking and behavioral responses to children's emotions.

Summary

Personal and workplace stressors have been shown to affect the quality of interactions adults have with children. The nature of being a child care provider can result in stress-related emotions that can affect interactions with others. Theory and research point to emotion regulation strategies as having consequences for interpersonal interactions in the workplace, in the classroom, and in the home. Only one study was found that examined the effects of specific emotional regulation strategies on interactions

with children. The intent of the current study aims to examine the interplay of emotion regulation strategies and work stress in predicting the quality of family child care providers' interactions with children.

Research Questions, Hypotheses, and Control Variables

The following research question and hypotheses were examined:

RQ: Does the level of work-family stress reported by family child care providers interact with their emotion regulation strategies (cognitive reappraisal or expressive suppression) to affect the quality of their interactions with the children they care for?

H1: Family child care providers who report using cognitive reappraisal in conditions of higher work-family stress will have higher observer ratings in the quality of their interactions with the children for whom they care when compared with family child providers with high work-family stress who use expressive suppression.

H2: Family child care providers who report using expressive suppression in conditions of higher work-family stress will have lower observer ratings of the quality in their interactions with the children for whom they care when compared with family child care providers with high work-family stress who use cognitive reappraisal.

Before investigating the interaction of work-family stress and ER on interaction quality, I will first look for main effects to see if there are associations between work-family stress and interaction quality and between the emotion regulation strategies and interaction quality. In addition, I will control for the effects of several variables shown to be related to differences in child care quality. Specifically, I will control for FCCP SES, years of experience, and depression in all

analyses. Socioeconomic status will be controlled in this study because a strong positive relationship has been found between how much family and child care center providers make and the quality of care they provide (Cost Quality and Outcomes Study Team, 1995; Helburn, 1995; Kontos et al., 1995; Shonkoff & Phillips, 2000). Years of experience as a family child care provider will also be controlled because of its relevance to providers' perceived level of work-family stress. Depression will be controlled because mothers who are depressed have been found to have a deficit in mutual, supportive exchanges associated with desirable emotions when interacting with their children (Dix, 1991). In a study of 1217 nonfamilial child caregivers, caregivers who reported more depression were found to be more withdrawn and less sensitive to the children within their care (Hamre & Pianta, 2004).

III. METHOD

Participants

The 98 research subjects who participated in the study are family child care providers enrolled in the Family Child Care Partnership (FCCP) program in the state of Alabama. There are over 200 members currently enrolled in the FCCP. Family child care providers are regulated and licensed small business owners who provide care in their homes for the children of working parents. Providers enroll voluntarily in the FCCP program and receive regular in-home mentoring and training. Participating in the FCCP program is a way for the providers to meet the yearly 20-hour training requirement for maintaining licensure by the Alabama Department of Human Resources. In addition, providers participate because they want to improve the quality of care they offer and receive support and guidance in the quest to become nationally accredited through the National Association for Family Care (NAFCC). Eligibility to participate in the study was limited to currently enrolled FCCP providers who had previously completed a 2013 Provider Enrollment Form and a 2013 Professional Development Questionnaire and had a recent mentor observation on record. Out of 89 primary providers who participated in the conference, 62 completed the survey. Out of the remaining 111 providers who did not attend, 36 completed the survey.

Table 1 (see Appendix A) shows the demographic characteristics of the sample. All 98 family child providers participating in this study were female and their average age was approximately 50. The majority of the sample were married, African American,

and only had a high school degree. Thirty-eight percent reported an annual household income of \$30,000 or lower, and another 38% reported an income over \$50,000. Statistical analyses of these demographic variables indicated that this sample is representative of the entire pool of FCCP providers.

Procedures

This study combined secondary data collected from all family child care providers enrolled in FCCP, along with original data gathered from providers using the following procedures. At the annual Alabama Family Child Care Partnership conference, held in Auburn, Alabama, in June, 2013, recruitment flyers were inserted into program registration materials and distributed to all attendees. A booth was set-up in the vendor area at the conference for further recruitment of conference participants who may not have read the recruitment flyers, and as a venue for those choosing to participate to sign the IRB-approved informed consent form and complete the questionnaire. Participants completing the survey received a financial incentive in the form of a \$20 voucher to purchase supplies from vendors at the conference.

FCCP providers unable to attend the conference were invited to participate in the study during a regular home visit by their mentor. FCCP mentors are certified to consent research participants and administer research questionnaires through the Collaborative Institutional Training Initiative. Providers agreeing to participate returned completed questionnaires in sealed envelopes to the mentor.

Secondary data used in this study consisted of demographic and other provider-related information gathered as part of normal FCCP enrollment procedures as well as observational data about caregiver-child interaction quality. Enrolled

providers annually sign an Informed Consent form and complete a paper-and-pencil Family Child Care Partnership Provider Enrollment and Professional Development Survey. Observational data are collected by each provider's mentor on an annual basis to assess global child care quality using a standardized measure (described elsewhere) specific to family child care. Each provider's most recent assessment of the quality of her interactions with the children in her care was used.

Measures

Work-Family Stress. The Work-Family Interface Scale (W-FIS; Curbow et al., 2003) is a 20-item measure created to assess the spillover of work to family and of family to work (see Appendix C). Participants responded on a 5-point scale: 1 (none of the time) to 5 (all of the time). The measure includes four items related to general overload (e.g., "There is too much for me to do in the time I have to do it"); four items related to family-to-work conflict (e.g., "My work suffers because I have to take care of my family"); four items on family-to-work spillover (e.g., "I find that I am in a bad mood at work because of things happening at home"); five items related to work-to-family conflict (e.g., "I miss out on important family events because I have to work"); and three items related to work-to-family spillover (e.g., "Problems at work make it hard for me to relax at home"). Scores for all 20 items on this measure were summed, with higher scores indicating the provider experiences more work-family stress. In this study, internal consistency reliability was .80.

Emotion Regulation. The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) assesses the habitual use of two emotion regulation processes: cognitive reappraisal (six items) and expressive suppression (four items) (see Appendix C).

Responses are rated on a scale of 1 (strongly disagree) to 7 (strongly agree). One example of a statement representing cognitive reappraisal is, “When I am faced with a stressful situation, I make myself think about it in a way that helps me stay calm.” Expressive suppression is illustrated by the statement, “I control my emotions by not expressing them.” The six reappraisal items were summed and the four suppression items were summed with higher scores reflecting greater use of the strategy. This measure has shown both convergent and discriminant validity; internal consistency estimates across five separate studies conducted by Gross and John (2003) ranged between .75 and .82 for cognitive reappraisal, and between .68 and .76 for expressive suppression. In this study, internal consistency estimates fell within these ranges (α for reappraisal = .84; α for suppression = .70).

Quality of Caregiver-Child Interactions. The revised Family Child Care Environment Rating Scale (FCCERS; Harms, Cryer, & Clifford, 2007) was designed to evaluate the global quality of the care environments operated by family child care providers (see Appendix D). In the FCCP program, the 38-item FCCERS observation measure is completed annually by the provider’s mentor, who is a trained FCCERS observer. The FCCP Managing Director trained each mentor to an inter-rater reliability of at least 80%. FCCERS items are rated from a 1 (inadequate) to 7 (excellent), with higher scores reflecting higher quality care and lower overall scores reflecting lower quality care. For each item, detailed descriptions (indicators) of relevant provider behaviors or features of the environment are provided for each rating scale anchor point (one, three, five, and seven). All of the indicators of a particular anchor point/score, in addition to those of any lower points, must be met in order for an item to receive that score. For

example, in order to receive a rating score of seven on any item, all of the indicators (one, three, five, and seven) must be met. Additionally, if all of the lower score indicators are completed, and at least half of the indicators for the next higher score are met, then the observer will select the even number between the lower and higher anchor points as the score. The alpha for the FCCERS global quality scale is .97.

In addition to a global quality scale, ratings on seven subscales can be computed. A subscale score consists of the average of the items in each subscale. The interaction subscale consists of the following four items: (1) “Supervision of Play and Learning” refers to the provider’s ability to balance the children’s need to explore independently with the provider’s input into their learning, such as talking with the children about ideas related to their activities. (2) “Provider-Child Interaction” refers to the provider’s ability to be sensitive to the child’s feelings and reactions, as well as respond sympathetically to children who are upset, angry, or hurt. (3) “Discipline” refers to the provider’s active involvement in solving conflicts and problems with the children, seeking advice about behavior problems from other professionals, and helping children understand the consequence of their actions on others. (4) “Interactions among Children” refers to the provider’s ability to provide and initiate with the children activities that encourage working and playing together. The alpha for the interaction scale was .74.

Demographic and control variables. Information about providers’ age, race, marital status, and education were reported and examined for their relationships to key study variables (see Appendix B). Age was assessed by the providers stating their age as a continuous variable. Race was assessed by asking which ethnic or racial group the provider identified or belonged to with six possible options: (1) White or Caucasian; (2)

Black or African-American; (3) Hispanic or Latino; (4) Asian or Pacific Islander; (5) American Indian or Native American; (6) Other. Marital status was reported using one of two categories: (1) married; or (2) single, separated, or divorced. Level of education had five possible options: (1) High school/GED; (2) some college; (3) 2-year Associate degree; (4) Bachelor's degree; or (5) Master's degree or higher.

Three additional variables were controlled because of their potential impact on adult-child interaction quality and emotion regulation strategies. SES was assessed using the annual household income (before taxes), which has nine response categories ranging from less than \$10,000 per year to over \$80,000 per year. Years of experience was measured by asking the providers to state the number of years they have received pay for caring for children in their homes. Depression was measured with the Major Depression Inventory (MDI; Olsen, Jensen, Noerholm, Marty, & Bech, 2003). The MDI (see Appendix C) was created to detect depression symptoms that correspond with the DSM-IV and consists of 10 items to which participants respond using a 6-point Likert scale. Each of the 10 items describes a symptom and respondents indicate often in the last 14 days the symptom has been present 0 (symptom has not been present at all) to 5 (symptom is present all of the time). The MDI has shown strong internal consistency in past research ($\alpha = 0.90$) (Olsen, et al. 2003). A higher score on the MDI indicates more depression symptoms. Examples of questions included on the MDI are: (1) Have you lost interest in your daily activities? (2) Have you felt less self-confident? For the purposes of the current study, the question on the MDI "Have you felt that life wasn't worth living?" was excluded from the measure due to IRB concerns about risk to research subjects. Cronbach's alpha for the 9-item measure was .86.

IV. RESULTS

Examinations of stem-and-leaf plots, box plots, and histograms were performed on all study variables. Descriptive statistics for main study variables can be found in Table 2 (see Appendix A for all tables). The average number of years that participants worked as a paid family child care provider was just under 12 years. The average depression score for this study was about 18. Previous research with the MDI has indicated that 26 is the cutoff score for a diagnosis of depression (Bech, Rasmussen, Olsen, Noerholm, & Abildgaard, 2001). Approximately 92% of this sample scored below this threshold. Responses to the Emotion Regulation Questionnaire (ERQ) were negatively skewed (-.99) for reappraisal, meaning that providers reported using this strategy frequently. Suppression scores were relatively low, but normally distributed. Responses to the Work-Family Interface Scale indicated that providers reported low levels of work-family stress. The distribution of the 4-item interaction subscale of the FCCERS was highly negatively skewed (-2.99). Because of the poor distribution, the FCCERS global quality score (the sum of all 38 items) was included as an outcome variable. The FCCERS global quality score was more normally distributed with an average score at the low end of what is considered to be the good-to-excellent range.

Correlational analyses were performed (see Table 3). SES was significantly negatively correlated with stress and the stress by reappraisal interaction term. Years of experience was significantly correlated to reappraisal in a positive direction. Depression was significantly correlated with reappraisal in a negative direction. Depression was also

significantly correlated with work-family stress in a positive direction and with interaction quality in a negative direction. Neither the FCCERS interaction quality subscale nor the global quality scale was related to stress or either of the ER strategies. The interaction term combining stress and suppression was not significantly correlated with any variables other than its component parts; however, the interaction term combining stress and reappraisal was positively correlated with FCCERS global quality.

Examination of Study Hypotheses

The first hypothesis stated that family child care providers who reported using reappraisal in conditions of higher work-family stress would have high observer ratings of quality interactions with the children they care for in their home. To test this hypothesis, a hierarchical regression analysis was performed (see Table 4). Model 1 included SES (annual household income), years of experience, and depression as control variables. Model 2 added the independent variables: reappraisal, suppression, and work-family stress. Model 3 consisted of adding the interaction between work-family stress and reappraisal to see if it predicted the FCCERS interaction quality score over and above the contribution of the other variables. There were no main effects of either reappraisal or stress on interaction quality and the interaction term was also nonsignificant. The same hierarchical regression analysis was repeated using the FCCERS global quality score as the dependent variable. Again, none of the variables explained significant variance in global quality (see table 5).

The second hypothesis stated that family child care providers who report using suppression in conditions of higher work-family stress would have low observer ratings of quality of their interactions with the children they care for in their home. To test this

hypothesis, a hierarchical regression analysis was performed (see Table 6). Model 1 included SES, years of experience, and depression as control variables. Model 2 added the independent variables: reappraisal, suppression, and work-family stress. Model 3 consisted of adding the interaction between work-family stress and suppression to see if it predicted providers' FCCERS interaction quality score over and above the contribution of the other variables. There were no main effects of either suppression or stress on interaction quality and the interaction term was also nonsignificant. The same hierarchical regression analysis was repeated using the FCCERS global quality score as the dependent variable (see Table 7). Again, none of the variables explained significant variance in global quality.

Post Hoc Analysis

In light of the fact that no significant relationships were found, post hoc analyses were carried out using re-conceptualized variables that might better reflect stress and quality interactions. The Work-Family Interface Scale was analyzed further by looking at the five subscales suggested by Curbow et al. (2003). Reliability analyses indicated that it was reasonable to combine the work-to-family spillover and conflict items. Similarly, the items representing family to work spillover and conflict were combined. Both the work-to-family ($\alpha = .853$) than family-to-work ($\alpha = .751$) scales were reliable. With the underlying goal of this study being to measure how stress affected the child care providers' interactions with children, the family-to-work items were chosen to be used in this analyses.

Results from the correlation matrix (see Table 8) reveal a significant positive correlation between the use of reappraisal and years of experience and a significant

negative correlation between the use of reappraisal and depression. A hierarchical regression analysis was structured in the same way as described in the previous section to determine if reappraisal, family-to-work stress, and/or their interaction term predicted global quality. None of the variables entered into the analysis showed significant relationships with global quality (see Table 9). A similarly structured hierarchical regression analysis was conducted to determine if suppression, family-to-work stress, and/or their interaction term predicted global quality. Again, no variables entered into the analysis showed significant relationship with global quality (see Table 10).

V. DISCUSSION

Emotional distress is an understudied individual well-being mediator found to link work-family stress and relational functioning outcomes (Perry-Jenkins et al., 2000). People use different emotional self-regulation strategies to cope with emotional distress, leading to different outcomes for the quality of their individual and relationship functioning (Gross & John, 2003). The current study examined whether family child care providers' self-reported work-family stress interacts with their primary emotion regulation strategy to predict the quality of their interactions with the children in their care. I had expected that higher work-family stress when combined with the use of reappraisal would be predictive of higher quality adult-child interactions. I also expected that higher work-family stress when combined with the use of suppression would be predictive of lower quality adult-child interactions. However, none of these expectations were realized. This discussion will examine these findings in the context of prior theory and research, as well as explore conceptual and methodological reasons that may have contributed to these results.

Implications for Research and Theory

The findings in this study appear to contradict research that has found that ER strategies have consequences for adults' interactions and behaviors with children. Swartz and McElwain (2012) studied the relationship between the type of emotion regulation style used by undergraduate preservice preschool teachers and the quality of their responses to children's emotional behavior. Teachers who reported using reappraisal as a

means to regulate their own emotional arousal provided fewer nonsupportive responses to children's positive behaviors, and more supportive responses to children's negative emotions. Teachers who reported using low-to-moderate levels of suppression also provided more supportive responses to children's negative emotions. In the current study of family child care providers, however, emotional regulation style was not associated with the quality of providers' interactions with children.

One possible explanation for this contradiction may have to do with differences between the adult behaviors being observed in each study. Mentor observers rated the overall quality of provider-child interactions occurring throughout the day, focusing on providers' responsiveness, sensitivity, facilitation of problem-solving, and disciplinary style. In contrast, observers of the preservice teachers recorded on at least four separate occasions teachers' behaviors occurring specifically in response to children's emotional displays. Behaviors recorded included specific movement and activity (moving closer to the child, pat on the back, etc.), verbalizations, facial expressions, vocal quality, and body language. Observers also recorded a narrative report of the teachers' contextual details (e.g. physical distance between the teacher and child). Because observers using the FCCERS were asked to evaluate provider practices across multiple domains, ratings may not have been particularly sensitive to interactions most strongly associated with adult coping styles. In contrast, the observers assessing the preservice teachers' emotional arousal were instructed to look at specific behaviors in specific emotion-producing situations. In addition, in the current study, different observers rated different teachers introducing additional bias. Thus, the procedures in the current study permitted greater subjective interpretation of interaction behaviors in comparison with the more prescribed

observation procedures used by Swartz and McElwain (2012).

These current study results also appear to contradict theoretical ideas about the relationship between adult emotion regulation and the ability of adults to engage in desirable interactions with children. Dix (1991) suggests that a parent's emotions play an organizing role in their ability to respond to "significant events" in parent-child interactions, either promoting or undermining their effective responses. To be effective requires the ability to regulate emotional arousal in order to organize responses that promote desirable outcomes for the child, parent, and parent-child relationship. Adults in a negative state of arousal are less sensitive to children's positive behaviors and more sensitive to their negative behaviors. These negative emotional states can then obstruct the requirements of the parenting task at hand. Thus, Dix concludes that ER is a basic component of a parents' ability to actualize their plans/concerns with their children and engage them in constructive ways to promote a healthy parent-child bond.

In their model of the impact of the family on children's emotion regulation and adjustment, Morris and her colleagues (2007) suggest that children's ER develops through observation of others' ER, parenting practices in response to children's emotions, and the emotional climate of the family including parenting style, family expressiveness, attachment relationship quality, and the emotional quality of the marital relationship. One implication of this model is that children's ER depends, at least in part, upon the abilities of adults to regulate themselves. But research on adult ER suggests that not all means used by individuals to regulate their emotional arousal are beneficial for relationships (Gross & John, 2003; John & Gross, 2004; Repetti et al., 2009). Jennings and Greenberg (2009) have noted that pre-service teachers are not required to take courses on social

emotional development and ER but that such training would be beneficial. Thus, it seems apparent that being a parent, teacher, or child care provider does not automatically lead to the knowledge or use of healthy ER strategies. Additional research is needed about the knowledge and skills adults possess and that is essential to their being effective models of ER for children.

Differences in the nature of the adult-child relationship could be another possible reason for the absence of support for the hypotheses of this study. It is likely that the average mother is more emotionally invested in her child than even the most caring provider. The nature of the attachment relationship and the mother's sense of responsibility for the child's immediate and long-term future could make her more susceptible to a higher level of emotional arousal in response to her own child's behaviors and emotions. In contrast, because a family child care provider does not typically have the same level of emotional investment in and responsibility for children compared with their parents, the emotions experienced by the provider may be of a more limited range and, hence, easier to regulate.

A second factor differentiating the level of emotional arousal that must be regulated by a parent versus a family child care provider is that state-licensed child care providers are required to have child development training. Compared with parents, family child care providers (especially participants in the FCCP program) have more access to resources and additional training about how to manage children's behaviors. Such training can lead to more realistic expectations when dealing with children's challenging behaviors and emotions. Parents, on the other hand, do not always have awareness of or access to the education and resources that would support their ability to do the cognitive

work (e.g., recognizing developmental reasons for misbehavior, perspective-taking, reframing, etc.) helpful in managing their emotions.

With regard to the differences in findings between this study and the only other study of child care provider ER and its relationship to adult-child interaction quality, the undergraduate preservice teachers observed by Swartz and McElwain (2012)--in comparison to family child care providers--presumably had fewer years of experience in responding to children's emotionality. FCCP providers had been working in paid child care an average of 12 years. This difference in experience may play a role in what each group of child care professionals would find to be emotionally arousing with regard to children's behavior and emotionality. FCCP providers are not new to the field and their threshold of emotionality could potentially be much higher than that of younger, less experienced preservice teachers.

Implications for Conceptualization and Measurement

The fact that the findings presented here conflict with both theory and the limited research that has examined the relations of adult ER with adult-child interactions suggests that a second look be taken at the conceptualization and measurement of key study variables. By using the ERQ (Gross & John, 2003), this study adopted reappraisal and suppression as the possible strategies adults use to regulate their emotional arousal. These strategies are two of many possible emotion regulation strategies that may occur at any of the five points on the emotion generation spectrum (as diagramed by Gross & John, 2003): (1) situation selection; (2) situation modification; (3) attentional deployment; (4) cognitive change; and (5) response modulation. The ERQ conceptualizes cognitive change only in terms of reappraisal and response-focused strategies only in terms of

suppression. Thus, strategies reflecting situation selection, situation modulation, and attentional deployment are unmeasured. It is possible findings may have been different had this study been designed to measure strategies across all five points on the emotion generation spectrum.

For example, a child care provider may use situation selection strategies to reduce her emotional arousal by limiting the number of children in her care. A provider may be aware that even though she is licensed to care for six children at once, doing so would feel overwhelming. Thus, before anything else happens, the provider may choose to avoid the emotions that could arise from caring for six children at one time. An example of situation modification would be limiting chaos. Knowing ahead of time that children can get emotional when hungry and tired, providers may modify the situation by scheduling a special event either earlier in the morning or after nap time. Indeed, Gross and John (2003) note the limitations of the ERQ and recognize that individuals likely use a variety of other strategies in addition to or instead of the two that they operationalized in the ERQ. Thus, it would be recommended that future research focus on the fuller range of strategies adults may use to regulate their emotions.

Another consideration for future research is the fact that there are alternative ways in which antecedent-focused and response-focused emotion regulation strategies can be conceptualized other than in terms of cognitive reappraisal and expressive suppression. For example, Garnefski and Kraaij (2007) identify eight emotion regulation strategies, including reappraisal, in their work aimed at understanding the relationship between cognitive ER strategies and mental health. These included self-blame, other-blame, ruminating, catastrophizing, putting into perspective, positive refocusing, positive

reappraisal, acceptance, and refocusing on planning. Gratz and Roemer (2004) conceptualize ER more broadly to involve emotional awareness and understanding, the acceptance of emotions, and the ability to act in desired ways regardless of emotional state. Similarly, Lopes, Salovey, Cote, and Beers (2005) have proposed that the ability to regulate emotions should be conceptualized as a part of emotional intelligence. Each of these research teams have operationalized their approaches in ways that may be beneficial for studying emotion regulation in child care settings.

In addition to ER, the conceptualization of work-family stress is another variable worth re-examining. The present study originated from research literature suggesting that in chronically stressed families, there are variations in how adults manage emotional distress. A review of the research literature on stress and family functioning concluded that chronically stressful conditions in the workplace affect an individual's physical, cognitive, and emotional functioning as well as the quality of family relationships (Perry-Jenkins et. al., 2000). However, stress conceptualized in terms of family stresses spilling over into the work place was not associated with the quality of provider-child interactions. It may be that the sources of stress consequential for these interactions are different for this group of providers, since they reported relatively low levels of work-family stress.

Although work-family stress is one type of stress that adults encounter, there are many other perspectives on stress that could be considered. Job control, resources and demands (Curbow et al., 2000) are other examples of stressors in the child care environment that should be considered. Stress can also be conceptualized from a health and ecological perspective in terms of acute and chronic stressors such as traumatic life

events, unemployment, and financial problems (Boardman, 2004). From a sociological standpoint, stress can be conceptualized in terms of major life events, chronic strains, or daily hassles (Pearlin, 1989). Conceptualizing stress from a psychological perspective has resulted in the measurement of physiological markers, such as oxytocin and cortisol levels (Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003). Future research could incorporate physiological measures of child care providers and thereby, perhaps, provide measures of stress less biased by self-report.

Limitations

There are several limitations to this research study that should be noted. First, the interval between the time points when observational data and self-report data were collected is problematic. Mentors conducted the FCCERS interaction observation 6-8 months prior to when providers completed the W-FIS stress scale and the questionnaire assessing the ERQ and depression. What participants report as work-family stress now might have not been relevant to the quality of care they provided when they were observed interacting with the children many months before. As beneficial as it is to use multiple informants when collecting data, the fact that the measures were collected at different points in time is a limitation. In the future, it would be beneficial to have all the measures collected be within the same time frame or collect measures in an order reflecting the putative causal associations.

A second limitation is the possibility of observer bias. The mentors recording the provider-child interactions using the FCCERS observation measure also served as the child care providers' mentor. The purpose of the mentors' position is to continue to develop and make the family child care providers more skillful in carrying out quality

child care practices. Thus, they might have a tendency to report the provider-child interactions in a more positive manner than what actually may exist. Additionally, even though the mentors were initially trained to 80% reliability with the FCCP managing director, there has been no recent inter-rater reliability check since the measure was adopted in 2008. In the future it would be helpful to use independent observers to increase the objectivity of the observations.

A third limitation involves the sample selection. The child care providers who participated in this research study are all enrolled in the Family Child Care Partnerships program, a voluntary program designed to improve the quality of family child care practice. Therefore, it is likely that many FCCP providers might be motivated to provide good, positive, quality care and are not a representative sample of all family child care providers. Additionally, over half of the participants for this study completed the questionnaire at the annual FCCP conference. This may further bias the sample, limiting it to individuals who are eager to be better child care providers. Future research is needed that minimizes this limitation by collecting data from family child care providers not enrolled in the FCCP program or other voluntary quality improvement programs.

Conclusions

Adult's emotion regulation has been shown to affect their interactions with children (Swartz & McElwain, 2012) such that those that suppress their emotions have less positive interactions with children. Adults faced with work stress have also been shown to have poorer interactions with children (Repetti et al., 2009; Repetti & Wood, 1997; Repetti, 1994). Family child care providers have been shown to have high stress jobs (Curbow et al., 2000). Taking these findings into account, it is reasonable to think

that there is a relationship between adult work stress, emotion regulation strategies, and interaction quality with children. Although the hypotheses of this study were not supported, it is worth noting that there were some bivariate correlations that “behaved” as we might have predicted (e.g., between depression and stress and between reappraisal and interaction quality). Even though these bivariate relations washed out in the more stringent testing of a regression analysis, they are a small sign that these variables may be relevant to future investigations of these relationships. But, the larger questions remain: When under stress, how do adults still manage to have healthy interactions with their children?

Why are some adults in high-stress conditions able to engage in healthy patterns of interaction with children, whereas others in the same or lower-stress conditions are not? In this study it was predicted that the strategies adults use to manage their emotions when stressed would predict adult-child interaction quality. Despite the rejection of its hypotheses, however, this research study confirms the need to develop a research agenda focusing on adult ER and its effects on adult-child interactions. This study may be especially useful in guiding future methodological decisions.

Beyond the question of the interaction of work stress and ER and its effects on adults’ relationships with children, there is a need for research that can identify adult competencies in regulating their emotions. A child’s capacity to regulate emotions starts within the family. It has been shown that a child’s social emotional competence is related to parents’ expression of emotion (Eisenberg, Valiente, Morris, Fabes, Cumberland, Reiser et al., 2003). Children learn their emotional competencies by their parents teaching about emotions, modeling emotional expressiveness, and through parents’

responses to children's emotions (Denham, Bassett, & Wyatt, 2007). The overall emotional development of the family is affected by how the parents' and children's emotionality work together (Morris, et al., 2007). So if adults help to shape their children's ER, then who is supposed to help shape adults' ER? How are parents supposed to know how to regulate their emotions? Is it expected that adults know how to effectively regulate their emotions simply because they are above the age of 18? Little is known about the associations between adult ER and the quality of adult-child interactions. However, this emerging field of research has the potential to answer important questions about child well-being. Although this study did not show the expected associations, it is imperative that investigations into the consequences of adult ER for children's emotional competencies and healthy development continue.

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Appendices

APPENDIX A

Tables

Table 1. *Descriptive Statistics for Key Study Variables*

Variable	n	%	Mean (SD)	Minimum	Maximum
Age	88		49.45 (9.45)	29	71
Race	92				
White		42.4			
Black		55.4			
Other Ethnicities		2.2			
Marital Status	91				
Married		69.2			
Single, Separated or divorced		30.8			
Education Level	82				
High School or GED		23.2			
Some college credits		35.4			
2-year Associate degree		32.9			
Bachelor's degree Or higher		8.5			
Annual Household Income	89				
\$30,000 or under		38.2			
Between \$30,001 And \$50,000		23.6			
Over \$50,000		38.2			

Table 2. *Descriptive Statistics of Key Study Variables*

Variables	n	Mean (SD)	Minimum	Maximum
Experience ^a	93	11.90 (7.91)	0	33.00
Depression ^b	85	2.01 (.62)	1.00	4.22
ERQ- Suppression ^c	92	3.21 (1.39)	1.00	7.00
ERQ- Reappraisal ^d	94	5.62 (1.19)	1.33	7.00
Work Family Stress ^e	77	1.61 (.34)	1.00	2.55
FCCERS Interaction Quality ^f	94	6.35 (.93)	1.00	7.00
FCCERS Global Quality ^g	85	5.10 (.94)	1.11	6.58

^a Experience is reported in years.

^b Depression is reported as the mean of 9 items on a 6-point scale

^c Suppression is reported as the mean of 4 items on a 7-point scale

^d Reappraisal is reported as the mean 6 items on a 7-point scale

^e Work Family Stress is reported as the mean of 20 items on a 5-point scale

^f FCCERS Interaction Quality is reported as the mean of 4 items on a 7-point scale

^g FCCERS Global Quality is reported as the mean of 38 items on a 7-point scale

Table 3. *Correlation Matrix of Key Study Variables (n=98).*

	1	2	3	4	5	6	7	8	9	10
1. SES	-									
2. Years of Experience	.15	-								
3. Depression	-.15	-.17	-							
4. ERQ-Reappraisal	.07	.18*	-.19*	-						
5. ERQ-Suppression	.06	.10	.03	.08	-					
6. Work-Family Stress	.31**	-.16	.23*	.00	-.02	-				
7. Stress X Reappraisal	.27**	-.02	.03	.67**	-.02	.73**	-			
8. Stress X Suppression	.17	-.02	.17	.00	.90**	.39**	.28**	-		
9. FCCERS Interaction Quality	-.02	.09	-.22*	.08	.01	.00	.07	.01	-	
10. FCCERS Global Quality	.06	.17	-.10	.20	.06	.05	.19*	.06	.72**	-

* $p < .05$; ** $p < .01$; *** $p < .001$. One tailed.

Table 4. Hierarchical Regression Analysis Predicting Interaction Quality From Key Study Variables and Work-Family Stress x Reappraisal (n = 73).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	6.76	3.71		6.79	.68		6.35	2.06	
Depression	-.20	.13	-.17	-.16	.14	-.14	-.16	.14	-.14
Years of Experience	.01	.01	.11	.01	.01	.10	.01	.01	.09
SES	-.02	.04	-.06	-.01	.04	-.03	-.01	.04	-.04
ERQ- Reappraisal				.03	.08	.05	.11	.35	.16
ERQ- Suppression				-.07	.06	-.13	-.07	.06	-.13
Work-Family Stress				-.06	.28	-.03	.22	1.27	.10
Stress X Reappraisal							-.05	.21	-.17
R^2								.06	
F for change in R^2								.48	.05

Table 5. Hierarchical Multiple Regression Analysis Predicting Global Child Care Quality from Key Study Variables and Work-Family Stress X Reappraisal ($n = 75$).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	4.76	.44		3.97	.76		3.04	2.28	
Depression	.02	.15	.01	.09	.16	.07	.07	.17	.06
Years of Experience	.02	.01	.17	.02	.01	.14	.02	.01	.14
SES	.02	.04	.06	.03	.05	.08	.03	.05	.07
ERQ- Reappraisal				.16	.09	.22	.32	.39	.45
ERQ- Suppression				-.05	.07	-.08	-.04	.07	-.08
Work-Family Stress				-.05	.31	-.02	.54	1.39	.23
Stress X Reappraisal							-.10	.23	-.34
R^2								.09	
F for change in R^2								1.24	
									.19

Table 6. Hierarchical Regression Analysis Predicting Interaction Quality From Key Study Variables and Work-Family Stress x Suppression ($n = 75$).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	6.76	3.71		6.79	.68		7.89	1.15	
Depression	-.20	.13	-.17	-.16	.14	-.14	-.17	.14	-.14
Years of Experience	.01	.01	.11	.01	.01	.10	.01	.01	.11
SES	-.02	.04	-.06	-.01	.04	-.03	.00	.04	-.01
ERQ- Reappraisal				.03	.08	.05	.03	.08	.05
ERQ- Suppression				-.07	.06	-.13	-.44	.32	-.80
Work-Family Stress				-.06	.28	-.03	-.76	.65	-.35
Stress X Suppression							.23	.20	.75
R^2								.06	.08
F for change in R^2								1.15	1.39

Table 7. Hierarchical Multiple Regression Analysis Predicting Global Child Care Quality from Key Study Variables and Work-Family Stress X Suppression ($n = 75$).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	4.76	.44		3.97	.76		3.47	1.34	
Depression	.02	.15	.01	.09	.16	.07	.09	.16	.07
Years of Experience	.02	.01	.17	.02	.01	.14	.02	.01	.14
SES	.02	.04	.06	.03	.05	.08	.02	.05	.06
ERQ- Reappraisal				.16	.09	.22	.16	.09	.22
ERQ- Suppression				-.05	.07	-.08	.13	.39	.22
Work-Family Stress				-.05	.31	-.02	.27	.77	.11
Stress X Suppression							-.12	.23	-.33
R^2		.04			.09			.09	
F for change in R^2		.90			1.24			.21	

Table 8. *Post Hoc Analysis: Correlation Matrix of Key Study Variables (n = 98).*

	1	2	3	4	5	6	7	8	9
1. SES	-								
2. Years of Experience	.15	-							
3. Depression	-.15	-.17	-						
4. ERQ-Reappraisal	.07	.18*	-.19*	-					
5. ERQ-Suppression	.07	.10	.03	.08	-				
6. Family-to-Work Stress	.17	-.01	.14	.02	.01	-			
7. Family-to-Work Stress XReappraisal	.16	.09	-.01	.69**	.02	.78*	-		
8. Family-to-Work Stress XSuppression	.13	.04	.12	.03	.85**	.50**	.42**	-	
9. FCCERS Global Quality	.06	.17	-.10	.20	.06	-.14	.01	.01	-

* $p < .05$; ** $p < .01$; *** $p < .001$. One tailed.

Table 9. Hierarchical Multiple Regression Analysis Predicting Global Child Care Quality from Key Study Variables and Family-Work Stress X Reappraisal ($n=75$).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	4.76	.44		4.31	.72		4.72	.84	
Depression	.02	.15	.01	.12	.15	.09	.08	.16	.07
Years of Experience	.02	.01	.17	.02	.01	.14	.02	.01	.17
SES	.02	.04	.06	.04	.05	.11	.03	.05	.06
ERQ- Reappraisal				.15	.08	.21	.04	.14	.05
ERQ- Suppression				-.04	.07	-.07	-.04	.07	-.06
Family to Work Stress				.45	.31	-.17	-.72	.41	-.28
Stress X Reappraisal							.07	.07	.22
R^2								.12	.13
F for change in R^2								2.00	.94

Table 10. Hierarchical Multiple Regression Analysis Predicting Global Child Care Quality from Key Study Variables and Family-Work Stress X Suppression ($n=75$).

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	4.76	.44		4.31	.72		4.71	.84	
Depression	.02	.15	.01	.12	.15	.09	.08	.16	.07
Years of Experience	.02	.01	.17	.02	.01	.14	.02	.01	.17
SES	.02	.04	.06	.04	.05	.11	.03	.05	.09
ERQ- Reappraisal				.15	.08	.21	.15	.08	.21
ERQ- Suppression				-.04	.07	-.07	-.24	.22	-.40
Family to Work Stress				.45	.31	-.17	-.73	.42	-.28
Stress X Suppression							.12	.13	.38
R^2								.12	.13
F for change in R^2								.90	.88

APPENDIX B

Family Child Care Partnerships Provider Enrollment Information

**Family Child Care Partnerships
Enrollment Information**

ID# _____ Provider
(Please do NOT put your name on this form)

For each question, please CIRCLE THE NUMBER beside the response which best applies to your situation or fill in the blank next to the question.

- Q1. What type of child care service are you licensed to operate?
1 Family day care home
2 Group day care home
- Q2. How many children are you licensed to serve?
- Q3. In what year did you begin working full-time for pay by caring for children in your home? _____
- Q4. How many full-time paid assistants (not substitutes) work for you? _____
- Q5. How many part-time paid assistants (not substitutes) work for you? _____
- Q6. Do you participate in the "Time and Attendance System for Child Care Subsidy" (accept subsidy children)?
1 Yes 2 No
- Q7. What is your sex? 1 Female 2 Male
- Q8. What is your age? _____
- Q9. What ethnic or racial group do you identify with or belong to?
1 White or Caucasian
2 Black or African-American
3 Hispanic or Latino
4 Asian or Pacific Islander
5 American Indian or Native American
6 Other (please specify): _____
- Q10. What is your current marital status?
1 Married
2 Single, separated, or divorced
- Q11. Not counting yourself, how many adults (19 or older) live with you on a full-time basis? _____
- Q12. How many children (under age 19) live with you on a full-time basis? _____
- Q13. Which choice best describes your current level of education?
1 High school or GED
2 Some college credits, but no degree
3 2-year Associate degree
4 Bachelor's degree
5 Master's degree or higher
- Q14. What is your total HOUSEHOLD income each year (before taxes)?
1 Less than \$10,000
2 Between \$10,001 and \$20,000
3 Between \$20,001 and \$30,000
4 Between \$30,001 and \$40,000
5 Between \$40,001 and \$50,000
6 Between \$50,001 and \$60,000
7 Between \$60,001 and \$70,000
8 Between \$70,001 and \$80,000
9 Over \$80,000

APPENDIX C

Emotion Regulation Questionnaire

Work-Family Interface Scale

Major Depression Inventory

Emotion Regulation Questionnaire (ERQ)

We would like to ask you some questions about how you regulate and manage your emotions. The questions below are about two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they are different in meaningful ways. Please respond to each statement below by putting a mark in the correct box.

	Strongly Disagree (1)	(2)	(3)	Neutral (4)	(5)	(6)	Strongly Agree (7)
⊕ r) When I want to feel more <i>positive</i> emotion (such as joy or amusement), I <i>change what I'm thinking about</i> .							
s) I keep my emotions to myself.							
t) When I want to feel less <i>negative</i> emotion (such as sadness or anger), I <i>change what I'm thinking about</i> .							
u) When I am feeling <i>positive</i> emotions, I am careful not to express them.							
e) When I'm faced with a <i>stressful</i> situation, I make myself <i>think about it</i> in a way that helps me stay calm.							
f) I control my emotions by <i>not expressing them</i> .							
g) When I want to feel more <i>positive</i> emotion, I <i>change the way I'm thinking about the situation</i> .							
h) I control my emotions by <i>changing the way I think about the situation I'm in</i> .							
⊖ i) When I am feeling <i>negative</i> emotions, I make sure not to express them.							
j) When I want to feel less <i>negative</i> emotion, I <i>change the way I'm thinking about the situation</i> .							

Work-Family Interface Scale

How often would you say you feel this way about yourself and your job or family? (Put a mark in the correct box.)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
a) My job keeps me from spending as much time with my family as I would like.					
b) It's hard for me to have fun with my family because I worry about problems at work.					
c) I can get everything done and still have time for myself.					
d) Because of my work, I feel that I am letting my family down.					
e) I miss out on important family events because I have to work.					
f) Problems at home make it hard for me to work.					
g) My family duties keep me from spending as much time at work as I would like.					
h) I have time to relax and unwind.					
i) My work suffers because I need to take care of my family.					
j) If it weren't for my family, I would be able to spend more time at work.					
k) If things go wrong at work I am hard to get along with at home.					
l) My family suffers because of my work.					
m) Problems at home keep me from doing a good job at work.					
n) I have the time to take on new activities.					
o) Problems at work make it hard for me to relax at home.					
p) My work keeps me from doing my best for my family.					
q) There is too much for me to do in the time I have to do it.					
r) Family problems make it difficult for me to concentrate on my work.					
s) I find that I am in a bad mood at work because of things happening at home.					
t) If it weren't for my family duties, I could do a better job at work.					

Major Depression Inventory

How much of the time... (Put a mark in the correct box.)

	At no time	Some of the time	Slightly less than half of the time	Slightly more than half of the time	Most of the time	All of the time
1. Have you felt low in spirits or sad?						
2. Have you lost interest in your daily activities?						
3. Have you felt lacking in energy and strength?						
4. Have you felt less self-confident?						
5. Have you had a bad conscience or feelings of guilt?						
6. Have you felt that life wasn't worth living?						
7. Have you had difficulty when concentrating, e.g. reading the newspaper?						
8. Have you felt very restless?						
9. Have you felt subdued or slowed down?						
10. Have you had trouble sleeping at night?						
11. Have you suffered from reduced appetite?						
12. Have you suffered from increased appetite?						

APPENDIX D

Shortened version of the 38-item FCCERS

38-item FCCERS

Item

1. Indoor Space
 2. Furniture
 3. Provision for Comfort
 4. Arrangement of Space
 5. Display for Children
 6. Space for Privacy
-
7. Greeting/Departing
 8. Nap/Rest
 9. Meals/Snacks
 10. Diapering/Toileting
 11. Health Practices
 12. Safety Practices
-
13. Helping Understand Language
 14. Helping Children use language
 15. Using Books
-
16. Fine Motor
 17. Art
 18. Music and Movement
 19. Blocks
 20. Dramatic Play
 21. Math/Number
 22. Nature/Science
 23. Sand and Water
 24. Promoting Diversity
 25. TV, Video, Computer
 26. Active Physical Play
-
27. Supervision
 28. Provider-Child Interaction
 29. Discipline
 30. Interactions Among Children
-
31. Schedule
 32. Free Play
 33. Group Time
 34. Children with Disabilities
-
35. Provisions for Parents
 36. Balance Personal/Care
 37. Opportunities for Growth
 38. Professional Needs
-