WHAT ABOUT PARENTS? AN ECOLOGICAL INVESTIGATION OF HEAD START PARENT WELL-BEING: DISENTANGLING COMMUNITY AND FAMILY FACTORS

by

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ABSTRACT

Parenting is often accompanied by everyday trials, and families living in poverty and in communities lacking resources tend to experience more daily struggles than others. Extant research on poverty and parenting overwhelmingly focuses on child outcomes, such as school readiness and emotion regulation, and neglects the impact of parenting strategies and child emotion regulation on parent well-being (e.g., mental health and stress). Furthermore, there is a dearth of studies comparing the influence of ecological factors, including family- and community-level variables, on parent well-being and child emotion regulation. Thus, the purpose of this study was twofold: 1) to determine whether children’s emotion regulation mediates the relation between parenting strategies and parent well-being, and 2) to examine whether family or community factors moderate the relation between parenting strategies and children’s emotion regulation. Analyses were conducted using a subset of data collected from a larger longitudinal study of Head Start families in the Southeastern United States.

Keywords: parenting strategies, parent well-being, community, family, emotion regulation
DEDICATION

This dissertation is dedicated to the families who participated in the parent project and to individuals who provided encouragement and support.
**LIST OF ABBREVIATIONS AND SYMBOLS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>APQ</td>
<td>Alabama Parenting Questionnaire</td>
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<tr>
<td>CHAOS</td>
<td>Confusion, Hubbub, and Order Scale</td>
</tr>
<tr>
<td>ERC</td>
<td>Emotion Regulation Checklist</td>
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<tr>
<td>ICC</td>
<td>Intraclass Correlation Coefficient</td>
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<tr>
<td>$N$</td>
<td>Sample size</td>
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<td>$p$</td>
<td>Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value</td>
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<td>PSI</td>
<td>Parenting Stress Index – Short Form</td>
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<td>Chi Square</td>
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1. INTRODUCTION

Communities with affluent residents have resources that support families, including high quality schools, safe parks, and access to medical care (Conger & Donnellan, 2007). In contrast, communities with families living in poverty are more likely than their more advantaged counterparts to lack community resources (e.g., food insecurity; Chaudry & Wimer, 2016). In addition to fewer community resources in disadvantaged neighborhoods, parents living in more disadvantaged neighborhoods report higher levels of stress than parents in more advantaged neighborhoods (Franco, Pottick, & Huang, 2010). Furthermore, research suggests that factors outside of the family environment (i.e., community characteristics) indirectly impact impressions of parenting difficulties (Crnic & Low, 2002; Deater-Deckard, 2004; Finegood, Raver, DeJoseph, & Blair, 2017). Overall, disadvantaged communities are associated with parenting stress, which has been tied to poor health in parents, negative child behaviors, and the use of negative parenting strategies (Crnic & Low, 2002; Deater-Deckard, 2004).

Additionally, day-to-day lives of parents tend to include ubiquitous children’s behaviors that can frustrate and overwhelm parents from time to time (Crnic & Low, 2002). Families across different backgrounds (low to high socioeconomic status) experience daily parenting difficulties (e.g., motivating children to brush their teeth before bed and eat their vegetables at dinner; Crnic & Greenberg, 1990; Crnic & Low, 2002). Anecdotally, a parent in one study conducted by Crnic and Low (2002, p. 244) said the following: “For me it is the lack of time for small things, for example, after work I have to balance taking the kids to practice or their doctor’s appointments, and then getting home to everything, like dinner, laundry, feeding the
dogs and helping with homework. I never seem to have the time to sit down and send cards to friends on their birthdays, or even catch up with them on the phone.” This quote illustrates that factors outside of one’s family environment, such as struggling to maintain a supportive network of friends, can create a perception of stress in parents. Moreover, families living in poverty often deal with a myriad of chronic stressors that adversely influence family relationships and children’s adjustment (Ackerman, Brown, & Izard, 2004; Duncan, Brooks-Gunn, & Klebanov, 1994; Leventhal & Brooks-Gunn, 2011; Magnuson & Duncan, 2002). For example, economic hardships faced by families in poverty, such as struggling to arrange adequate medical care and child care, often compound parents’ stress (Edin & Lein, 1997; Magnuson & Duncan, 2002). Sudden, unexpected illnesses compound financial strain (Magnuson & Duncan, 2002). In general, living in poverty exacerbates the difficulties of parenting.

In the United States, approximately 13 million children live in poverty (Fontenot, Semega, & Kollar, 2018). In the state of Alabama, 17.1% of residents live in poverty, which is 4.4% above the national average (U.S. Census Bureau, 2016). Alabama is a part of the Black Belt region on the United States. Two central features of the Black Belt are high poverty rates and high reliance on public assistance programs (Shuaib et al., 2011; Zekeri, 2004). The Black Belt is also characterized by high unemployment rates, substandard housing, poor school systems, and limited access to quality healthcare services (Shuaib et al., 2011; Wimberley & Morris, 1997). Furthermore, when compared to the national average, individuals in the Alabama Black Belt have higher mortality rates (Shuaib et a., 2011). Although poverty exists across the United States, the effects of poverty are enhanced in rural areas, such as the rural South, where available resources are limited (or even nonexistent) in comparison to more urban areas (Brody & Flor, 1998; Lick, 1986).
Poverty poses significant threats to young children’s emotional and behavioral development, as well as their academic achievement (Aber, Jones, & Cohen, 2000; Costello, Keeler, & Angold, 2001; Kiernan & Mensah, 2011; Lengua et al., 2013; Morales & Guerra, 2006; Odgers et al., 2012). For 5-year-olds living in high poverty neighborhoods and in families with a long-term history of living in poverty, greater neighborhood poverty and lower social cohesion and safety related to greater externalizing problems after controlling for family sociodemographic variables and earlier behavioral problems (Lee, Jung, Jaime, & Cubbin, 2019). Additionally, neighborhood poverty has been found to negatively affect children’s development of self-regulation skills (Raver, Blair, & Willoughby, 2013).

Difficulties faced by children living in poverty tend to be augmented by disadvantages in their communities (e.g., lack of resources, chaotic environments; Bischoff & Reardon, 2014). Community disadvantage, in turn, impacts development (Sastry & Pebley, 2010). Specifically, disadvantaged neighborhoods tend to provide poor-quality education (including day care centers, schools, and recreational programs), and the existence of poor-quality schools may further disadvantage neighborhoods with high rates of residential mobility and concentrated poverty (i.e., fewer parents involved in schools and fewer parents invested in improving the quality of education in their neighborhoods; Sastry & Pebley, 2010). Additionally, neighborhoods with high rates of poverty are generally stressful and dangerous areas (Kling, Liebman, & Katz, 2007), and parents in these neighborhoods tend to use harsh parenting strategies in order to prioritize their children’s safety over their cognitive development (Klebanov, Brooks-Gunn, & Duncan, 1994; Leventhal & Brooks-Gunn, 2000; McLoyd, 1990). Furthermore, neighborhoods with high levels of childcare burden (i.e., higher child to adult ratios) tend to have less social support to help with parenting and child development (Kingston et al., 2013). A study by
Kingston and colleagues (2013) demonstrated that childcare burden at the neighborhood level was related to lower levels of school readiness (measured by adaptive skills scores on the BASC).

Research has demonstrated that poor academic achievement is linked to negative outcomes later in life, such as low levels of educational attainment and low economic stability in adulthood (Duncan et al., 2007; Magnuson & Votruba-Drzal, 2009). According to the resource and investment theory, income determines the resources (e.g., educational opportunities, activities and toys that provide cognitive stimulation) that families can provide for their children; essentially, children from low-income families receive fewer resources than children from higher income families, which adversely impacts their development (Bassok, Finch, Lee, Reardon, & Waldfogel, 2016; Becker, 1981; Duncan & Brooks-Gunn, 2000). Generally, families living in poverty do not have equal access to opportunities provided within communities that promote children’s development, such as enriching recreational facilities, quality education, and health services (Miller, Vortuba-Drzal, & Coley, 2019). For example, children who have access to outdoor spaces have better attention skills than children who do not have opportunities to play outside (Wells & Evans, 2003).

Abundant research has been conducted on the negative associations between poverty and development. In efforts to determine potential buffers for the effects of poverty on children, other researchers have studied protective factors such as supportive parenting. In a study by Hill (2001), family income moderated the relation between parenting behaviors and school readiness, such that the effect was more pronounced for low-income families. As an interpretation of this finding, Hill (2001) suggested that supportive parenting in low-income families might buffer the effect of stress on academic performance. Moreover, in a study of African American children
from low-income families, Connell and Prinz (2002) demonstrated that structured and responsive parent-child interactions positively related to children’s school readiness and social skills.

Head Start is a federally-funded preschool intervention that started in 1965 as part of the “War on Poverty” initiative to provide academic, social, and health curriculum for children from impoverished families. Head Start was originally designed to help families overcome poverty, and it continues to emphasize two-generation research by including programming for parents as well as children. The two-generation mission is designed, in part, to help parents serve as protective factors for their children’s development, as aforementioned. Additionally, research conducted in Early Head Start centers demonstrated Head Start’s influence on health disparities (McKey et al., 1985), especially for minority children, and its effects on reducing rates of grade repetition, dropout, criminality, and teen pregnancies (Children’s Defense Fund, 1992; Currie & Thomas, 1995; Garces, Thomas, & Currie, 2000). However, research has shown that the gains Head Start children achieve in preschool tend to decline over time (Lee, Brooks-Gunn, Schnur, & Liaw, 1990; McKey et al., 1985; Puma et al., 2012). According to a study of a nationally representative sample of 5,000 children enrolled in Head Start centers or non-Head Start programs, access to Head Start did not impact teacher-reported measures of children’s socioemotional development in kindergarten through third grade (Puma et al., 2012).

Researchers have speculated that less supportive family environments may play a role in the longitudinal decline in gains seen in Head Start attendees. Specifically, a study of Early Head Start and family risk factors (including parents who did not complete high school, single parents, unemployment, teen parents, and public assistance) revealed that children in families with more risk factors did not demonstrate the same benefits from Head Start as children from families with fewer risk factors (Administration for Children and Families, 2002). Another study of Early
Head Start attendees from one to three years of age found that children’s cognitive scores significantly decreased in comparison to norms collected from a national sample (Ayoub et al., 2009). This decline in cognitive scores was more pronounced in children from families with a number of risk factors (including children from families with mothers who did not complete high school and had few opportunities for skill building and stimulation at home, as well as children with higher levels of negative self-regulation; Ayoub et al., 2009). Thus, supplemental preventative interventions have begun to be layered into Head Start to sustain gains long-term. Indeed, installing interventions in the home provides a second stable context, in addition to school, to foster development longitudinally for sustainability of long-term gains (e.g., Lochman et al., 2012). In fact, interventions that include parent components have been found to have the strongest effects on outcomes for children (Burger, 2010). For example, Creating Connections is a relatively recent example of a two-generation intervention, implemented by Pakulak and colleagues (2017) in Oregon Head Start centers. The focus of the parent component of Creating Connections is decreasing stress, and the focus of the child component of Creating Connections is improving attention and self-regulation skills. Two-generation interventions like this may further support children’s improvements in emotion regulation by increasing children’s feelings of support and safety as well as fostering patterns of stress reactivity that are more amenable to the development of emotion regulation skills in early childhood (Bernier, Carlson, Deshenes, & Matte-Gagne, 2012; Cicchetti, 2002; Lochman et al., 2012).

Even though intervention programs such as High Scope, the Carolina Abecedarian Project, and Head Start emphasize the importance of families, the extant developmental literature on the impacts of poverty more often than not highlights child outcomes rather than parent and family outcomes (e.g., Berger, Paxson, & Waldfogel, 2009; Cabrera, Scott, Fagan, Steward-
Streng, & Chien, 2012; Duncan, Morris, & Rodrigues, 2011; Gershoff, Aber, Raver, & Lennon, 2007; Lugo-Gil & Tamis-LeMonda, 2008; McLoyd, Mistry, & Hardaway, 2014; Webster-Stratton & McCoy, 2015; for a review, Gershoff, Aber, & Raver, 2005). Overall, a substantial gap in the literature continues to exist in regard to examining parent well-being outcomes, especially concerning the multitudinous individual, family, and ecological factors that influence parent well-being (Teti et al., 2017).

**Parent Well-being**

In a recent policy report released by the Society for Research in Child Development (SRCD), Teti and colleagues (2017) emphasized the importance of two-generational approaches that support both parents and children. Additionally, they called for more research to develop better policies for supporting at-risk parents, such as providing support for parents who are facing relationship problems or parents who are depressed. Indeed, approximately 25% to 50% of low-income mothers experience clinically significant levels of depression (Chazan-Cohen et al., 2007). Additionally, adults in poverty are at high risk for exhibiting anxiety and mood disorders (Lorant et al., 2007; Sareen et al., 2011). Minority women with low income are less likely than Caucasian women to receive adequate mental health care (Young et al., 2001), due the lack of child care, health insurance, and transportation (Ayoub et al., 2014). According to the Administration for Children and Families, the agency that administers Head Start (ACF, 2006), 68% of pregnant women eligible for Early Head Start reported clinically significant depressive symptoms, 39% were emotionally distressed, 32% reported symptoms of irritability, and 21% were anxious.

Elevated levels of depression, anxiety, and other well-being risks in parents often limit parents’ abilities to create optimal environments for their children to develop. Parents suffering
from depression tend to display more withdrawn or neglectful behaviors towards their children, have high levels of negative mood or irritability, spend little time talking with their children, and exhibit limited capacity to model appropriate behavior for their children (Ayoub et al., 2014; NICHD, 2005). Additionally, research has demonstrated that low-income parents with high levels of stress are less likely to have positive interactions with their children than low-income parents with less stress (Ayoub et al., 2014; McKelvey et al., 2002). Thus, it is clear from the literature that parent mental health impacts parenting which is reflected in parenting strategy choices.

**Parenting Strategies**

The patterns of behavior that parents use when supervising and interacting with their children may be defined as parenting strategies. Specifically, the extant literature highlights the impact of parenting strategies on child outcomes (e.g., Coie, 1996; Houtberg, Morris, Cui, Henry, & Criss, 2016; Loeber & Farrington, 2000). Two defining aspects of positive parenting are warmth and support, which involve emotion and discipline strategies. Positive parenting includes guidelines and rules for appropriate modeling of emotion, which aids children in expressing emotions that are appropriate for different situations (Houtberg et al., 2016). For example, feeling frustrated is okay but hitting your brother is not okay. On the other hand, parents who display inconsistent discipline, inadequate involvement with children, and a lack of warmth in their parenting strategies (i.e., negative parenting strategies) heighten the risk that children will exhibit emotional and behavioral problems (Coie, 1996; Loeber & Farrington, 2000). Overall, in line with Vygotsky’s (1978) notion that interactions with supportive and responsive parents promote the development of appropriate and effective cognitive skills, positive parenting strategies are more likely to drive the development of effective self-regulation.
skills in children than do negative parenting strategies (Eisenberg et al., 2003). Most interventions that include parenting strategies tend to focus on improving child outcomes, such as problem behavior and school readiness, by training parents on effective parenting strategies and connecting parents to supportive community services (Magnuson & Duncan, 2004).

The parenting strategies that parents utilize influence children’s skill development. For example, parents who provide feelings of warmness and support in the home provide opportunities for children to practice self-regulation skills in environments where they feel safe and supported (Houltberg, Henry, & Morris, 2012; Morris, Houltberg, Criss, & Bosler, 2017). Additionally, parents who are competent in their own ability to regulate emotions tend to be involved in their children’s lives and to be responsive parents in general (Crandall, Deater-Deckard, & Riley, 2015); these parents are likely to support their children when their children are upset (Morris, Cui, & Steinberg, 2013). In fact, one study demonstrated that parent-child relationship quality (e.g., warmth, acceptance) was positively related to child emotion regulation (Kliwer et al., 2004).

The use of different parenting strategies is influenced by the amount of stress that parents undergo on a daily basis, which in turn affects child development (Anthony et al., 2005; Briggs-Gowan et al., 2001; Deater-Deckard, 1998; Pinderhughes et al., 2000). However, there is a dearth of research investigating how parenting strategies may affect parent well-being. Instead, most interventions that include parenting strategies have been developed that aim to improve children’s outcomes, such as problem behavior and school readiness, by training parents on effective parenting strategies and connecting parents to supportive community services (Magnuson & Duncan, 2004).
Family Context

Although parenting strategies impact children’s skill development, parenting strategies are not the only influence (for a review, see Leventhal & Brooks-Gunn, 2000). Previous research has demonstrated that ecological factors at the family level influence parents’ behavior and affect relations between parenting behavior and children’s development (e.g., Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). For example, displays of conflict in the family shape how children learn to manage their own emotions (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Indeed, conflict between parents has been associated with poor emotion regulation skills as well as adjustment problems in children (Cummings & Davies, 1994, 2002). Even simple exposure to anger in the home (i.e., anger between parents and not directed toward children) has been suggested as a risk for the development of socioemotional problems in childhood (Lemerise & Dodge, 1993).

Community Context

In addition to the family environment, factors at the neighborhood level also influence development. In fact, the extant research in this area highlights indirect relationships between community characteristics and development (Beyers, Bates, Pettit, & Dodge, 2003). For example, more parental monitoring has been associated with less externalizing behaviors in children for families residing in disadvantaged communities characterized by high levels of residential instability (Beyers et al., 2003). Disadvantaged communities are often characterized by extensive poverty, unemployment, crime, and social disorganization (Callahan et al., 2011; Ingoldsby & Shaw, 2002). The United States Census Bureau collects data pertaining to factors that are related to the social-disorganization theory, which emphasizes the effects of location as well as communities’ levels of collective efficacy (i.e., the perception of how the residents of a
community are able to make neighborhoods safe and attractive; Sampson & Groves, 1989). Communities exhibiting social disorganization, in the form of low degrees of participation in organizations, few local support networks, and poor supervision of youth, tend to have higher levels of crime and delinquent behavior (Sampson & Groves, 1989) as well as higher levels of ethnic/racial heterogeneity (Ousey & Kurbin, 2018). According to Bowen and colleagues (2002), community social disorganization had a stronger effect on adolescent’s academic achievement than parental educational support or supportive parenting.

Context at the neighborhood level also shapes children’s skill development. For example, community characteristics, such as residential instability (i.e., residents have high rates of moving) and concentrated disadvantage (i.e., high percentage of residents living in poverty, receiving public assistance, female-headed families, unemployment, and number of children in the area), impact children’s developing self-regulation skills (Gibson, 2011; Raver, 2004; Roy, McCoy, & Raver, 2014). Cumulative risk in childhood (i.e., children in poverty are also at a higher risk to experience other stressors, such as neighborhood violence and residential instability) has been associated with children’s lower levels of self-regulation (Evans & English, 2002; Lengua, 2002; Raver, 2004). For example, when children chronically witness neighborhood violence and reside in communities with lower residential quality, they tend to exhibit higher physiological markers of stress and more difficulty with regulating emotions (Evans & English, 2002; Raver, 2004). In response, the United States Department of Health and Human Services highlighted the importance of enhancing social-emotional skills (e.g., self-regulation) for children’s school readiness (USDHHS, 2001). Relatedly, several school readiness interventions focus on scaffolding self-regulation skills in response to this call and findings in the literature (e.g., Denham, 2006).
Research has also demonstrated that community-level variables, including poverty, danger, and dissatisfaction with public services, are associated with harsh, inconsistent, and cold parenting strategies (Pinderhughes et al., 2007). In highly violent neighborhoods, parents of low-income families are not likely to provide simulating resources for their children and tend to use more authoritarian parenting styles characterized by low warmth and high control (Magnuson & Duncan, 2002). Furthermore, low family cohesion has an impact on children’s self-regulation skills (Criss et al., 2016), which further taxes child, parent, and family outcomes.

According to Leventhal and Brooks-Gunn (2000), the sociological and ecological literatures mostly refer to community characteristics as indirect influences. For example, community poverty levels might indirectly affect children through behaviors displayed by parents. In essence, parents promote the use of community resources for children (Leventhal & Brooks-Gunn, 2000). Previous research has also shown that differences in community characteristics are linked to parenting strategies and development (Collins et al., 2000). For example, children of parents who use more restrictive control display better cognitive outcomes in risky neighborhoods but worse cognitive outcomes in safe neighborhoods (Baldwin, Baldwin, & Cole, 1990; Beyers et al., 2003; Gonzales, Cauce, Friedman, & Mason, 1996). Moreover, parents who live in more crime-ridden neighborhoods are often more controlling than parents in safer neighborhoods, which leads to children feeling less independent and self-sufficient than their peers (Collins et al., 2000). Parenting as a construct is multidimensional (e.g., Gershoff et al., 2007); therefore, studies of parenting should include multiple demographic constructs from multiple levels of analysis (i.e., family variables and community variables), not simply family income or parent educational attainment.
Identifying Mechanisms of Change

When examining parenting strategies and parent well-being, context is important for determining how ecological proxies of poverty relate to families. Firstly, family-level influences may be investigated by assessing the social environment at home (e.g., the presence of conflict). Secondly, community-level influences may be examined by looking at neighborhood characteristics such as childcare burden. Outside of context, the extant literature also explores parenting strategies in low-income families by highlighting parents’ use of negative parenting strategies, such as inconsistent discipline and corporal punishment and assesses parents’ well-being by investigating parents’ levels of stress.

Child Self-regulation

One of the potential mechanisms through which parenting strategies relate to parent well-being is child self-regulation. Specifically, emotion regulation is generally referred to as the ability to adapt one’s emotional state to effectively engage with the situation at hand (e.g., Cicchetti, Ganiban, & Barnett, 1991; Kim-Spoon et al., 2013). When Shields and Cicchetti (1997) designed the Emotion Regulation Checklist (ERC), they defined emotion regulation as an individual’s ability to modulate her state of emotional arousal to ensure appropriate displays of behavior (Cicchetti, Ganiban, & Barnett, 1991; Thompson, 1994). Specifically, emotion regulation is an umbrella term, which includes emotion “lability, flexibility, and situational responsivity” (Shields & Cicchetti, 1997; p. 907).

Emotion lability-negativity refers to emotional reactivity, or how frequent, intense, and long one’s affective arousal tends to last (Rothbart & Derryberry, 1981). If a child frequently exhibits intense and prompt distress responses to feeling angry, for example, she would be highly negatively reactive. Moreover, the term emotion lability-negativity includes the difficulty
individuals experience when recovering from emotional reactions involving negative affect (Dunsmore, Brooker, & Ollendick, 2011). The ability to effectively regulate one’s emotions, especially negative emotions, is essential for behaving appropriately in different environments. In fact, a study by Eisenberg and colleagues (1995) revealed a negative relationship between emotion lability-negativity and social competency in typically developing children. Furthermore, young children with higher levels of negative emotion reactivity tend to develop internalizing and externalizing problems (Bates, Pettit, Dodge, & Ridge, 1998; Eisenberg et al., 1995; Eisenberg et al., 2004; Kim & Deater-Deckard, 2011), which positively relate to the ability to successfully engage in social interactions across childhood and early adolescence (Bornstein, Hahn, & Haynes, 2010).

During early childhood, specifically in the first four years of life, parenting behaviors impact the development of emotion regulation and negative emotion reactivity (Kim-Spoon et al., 2013). In socially ambiguous situations, young children often refer to parents (i.e., social referencing) to interpret the situation and to determine which behaviors are appropriate to display (c.f., Gunnar & Stone, 1984). Looking through an attachment theory lens, children who are securely attached can effectively use their parents to help them regulate their own emotions (Bowlby, 1982). Children who have secure relationships with parents, characterized by warmth and responsiveness, tend to develop effective emotion regulation skills early in life (Cole, Martin, & Dennis, 2004; Kochanska et al., 2009; Sroufe, 2005). Additionally, parents modeling of their own emotion regulation helps children develop self-regulation (Zimmerman, 2000). Thus, a variety of parenting behaviors impact children’s developing emotion regulation.

This association may be further enhanced for families from disadvantaged communities marked by distressful events for parents (Callahan, Scaramella, Laird, & Sohr-Preston, 2011).
Parents who live in an elevated state of alert (due to violence and disorder in the community, for example) tend to react more harshly to their children and exhibit more distressed social referencing cues. Thus, the relation between parenting behaviors and children’s poor self-regulation skills may be enhanced in disadvantaged communities. Relatedly, according to the vulnerable-reactive model, poor emotion regulation skills and high levels of negative emotion reactivity may become worse with rising levels of stress (Luthar, Cicchetti, & Becker, 2000).

**Current Directions**

Thus, children’s self-regulation may mediate the relation between parenting strategies and children’s self-regulation. For example, parents with children who have poor self-regulation may utilize inconsistent parenting strategies, which tend to be ineffective; this ineffectiveness in parenting increases their stress and may impact their overall well-being. On the other hand, parents whose children are better regulated may exhibit more positive and effective parenting strategies, which reduces parental stress and their overall well-being. Additionally, ecological factors, such as family organization and community demographics, may strengthen the relation between parenting strategies and child self-regulation. As briefly aforementioned, teaching parents to modify their parenting strategies so that they are more effective is a more feasible intervention strategy than mental health therapies, especially in disadvantaged communities with limited mental health resources.

To expand upon the literature, the proposed study examined not only the relation between parenting styles and children’s self-regulation in a Head Start sample, but also how these two constructs relate to parent well-being (Aim 1). This is innovative because much of the literature has conceptualized this relationship in reverse: how parent well-being is associated with their parenting strategies. Regarding significance and application, this conceptualization may have
important implications for preventive intervention, as it is theoretically easier (i.e., less stigmatizing, less expensive, and requires less clinical expertise) to engage parents in preventative services on the topic of parenting strategies than it is to engage them in mental health services.

Expanding on Becker’s foundational work on how resources, such as parents’ available time and money, affect children’s development (1964), Aims 2 and 3 examined whether there are differences in how family and community variables relate to parenting styles and children’s self-regulation skills. Particularly, with the addition of a broader ecological context, namely community variables, the current study included more ecologically relevant variables as well as provided answers to questions concerning environmental influences.

Purpose of the Study

Overall, the purpose of this study was to examine relations among 1) parenting strategies, 2) child self-regulation, 3) family / community variables, and 4) parent well-being in Head Start families. Figure 1 presents the proposed conceptual model. There were three primary aims:

Aim 1A (Child Emotion Regulation Proximal Mediation): Aim 1A addressed whether children’s self-regulation (emotion regulation and lability / negativity; collected at Time 1) mediated the relation between parenting strategies (collected at Time 1) and parent well-being at Time 1 (proximal outcome). The hypothesis for Aim 1A was the following: Children’s self-regulation will mediate the association between parenting strategies and proximal parent well-being, such that parenting strategies will be indirectly related to parent well-being at Time 1 via children’s self-regulation.

Aim 1B (Child Emotion Regulation Distal Mediation): Aim 1B investigated the directionality of the relations among parenting strategies (collected at Time 1), child self-
regulation (emotion regulation and lability / negativity; collected at Time 1), and parent well-being using a mediation analysis predicting parent well-being at Time 2. The hypothesis for Aim 1B was the following: Children’s self-regulation will mediate the association between parenting strategies and distal parent well-being, such that parenting strategies will be indirectly related to parent well-being at Time 2, thus providing evidence of directionality.

**Aim 2 (Family Moderation):** Aim 2 examined whether family variables (collected at Time 1), such as disorganization, moderated the relation between parenting strategies (collected at Time 1) and child self-regulation (collected at Time 1). The hypothesis for Aim 2 was the following: Family disorganization will moderate the relation between negative parenting strategies and children’s self-regulation, such that higher levels of family disorganization will strengthen the relationship between negative parenting strategies and children’s emotion regulation.

**Aim 3 (Community Moderation):** Aim three addressed whether community factors, such as childcare burden, moderated the relation between parenting strategies (collected at Time 1) and child self-regulation (collected at Time 1). The hypothesis for Aim 3 was the following: Childcare burden will moderate the relation between negative parenting strategies and children’s self-regulation, such that higher levels of children in the community compared to adults will strengthen the relationship between negative parenting strategies and child self-regulation. Both community and family moderators were on path A of the conceptual model due to the extant literature on ecological factors indirectly influencing development.
Figure 1

Proposed Conceptual Model

Aim 2 Moderator: Family Disorganization

Aim 3 Moderator: Community Child Care Burden

Aim 1 Mediator: Child Self-regulation

Parenting Strategies

Proximal Parent Well-being (Time 1)

Distal Parent Well-being (Time 2)
2. METHODOLOGY

Participants

Participants were recruited in two cohorts as a part of a larger, federally-funded, intervention with Head Start families (Head Start University Partnership grant, 90YR0075). The larger parent project is using a battery of measures from multiple sources (child, parent, and teacher) to follow families annually through first grade and assessing the efficacy of a dual-generation intervention (Power PATH) on children’s academic, behavioral, socio-emotional, and cognitive functioning. Study approval was granted by the University of Alabama Institutional Review Board (IRB; Appendix A). Parental consent, teacher consent, and child assent were also obtained prior to data collection (Appendices B, C, and D).

Five-hundred thirty-nine 4-year-olds were recruited from 14 Head Start centers within a 50-mile radius in West Alabama, including 302 boys and 261 girls. Eighty percent of participants were African American. Seventy-three percent of families made less than 25,000 dollars per year. Participants resided in eight counties and 84 census tracts. Eighty-four percent of parents \((n = 454)\) and 90% of teachers \((n = 488)\) returned questionnaires. Cohort 1 data collection began in the fall of 2014. Cohort 2 data collection began in the fall of 2015. Analyses for this study utilized baseline data collected prior to the onset of the intervention (beginning of preschool; Time 1) as well as data collected at the end of preschool (Time 2). Community-level variables were also collected from the U.S. Census. Variables from the Decennial Census (2010) provided census block-level data, and variables from the American Community Survey (2014 and 2015).
provided block group-level data. The U.S. Census Bureau defines census blocks as statistical areas characterized by both tangible boundaries (e.g., roads, rivers, railroad tracks) and non-tangible boundaries (e.g., city lines, property lines, school districts, county limits; Rossiter, 2011). Census blocks are typically small in size, depending on the area, and generally consist of between 600 and 3,000 individuals (Rossiter, 2011). For example, in city centers, a census block may be a city block. In suburban and rural areas, a census block may be larger and more asymmetrical in shape (defined by features in the landscape such as streets and bodies of water; Rossiter, 2011). Block groups, on the other hand, are groups of census blocks within a census tract. According to the United States Census Bureau (2000, p. 10-1), census tracts are “small, relatively permanent geographic entities within counties” that typically include between 2,500 and 8,000 residents. Census tracts are designed to be “as homogeneous as possible with respect to population characteristics, economic status, and living conditions” (U.S. Census Bureau, 2000, p. 10-1).

Table 1 presents demographic characteristics of the total sample. All variables except for the percent rural variable in Table 1 were administered to parents via a demographic questionnaire. The percent rural variable was computed via publicly available census tract data provided by the decennial census. Areas that were located in urbanized areas and urban clusters (i.e., areas of high population density and urban land use) were defined as urban. Urbanized areas contain at least 50,000 people. Urban clusters include 2,500 to 50,000 people. Areas that were located outside of urbanized areas and urban clusters were defined as rural.
Table 1

Demographic Statistics.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Percent/Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>54%</td>
</tr>
<tr>
<td>Girls</td>
<td>46%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>12%</td>
</tr>
<tr>
<td>African American</td>
<td>80%</td>
</tr>
<tr>
<td>Other</td>
<td>8%</td>
</tr>
<tr>
<td>Mean Parent / Guardian Age (Years)</td>
<td>30.9</td>
</tr>
<tr>
<td>Range Parent / Guardian Age (Years)</td>
<td>19 - 76</td>
</tr>
<tr>
<td>Family Yearly Income &lt; $25,000</td>
<td>73%</td>
</tr>
<tr>
<td>Parent / Guardian: High school/GED or beyond</td>
<td>75%</td>
</tr>
<tr>
<td>Percent Rural</td>
<td>$M = 54.6%$</td>
</tr>
</tbody>
</table>

Participant Involvement

Teacher involvement. As part of the larger longitudinal project, Head Start teachers completed questionnaires for each consented child (10-15 mins with $10 incentives per questionnaire) at Time 1 and Time 2.

Parent involvement. As part of the larger parent project, parents / guardians (now referred to as “parents”) were asked to complete questionnaires about their child (60 mins with $20 incentives per questionnaire) at Time 1 and Time 2. Ninety percent of parents who completed the survey were birth mothers.

Measures

Table 2 provides a list of the measurements by aim and describes each measure’s construct validity and reliability as reported in the extant literature. The measures in Table 2 reflect those used in the present study.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Source</th>
<th>Construct Validity (citation)</th>
<th>Reliabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Strategies (Aims 1, 2, 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alabama Parenting Questionnaire (APQ)</td>
<td>P</td>
<td>Inconsistent discipline, harsh punishment, parental involvement, monitoring (Shelton, 1996)</td>
<td>Alpha: .71</td>
</tr>
<tr>
<td>Family Background (Aim 2)</td>
<td>P</td>
<td>Confusion and disorganization in the home (Matheny et al., 1995)</td>
<td>Alpha: .56</td>
</tr>
<tr>
<td>Community Background (Aim 3)</td>
<td>C</td>
<td>Ratio of children to adults (Klein, 2011)</td>
<td></td>
</tr>
<tr>
<td>Emotion Regulation Checklist (ERC)</td>
<td>P</td>
<td>Emotion regulation, lability / negativity (Shields &amp; Cicchetti, 1997)</td>
<td>Alpha: .80</td>
</tr>
<tr>
<td>Parent Well-being (Aims 1, 2, 3)</td>
<td>P</td>
<td>Parental distress, parent-child dysfunctional interaction, difficult child (Reitman et al., 2002)</td>
<td>Alpha: .93</td>
</tr>
</tbody>
</table>

*Note. C = Census tract data. P = Parent report. Reliabilities reflect the current data.*

**Family context (moderator).** Parents completed the following measure regarding their family environment: the Confusion, Hubbub, and Order Scale (CHAOS; Matheny et al., 1995). CHAOS consists of 15 items on a 4-point scale (“very much like your own home” to “not at all like your own home”), which assess the degree of noise, confusion, and disorganization in the home. The following sentences are two independent items on the scale: “We almost always seem to be rushed.” and “You can’t hear yourself think in our home.”

**Community context (moderator).** Community structure was determined by matching families’ addresses to census tracts. Approximately 97% of participants provided addresses in their questionnaires, which were used to gather variables by census tract. Each census variable demonstrated variability in the dataset (Ensminger, Lamkin, & Jacobson, 1996). The community context was assessed via childcare burden. Childcare burden included the ratio of children to adults.
Parenting strategies (independent variable). To assess parenting strategies, parents completed the Alabama Parenting Questionnaire (APQ; \(\alpha = .68\); Shelton et al., 1996). The APQ is a commonly used measure of parenting strategies and contains 42 items distributed among five subscales: poor monitoring and supervision, positive parenting, corporal punishment, mother involvement, and inconsistent discipline. As demonstrated in previous research (e.g., Prevatt, 2003), one composite variable of negative parenting (poor monitoring and supervision, corporal punishment, and inconsistent discipline) was created by summing z-scores of the respective subscales. The following two sentences are two independent items on the APQ: “Your child is out after dark without an adult with him/her.” and “You get so busy that you forget where your child is and what he/she is doing.”

Child emotion regulation and emotion lability / negativity (mediators). Parents completed the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1995; Shields & Cicchetti, 1997), which measured children’s emotion regulation and negative emotion reactivity. The ERC has two subscales: the Emotion Regulation subscale (\(\alpha = .76\)), and the Lability / Negativity subscale (\(\alpha = .89\)). The Emotion Regulation subscale has eight items that assess children’s appropriate displays of emotion, emotional-self-awareness, and empathy. The Lability / Negativity subscale has 14 items that assess children’s sensitivity to emotional situations. Children who exhibit high lability react quickly to emotional situations and have difficulty recovering from the emotional event. The following two sentences are separate items on the ERC: “Is easily frustrated.” and “Is a cheerful child.”

Parent well-being (outcome). Parents completed a battery of self-report measures assessing well-being, including the Parenting Stress Index – Short Form (PSI-SF; Reitman et al., 2002) and the SF-8 Health Survey (Ware, Kosinski, Dewey, & Gandek, 2001). The PSI-SF
consists of 36 items and three subscales: parental distress, parent/child dysfunctional interaction, and difficult child. In addition, there is a total parenting stress score, which is the sum of the three subscales. The following two sentences are separate items on the PSI-SF: “I often have the feeling that I cannot handle things very well.” and “I feel trapped by my responsibilities as a parent.”
3. RESULTS

First, a discussion of preliminary analyses is presented, including intraclass correlations (ICCs), descriptive statistics, and correlations between variables of interest. Secondly, descriptive statistics are provided, which is followed by a discussion concerning power analyses. Finally, primary and exploratory analyses are described.

**Preliminary Analyses**

Data were cleaned using a double-entry procedure. To determine whether the nested structure of the data (students and parents within schools) needed to be accounted for, intraclass correlation coefficients (ICCs) were calculated. The value of ICCs can range from 0 to 1, with 0 indicating no evidence of nesting effects and 1 indicating that the nesting structure accounts for all of the variance in the model. Most researchers adhere to .10 as a guideline to determine whether or not to account for nesting structure in the data (Lee, 2000; Robson & Pevalin, 2015).

ICCs were calculated for Time 1 and Time 2 data. At Time 1, the PSI, SF-8, and ERC-P revealed ICCs of less than .10 when accounting for classrooms, Head Start centers, and census tracts as nesting structures. At Time 2, ICCs for the SF-8 were less than or equal to .10 when accounting for classrooms, Head Start centers, and census tracts. The ICCs for the PSI at Time 2 were also less than .10 when accounting for classrooms and Head Start centers. When accounting for census tracts at Time 2, the ICC for the PSI was .11. Thus, nesting effects were not taken into account. Table 3 lists correlations between variables of interest, and Table 4 contains means, standard deviations, possible ranges, and actual ranges for all variables.
Table 3

*Correlations between Variables of Interest.*

<table>
<thead>
<tr>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Negative Parenting Strategies</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>ERC Emotion Regulation (Child)</td>
<td>-16*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>ERC Lability / Negativity (Child)</td>
<td>.23**</td>
<td>-.45**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>CHAOS</td>
<td>.27**</td>
<td>-.13*</td>
<td>.27**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Childcare burden</td>
<td>.08</td>
<td>.07</td>
<td>-.002</td>
<td>.01</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>PSI Total (Time 1)*</td>
<td>.35**</td>
<td>-.31**</td>
<td>.39**</td>
<td>.40**</td>
<td>.03</td>
</tr>
<tr>
<td>7.</td>
<td>PSI Total (Time 2)*</td>
<td>.17*</td>
<td>-.31**</td>
<td>.39**</td>
<td>.40**</td>
<td>.07</td>
</tr>
</tbody>
</table>

*Note.* ERC = Emotion Regulation Checklist – Parent Form. PSI = Parenting Stress Index – Short Form. *p < .05, **p < .01.

Table 4

*Descriptive Statistics.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Possible Range</th>
<th>Actual Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Parenting Strategies (z-score composite)</td>
<td>-.02</td>
<td>2.17</td>
<td></td>
<td>-3.57 – 15.42</td>
</tr>
<tr>
<td>Child Emotion Regulation (ERC - Parent)</td>
<td>24.99</td>
<td>3.80</td>
<td>1 - 32</td>
<td>15 – 32</td>
</tr>
<tr>
<td>Child Lability / Negativity (ERC - Parent)</td>
<td>25.41</td>
<td>5.76</td>
<td>1 - 56</td>
<td>14 – 45</td>
</tr>
<tr>
<td>CHAOS</td>
<td>25.89</td>
<td>7.20</td>
<td>1 - 60</td>
<td>15 – 52</td>
</tr>
<tr>
<td>Childcare burden (Child / Adult Ratio)</td>
<td>.13</td>
<td>.12</td>
<td>0 – 1</td>
<td>0 – .68</td>
</tr>
<tr>
<td>PSI Total (Time 1)</td>
<td>2.82</td>
<td>1.62</td>
<td>0 - 15</td>
<td>.67 – 9.25</td>
</tr>
<tr>
<td>PSI Total (Time 2)</td>
<td>2.93</td>
<td>1.58</td>
<td>0 - 15</td>
<td>.58 – 7.67</td>
</tr>
</tbody>
</table>

*Note.* APQ = Alabama Parenting Questionnaire. ERC = Emotion Regulation Checklist. PSI = Parenting Stress Index – Short Form.

**Power.** General guidelines for SEM sample size note 200 as a goal (Tabachnick & Fidell, 2001). Additionally, Bentler and Chou (1987) suggest that the ratio of sample size to free parameters should be 5 to 1. Both of these guidelines suggest sample sizes that are less than the sample size for the current study.
**Primary analyses.** Two moderated mediation models were examined via structural equation modeling (SEM) in Mplus Version 8 using Maximum Likelihood as the estimation method (Muthén & Muthén, 2004). The Maximum Likelihood estimation method in Mplus permits missing data when estimating structural equation models and has demonstrated better model estimates than estimation methods that use case deletion (McCartney, Bub, & Burchinal, 2006; Schafer & Graham, 2002). These moderated mediation models addressed whether family (CHAOS; Aim 2) or community (childcare burden; Aim 3) variables moderated the relationship between parent well-being and negative parenting strategies mediated by child self-regulation (Aims 1A and 1B). Both subscales of the ERC (emotion regulation and lability / negativity) were entered into independent models.

**Aims 1 and 2 (Mediation with family moderation).** The initial models analyzed included a positive parenting composite (which included the mother involvement and positive parenting subscales of the APQ) as the independent variable, a concentrated disadvantage composite (composed of the following variables from census tract data: percent unemployment, African American, poverty, public assistance, and single mothers) as a potential community-level moderator, three subscales (conflict, expressiveness, and cohesion) of the Family Environment Scale (Moos & Moos, 1994) as potential family-level moderators, the Beck Depression Inventory average score (assessing parent well-being; Beck, Steer, & Brown, 1996) as the dependent variable, and did not result in significant mediators or moderators. The following model was significant. To assess parent well-being in the family model, parent total scores on the PSI were included as outcome variables from Time 1 to Time 2. A composite of APQ subscales, including poor monitoring and supervision, corporal punishment, and inconsistent discipline, assessed negative parenting strategies. The emotion regulation subscale of the ERC - Parent form
assessed child emotion regulation. Lastly, the CHAOS total score assessed family environment.

Figure 2 depicts the statistical model, and Figure 3 depicts the model diagram with path coefficients. This resulted in a significant partial mediation with child emotion regulation partially mediating the relation between negative parenting strategies (APQ composite) and parent well-being (PSI total score; see Figure 3). The goodness-of-fit indices for the family moderated mediation model were: $\chi^2(6) = 35.94, p < .001$, comparative fit index (CFI) = .78, root mean square error of approximation (RMSEA) = .14, and standardized root mean square residual (SRMR) = .09. These fit indices suggest a poor-fitting model. Missing paths were not included in the model.

Figure 2

*Family Moderation Statistical Model (Model 1)*
In order to parse the moderation between negative parenting strategies and child emotion regulation by family environment (measured by the CHAOS total score), CHAOS total scores were categorized into three groups (+/- 1 SD around the mean) and the data were graphed to reflect three regression lines (see Figure 4). Simple slope analyses revealed that only the regression line one SD above the mean was significant, $p = .03$. For children in families with more chaotic home environments, greater use of negative parenting strategies was associated with lower scores on the Emotion Regulation subscale of the ERC – Parent form (i.e., poor emotion regulation as rated by parents). However, for families with comparable average or low CHAOS, a relationship between negative parenting strategies and child emotion regulation was not as pronounced.
Figure 4

*Family Moderation*

![Graph showing moderation effects](image)

**Note.** *p* = .03.

**Aims 1 and 3 (Mediation with community moderation).** Initial models included a positive parenting composite (which included the mother involvement and positive parenting subscales of the APQ) as the independent variable, a concentrated disadvantage composite (composed of the following variables from census tract data: percent unemployment, African American, poverty, public assistance, and single mothers) as a potential community-level moderator, three subscales (conflict, expressiveness, and cohesion) of the Family Environment Scale (Moos & Moos, 1994) as potential family-level moderators, and the Beck Depression Inventory average score (assessing parent well-being; Beck, Steer, & Brown, 1996) as the dependent variable, and did not result in significant mediators or moderators. The following model was significant. To assess parent well-being in the community model, parent total scores on the PSI were included as outcome variables from Time 1 and Time 2. The APQ negative composite assessed negative...
parenting strategies. The lability / negativity subscale of the ERC - Parent form assessed child self-regulation. Lastly, child burden in the community was measured by the ratio of children to adults (at the census block level). Figure 5 shows the statistical model, and Figure 6 depicts the model diagram with path coefficients. This resulted in a significant partial mediation with child negative lability partially mediating the relation between negative parenting strategies (APQ composite) and parent well-being (PSI total score; see Figure 3). Model fit was judged using a variety of model fit indices. The goodness-of-fit indices for the community moderated mediation model were: $\chi^2(6) = 6.61, p = .36$, comparative fit index (CFI) = .99, root mean square error of approximation (RMSEA) = .02, and standardized root mean square residual (SRMR) = .04. This was a good-fitting model, as depicted in Figure 6. Missing paths were not included in the model. Overall, the models explained 17% of the variance in parent well-being.

Figure 5

*Community Moderation Statistical Model (Model 2)*
In order to delineate the moderation between negative parenting strategies and child lability / negativity by childcare burden, childcare burden was categorized into three groups (+/- 1 SD around the mean) and the data were graphed to reflect three regression lines (see Figure 7). Simple slope analyses revealed that the regression line at the mean was marginally significant, \( p = .055 \), and the regression line one SD above the mean was marginally significant, \( p = .056 \). For children living in communities with average to high child / adult ratios, greater use of negative parenting strategies was related to higher scores on the emotion lability / negativity subscale of the ERC – Parent form.
Figure 7

*Community Moderation*

\[ y = 19.63 + 1.39^*x \]

\[ y = 21.25 + 1.12^*x \]

\[ y = 30.44 - 1.01^*x \]

-1 SD: $R^2$ Linear = 0.029
Mean: $R^2$ Linear = 0.057
+1 SD: $R^2$ Linear = 0.113

*Note.* † indicates marginal significance.
4. DISCUSSION

The overall purpose of the present study was to examine the relations between parenting strategies, contextual factors (at the family level and the community level), child self-regulation, and parent well-being in a Head Start sample. There were three primary aims, with the first aim composed of two parts. The objective of Aim 1A was to determine whether child self-regulation mediated the relation between parenting strategies and proximal scores of parent well-being (Time 1). As hypothesized, results indicated that child self-regulation (emotion regulation in Model 1 and emotion lability / negativity in Model 2) mediated the relation between parenting strategies and parent well-being measured at Time 1. In Aim 1B, it was hypothesized that child emotion regulation and emotion lability / negativity would mediate the relation between parenting strategies and distal parent well-being. Support for this hypothesis was not found when including proximal parent well-being in the model.

To further examine the moderation of contextual factors, Aims 2 and 3 included analyses involving family and community variables. Specifically, the goal of Aim 2 was to investigate whether family-level factors moderated the relation between parenting strategies and emotion regulation (Model 1). Aim 2 analyses revealed that chaotic family environment moderated the relation between negative parenting strategies and child emotion regulation. In other words, for children in families with a lot of chaos, there is a negative relationship between negative parenting strategies and child emotion regulation. The purpose of Aim 3 was to determine whether community-level factors moderated the relation between parenting strategies and emotion regulation (Model 2). Aim 3 analyses revealed that childcare burden in the community
moderated the relation between negative parenting strategies and child emotion lability / negativity. Specifically, when there is a higher ratio of children to adults, there is a relationship between negative parenting strategies and emotion lability / negativity.

Of particular interest is the direct link between parenting strategies and parent well-being. On average, the models explained 17% of the variance in parent well-being. As mentioned previously, studies in the past have focused on parent well-being affecting parenting strategies. Although this model does not test the directionality of effects, it is interesting that parenting strategies are related to parent well-being. Future analyses should include additional time points to examine the directionality of effects. Teaching parents strategies could be a feasible and low-cost method of improving parent well-being. However, parenting strategies and parent well-being do not exist in isolation; thus, ecological factors should be accounted for when studying these variables.

Results from the present study have implications for parent-led interventions. Examining arm A of the mediation, for example, the findings from the present study suggest that parenting strategies are related to child self-regulation. The use of effective child self-regulation skills has been shown to be beneficial in and of itself. For example, interventions such as Project ImPACT (Ingersoll & Wainer, 2013) and Coping Power (Lochman et al., 2012) have demonstrated that parent-led interventions have improved child outcomes. Furthermore, the partial mediation from the present study also revealed that parenting strategies are related to parent well-being in addition to child self-regulation. Therefore, these findings suggest that interventionists should design parent-led programs with both child and parent outcomes in mind.

Indeed, families are surrounded by a nest of cultural systems within and outside of the family that impacts day-to-day life (Bronfenbrenner & Morris, 2007). Thus, including different
levels of contextual influences is important when examining parent and child variables. The relationship between parenting strategies and child self-regulation differed depending on the level of environmental context. Additionally, better child self-regulation related to better parent well-being. Results from this study suggest that, for Head Start families, chaos in the home strengthened the association between more negative parenting strategies and poorer child emotion regulation. Poor child emotion regulation is then related to poor parent well-being. Low-income families may accumulate more chaos in the home because of a lack of family members who are available to help maintain day-to-day schedules.

Furthermore, when examining the neighborhood context, for children living in areas with average to high childcare burden, the relationship in which increasing negative parenting strategies is associated with increasing child emotion lability / negativity is strengthened. Higher levels of child emotion lability / negativity are then related to poorer parent well-being. With fewer adults to supervise and monitor children in the community, and fewer adults to support and relieve parents, parents may resort to parenting strategies that appear to take less time. For example, parents may use corporal punishment to immediately stop a child’s inappropriate behavior in the present moment (i.e., spanking to stop a child from instead of spending time talking with the child about their poor behavior choices).

These results have implications for caregivers. For example, the well-being of parents in low-income families might be improved if caregivers encouraged the display of support for one another. As the number of children in the community increases, the ability for adults in extended family networks and neighborhoods to support each other should lessen the overall responsibilities of the individual parent (i.e., economies of scale). Given this, it might be prudent for intervention designers to develop programs for neighborhoods with high childcare burden.
that build in caregiver relief. Additionally, when designing interventions, it might be prudent to develop programs for neighborhoods with high childcare burden. For example, research conducted in Australia by Tonyan and colleagues (2017) on home-based child care emphasizes the use of family child care (FCC) units that can be large or small and function similarly to families. The FCC units have caregiver substitutes who are available for when people leave for vacation or suffer from an illness.

Home-based interventions may be especially useful for neighborhoods with high childcare burden because of the general lack of available adult support in the community. Results from the present study suggest that it is important to not only assess the home environment but also the supports families have in the community. However, it is important to note that childcare burden, which was assessed by the ratio of children and adults in the community, may be serving as a proxy for socioeconomic status. If so, these results would suggest that poverty strengthens the relation between negative parenting strategies and child self-regulation. Thus, future steps should include analyses to determine whether the childcare burden variable is a proxy for socioeconomic status. Additionally, in the larger parent project of the present study, the Power PATH intervention did not examine community support systems. In the future, steps should be taken to determine whether these factors in the community are additive or interactive (i.e., systems within systems; Bronfenbrenner, 1998).

Overall, identifying whether family and community variables serve as moderators of the relation between parenting strategies and child self-regulation has the potential to drive policy and interventions toward the broader community context by expanding beyond two-generational intervention approaches. Additionally, the findings from the longitudinal aspect of present study (i.e., parent well-being at Time 2) have the potential to both add to the literature and inspire
future directions for preventative interventions for parent well-being. Research has demonstrated that parent-focused interventions substantially impact the behavior and positive development of preschool children (e.g., Fujiwara, Kato, & Sanders, 2011). However, the present study aimed to provide foundational information toward building parent-focused interventions to improve parent well-being.

Although this study provides a unique perspective concerning Head Start families by utilizing publicly available data provided by the United States Census Bureau, a central limitation of this study was the use of secondary data to provide community-level information. Many features of the community that are of potential interest to developmentalists are not reported in the decennial censuses, such as crime rates as well as the availability and use of resources (Miller, Votruba-Drzal, & Coley, 2019). Future studies may be longitudinal in nature and include data collection on community contexts. The extant literature lacks the investigation of the impact of poverty and community environment on children and families primarily because the majority of studies have not been designed with the inclusion of community-level variables (Miller, Votruba-Drzal, & Coley, 2019). Instead, researchers who design longitudinal studies of children have largely relied on publicly available secondary data, such as data collected on the national level by agencies such as the United States Census Bureau. Future studies should include data on community context at the individual level by directly asking participants about their neighborhoods. The use of subjective evaluations may result in qualitatively different constructs.

In terms of sampling, this study had various limitations. Foremost among those limitations is that the sample for this study only included Head Start families. Therefore, the results may not be generalizable to other subsets of the population. Additionally, longitudinally
examining a wider range of participants has the potential to allow for investigations of similar questions with individuals from a variety of different environments and backgrounds, adding to our knowledge regarding economic gaps in children’s achievement and the effect of socioeconomic status on parenting strategies and outcomes of children’s behavior (e.g., self-regulation) over time.

The environments that children and parents exist in include microsystems; these microsystems have both physical and psychosocial aspects that influence socioemotional and well-being outcomes (Bronfenbrenner & Morris, 1998; Evans, 2001). The existence of physical (e.g., substandard housing conditions) and psychosocial (e.g., financial strain) stressors on families from disadvantaged backgrounds is likely to affect children’s and parents’ well-being. Individuals living in poverty tend to exhibit markers of chronic stress, which inhibits development in children, including self-regulation skills, and impacts daily life for adults (e.g., Evans & English, 2002). Measures of cumulative risk may provide more nuanced evidence for the impact of poverty on children and parents, because research has demonstrated that exposure to two or more risk factors has cumulative negative effects (Barocas, Siefer, & Sameroff, 1985; Dunst & Trivette, 1994). Thus, next steps in investigating ties to context should include measures of cumulative risk factors as well as physiological measures of stress reactivity, such as respiratory sinus arrhythmia (RSA), skin conductance, and cortisol levels, in both children and adults. Even though physiological markers underling poverty have not been comprehensively examined (Evans & Kim, 2013), previous work has demonstrated that poverty diminishes children’s capabilities for self-regulation (i.e., delayed gratification) and increases psychophysiological stress levels (Evans & English, 2002).
Poverty and its proxies are powerful variables in that they are related to many negative outcomes in cognitive development (e.g., Heckman, 2006), socioemotional development (e.g., Conger & Donnellan, 2007; Grant et al., 2003), and health (e.g., Miller, Chen, & Parker, 2011) across the lifespan. The present study suggests that parenting strategies are related to children’s self-regulation, which is associated with parent well-being. Furthermore, the relation between children’s self-regulation and parenting strategies is moderated by factors in the environment at the family level and community level. This is at least true in a Head Start sample but may generalize to other low-income populations. With corroborating research, interventionists and policy makers should focus on whole family and community approaches to improve child and parent outcomes.
REFERENCES


Deater-Deckard, K., & Scarr, S. (1996). Parenting stress among dual-earner mothers and fathers:


Incorporating material hardship into models of income associations with parenting and child development. *Child Development, 78*(1), 70-95.


Appendix A

July 23, 2014

Ansley Gilpin, PhD
Department of Psychology
College of Arts & Sciences
Box # 870348

Re: IRB Protocol # 13-022 (Revision 2)
"Improving School Readiness: Social, Cognitive, and Physiological Predictors in Preschool"

Dear Dr. Gilpin:

The University of Alabama Non-Medical Institutional Review Board has recently reviewed the revision request for your protocol. The board has approved the change in your protocol.

Please remember that your approval period expires one year from the date of your original approval, 01/17/2014, not the date of this revision approval.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants.

Good luck with your research.

Sincerely,

[Signature]

Stuart Oslander, PhD
Chair, Non-Medical Institutional Review Board
The University of Alabama
September 26, 2018

Ansley Gilpin, PhD
Dept. of Psychology
College of Arts & Sciences
Box 8703438

Re: IRB Application #: 13-022-R5 "Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool"

Dear Dr. Gilpin:

The University of Alabama Non-Medical IRB recently met to consider your renewal application. The IRB voted to approve your protocol for a one-year period.

Your application will expire on September 19, 2019. If your research will continue beyond this date, complete the renewal portions of the IRB e-Protocol Application. If you need to modify the study, please submit the IRB e-Protocol Modification form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the e-Protocol Final Report Form.

Please use reproductions of the IRB approved stamped consent/assent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this application, please include the above application number.

Good luck with your research.

Sincerely,

Carpentale T. Myers, MSM, CRM, GIP
Director & Research Compliance Officer
Appendix B

Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool
The University of Alabama
Research Consent Form
IRB # 13-022
Page 1 of 5

Dear Parent,

With help from your child's school, we are studying what kids need to learn in order to do well in kindergarten and how to best support families during this time. This project is being led by Caroline Joxmeyer, Ph.D., Jason DeCaro, Ph.D., Ansley Gilpin, Ph.D., and John Lochman, Ph.D. at the University of Alabama. We would like to study the changes in behavior, thinking, and feelings of children and their families as they get ready for elementary school. Some kids in this study will be in a classroom where their teachers use extra curriculum to teach them to control their emotions and behavior, and parents can join in extra sessions to improve children's preparation for kindergarten and family well-being. The other children's classrooms will not change—they will not have the extra curriculum or the extra sessions.

What will your child do for this study? Your child will complete four tests, once at the beginning and end of this school year, and again in kindergarten and first grade. These tests measure your child's:

- learning, such as memory, vocabulary, and play
- understanding of emotions, social skills, and behavior
- ability to cope with frustrations and stress
- thoughts, feelings, and behaviors
- stress level (through painless heart rate, blood pressure, saliva and hair measures)

There will always be two people with your child during interviews at all times for their safety, and you are welcome to observe the interview as well. Measures will be done in two, 1-hour sessions at each of the four time-points (the beginning and end of this school year, in kindergarten and again in first grade). Children will always be asked if they want to participate, and can stop participating at any time.

What will you do for this study? At the beginning and end of the school year, we will also ask you questions about your child, which should take 30-60 minutes to complete, and you will receive $20 each time. We will ask you many questions to get a picture of your child's behavior and learning. Because you are the most important person in your child's life, we also have several questions about you, such as your choice of parenting styles, your feelings of help from others, and a general measure of your thoughts and feelings. If a question makes you uncomfortable, you do not have to answer it. Your child's teacher will also complete a similar set of questions about your child at the beginning and end of the year and will be reimbursed $10 for their time.

Participant Initials

[Signature]

UNIVERSITY OF ALABAMA IRB
[DATE APPROVED: 7/8/14]
[REVISED: 11/14/2015]

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More Information About The Project: All children experience some stressful situations every day—in school, with friends, at home, and in other places. We know that how children respond to stress matters for their overall well-being, such as how well they do in school. We can see how children respond to stress by measuring hormones in saliva and hair, heart rate, and how much the hands sweat. As part of our study, we will ask your child to do some tasks that are the kind of mild stress they might experience in school, at home, or with their friends. For example, we will ask them to repeat a list of numbers, answer questions about themselves, watch a few seconds of a Disney movie that can be a little scary (but is right for their age), and taste something sour on their tongue (a drop of lemon juice). While they’re doing these tasks, we will check their heart rate using three small, painless stickers (adhesive electrodes) attached under their clothes to their shoulders and stomach. We also will put a blood pressure cuff on their arm and measure their blood pressure. This tells us how their heart responds to mild stresses. We also will put small cups on the tips of two of their fingers. This tells us how their skin responds to mild stress, either getting dry or sweating a bit. Before and after they do these tasks, we will get four samples of their saliva, by having them roll one end of a Q-tip around in their mouths and then spitting it back out into a tube. The interviewer holds onto the other end of the Q-tip the whole time, to make sure your child cannot swallow it. We also will collect 2-3 strands of hair. This whole process takes about 1 hour. The stickers and fingertip cups do not cause any pain, although in some rare cases the skin will be red and itchy afterwards similar to pulling off a band-aid. The mild stresses (such as repeating numbers, and watching the video) are not greater than what most children experience in everyday life. However, if your child becomes seriously upset, we will stop right away. There will always be two adults with your child during the interviews at all times and your child will be videotaped for their safety. We will also be videotaping some circle time activities in your child’s classroom.

Do you have more questions? You and your child can ask any questions with our staff—our phone numbers are on the next page. We are happy to talk to you more about the project.

Protecting your Child: Your child’s information will be closely guarded. Teachers and administrators at your child’s school or elsewhere will not see your child’s information, nor will any of this information be placed in your child’s school records. Your child’s information will be kept in a locked file cabinet at the University that will only be seen by our staff. If our study leads us to become concerned about your child’s welfare (such as if we see your child as being in danger), we will work with the directors at your child’s school to make sure your child gets the help that he or she needs. Note that we are required by Alabama state law (Ala. Code § 26-14-1 et seq.) to report any suspected cases of child abuse or neglect.

Participant Initials

UNIVERSITY OF ALABAMA
CONSENT FORM APPROVED: 7/23/14
EXPIRATION DATE: 11/15/2015
If you do not want to participate in this study, this will not affect your child at school other than making sure your child is not recorded on videotape during the lessons (they may need to move seats for 10 minutes). Also, if you and your child agree to participate in the study, you can choose not to participate at any time. We do not think that participating in this study will harm you or your child. If you agree to participate, you will help us figure out how to help kids and families better prepare for school in the future.

Legal and Ethical Information: You do not give up any of your legal rights by signing this consent form. You will be given a copy of this consent form to keep. Save it in case you want to see it later or you decide to contact the investigator or the university about the study. The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and the study is being carried out as planned. School protocol will be followed should any emergencies occur throughout the study.

Contact Information: If you have any questions about this study, please contact Dr. Ansley Gilpin at the University of Alabama (205-348-9903). If you have questions or concerns about your rights as a research participant, please contact Tanta Myles, Research Compliance Officer, at (205) 348-8461, or (877) 820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email us at participantoutreach@bama.ua.edu.

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127. Thank you very much for your interest and cooperation.

Sincerely,

Caroline Boxmeyer, Ph.D.  
Research Investigator  
The University of Alabama  

Jason DeCaro, Ph.D.  
Research Investigator  
The University of Alabama  

Ansley Gilpin, Ph.D.  
Research Investigator  
The University of Alabama  

John Lochman, Ph.D  
Research Investigator  
The University of Alabama  

Participant Initials

UNIVERSITY OF ALABAMA IRB  
CONSENT FORM APPROVED: 7/23/14  
EXPIRATION DATE: 11/21/2015
The University of Alabama
Research Consent Form
IRB # 13-022
Page 4 of 5

Sign Here to Agree/Disagree To Participate

I have had an opportunity to ask any questions I had about this study. Check one option below (agree/disagree), write your child’s name, and sign your name.

____  I agree to have my child participate in this research project and I also agree to participate in completing the questionnaire.

____  I do not agree for my child and me to participate in this research project.

Child’s Name: _______________________________________

Parent’s signature ___________________________ Date ___________________________

********************************************

The Use of My Child’s Video/Audio Tape:
We may wish to present some of the tapes of the child interviews and the classroom circle time at scientific meetings and as demonstrations in classrooms (for educational purposes only). If your child’s tape is shown, your child will not be identified in any way. Please sign below if you are willing to allow us to do so with your child’s tape. Note that this signature is entirely voluntary and separate from your decision to participate. You may give permission for your child to participate above, but not give permission for his/her tape to be shown. Tapes will be stored in a locked and secure cabinet at the University of Alabama. Only investigators will have access to the tapes.

I have read the statement above and give permission for my child’s video/audio tape from his/her interview to be shown for educational purposes with the limitation that my child will not be identified to the audience.

_____________________________ Date _________________

Signature of Parent or Legal Guardian

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED 7/23/14
EXPIRATION DATE 11/4/2015
Proposed Additional Question: Parental Consent

In order to collect follow-up information to see how children are doing in kindergarten and first grade, we need to contact you over the next three years to participate in some follow-up data collection. Please complete the contact information below.

_________________________ Date __________________
Signature of Parent or Legal Guardian

Contact Information

Name of Child: ________________________________

Child Date of Birth: __________________________

Elementary School Child will be attending next year: ________________

Name of Parent/Guardian: ______________________

Address: ____________________________________

____________________________________________

Phone Number: ________________________________

Alternate Phone Number: ______________________

Email Address: ________________________________

Alternate Email Address: ________________________

□ Best way to contact: ☐ phone ☐ email ☐ mail

Name and Phone Number of Another Person Who Would Know How To Contact You In Case Your Number Changes:

Name_________________________ Phone____________________

Email__________________________

Participant Initials
Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool
The University of Alabama
Research Consent Form
IRB # 13-022
Page 1 of 5

Dear Parent:

With help from your child’s school, we are studying what kids need to learn in order to do well in kindergarten and how to best support families during this time. This project is being led by Caroline Boymeyer, Ph.D., Jason DeCaro, Ph.D., Ansley Gilpin, Ph.D., and John Lochman, Ph.D. at the University of Alabama. We would like to study the changes in behavior, thinking, and feelings of children and their families as they get ready for elementary school. Some kids in this study will be in a classroom where their teachers use extra curriculum to teach them to control their emotions and behavior, and parents can join in extra sessions to improve children’s preparation for kindergarten and family well-being. The other children’s classrooms will not change—they will not have the extra curriculum or the extra sessions.

**What will your child do for this study?** Your child will complete four tests, once at the beginning and end of this school year, and again in kindergarten and first grade. These tests measure your child’s:

- learning, such as memory, vocabulary, and play
- understanding of emotions, social skills, and behavior
- ability to cope with frustrations and stress
- thoughts, feelings, and behaviors
- stress level (through painless heart rate, blood pressure, saliva and hair measures)

There will always be two people with your child during interviews at all times for their safety, and you are welcome to observe the interview as well. Measures will be done in two, 1-hour sessions at each of the four time-points (the beginning and end of this school year, in kindergarten and again in first grade). Children will always be asked if they want to participate, and can stop participating at any time.

**What will you do for this study?** At the beginning and end of the school year, we will also ask you questions about your child, which should take 30-60 minutes to complete, and you will receive $20 each time. We will ask you many questions to get a picture of your child’s behavior and learning. Because you are the most important person in your child’s life, we also have several questions about you, such as your choice of parenting styles, your feelings of help from others, and a general measure of your thoughts and feelings. If a question makes you uncomfortable, you do not have to answer it. Your child’s teacher will also complete a similar set of questions about your child at the beginning and end of the year and will be reimbursed $10 for their time.

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/31/14
EXPIRATION DATE: 11/14/2015
More Information About The Project: All children experience some stressful situations every day – in school, with friends, at home, and in other places. We know that how children respond to stress matters for their overall well-being, such as how well they do in school. We can see how children respond to stress by measuring hormones in saliva and hair, heart rate, and how much the hands sweat. As part of our study, we will ask your child to do some tasks that are the kind of mild stress they might experience in school, at home, or with their friends. For example, we will ask them to repeat a list of numbers, answer questions about themselves, watch a few seconds of a Disney movie that can be a little scary (but is right for their age), and taste something sour on their tongue (a drop of lemon juice). While they’re doing these tasks, we will check their heart rate using three small, painless stickers (adhesive electrodes) attached under their clothes to their shoulders and stomach. We also will put a blood pressure cuff on their arm and measure their blood pressure. This tells us how their heart responds to mild stresses. We also will put small cups on the tips of two of their fingers. This tells us how their skin responds to mild stress, either getting dry or sweating a bit. Before and after they do these tasks, we will get four samples of their saliva, by having them roll one end of a Q-tip around in their mouths and then spitting it back out into a tube. The interviewer holds onto the other end of the Q-tip the whole time, to make sure your child cannot swallow it. We also will collect 2-3 strands of hair. This whole process takes about 1 hour. The stickers and fingertip cups do not cause any pain, although in some rare cases the skin will be red and itchy afterwards similar to pulling off a band-aid. The mild stresses (such as repeating numbers, and watching the video) are not greater than what most children experience in everyday life. However, if your child becomes seriously upset, we will stop right away. There will always be two adults with your child during the interviews at all times and your child will be videotaped for their safety. We will also be videotaping some circle time activities in your child’s classroom.

Do you have more questions? You and your child can ask any questions with our staff – our phone numbers are on the next page. We are happy to talk to you more about the project.

Protecting your Child: Your child’s information will be closely guarded. Teachers and administrators at your child’s school or elsewhere will not see your child’s information, nor will any of this information be placed in your child’s school records. Your child’s information will be kept in a locked file cabinet at the University that will only be seen by our staff. If our study leads us to become concerned about your child’s welfare (such as if we see your child as being in danger), we will work with the directors at your child’s school to make sure your child gets the help that he or she needs. Note that we are required by Alabama state law (Ala. Code § 26-14-1 et seq.) to report any suspected cases of child abuse or neglect.

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/23/14
EXPIRATION DATE: 1/14/2015
If you do not want to participate in this study, this will not affect your child at school other than making sure your child is not recorded on videotape during the lessons (they may need to move seats for 10 minutes). Also, if you and your child agree to participate in the study, you can choose not to participate at any time. We do not think that participating in this study will harm you or your child. If you agree to participate, you will help us figure out how to help kids and families better prepare for school in the future.

Legal and Ethical Information: You do not give up any of your legal rights by signing this consent form. You will be given a copy of this consent form to keep. Save it in case you want to see it later or you decide to contact the investigator or the university about the study. The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and the study is being carried out as planned. School protocol will be followed should any emergencies occur throughout the study.

Contact Information: If you have any questions about this study, please contact Dr. Ansley Gilpin at the University of Alabama (205-348-9903). If you have questions or concerns about your rights as a research participant, please contact Tania Myles, Research Compliance Officer, at (205) 348-8461, or (877) 820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email us at participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127. Thank you very much for your interest and cooperation.

Sincerely,

Caroline Bozsmeyer, Ph.D.  Jason DeCaro, Ph.D.
Research Investigator  Research Investigator
The University of Alabama  The University of Alabama

Ansley Gilpin, Ph.D.  John Lochman, Ph.D.
Research Investigator  Research Investigator
The University of Alabama  The University of Alabama

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/12/2014
EXPIRATION DATE: 11/4/2015
The University of Alabama
Research Consent Form
IRB # 13-022
Page 4 of 5

Sign Here to Agree/Disagree To Participate

I have had an opportunity to ask any questions I had about this study. Check one option below (agree/disagree), write your child’s name, and sign your name.

_____ I agree to have my child participate in this research project and I also agree to participate in completing the questionnaire.

_____ I do not agree for my child and me to participate in this research project.

Child’s Name: ____________________________

Parent’s signature _________________________ Date _______________________

The Use of My Child’s Video/Audio Tape:
We may wish to present some of the tapes of the child interviews and the classroom circle time at scientific meetings or as demonstrations in classrooms (for educational purposes only). If your child’s tape is shown, your child will not be identified in any way. Please sign below if you are willing to allow us to do so with your child’s tape. Note that this signature is entirely voluntary and separate from your decision to participate. You may give permission for your child to participate above, but not give permission for his/her tape to be shown. Tapes will be stored in a locked and secure cabinet at the University of Alabama. Only investigators will have access to the tapes.

I have read the statement above and give permission for my child’s video/audio tape from his/her interview to be shown for educational purposes with the limitation that my child will not be identified to the audience.

_________________________ Date __________

Signature of Parent or Legal Guardian

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 11/21/14
EXPIRATION DATE: 11/14/2015
Proposed Additional Question - Parental Consent

In order to collect follow-up information to see how children are doing in kindergarten and first grade, we need to contact you over the next three years to participate in some follow-up data collection. Please complete the contact information below.

_________________________ Date ____________
Signature of Parent or Legal Guardian

Contact Information

Name of Child: ________________________________

Child Date of Birth: __________________________

Elementary School Child will be attending next year: __________________________

Name of Parent/Guardian: _____________________

Address: _________________________________

____________________________________

Phone Number: ______________________________

Alternate Phone Number: _____________________

Email Address: ______________________________

Alternate Email Address: _____________________

Best way to contact: ☐ phone ☐ email ☐ mail

Name and Phone Number of Another Person Who Would Know How To Contact You In Case Your Number Changes:

Name__________________________Phone________________________

Email____________________________

Participant Initials
Appendix C

Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool
The University of Alabama
Research Consent Form
IRB # 13-022
Page 1 of 3

Dear Teacher:

We are studying how preschool-aged children are best prepared for elementary school and how to improve overall family well-being. This project is being directed by Caroline Boxmeyer, Ph.D., Jason DeCaro, Ph.D., Ansley Gilpin, Ph.D., and John Lochman, Ph.D. at the University of Alabama. We would like to examine the changes in behavior, thinking, and feelings of children (and their families) as they prepare to make this transition to elementary school. Some children in this study will be in a classroom where their teachers like you use extra curriculum to encourage school readiness, with additional group parent information sessions. The other children’s classrooms will not change – they will not have the extra curriculum or the extra parent information sessions.

**What You Will Do:** If you consent to being involved in this study for this school year, you will complete ratings about students in your class whom are involved in the study (both the student and his or her parent have consented to participation). Ratings will be collected about the student’s behavioral and emotional adjustment, as well as his or her social competence. We will also ask you about your relationship with the child’s parents. The teacher forms should take approximately 30-60 minutes to complete for each student, and you will receive $10 per child questionnaire for participating. If a question makes you uncomfortable, you do not have to answer it.

**What the Children Will Do:** The children in the study will participate in two 1-hour sessions at the beginning and the end of the school year involving cognitive and social assessments, such as memory, language, pretend play, behavioral and emotional regulation, as well as sessions measuring their physiological responses (for example, pain-free measures of saliva and hair). We will always be two adults with the children during interviews at all times for their safety. We will ask your assistance in identifying the child participating in the study, and a suitable space in which the sessions can be performed. The children will be offered stickers or silly-bands as a reward for participating in the study. We will bring extra stickers for children who do not participate that want a sticker.

**Questions?** You can ask any questions you have about this study or these forms and discuss any reactions with our staff. The confidentiality of the information will be closely guarded. Other teachers and administrators at the school will not have access to this assessment information, including your answers to the survey questions. They will be given no information or feedback about your individual responses. The information gathered will be kept in a locked file cabinet at the University that will only be accessed by our research staff.

**Protecting Your Privacy:** If you should decide not to participate in this research, this will in no way affect your job. Also, if you consent to participate in the research, this will not prevent later withdrawal from the research if you wish to do so. We do not anticipate adverse risks to you as a result of participating in this study. Potential benefits include the knowledge that you have participated in a research study that could increase our knowledge about how to help children in the future.

Participant Initials

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UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/23/14
EXPIRATION DATE: 11/15/2016

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The University of Alabama
Research Consent Form
IRB # 13-022
Page 2 of 3

Legal and Ethical Information: You do not give up any of your legal rights by signing this consent form. You will be given a copy of this consent form to keep. Save it in case you want to review it later or you decide to contact the investigator or the university about the study. The University of Alabama Institutional Review Board (IRB) is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and the study is being carried out as planned. School protocol will be followed should any emergencies occur throughout the study.

Contact Information: If you have any questions about this study, please contact Dr. Ansley Gilpin at the University of Alabama (205-348-9903). If you have questions or concerns about your rights as a research participant, please contact Tanta Myles, Research Compliance Officer, at (205) 348-8461, or (877) 820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email us at participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127. Thank you very much for your interest and cooperation.

Sincerely,

Caroline Boxmeyer, Ph.D. Jason DeCaro, Ph.D.
Research Investigator Research Investigator
The University of Alabama The University of Alabama

Ansley Gilpin, Ph.D. John Lochman, Ph.D.
Research Investigator Research Investigator
The University of Alabama The University of Alabama

******************************************************************************
I have had an opportunity to ask any questions I had about this study.

_____ I agree to participate in this research.

_____ I choose not to participate in this research.

_________________________ __________________________
Teacher’s signature Date

_________________________ __________________________
Email Phone

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/23/14
EXPIRATION DATE: 1/14/2015

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Additional Information About the Physiological Measure for Teachers

More Information About the Project: All children experience some stressful situations every day – in school, with friends, at home, and in other places. We learn about differences in how children’s bodies respond to these stressful situations by measuring hormones, heart rate, and how much the hands sweat. Recent studies tell us that how their bodies react do matter. Children whose bodies respond in different ways to stress may also be more or less likely to have a hard time in school. As part of our study, we will ask children to do some tasks that are the kind of mild stress they might experience in school, at home, or with their friends. We will ask them to repeat a list of numbers, answer questions about themselves, watch a few seconds of a Disney movie that can be a little scary (but is right for their age), and taste something sour on their tongue (a drop of lemon juice). While they’re doing these tasks, we will check their heart rate using three small, painless stickers (adhesive electrodes) attached under their clothes to their shoulders and stomach. This tells us how their heart responds to mild stresses. We also will put a blood pressure cuff on their arm to measure their blood pressure and snip 2-3 strands of hair to measure chronic stress. We also will put small cups on the tips of two of their fingers. This tells us how their skin responds to mild stress, either getting dry or sweating a bit. Before and after they do these tasks, we will get four samples of their saliva, by having them roll one end of a Q-tip around in their mouths and then spitting it back out into a tube. The interviewer holds onto the other end of the Q-tip the whole time, to make sure children cannot swallow it. We also will collect 2-3 strands of hair. We analyze the saliva and hair to find out how their body is responding to mild stress by releasing a hormone called cortisol. This whole process takes about 1 hour. The stickers and fingertip cups do not cause any pain, although in some rare cases the skin will be red and itchy afterwards. The mild stresses (such as repeating numbers, and watching the video) are not greater than what most children experience in everyday life. However, if a child becomes seriously upset, we will stop right away. There will always be two adults with children during the interviews at all times and children will be videotaped for their safety.

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 7/23/15
EXPIRATION DATE: 1/16/2015

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Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool
The University of Alabama
Research Consent Form
IRB # 13-022
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Dear Teacher:

We are studying how preschool-aged children are best prepared for elementary school and how to improve overall family well-being. This project is being directed by Caroline Boixmeyer, Ph.D., Jason DeCaro, Ph.D., Ansley Gilpin, Ph.D., and John Lochman, Ph.D. at the University of Alabama. We would like to examine the changes in behavior, thinking, and feelings of children (and their families) as they prepare to make this transition to elementary school. Some children in this study will be in a classroom where their teachers like you use extra curriculum to encourage school readiness, with additional group parent information sessions. The other children’s classrooms will not change – they will not have the extra curriculum or the extra parent information sessions.

What You Will Do: If you consent to being involved in this study for this school year, you will be trained to incorporate the PATHS preschool curriculum into your current classroom materials. This training will take 1 day. The PATHS preschool curriculum helps children develop good social and emotional skills in preparation for kindergarten. The PATHS curriculum is meant to compliment your existing curriculum, not to replace it. You will not be asked to stop your current curriculum plan. (The PATHS curriculum was designed to use in Head Start to teach children to have better emotional and behavioral control. It involves one additional “circle-time” lesson a week for teachers to add to their curriculum, and instructing teachers on how to help children have better emotional and behavioral control situations in the moment. An example of a circle-time lesson is teaching children to “Do the Turtle” when they are upset – this involves stopping their behavior, breathing to calming down, and then saying the problem they are upset about and how it makes them feel. Children would learn to do the turtle during a circle-time lesson, and then you will be encouraged to remind children to do the turtle in the moment.) If you agree to participate, during the school year research assistants will stop by to observe your classroom to see how the PATHS curriculum is working for you and the students. The lessons may occasionally be videotaped with your administrators’ permission, your permission, and parent’s permission. We will make sure that children who do not have videotape consent are not included in the shot by adjusting the camera and, if necessary, by moving children in and out of the shot accordingly.

Protecting Your Privacy: You can ask any questions you have about this study or these forms and discuss any reactions with our staff. The confidentiality of the information will be closely guarded. Other teachers and administrators at the school will not have access to this assessment information. The information gathered will be kept in a locked file cabinet at the University that will only be accessed by our research staff.

If you should decide not to participate in this research, this will in no way affect your job. Also, if you consent to participate in the research, this will not prevent later withdrawal from the research if you wish to do so. We do not anticipate adverse risks to you as a result of

Participant Initials

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 9/23/14
EXPIRATION DATE: 11/14/15

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participating in this study. Potential benefits include the knowledge that you have participated in a research study that could increase our knowledge about how to help children in the future.

**Questions and Contact Information:** If you have any questions about this study, please contact Dr. Ansley Gilpin at the University of Alabama (205-348-9903). If you have questions or concerns about your rights as a research participant, please contact Tanta Myles, Research Compliance Officer, at (205) 348-8461, or (877) 820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email us at participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127. Thank you very much for your interest and cooperation.

Sincerely,

Caroline Boxmeyer, Ph.D.  
Research Investigator  
The University of Alabama

Jason DeCaro, Ph.D.  
Research Investigator  
The University of Alabama

Ansley Gilpin, Ph.D.  
Research Investigator  
The University of Alabama

John Lochman, Ph.D.  
Research Investigator  
The University of Alabama

I have had an opportunity to ask any questions I had about this study.

______  I agree to participate in this research by attending PATHS training and by including this curriculum in my classroom.

______  I choose not to participate in this research.

_________________________________________  Date

Teacher's signature

Participant Initials

UNIVERSITY OF ALABAMA IRB

APPROVED: 7/23/14

APPLICATION DATE: 1/14/2015
Improving School Readiness: Social, Cognitive and Physiological Predictors in Preschool
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The Use of Video/Audio Tape:
We may wish to present some of the tapes from this study at scientific meetings or as
demonstrations in classrooms (for educational purposes only). If the tape of your classroom is
shown, you will not be identified in any way. Please sign below if you are willing to allow us to
do so with your tape. Note that this signature is entirely voluntary and separate from your
decision to participate. You may consent to participate above, but not give permission for the
tape to be shown. Tapes will be stored in a locked and secure cabinet at the University of
Alabama. Only investigators will have access to the tapes.

I have read the statement above and give permission for my video/audio tape from my classroom
to be shown for educational purposes with the limitation that I will not be identified to the
audience.

_____________________________  Date____________________
Teacher’s signature

Participant Initials

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CONSENT FORM APPROVED: 7/23/14
EXPIRATION DATE: 1/14/2015
Appendix D

Child Response Form - Demographics and Assent

Child's Initials: [ ]
Your Initials: [ ]

Child's Sex:
- [ ] Male
- [ ] Female

Interview Date: [ ] [ ] [ ]

Assent Script:
"(Child's name), my name is (experimenter's name) and your parent (or guardian) told me that you could help me today if you want to. I have some questions I want to ask you about what you think. We're going to talk about animals and play a video game. Would you like to do that now? Just to let you know, nobody will know what you do or say. You do not need to be afraid that other people will find out how you did. All of your answers will be kept safe and secure in a locked room that only a few people have the key for."

- [ ] Yes
- [ ] No