The Influence of Family Routines on the Resilience of Low-Income Preschoolers

by

Larissa Katlin Ferretti

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

Auburn, Alabama
August 6, 2011

Keywords: family routines, preschoolers, resilience, prevention

Approved by

Kristen Bub, Chair, Assistant Professor of Human Development and Family Studies
Ellen Abell, Associate Professor of Human Development and Family Studies
Jacquelyn Mize, Professor of Human Development and Family Studies

Abstract

Using data from the Birth to Three Phase (1996-2001) of the Early Head Start Research and Evaluation Project, I investigated whether family routines play a role in the development of young children's social competence and cognitive ability above and beyond general parenting. In addition, the moderating effects of child gender and race/ethnicity were examined. Numerous findings were noteworthy. First, analyses revealed that routines do matter for child outcomes; whereas concurrent routines may be critical for fostering social competence at 36 months, early family routines may be more important for children's 36-month cognitive skills. Second, when general parenting was taken into account family routines no longer predicted 36-month outcomes, due primarily to the high collinearity between these variables. Third, the effects of routines differed by child gender, with early routines having a stronger effect on girls' outcomes at 36 months and concurrent routines having a stronger effect on boys' outcomes. Associations also varied by race/ethnicity such that family routines moderately predicted child outcomes at 36 months for European and African American children but not Hispanic children. Implications of these findings with respect to strength-based interventions for low-income preschoolers and their families are discussed.

Acknowledgments

The author would like to thank her committee members, Dr. Jacquelyn Mize and Dr. Ellen Abel for their guidance and support throughout this Master's thesis. She would also like to extend her sincerest gratitude to her major professor, Dr. Kristen Bub, for her continual encouragement, dedication, and guidance. A special thank you to her family, especially her parents, Rick and Lauren, her sister, Lia, her grandparents, Rich and Marie, and Brian, for their love and understanding, as well as the motivation they have provided her.

Table of Contents

List of Tables

List of Figures

Introduction

In 2008, 19% of all children under age 18 in the United States lived in poverty. Young children are now the poorest age group in U.S. society (Economics and Statistics Administration, 2009; National Research Council, 2000). A 2010 report from the Foundation for Child Development projects that by the end of 2010, 21% of U.S. children will be living below the poverty line, an increase of 4% in the last 4 years and the highest rate of child poverty in 20 years (Land & The Foundation for Child Development, 2010). Past research has found strong associations between low-income and poor cognitive, social, and academic outcomes for children (Duncan, Brooks-Gunn, & Klebanov, 1994; Kaiser & Delaney, 1996). These early deficits tend to have lasting effects, with low-income children being considerably more likely to drop out of school (Duncan, Ziol-Guest, & Kalil, 2010), commit a crime (Loeber & Farrington, 2000), be unemployed and suffer from poor overall health as adolescents and adults (Duncan et al., 2010). Poverty among children birth to 6 can be especially devastating for children's development since these years represent the period of greatest developmental vulnerability. Thus, identifying factors that support positive development for low-income children is critical.

Resilience research suggests that sufficient positive assets can offset the detrimental effects of adversity or risk. More specifically, both individual and environmental protective factors buffer children from the effects of vulnerabilities, resulting in more positive outcomes (Masten, 2001; Masten, Best, & Garmezy, 1990; Patterson, 2002). Because parents and other caregivers are often the first "environmental protective agents" that children experience, they are typically the most important and consistent protective factor for children (Hawley & DeHaan,

1996; Masten et al., 1990). Specific parenting practices, such as positive reinforcement, open displays of warmth and affection, and active monitoring of activities have been found to positively influence child development, especially in the early years (Kotchick & Forehand, 2002). In addition, research focusing on school-aged children indicates that families who can create predictable routines despite challenging contexts may be able to protect their children from the stresses associated with inadequate economic resources (Brody & Flor, 1997; Fiese & Everhart, 2008). Routines around activities such as mealtime, play, reading, and bedtime create stability within the home, which allows for not only the completion of essential daily tasks, but also promotes the child's social and cognitive development. Routines include family-level behaviors (e.g., mealtime) and child activities (e.g., homework time) that are supervised or arranged by an adult, all of which provide order, predictability, and structure to everyday life (McLoyd, Toyokawa, & Kaplan, 2008). Regular routines not only encourage family organization, but also provide a sense of belonging and increase family cohesion, which enhances child well-being (Fiese, 2002; Jensen, James, Boyce, & Hartnett, 1983; Systma, Kelley, & Wymer, 2001). Thus, routine practices may be especially important for families experiencing significant stress, challenges, or transitions (Fiese & Everhart, 2008; Fiese & Wamboldt, 2000).

Despite emphasis frequently placed on the importance of family routines, we have little empirical knowledge about the role routines play in the development of very young children, specifically beyond the role of more general parenting. In addition, exploration of routines has generally focused only on either broad family routine use or on a single activity-specific routine such as bedtime or mealtime, and thus we know little about the role of activity-specific routines in children's social and cognitive development or whether certain routines matter more for

certain outcomes. Finally, little is known about the buffering effect that routines can have on general parenting. Family routines may be particularly important for children and families in especially challenging environments because they may serve to reduce stress and chaos and thus protect against the adverse effects of poor parenting on preschoolers' social and cognitive outcomes.

As such, the purpose of the current study was threefold. First, using a sample of low-income preschool children and their families, I tested whether family routines are associated with more positive child social and cognitive outcomes above and beyond general parenting. I also examined activity-specific routines to allow for the exploration of differential effects of routines on child outcomes. Second, I explored the possibility that routines moderated the relationship between general parenting and child outcomes. That is, I examined whether children who are exposed to poor general parenting but who have regular bedtime, play, and reading routines exhibit better social and cognitive outcomes at 36 months than their peers with few routines. Finally, I investigated whether the effects of family routines on child outcomes differ by child gender and race/ethnicity. It is important to note that, unlike the majority of research on low-income families, the current study focuses on the strengths of low-income families rather than on their deficits, a framework significantly underrepresented in the literature. The current study focuses on the presence of positive parenting (i.e., family routines, parental supportiveness, cognitive stimulation, and mild discipline) rather than the absence of harmful parenting (i.e., harsh parenting, neglect, or abuse). This approach will be more informative for creating prevention and intervention programs because it builds on the strengths that families already have rather than attempting to "correct" what one deems they are not doing well.

Literature Review

Poverty and Child Outcomes

Economic inadequacies in childhood, as stated by Kaiser and Delaney (1996, p. 66), are rampant and the influences are "multiple, diverse, direct, and indirect." Poverty, defined by the U.S. government as three times the amount of income needed to buy a realistic amount of food for the family, is currently set at $22,050 for a family of four, and low-income, which refers to the condition of not having the means to afford basic human needs, have consistently been found to strongly predict poor social, cognitive, and academic outcomes for children. Poor children are more likely to have lower IQs, suffer from depression and peer-conflict, and be slower to gain language and literacy skills (Duncan et al., 1994; Kaiser & Delaney, 1996). Further, children from low-income families, despite being eager to learn, enter school with fewer academic skills than their more affluent peers, and considerable gaps in cognitive and academic competencies persist in later years (Stipek & Ryan, 1997).

Social and behavioral outcomes. The link between family income and children's social and behavioral outcomes has been strongly established in the literature (Linver, Brooks-Gunn, & Kohen, 2002; Mistry, Biesanz, Taylor, Burchinal, & Cox, 2004). Low-income children's risk for parent-reported emotional and behavioral problems is 1.3 times higher than that for their more affluent peers (Duncan & Brooks-Gunn, 2000). Although poor social skills and problem behaviors are common in early childhood, and estimates suggest that approximately 10% of preschoolers exhibit noticeable social and behavioral problems, research by Webster-Stratton and Hammond (1998) indicates that base rates of aggressive and disruptive behavior are

significantly higher for low-income populations when compared to the general population of preschoolers (Briggs-Gowan, Carter, Skuban, & Horwitz, 2001; Qi & Kaiser, 2003). In a study of Head Start children, 23% to 33% presented aggressive behavior within the clinical range (Webster-Stratton & Hammond, 1998). In a recent study of 3-year-olds and their mothers, Berger, Paxson, and Waldfogel (2009) reported that low-income children had more mother-reported aggressive, withdrawn, and anxious behavior problems and more interviewer-reported behavior problems when compared to higher-income children. Likewise, Takeuchi, Williams, and Adair (1991) assert that parents' financial status and perceived financial stress have negative effects on children's emotional and behavioral problems (e.g., impulsive, antisocial, and depressive behaviors). In their study of 7- to 11-year-old children, Takeuchi and his colleagues (1991) found that children whose families received welfare at two time points had more behavioral problems when compared to children whose families no longer received welfare at the second assessment.

Cognitive outcomes. Although past research has found effects of income on children's social and behavioral outcomes, effects of income are strongest on children's ability and achievement-related outcomes (Brooks-Gunn & Duncan, 1997; Duncan, Yeung, Brooks-Gunn, & Smith, 1998). Low-income children are 1.4 times more likely to be diagnosed with learning disabilities or developmental delays when compared to their more affluent peers (Duncan & Brooks-Gunn, 2000). As noted by Smith, Brooks-Gunn, and Klebanov (1997) in their study of 966 3- and 4-year old children, low-income children scored between 6 and 9 points lower on standardized tests of intelligence, verbal ability, and achievement. Although small, these are statistically significant effects. These differences were present even after controlling for maternal age, marital status, education, and ethnicity. Likewise, Duncan et al. (1994) reported that being

poor for the first four years of life is associated with a 9-point difference in IQ test scores at age 5. Recent research indicates that socioeconomic disparities influence prefrontal (i.e., executive) functioning in children, such that children from low-income families have lower language, memory, and general cognitive processing abilities (Kishiyama, Boyce, Jimenez, Perry, & Knight, 2009).

Persistent poverty. The detrimental effects of poverty on child outcomes are almost twice as large for children in persistent poverty when compared to those in transient poverty (Duncan et al., 1994). Persistent poverty is marked by continued environmental adversity over extended and consecutive years or assessment intervals (Ackerman, Brown, & Izard, 2004). Persistent poverty undermines the gradual development of cognitive and social competencies in childhood (Ackerman et al., 2004). Ackerman and his colleagues (2004) assert that repeated exposure to risk makes the exposure more stressful. Additionally, persistent poverty may hinder a child's ability to recover from initial poverty deficits, in turn accentuating subsequent problems. In a study using data from children in the National Longitudinal Survey of Youth, Korenman, Miller, and Sjaastad (1995) explored the effects of persistent poverty from before birth, at birth, and throughout childhood (over a 13-year period). The researchers found that deficits in verbal, mathematical, and reading skills associated with persistent poverty were two or three times larger than those associated with the child's current poverty status (Korenman et al., 1995). Likewise, in a study of low birthweight premature infants, Duncan and his colleagues (1994) found that the effects of persistent poverty were twice as large as the effects of transient poverty on 5-year-olds' IQ scores. For four- to eight-year-olds, persistent low-income status was associated with internalizing problems (e.g., dependence, anxiety, unhappiness; McLeod & Shanahan, 1996) and externalizing problems (e.g., hyperactivity, defiance) even after controlling for poverty status,

mother's age, education, and marital status (Duncan et al., 1994). More transient low-income situations were also associated with these problems, but not as strongly (Brooks-Gunn & Duncan, 1997).

Timing. Research also indicates that income effects are largest for younger children as they are more reliant solely on their families during these years. In turn, they are more susceptible to the mediators of family income and child outcomes, such as a lack of home-based cognitive stimulation and unfavorable parenting practices (Linver et al., 2002). Moreover, studies of children's early social and cognitive development indicate that family income in the first five years of life is highly correlated with later developmental outcomes (Duncan et al., 1998; Linver et al., 2002). Duncan and his colleagues (1997; 1998), in particular, found that a family's income averaged from birth to five years of age had a more powerful effect on the amount of schooling a child completed than did family income measured between 5 and 10 or between 11 and 15. As Guo, Brooks-Gunn, and Harris (1996) assert, low-income is strongly related to low levels of preschool ability, which is associated with lower test scores in later childhood. A recent study by Duncan et al. (2010) reported that poor children complete 2 fewer years of schooling, work 451 fewer hours per year, earn less than half as much, and are more than twice as likely to report poor overall health or high levels of psychological distress as adults when compared to children whose families had incomes of at least twice the poverty line during their early childhood. Therefore, as the authors suggest, preschool development sets the stage for the transition into early childhood, adolescence, and even adulthood.

Demographic differences in the effects of poverty. The extent to which, and the processes through which, poverty influences child development can vary by individual characteristics, such as gender and race/ethnicity. Research regarding the influence of gender on low-income

children's outcomes is inconclusive. For example, some studies have demonstrated that boys suffer more adverse effects of poverty than do girls (Elder, 1979). C.J. Patterson and her colleagues (1990) found that boys from low-income families were less likely than other children (i.e., girls from low-income families, and boys and girls from more affluent families) to be competent across domains (i.e., conduct, peer relations, and achievement). In contrast, research by Petterson and Albers (2001) indicates that cognitive development scores were strongly related to income for preschool girls, but were only weakly related to income for preschool boys. These discrepancies indicate a clear need to further examine gender differences in the effects of poverty on child development.

Research has also suggested that minority status may heighten the risk of developmental delays associated with low-income, in turn making it difficult to tease apart the effects of poverty from the effects of race/ethnicity (Patterson, Kupersmidt, & Vaden, 1990; Petterson & Albers, 2001). Black and Hispanic children are more likely to live in poverty and to experience persistent poverty than are White children (Duncan et al., 1994). Thus, McLoyd (1990; 1998) suggests that Black and Hispanic children are at a higher risk than White children for experiencing developmental problems. Past research has demonstrated significant differences in behavior problems related to ethnicity (Gross, Sambrook, & Fogg, 1999; Leadbeater & Bishop, 1994). Minority mothers are more likely to report higher levels of problem behaviors and aggression than Caucasian mothers. In addition, Brooks-Gunn and her colleagues (1996) have found that low-income Black children do less well on cognitive tests than do low-income White children. Thus, examining racial/ethnic differences is critical for understanding the unique role that culture may play in supporting positive development among low-income children.

Parenting in Poverty

The learning that takes place in a home before any formal education is instrumental in the future success of a child. The parent-child relationship inevitably plays a pivotal role in this learning (Halpern, 1990; Kaiser & Delaney, 1996). Specific parenting practices, such as positive reinforcement, open displays of warmth and affection, and active monitoring of activities have been found to positively influence child development (Kotchick & Forehand, 2002). More specifically, R. D. Conger and his colleagues (1992) found consistent, but not overly harsh, discipline practices were related to measures of adaptive child adjustment, such as self-confidence, positive peer relations, and academic competence. In addition to teaching specific skills essential to early development, parents who use positive parenting practices can act as a buffer between their child and outside influences. Kaiser and Delaney suggest that parenting "becomes the medium through which the child experiences the world" (1996, p. 69). Thus, positive parenting strategies may be particularly important for children in stressful situations, such as poverty.

Parenting practices are often influenced by the outside world against which parents are protecting their children. Poverty is one such influence. Kaiser and Delaney (1996) suggest that poverty harms family relationships by increasing conflict between spouses and children. Furthermore, poverty increases the likelihood that families will experience numerous risk factors simultaneously, thus exacerbating environmental stressors, leading to less optimal overall family functioning. Individuals parenting in low-income situations often deal with chronic stress, marital conflict, and depression (Halpern, 1990; Jackson, Brooks-Gunn, Huang, & Glassman, 2000). In past research interviewing 35 high-risk low-income parents, parents reported that financial hardship was the primary barrier to parenting effectively. Parents frequently reported

being unable to meet the basic needs of their child, which led to their having negative feelings about themselves and their ability to parent (Russell, Harris, & Gockel, 2008). In addition, parents described a sense of marginality, or that their parenting ability was constantly being judged, which led them to question their own abilities and feel as though they should give up (Russell et al., 2008).

Low-income parents more often use harsh, inconsistent, and physical discipline that is more likely to be coercive than do their affluent peers (Kaiser & Delaney, 1996). They tend to show less verbal and physical affection and are less likely to monitor their children successfully, both inside and outside the home, when compared to non-poor parents (Kaiser & Delaney, 1996; Kotchick & Forehand, 2002). Further, parent-child interactions among low-income families are frequently focused on obedience and conformity rather than positive reinforcement and open displays of affection (Kotchick & Forehand, 2002). The result is a more negative parent-child interaction.

Economic strain is thought to indirectly influence preschoolers' outcomes through parent behavior (Guo & Harris, 2000; Jackson et al., 2000; Trentacosta et al., 2008). Consistent with the family stress model, which asserts children experience hardship not directly, but by the response of parents, Jackson and her colleagues (2000) reported that increased preschoolers' behavior problems were associated with lower levels of involved, supportive parenting among former welfare recipients (R. D. Conger & Conger, 2002). Furthermore, parents' discipline styles are significantly related to social competence in the classroom, such that harsher discipline, more often found among low-income parents, is associated with less prosocial child behavior (Anthony et al., 2005). In addition, Korenman et al. (1995) found that lower levels of emotional

support and cognitive stimulation provided by parents accounted for one third to one half of discrepancies seen in children's reading, verbal, and math skills among the persistently poor.

Guo and Harris (2000) explored this indirect relationship further and found that low-income was significantly related to lower levels of cognitive stimulation in the household (e.g., the number of books the child has, whether the child has a record/tape player, number of museum visits, how often the mother reads to the child, and number of magazines received by the family), unfavorable physical environments (e.g., home is not reasonably clean, home is cluttered, play environment appears unsafe, and home is dark), and adverse parenting styles. Further, these three mediating variables were found to have a significant effect on children's intellectual development such that low-income children had lower scores on standard tests of cognitive development. The researchers noted that when the mediating variables were excluded from the analyses, poverty alone had no direct effect on children's intellectual development. Thus, the effects of low-income were fully mediated through cognitive stimulation, the physical environment, and parenting style. Linver et al. (2002) also explored the role of family mediators in the association between income and child outcomes using a sample of preterm infants at 40 weeks gestational age to 5 years of age. They found that parenting and the home environment mediated the relationship between income and child cognitive functioning and behaviors, even after controlling for child and maternal characteristics such as child birth weight, maternal marital status, education, and receptive verbal ability.

The destructive influence of poverty on an individuals' ability to parent effectively is well supported by the literature (Kaiser & Delany, 1996; Kotchick & Forehand, 2002; Trentacosta et al., 2008); however, research has also found that many low-income parents are able to overcome or "defy the odds." A focus on the strengths of low-income families rather than their deficits,

especially for families with young children, is significantly underrepresented in the literature. The few studies that have been completed report that there are parents who are able to nurture and protect their children while utilizing effective parenting practices despite their poor financial situation (Brody, Flor, & Gibson, 1999; Koblinsky, Kuvalanka, & Randoplh, 2006; Maupin, Brophy-Herb, Schiffman, & Bocknek, 2010). In essence, as Halpern (1990) suggests, there are parents who are able to adapt or demonstrate parental resilience when facing high levels of risk.

There is no clear consensus on what practices reflect positive parenting across various populations (i.e., ethnicities or income levels), however. Masten et al. (1990, p. 439) assert that effective parents are characterized "by the degree to which their behaviors facilitate development for a particular child in a given cultural and historical context, not by some fixed set of "good" parenting behaviors." Past research has demonstrated that in the United States, a combination of warm and structured parenting is strongly tied to success in multiple domains and to resilience among children at risk (Kaminski, Perou, & Claussen, 2011; Masten & Coatsworth, 1998; Scaramella et al., 2011). However, the skills needed and practices used by low-income parents may differ from those of middle to high income parents due, in part, to the specific demands of the culture in which the child is growing up (Halpern, 1990). For example, Kotchick and Forehand (2002) suggest that the neighborhood in which a family lives affects parenting strategies. In extremely dangerous environments, effective parents often must be stricter, but still remain warm and caring. A focus on obedience and conformity may actually serve as a protective factor among families in unsafe neighborhoods where more restriction is needed in order to protect the child. Indeed parenting practices that emphasize parental control, monitoring, and supervision have been shown to help children adapt to and thrive in adverse environments (Halpern, 1990; Kotchick & Forehand, 2002).

In contrast to negative parenting practices, positive parenting practices, including maternal warmth, responsiveness, and consistency are associated with fewer internalizing and externalizing child behavior problems among low-income children (Koblinsky et al., 2006). The authors suggest that low-income mothers who demonstrate the aforementioned qualities model socially desirable behaviors and contribute to their children's development of prosocial skills, including self-control and cooperative behavior. In addition, research by Brody and Flor (1997) exploring a sample of single African American mothers and their 6- to 9-year-old child found that mother-child relationship quality, specifically mother-child harmony during an observed interaction, was positively linked to child self-regulatory competence, which was linked positively with achievement and negatively with externalizing and internalizing problems. Moreover, mothers who believed they could influence their children's development were more likely to encourage educational goals, respect for others in the community, and concern for others. In turn, these dyads were more likely to demonstrate mother-child harmony (Brody et al., 1999).

Parents vary on how they interpret and respond to financial and other stressors. Recent research indicates that parents' positive perception of resources and their ability to cope with stress are significantly related to higher quality parenting practices, regardless of actual formal governmental support (Maupin et al., 2010). Further, Jackson and her colleagues (2000) reported that children whose mothers reported high levels of emotional support and warmth, despite financial difficulty, had fewer problem behaviors and better preschool ability. In a study of 193 African American single mothers and their 3- to 5-year old child, McGroder (2000) examined individual differences among low-income parents by identifying 4 specific parenting patterns. She found that Cognitively Stimulating mothers (i.e., read to child, talk to the child about his/her

day) and Patient/Nurturant mothers (i.e., warm and responsive) reported more favorable psychological well-being and their children displayed greater cognitive school readiness and social maturity compared to children of Low Nurturant and Aggravated/Nurturant mothers.

Clearly, positive parenting practices can serve as a protective factor against the stresses associated with poverty. Yet, compared with studies that have examined the negative effects of poor parenting, relatively few studies have investigated the family processes that encourage prosocial behaviors and cognitive growth among young low-income children. If we are to develop effective programs and practices designed to support the development of children facing adversity, more research is needed to better understand which specific parenting practices and behaviors foster positive social and cognitive outcomes in very young children. One potential practice that may foster resilience but that has rarely been investigated, especially in very young children, is family routines.

Family Routines

Research indicates that unpredictability and chaos within a home are threats to children's healthy development, in part because they are associated with consistently higher levels of stress (Koulouglioti, Cole, & Kitzman, 2009). Children in low-income families often live in homes that are overcrowded and noisy, and their home lives are more often hectic, unstructured, and unpredictable when compared to middle- and upper-income families (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005; Fiese, 2006). Evans and his colleagues (2001; 2005) assert that chaos severely damages a young child's ability to self-regulate and thus manage his or her own behaviors and emotions, or attune to important information, processes that are critical for learning. Research suggests, however, that common daily routines around activities such as play, reading, mealtime, and bedtime create stability within a home. This stability allows for not

only the completion of essential daily tasks, but also promotes a child's social and cognitive development (Fiese, 2006; Flores, 2004; Koblinsky et al., 2006). Routines have been defined as "observable, repetitive behaviors that involve two or more family members and occur with predictable regularity in the day-to-day and week-to-week life of the family" (Boyce, Jensen, James, & Peacock, 1983; Koblinksy et al., 2006, p. 555). Regular routines encourage family organization, but also provide a sense of belonging and increase family cohesion, which enhances child well-being (Fiese, 2002; Jensen et al., 1983; Systma et al., 2001). Healthy routines provide structure, but are also flexible and meet the needs of a changing family (Fiese & Wamboldt, 2000). Routines create stability, allow for a clear definition of roles and responsibilities within a family, and encourage parent-child relationships (Woods & Goldstein, 2003). As humans, we search for order, particularly during periods of uncertainty (Boyce et al., 1983). Thus, routine practices are important for families experiencing significant stress, challenges, or transitions (Fiese & Everhart, 2008; Fiese & Wamboldt, 2000).

According to Boyce et al., routines are the "organizational units of ordinary life in families" (1983, p. 194). In one of the first studies to investigate routines, Boyce and his colleagues (1983) observed 15 families 24 hours a day for a 3- to 7-day period and found that in all of the families observed, some degree of routine use was present. Some families had a highly-structured pattern of predictable routines for most activities, while others followed routines for only a few activities. Some routines were common, such as having dinner together each night, and others were very particular to a specific family, such as saying goodnight to the moon. The number, type, and importance of routines were not dependent on race or social class.

It is thought that routines can buffer the effects of stressors and negative life events on children of all socioeconomic statuses (Boyce et al., 1983; Churchill & Stoneman, 2004). Recent

research indicates that family routines predict better physical health and academic performance, fewer school absences, better peer relations, and more positive parent-child relations among elementary school children two years after parental divorce (Guidubaldi, Cleminshaw, Perry, Nastasi, & Lightel, 1986). There is also evidence that regular routines, specifically family mealtimes, protect children of chronic alcoholics from developing problematic drinking habits (Bennett, Wolin, & Reiss, 1988). In addition, routines have been found to decrease disruptive behavior in children with disabilities (Lucyshyn, Albin, & Nixon, 1997), to facilitate good nutrition in infants diagnosed with failure-to-thrive (Yoos, Kitzman, & Cole, 1999), and to increase treatment adherence in families of children with asthma while decreasing child anxiety (Fiese & Wamboldt, 2000; Markson & Fiese, 2000).

More recently, research has begun to explore the benefits of routines unique to low-income families. Family routines within low-income families have been linked to higher levels of self-reliance, social competence, and academic achievement among adolescent and school-age children (Brody & Flor, 1997; Taylor, 1996). For example, in a study of 171 low-income African American mothers and their adolescents, Seaton and Taylor (2003) found routines were positively associated with academic self-concept and school engagement. Additionally, research by Loukas and Prelow (2004) indicates that family routines buffer the effects of cumulative risk (i.e., single-parent family, maternal distress, perceived financial strain, and neighborhood problems) on internalizing and externalizing problems in Latino adolescent females. Specifically Latino adolescent females in homes with more family routines scored lower on mother-reported adjustment measures when compared to peers without consistent family routines. Thus, the development of a stable and predictable home environment may be especially important for low-

income children who are dealing with frequent stressors associated with a lack of economic resources (Seaton & Taylor, 2003).

Despite emphasis frequently placed on the importance of family routines, we have little empirical knowledge about the role routines play in the development of very young children. The few studies that have examined routines in young children report positive effects similar to those for older children. More specifically, for low-income preschool children regular family routines are associated with more adequate sleep, fewer injuries, and increased ability to represent temporal relationships (Flores, 2004; Koulouglioti et al., 2009). Keltner (1990) explored family organization among 91 African-American Head Start families and found that children demonstrated more interest and participation in their environment when their families engaged in regular and predictable family interactions. In addition, routines were associated with more cooperative, compliant child behavior (Keltner, 1990). In a more recent study of 125 Head Start families, child externalizing behavior was negatively related to mothers' reports of how often routines were performed in their family (Churchill & Stoneman, 2004). As noted by Fiese (2002), the influences of routines during early development are not only immediate, but are evident years later. She found that family routines at four years of age predicted academic achievement at nine years of age. In addition, Fiese (2002) reported that dinnertime routines initiated in the preschool years remained relatively stable into the early school years, even for low-income families, and increased routine stability was related to increased academic achievement (Fiese, 2002). Finally, in a study examining positive parenting, family routines, family conflict, and maternal depression, Koblinsky et al. (2006) reported that children of mothers who participated in more family routines had greater social skills and exhibited more self-control and cooperation, as reported by the mother. The researchers found positive parenting

and family routines to be more salient in predicting children's prosocial skills when compared to risk factors (i.e., maternal depression and family conflict) and thus concluded that positive features of low-income children's experiences should be the emphasis of future research. Although difficult to disentangle from general positive parenting, there is evidence that routines matter in the development of young children.

Demographic differences. Only a few investigators have examined possible child gender differences regarding the effects of routines on individual development and the findings have been inconsistent**.** In a study of the influence of routines on children's post-divorce adjustment among school-age children, Guidubaldi and his colleagues (1986) found that regular bedtime routines predicted higher reading and spelling test scores, a better final grade in math, and higher teacher ratings of performance in reading and math for boys, but not for girls. On the other hand, regular bedtime predicted psychologists' and parents' ratings of the child's happiness, number of close friends, and child report of perceived positivity in the relationship with the parent for girls, but not boys (Guidubaldi et al., 1986). In addition, among Latino adolescents, Loukas and Prelow (2004) found that irrespective of risk, girls exposed to more consistent family routines showed fewer internalizing and externalizing problems. These effects were not reported for boys. In a younger Head Start sample, Churchill and Stoneman (2004) found routines were more important when explaining girls' outcomes (i.e., conduct disorder, social competence with peers, and math ability) than when explaining boys' outcomes. The authors suggest that girls may be more sensitive to the home environment.

Likewise, a clear consensus has not been drawn regarding the influence of race/ethnicity on the association between family routines and child outcomes. (Fiese & Kline, 1993; Flores, Tomany-Korman, & Olson, 2005; Sytsma et al., 2001). Cultural variations in mealtime routine

practices have been widely studied, but we lack understanding of the differences in general routine use and more importantly in the benefits of routines for children in differing cultures. Despite the lack of focus on ethnic differences, experts in the field assert that family routines are an important "purveyor" of culture (Fiese et al., 2002). Exploring cultural variations in routines provides a glimpse into what is relevant within a given ethnic group (Fiese, 2006). Fiese (2006) suggests that the activities of daily life reveal cultural values because families make decisions about how to organize their daily lives within the confines of cultural expectations. Culture influences child-rearing beliefs, the definition and role of family members, and the meaning of behavior, all of which are reflected in daily routines (Kubicek, 2002). Thus, there is evidence to suggest there may be differences in routine use and the influence of routines on child development. Exploratory studies of the source and impact of particular routines within different ethnic groups is needed.

Clearly routines can create a secure, predictable, and organized home environment that may have particular benefits for low-income children. Still unanswered, but of theoretical and practical significance, however, is whether family routines are related to child outcomes after taking into account conventional measures of parenting (e.g., maternal warmth, involvement). Moreover, little is known about which specific family routines are most beneficial to very young children. Exploration of routines has generally focused only on broad family routine use or single-activity-specific routines (e.g., bedtime or mealtime) and thus we know little about whether certain activity-specific routines contribute more to positive development than other routines, as well as whether there are differential contributions of specific routines to specific outcomes for young children and families in challenging environments. The findings for school-age children and adolescents are promising but not sufficient to generate policy or improve

practice for toddlers or preschool children. We also know little about the buffering effect that routines can have on general parenting. Exploring the possible moderating effects of family routines on the relationship between general parenting and child outcomes is crucial to the development of interventions utilizing routines. Family routines may reduce the connection between adverse parenting and preschoolers' poor cognitive and social outcomes. Routines can be a powerful family aid because relative to more general parenting practices or style (e.g., parental warmth), practitioners can teach families to establish home routines in a short period of time and without special resources (Koblinsky et al., 2006; Koulouglioti et al., 2009). Furthermore, routines offer an intervention tool that can be tailored to capitalize on a family's strengths rather than their deficits (Fiese & Wamboldt, 2000; Koblinsky et al., 2006). Thus, it is critical, particularly with regards to efforts to increase school readiness among low-income preschoolers, to conduct additional studies examining the role that family routines play in the development of very young children.

Resilience

Children negotiate the stress of poverty in many different ways and with many different outcomes. Some children function at levels above that which is expected based on their risk experiences, while others suffer multiple setbacks and even maladjustment (Radke-Yarrow & Brown, 1993). Unfortunately, much less is known about children who successfully navigate poverty than about the problems associated with poverty. As Seccombe (2002) points out, most research has focused on problems instead of the ways vulnerable individuals avoid such problems. Resilience researchers strive to understand what characterizes adaptive individuals or families who are exposed to risks, be it individual characteristics or environmental factors (Garmezy, 1991). It is imperative that we learn how we can foster resilience in all children,

particularly at a time when so many of today's children are facing adversity so that we can create more effective prevention/intervention programs.

The term resilience is derived from Latin roots meaning "to jump (or bounce) back" (Sillman, 1994 as cited by Seccombe, 2002). Resilience has been defined as a "dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti, & Becker, 2000, p. 543). This definition focuses on resilience as a process that can change over time, not a static trait or disposition (Benzies & Mychasiuk, 2009). Although certain factors (e.g., behavior, emotion) may seem like characteristics of the child, they are often shaped by interactions between the child and aspects of his or her environment (Luthar & Cicchetti, 2000; Luthar et al., 2000). Resilience is a common phenomenon that occurs within normal development and results from basic human adaptational systems (Garmezy, 1991; Masten & Coatsworth, 1998). Thus, resilience does not imply immunity or invulnerability. Instead, resilient children and their families are able to use the resources around them as protective systems (Masten, 2001; Masten & Coatsworth, 1998). The current study focuses on environmental factors, specifically parenting practices and family routines that foster resilience.

Resilience is inhibited by risk factors and fostered by protective factors. Adversity or risk includes negative life circumstances that are known to be associated with adjustment difficulties (Luthar & Cicchetti, 2000). In other words, as Patterson (2002) notes, a risk is labeled significant when most individuals who are exposed to it show dysfunctional behavior. Masten and Coatsworth (1998) describe significant risk as: (a) high-risk status by virtue of continuous, chronic exposure to adverse social conditions (e.g., poverty); (b) exposure to a traumatic event or severe adversity (e.g., death of a parent); or (c) a combination of a high-risk status and a traumatic event. When demands placed on families exceed their capabilities, and there is an

imbalance, families experience crisis or a period of severe disorganization (Patterson, 2002). Risk factors increase the likelihood of poor outcomes among children (Benzies & Mychasiuk, 2009). Distal risk factors, which include social class, are not directly experienced by the child but rather are mediated by proximal variables. Proximal risk factors (e.g., inadequate nutrition, marital discord, or parenting behavior) are experienced directly by the child. When distal risks are high, proximal factors become more important than when distal risk factors are low (Masten et al., 1990). Moreover, risks often "cascade," with one risk leading to another (Patterson, 2002).

Protective factors, on the other hand, modify responses to adverse events so that families can overcome adversity. Family protective factors are those that shape the family's ability to endure despite the presence of risk factors. Global factors associated with resilience include connections to competent and caring adults, cognitive and self-regulation skills, positive views of self, and motivation to be effective in the environment (Masten, 2001). Protective factors can emerge from individual family members (e.g., cognitive skills, self-regulation on the part of the child or parent), the family unit (e.g., parental warmth, family cohesion), and various community contexts (e.g., church involvement, good school system) (Garmezy, 1991; Luthar et al., 2000; Patterson, 2002; Seccombe, 2002). Each system of factors is unique yet interdependent (Hawley & DeHaan, 1996). Oftentimes, these supportive factors reinforce each other, thus enhancing the child's prospects of sustaining positive functioning (Patterson, 2002; Radke-Yarrow & Brown, 1993).

Sufficient positive assets can offset the detrimental effects of adversity or risk, such that protective factors moderate the effects of vulnerabilities, resulting in more positive outcomes (Masten, 2001; Masten et al., 1990; Patterson, 2002). With higher levels of a buffer or buffers, adversity is less likely to have a negative impact on positive adaptation (R. D. Conger & Conger,

2002). In other words, protective factors serve as buffers and can actually change the nature of the relationship between adversity and positive adaptation. Positive adaptation is often defined as competence or success at stage-salient developmental tasks (Masten & Coatsworth, 1998). Developmental tasks can be universal phenomena (e.g., language development) or can reflect more culturally or historically relevant (e.g., school achievement) stage-salient goals. From infancy to preschool examples of universal developmental tasks include attachment to caregivers, language development, and self-control and compliance (Masten, 2001). Luthar and Cicchetti (2000) note that positive adaptation may not refer to the presence of a positive trait (e.g., high cognitive ability), but rather to the absence of a negative trait (e.g., behavioral maladjustment). In addition, researchers suggest that a child does not have to be competent in all domains to be considered resilient (Luthar et al., 2000). Thus, it is possible that a child may show competence in one area, but not in others.

An understanding of competence is dependent on the context in which the individual lives, and thus can sometimes be difficult to measure for cultures that are markedly different from the larger society (Masten & Coatsworth, 1998). Because parents and other caregivers are often the first "environmental protective agents," they are typically the most important and consistent protective factor in children's lives (Hawley & DeHaan, 1996; Masten et al., 1990). Masten and her colleagues (1990) assert that parents are able to enhance their child's individual protective factors while also providing access to other family and community resources. Family cohesion and supportive parent-child interactions have been identified as some of the most significant protective factors for low-income families (R. D. Conger & Conger, 2002, 1992). Indeed, in low-income families with high levels of warmth and cohesion, children perform better in school and are more likely to attend college (Orthner, Jones-Sanpei, & Williamson, 2004). Warm supportive

parenting behavior has also been found to mediate the association between economic inadequacy (a distal risk factor) and poor child outcomes (Mistry, Vandewater, Huston, & McLoyd, 2002; Yeung, Linver, & Brooks-Gunn, 2002). Further, parents who participate in frequent joint activities with their preschool children have been shown to protect their children from externalizing behavior and promote cognitive development.

Masten and Coatsworth (1998) assert that studying children who overcome adversity to achieve good outcomes can teach us better ways to reduce risk and promote competence and thus is a critical step in generating effective policies and practices that support optimal development for families and children (Patterson, 2002). Past research has demonstrated that it is wiser to promote resilience as early as possible rather than try to implement treatments to repair existing problems among high-risk individuals (Benzies & Mychasiuk, 2009; Luthar & Cicchetti, 2000). However, little is known about which specific proximal factors may serve as protective factors among low-income preschool children. Identifying these key protective factors will help generate programs and practices that are successful. Thus, one goal of the current study was to begin to address this gap by examining two specific protective factors: (1) family routines and (2) general parenting.

The Present Study

As the literature suggests, family routines may be a critical protective factor for at-risk children. Because 19% of all children under 18 in the United States live in poverty, researchers must examine protective factors that can offset the detrimental effects of adversity or risk and foster resilience in children and families. In addition to conventional general parenting, family routines should be explored. The development of a stable and predictable home environment may be especially important for low-income children who are dealing with the stressors

associated with a lack of economic resources (Seaton & Taylor, 2003). However, little is known about the role that routines in general and specific routines in particular play in the development of very young children. The goal of the present study was to determine whether family routines predicted child social and cognitive outcomes beyond general parenting. In addition, the possibility of family routines as a moderator of the relationship between general parenting and child outcomes was explored. That is, I examined whether the interaction between general parenting and family routines significantly predicts child social and cognitive outcomes. Finally, I explored whether the effects of family routines differ by child gender and race/ethnicity. More specifically, I asked:

1. Do family routines predict preschoolers' social/behavioral development and cognitive ability? Which routines are the strongest predictors?
2. Do family routines predict preschoolers' social/behavioral development and cognitive ability beyond general positive parenting?
3. Do family routines moderate the relationship between general parenting and child outcomes at 36 months? Does child gender and race/ethnicity moderate the relationship between family routines and child outcomes at 36 months?

Method

Sample

Data from the Birth to Three Phase (1996-2001) of the Early Head Start Research and Evaluation Project (EHSRE) was used in the current study. EHSRE is an ongoing longitudinal, 17-site evaluation of some of the first federally funded Early Head Start Programs serving low-income infants, toddlers, and their families (Brooks-Gunn, Berlin, Leventhal, & Fuligni, 2000). Early Head Start (EHS) services begin between the third trimester of pregnancy and the target child's 12th month of age and continue through the child's third year. Sites were selected to gather adequate representation of major programmatic approaches and settings as well as a diversity of characteristics typical of EHS families nationally (Administration on Children and Families, 2002). One additional selection criteria focused on the strength of the local research team. The 17 sites recruited 3,001 families. To be eligible for the study, all families had to: (a) have incomes near or below the federal poverty level at the time of enrollment; (b) have had a child under one year of age born between September 1, 1995 and September 30, 1998; (c) understand the random assignment procedures and express willingness to participate in the program or control group; and (d) have not participated in an early childhood intervention for at least three months. Respondents were randomly assigned to the program (1,513; EHS programming included comprehensive child development and parenting education services) or comparison group (1,488). Program and comparison groups were equivalent at the start of the study. Participants in the comparison group were free to access other services in their communities (Bradley, Chazan-Cohen, & Raikes, 2009).

The current investigation is based on a sample of 1,232 mothers and children who were still in the study at three years of age and who had complete data for the child outcomes of interest (i.e., social and cognitive outcomes). The sample is diverse with respect to gender (51.5% female) and ethnicity (39% African American, 13% Hispanic, and 48% White). Approximately 53% of the children were enrolled in the EHS program. Sixty-seven percent of mothers had completed high school or earned their GED, 79% were not married or cohabitating, and 23% had depression scores on the CES-D high enough to be considered clinical. On average, the families' income as a percent of poverty was 60%. Nineteen percent of the mothers reported they perceived the family had inadequate money or urgent financial need. Response rates decreased somewhat over time. The 1,745 families that did not have child outcome data at 36 months varied slightly from those that remained in the study. The mothers were less likely to be living alone (34.2%); were more likely to report they perceived the family had inadequate money or urgent financial need (23%); and were more likely to have depression scores on the CES-D high enough to be considered clinical (50%).

Procedure

Sample enrollment, baseline data collection, and random assignment began in July 1996 and were completed in September 1998. Program staff collected baseline data from all families (99% mothers) during the application and enrollment process (Head Start Family Information System Program Application and Enrollment Forms). Families were then randomized to treatment and control. Data collection occurred in the home around the children's 14-month, 24-month, and 36-month birthdays. Data-collection methods included direct child assessment and parent interview by trained data collectors, as well as videotaped observations of mother–child interactions, which

were coded by an independent research team (Brady-Smith, O'Brien, Berlin, Ware, & Fauth, 2000) at the Center for Children and Families, Columbia University, Teachers College.

Measures

Outcome Variables

Child social and behavior development. To assess children's social and behavioral skills at 36-months of age, the *Bayley Behavioral Rating Scale* (BRS) and the *Child Behavior Checklist* were used. The BRS is one of three component scales of the *Bayley Scales of Infant Developemnt-II* (Bayley, 1993). At the conclusion of the Mental Development Index (MDI) assessment, the interviewer assessed the child's behavior throughout the assessment using a 5-point Likert scale, with 5 indicating more positive behaviors. The BRS is composed of two subscales: emotion regulation and orientation/engagement. The emotion regulation subscale measures a child's ability to change tasks and test materials and the orientation/engagement subscale measures the child's cooperation with the interviewer as well as interest in the test materials. Taken together, the BRS has alpha coefficients ranging from .64 to .92 and thus is internally consistent (McIntire & Miller, 2007). In addition, the 19-item aggressive behavior subscale of the *Child Behavior Checklist* (CBCL; Achenbach & Rescorla, 2000) was completed by the parent. For each item, parents indicated whether the statement describing a particular behavior was not true (0), somewhat or sometimes true (1), or very or often true (2) of their child. Sample behaviors were "Child has temper tantrums," "Child hits others," and "Child is easily frustrated." The CBCL is a widely used measure to assess the social competence and problem behavior of children 1 ½ to 5 years. The CBCL has excellent concurrent and predictive validity. Specifically the measure discriminates well between referred and nonreferred toddlers, and has been shown to predict problem behavior over a 6-year period (Achenbach, 1991).

Child cognitive and language development. To assess children's cognitive skills at 36-months of age, two direct assessments were used. The first was the Mental Development Index (MDI) subscale of the *Bayley Scales of Infant Development-II* (Bayley, 1993). The MDI measures overall cognitive development (e.g., perceptual abilities, memory, and problem solving) and is normed for children 1 to 42 months of age. The Bayley Scales are the most widely used measures of infant cognitive ability and have very good psychometric properties (Gagnon & Nagle, 2000). The second measure was the *Peabody Picture Vocabulary Test-III* (PPVT-III), a widely used measure of receptive vocabulary that measures the size and range of words that the child understands (Dunn & Dunn, 1997; 2001). The PPVT consist of 130 items in which an interviewer says a word (such as "hand," "feather," and "arrow") and asks the child to choose "the best picture of it." Words become progressively more difficult, and the interviewer stops when the child makes six consecutive errors (i.e., a "ceiling" is reached). PPVT scores in early childhood have been shown to be correlated with literacy outcomes in young adulthood (Bayadar, Brooks-Gunn, & Furstenberg, 1993). The PPVT is considered a reliable and valid measure of a child's current verbal ability, with split-half reliabilities ranging from .70 to .84 for 3- to 5-year olds (Dunn & Dunn, 1981). Previous research shows high correlations between both of these measures and various concurrent and criterion measures, for example the Wechsler Intelligence Scale for Children-Third Edition (Smith et al., 1997; Wechsler, 1991).

Primary Predictors of Interest

Family routines. Five observed variables were used to represent the latent construct family routines: parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine. Each routine type was assessed through maternal report when the child was 14-, 24-, and 36-months of age using items appropriate for the child's developmental period. Parent-

child play and parent-child outside activities were represented by two categorical observed variables, respectively. Parents were asked to rate how often they participated in specific play (i.e., tell stories, sing songs, dance) and outside activities (i.e., take child with you to religious services, visit museum, go on an outing such as shopping, to the park, or on a picnic) with their child on a scale from 1 (more than once a day) to 6 (not at all). An average of reverse-coded items in each subscale was used such that higher scores reflect higher frequency of activities. Bedtime routines was represented by a dichotomous observed variable. Parents were asked, "Do you have a regular routine of things you do with your child when you put him/her to sleep that was carried out at least 4 or 5 times in the last week?" A similar question was asked for whether the child had a regular bedtime. Parents responded by saying yes (1) or no (0) to all items. Reading routine was represented by a dichotomous observed variable. Parents responded yes (1) or no (0) to whether they read daily with their child.

General positive parenting. Three observed variables were used to represent the latent construct general positive parenting: discipline severity, language and cognitive stimulation, and maternal supportiveness. Discipline severity was assessed at 14, 24, and 36 months through maternal self-report on the *Index of Severity of Discipline Strategies* (Administration on Children and Families, 2002). This index measures the degree of harshness of discipline strategies the parent suggested. Trained interviewers read four different conflict situations to parents that they may have with their child (the child keeps playing with breakable things; the child refuses to eat; the child throws a temper tantrum in a public place; the child hits the parent in anger; the last situation was only at 36 months) and parents provided open-ended answers to how they would respond to each of the four situations. Responses were then classified into types of discipline strategies (e.g., time out, warn/remind, threaten the child with punishment, shout at the child,

physical punishment). Scores can range from 1 (preventing the situation or distracting the child, removing the child or object, talking to the child, or putting the child in time out) to 5 (using physical punishment). A parent's final score is represented by the harshest strategy that was suggested in response to any of the four conflict situations. Thus, parents who said they would use physical punishment receive a 5; those who did not suggest physical punishment but did say they would shout at the child receive a 4; those whose harshest response was to threaten the child with punishment receive a 3; those who suggest sending the child to his or her room, ignoring the behavior, threatening time out or loss of treats, or saying "No!" receive a 2; and those who suggested only preventing the situation or distracting the child, removing the child or object, talking to the child, or putting the child in time out receive a 1.

Language and cognitive stimulation in the home was assessed at 14, 24, and 36 months using the *Home Observation for Measurement of the Environment* (HOME; Caldwell & Bradley, 1984) Support of Cognitive, Language, and Literacy Subscale. The subscale is the sum of 12 items that assess the presence of a variety of stimulating materials. Information needed to score the inventory was collected through both maternal interviews and observations of the child's home while the child was present. All HOME data collectors were certified at 85% reliability on administration and scoring of the HOME at all three time points (Administration on Children, Youth, and Families, 2002). Dichotomous items such as "At least ten books are present and visible" and "Parent talks to child while doing house work" were coded and summed. This total score was used in the current analyses. Higher scores indicate home environments that are more supportive. The HOME is a well validated and widely used instrument that is consistently found to be associated with child outcomes (Bradley, 1989, 1995; Bradley & Caldwell, 1984; Caldwell & Bradley, 1984; Menaghan & Parcel, 1991).

Finally, maternal supportiveness was coded from a semi-structured play task designed to capture the degree to which interactions between mothers and children were warm and responsive (NICHD Early Child Care Research Network, 1997) when the child was 14, 24, and 36 months. During the 10 min play task, respondents were given three cloth bags of toys and invited to play with their child however they wished as long as they used the bags in a specified order. The instructions given for the play task were: "Our last activity will take about 10 minutes. We would like you and (CHILD) to spend this time with the toys in these three bags. During this activity, you may play with (CHILD) if you like. Just to remind you, please face front and try to stay on the mat. Please start with Bag #1, move on to Bag #2, and finish with Bag #3. Do you have any questions?" The instructions were purposefully vague to elicit naturally occurring behaviors. Videotapes of dyads interacting were coded according to scales adopted from the NICHD Study of Early Child Care's Three Box coding scales (NICHD Early Child Care Research Network, 1997, 1999). Trained observers rated mothers on a variety of behaviors using a 7-point Likert scale (1= "very low" to 7 "very high").

Six parenting scales address parent behaviors, but only three are relevant to this study. The three scales address sensitivity (the extent to which the parent takes the child's perspective, accurately perceives the child's signals, and promptly and appropriately responds to these signals); positive regard (demonstration of love, respect, admiration); and stimulation of cognitive development (teaching, actively trying to expand the child's abilities). Parental sensitivity, cognitive stimulation, and positive regard were highly correlated and thus a composite parenting score reflecting "supportive" parenting behavior was created by computing the mean scores for the three aforementioned subscales. This composite was used in the current

analyses. Significant positive correlations have been found between supportive parenting and HOME inventory scores (Caldwell & Bradley, 1984; Spiker, Ferguson, & Brooks-Gunn, 1993).

Control Variables

Child sex. Maternal reports of child sex were collected at study entry. Child sex was represented by a dichotomous variable (Male = 1).

Maternal characteristics. Parent reports of primary caregiver's race were collected at study entry. Race was represented by three dichotomous variables. One variable represented African-American versus White/Hispanic, one represented Hispanic versus White/African American and the final variable represented White versus African-American/Hispanic. Information on maternal education level was obtained when children were 14-, 24-, and 36-months of age and combined across waves. For the current study, maternal education was represented by a dichotomous variable (Has high school diploma/GED = 1). I also controlled for whether the mother was married or cohabitating (living alone or with other adults).

Maternal depressive symptoms was assessed via self-report when children were 14 months using the *Center for Epidemiologic Studies-Depression* scale, Short Form (Ross, Mirowsky, & Huber, 1983), which consisted of 12 items extracted from the original 20-item instrument (Radlof, 1977). Respondents were asked the number of days in the past week they had a particular symptom. Symptoms include poor appetite, restless sleep, loneliness, sadness, and lack of energy. Items were coded on a 4-point scale from rarely (0) to most days (3), with higher scores representing more depressive symptoms. Scores on the scale range from 0 to 36. Scores of greater than or equal to 10 indicate potential clinical depression levels (Chazen-Cohen et al., 2007). Maternal depressive symptoms was represented by a dichotomous variable (probably depressed/score greater than 23 = 1)

Family characteristics. Family financial information was obtained via maternal interviews at baseline. An income-to-needs variable was constructed by dividing the total family income by the poverty threshold for a family of that size, as determined by the US Bureau of the Census (Administration on Children and Families, 2002). Perceived financial inadequacy (Family has inadequate amount of money = 1) as reported by the mother at baseline was also used to capture both objective and subjective experiences with poverty.

Program status. I included a dummy variable representing EHS program status (Program = 1) to control for program effects.

Results

Analysis Plan

Exploratory analyses. I conducted descriptive statistics to obtain the means and standard deviations of the outcome and predictor variables for the total analytic sample, as well as separately by child gender and maternal ethnicity. In addition, I conducted individual *t*-tests to determine whether statistically significant differences exist between sample means for boys and girls, and I used ANOVAs to test pairwise differences across Hispanics, African Americans, and Whites. The outcome and predictor variables were symmetric enough (e.g., no skewness or kurtosis values greater than +/- 2), thus transformation of these variables was not necessary. Additionally, I examined bivariate correlations between all outcome and predictor variables.

Next, to test whether the hypothesized indicators of family routines (i.e., bedtime, play, and reading) adequately measured this construct, I first estimated two separate confirmatory factor analysis (CFA) models examining whether the indicators bedtime routine and regular bedtime represented bedtime routines and then whether parent-child play and parent-child outside activities represented play routines. The factor loadings for bedtime routine and parent-child play were fixed to one, for bedtime and play routines respectively, to provide the scaling unit. Model fit was poor for both latent constructs, so I re-fit the measurement model using the five indictors of routines as indices of a single latent construct representing overall family routines. I then tested whether the hypothesized indicators of general parenting (i.e., discipline severity, language and cognitive stimulation, and maternal supportiveness) adequately measured these constructs.

Finally, to test whether the hypothesized social competence indicators (i.e., orientation/engagement, emotion regulation, and aggressive behavior) and cognitive ability indicators (i.e., MDI and PPVT) adequately reflect children's social and cognitive outcomes, I fit a set of measurement models again using CFA. The model for the cognitive latent construct failed to identify or produce reliable estimates of the factor loadings, so using factor analysis I created a single composite variable to reflect overall cognitive ability at 36 months (α = .72). The fit of these measurement models to my data were examined using goodness of fit indices. I considered model fit to be good if I obtained a non-significant Chi-Square, Comparative Fit Indices (CFI) that were between .90 and 1, and a Root Mean Square Error of Approximation (RMSEA) that was close to zero with a non-significant *p*-value.

Next I fit a set of latent growth curve models to reveal within-individual differences in family routines and general parenting between 14 and 36 months. I selected latent growth curve analysis (LGCA) over other more traditional growth modeling methods because it offers several well-documented advantages (Muthen & Curran, 1997; Willet & Bub, 2004). First, LGCA allows change in two domains (i.e., family routines and parenting practices) to be modeled simultaneously. Further, LGCA models can be specified so that trajectories of change over time in family routines and parenting practices are predictors of subsequent outcomes (i.e., social and cognitive skills at 36 months), rather than being treated as a outcomes themselves (Bub, McCartney, & Willett, 2007). Importantly, LGCA incorporates a "measurement model" that teases out error from the observation of family routines and parenting practices over time (Willett & Sayer, 1994).

I hypothesized that the measurement models would link the longitudinal assessments of either family routines or general parenting to latent constructs that represent the family's true

final status in routines or parenting (π_{0i}) at 36 months and their true linear rate of change in these domains between 14 and 36 months (π_{1i}; See Figure 1). Factor loadings were fixed and equal to a constant of 1 to represent true initial status or to the values of the times at which the routines and practices were measured (i.e., 14, 24, and 36 months), centered on the last assessment to represent true linear rate of change in these domains. I centered time at 36 months because I was more concerned with the concurrent effects of family routines on child outcomes than how base level routines influence later development. Results suggested there was no statistically significant growth in family routines or general parenting over time; thus, for all subsequent analyses I used the 14- , 24- , and 36-month family routines and general parenting latent constructs developed in the aforementioned measurement models to predict outcomes at 36 months (see Figure 2).

Predictive analyses. To address my first research question of whether family routines predict preschoolers' social/behavioral skills and cognitive ability, I fit a taxonomy of hierarchical multiple regression models in which I regressed children's social and cognitive outcomes first on the latent construct representing 14-month family routines, then on the latent constructs representing 14- and 24-month family routines, and finally on the latent constructs representing 14-, 24-, and 36-month family routines. In total, six regression models were fitted: three for social outcomes and three for cognitive outcomes. I also included a common set of control variables in each model: child sex, caregiver's race, maternal education, live-in partner status, maternal depression, the family's income-to-needs ratio, maternal perceived financial inadequacy, and program status. A sample equation from these models is:

$$Y_i = \beta_0 + \beta_1 \text{Routines\_14} + \beta_2 X \qquad (\textit{Equation 1})$$

where β_0 represents the intercept when all else in the model is zero, β_1 represents the slope of routines (in this example at 14 months) and β_2 represents the slope of the vector of covariates.

Additionally, to examine whether certain family routines more strongly predicted children's social or cognitive outcomes, I fit a taxonomy of multiple regression models in which I regressed children's social or cognitive outcomes on each of the five observed family routine variables at 36 months (i.e., parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine). More specifically, I examined the effects of parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine on the latent construct representing children's 36-month social competence as well as on the observed composite score representing children's 36-month cognitive skills. In total, 10 regression models were fitted: five for social outcomes and five for cognitive outcomes. Again, I included a common set of control variables in these models.

To address my second research question of whether family routines predict child outcomes above and beyond general parenting, I added to the first set of models described above the latent constructs representing general parenting practices at 14, 24, and 36 months. More specifically, to the model containing 14-month family routines, I added 14-month general parenting; to the model containing both the 14- and 24-month family routines constructs, I added the 14- and 24-month general parenting constructs; and finally, to the model containing 14-, 24- and 36-month family routines constructs, I added the 14-, 24- and 36-month general parenting constructs. In total, six regression models were fitted: three for social outcomes and three for cognitive outcomes. I again included in each model the common set of control variables described above. A sample equation from these models is:

$$Y_i = \beta_0 + \beta_1 \text{Routines\_14} + \beta_2 \text{Parenting\_14} + \beta_3 X \qquad (\textit{Equation 2})$$

where β_0 represents the intercept when all else in the model is zero, β_1 represents the slope of routines (in this example at 14 months), β_2 represents the slope of the general parenting (in this example at 14 months), and β_3 represents the slope of the vector of covariates. Model fit of these models was compared to the model fit of the models with only family routines as the predictor variables using delta chi square statistics.

Finally, to address my third research question of whether family routines moderated the relationship between general parenting and child outcomes at 36 months and whether these relationships varied by child gender and race/ethnicity, I added an interaction between the family routines and general parenting latent constructs separately at each age. The models did not identify so I next tested the interaction between each observed family routines variable and the observed general parenting variables. In total, 90 additional regression models were fitted. These included an observed family routine, an observed general parenting variable, and the interaction between an observed family routine and observed general parenting variable at either 14, 24, or 36 months as the predictor variables and either social or cognitive outcomes as the outcome variable.

Additionally, to examine whether child gender and race/ethnicity moderate the relationship between family routines and child outcomes at 36 months, I conducted multi-group analyses using the models from my first research question (i.e., those with just routines predicting children's social and cognitive outcomes). First, I constrained all of the paths (i.e., factor loadings for the measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes) to be fixed and equal across gender or race/ethnicity separately by age and outcome. Next, I fit a fully unconstrained model in which the factor loadings for the measurement models, intercepts for the observed variables and

structural parameters linking routines to child outcomes were allowed to be freely estimated, separately by age and outcome. The model fit for the unconstrained models was significantly better than that for the constrained models for both gender and race/ethnicity suggesting that there are differences in the models for girls and boys, and European American, African American, and Hispanics, respectively. Therefore, I fit a model allowing the structural parameters linking routines to child outcomes to be free and the measurement models to remain fixed and equal across gender and race/ethnicity separately by age and outcome. These models explored whether the differences in the model fit are due to the effects of routines on child outcomes differing by child gender or race/ethnicity. Finally, I fit an unconstrained model allowing the measurement models to be estimated freely and the parameters linking routines to child outcomes to remain fixed and equal across gender and race/ethnicity separately by age and outcome. These models explored whether the differences in the model fit are attributable to differences in the measurement models and not the regression parameters, as originally hypothesized.

All analyses were conducted using MPlus version 5.0 and SPSS 18. Model fit was evaluated by a non-significant Chi-Square, Comparative Fit Indices (CFI) that were between .90 and 1, and a Root Mean Square Error of Approximation (RMSEA) that was close to zero with a non-significant *p*-value. Missing data on the key predictors was handled using Full Information Maxiumum Likelihood procedures, which is the default in MPlus (Muthén & Muthén, 1998 - 2007).

Preliminary Analyses

Descriptive statistics. Sample means and standard deviations for the outcome, key predictor, and control variables are presented in Table 1. Children displayed relatively high levels of

emotion regulation and orientation/engagement at 36 months, as evidenced by average scores of 4.01 and 3.93, respectively, with possible scores ranging from 1 to 5. On average, aggressive behavior scores as rated by caregivers were within the normal range (Achenbach, 1991). Children displayed relatively low to moderate cognitive abilities, as evidenced by an average score of 91.33 on the MDI and 83.85 on the PPVT, both below the normed values of 100. However, there was substantial variability around the mean, as indexed by a standard deviation of just under 13 for the MDI and just under 15 for the PPVT. Outcomes varied by gender, with girls obtaining higher social and cognitive scores than boys (see Table 2). Outcomes also varied by race (see Table 3). Ethnic minority children performed lower than majority children on all outcomes, including maternal reports of aggressive behavior.

On average, over half of the sample participated in some sort of family routine between 14 and 36 months, with bedtime routines being the most common (see Table 1). Parents, on average, reported low levels of parent-child outside activity as evidenced by average scores of 2.62 at 14 months to 2.89 at 36 months, with possible scores ranging from 1 to 6. Higher levels of general parent-child play were reported with an average score of 4.51 across all three time points. In general, parents reported using mild discipline techniques. However, over time, discipline scores steadily increased, indicating that as children grew older parents tended to use more harsh discipline strategies. Observations also indicated that maternal supportiveness was high as evidenced by average scores of 4.00 at 36 months to 4.04 at 14 months, with possible scores ranging from 1 to 7. However, family routines and general parenting values differed from occasion to occasion. Over time, scores steadily decreased for regular bedtime and increased for parent-child outside activities. That is, fewer children had a regular bedtime routine as they got older and parents and children engaged in more outside play as children aged. Similarly, scores

seemed to increase for language and cognitive stimulation but decrease for maternal supportiveness. Reading routines, parent-child play, and language and cognitive stimulation varied by gender with families with girls reporting higher levels of the three constructs than families with boys (see Table 2). In addition, all of the family routine and general parenting variables differed by race (see Table 3). Ethnic minority parents reported lower levels of bedtime routines, regular bedtime, reading routines, and parent-child play; however, on average, both African-American and Hispanic parents reported higher levels of parent-child outside activities compared to European-American parents. In addition, African American parents reported using harsher discipline strategies than Hispanics and European Americans. Ethnic minority parents also scored lower than majority parents on maternal supportiveness and language and cognitive stimulation.

Estimated intercorrelations among the outcome, key predictor, and control variables separately by age are presented in Tables 4 to 6. Social skills and cognitive ability at 36 months, the two outcomes of interest, were moderately and positively correlated with family routines and general parenting within each assessment across time (ranging from r = .06 for bedtime routine at 24 and 36 months to .37 for language and cognitive stimulation at 36 months.). Thus, on average, children with more family routines and more positive general parenting had more positive social skills and higher cognitive abilities when compared to their peers in families with fewer routines and less positive general parenting. There was some evidence of intraindividual stability in both family routines and general parenting, as demonstrated by the moderate positive correlations among observed family routine or general parenting variables at 14, 24, and 36 months (see Table 7). More specifically, parents appear to maintain their rank order of family routines and general parenting between 14 and 36 months.

Measurement models. Five observed variables were used to represent the latent construct family routines separately by age: parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine (see Figure 3). At 14, 24 and 36 months of age the factor loading for bedtime routines was fixed to one to provide the scaling unit. Each of the latent constructs (i.e., family routines at 14 months, family routines at 24 months, and family routines at 36 months), the observed variables across age (e.g., parent-child play at 14 months with parent-child play at 24 months), and the same domain observed variables within each latent construct (i.e., parent-child play with parent-child outside activities, and bedtime routine with regular bedtime), respectively, were allowed to covary. Each of the observed variables significantly loaded onto the family routines factor at each age; however, they did not contribute to the construct equally within age (see Table 8). More specifically, parent-child play contributed the most to the construct at each age (with standardized factor loadings ranging from a low of .78 at 14 months to a high of .89 at 24 months). Reading routines also contributed strongly to the construct (with standardized factor loadings ranging from a low of .65 at 36 months to a high of .69 at 24 months). Regular bedtime contributed the least to the construct at all three ages (with standardized factor loadings ranging from .20 at 24 months and .22 at 14 months). Examination of the fit statistics indicates the model fits the data well ($\chi^2 = 189.15$, $df = 66$, $p = .00$; CFI = .97; RMSEA = .039, $p = .99$). Thus, a single latent construct at each age was used to represent overall family routines.

I used three observed variables to represent the latent construct general parenting: discipline severity, language and cognitive stimulation, and maternal supportiveness (see Figure 4 and Table 9). At 14, 24 and 36 months of age the factor loading for maternal supportiveness was fixed to one to provide the scaling unit. Each of the latent constructs (i.e., parenting at 14

months, parenting at 24 months, and parenting at 36 months) as well as the observed variables across age (e.g., maternal supportiveness at 14 months with maternal supportiveness at 24 months) were allowed to covary. The two observed variables that were freely estimated significantly loaded onto the latent construct representing general parenting. At each age, language and cognitive stimulation contributed the most to the construct (with standardized factor loadings ranging from a low of .46 at 14 months to a high of .60 at 36 months); however, discipline severity also contributed strongly to the construct (with standardized factor loadings ranging from -.46 at 36 months to -.30 at 14 months). Examination of the fit statistics indicates the measurement model fits the data perfectly ($\chi^2 = 13.53$, $df = 15$, $p = .00$; CFI = 1.0; RMSEA = .00, $p = 1.0$). Thus, a single latent constructing representing general positive parenting at 14, 24, or 36 months was retained for subsequent analyses.

Finally, three observed variables were used to represent the latent construct of social competence at 36 months: emotion regulation, orientation/engagement, and aggressive behavior (see Figure 5). The factor loading for orientation/engagement was fixed to one to provide the scaling unit. Aggressive behavior and emotion regulation significantly loaded on the factor with standardized factor loadings of -.16 ($p < .001$) and .88 ($p < .001$), respectively. Emotion regulation contributed the most to the construct, evidenced by the largest standardized factor loading as well as the R^2 statistic ($R^2 = .77$) (see Table 10). As is commonly the case with measurement models consisting of a limited number of variables, the model was fully saturated, evidenced by a CFI of 1 and a RMSEA of 0. Thus, a single latent construct representing social competence at 36 months was retained for all subsequent analyses. The measurement model representing cognitive outcomes (i.e., MDI and PPVT) did not fit the data well (failed to identify), so I created a single composite variable representing overall cognitive ability ($\alpha = .72$)

using the MDI and PPVT scores. This poor fit was likely due to the fact that I only had two observed variables.

I also tested whether the measurement models, taken together, were the same across time by fitting a model in which I constrained the loadings for each observed variable to be the same at each age. I conducted a delta chi square test and found a delta chi square of 906.41 (27) between the fully constrained and fully unconstrained models. Therefore, the fully unconstrained model provides a better model fit ($\chi^2 = 540.14$, $df = 207$, $p = .00$; CFI = .95; RMSEA = .036, $p = 1.00$), which suggests that routines and general parenting look different across time. Thus, the unconstrained measurement model was retained for subsequent analyses.

Research Question 1: Do family routines predict preschoolers' social/behavioral development and cognitive ability? Which routines are the strongest predictors? Parameter estimates and goodness of fit statistics from the models addressing my first research question are presented in Tables 11 and 12, Models 1 through 3. Family routines positively and statistically significantly predicted both children's social competence (Table 11) and cognitive ability (Table 12) at 36 months. More specifically, children in families that reported higher levels of routines at 14 months (see Model 1) had higher levels of social competence at 36 months, suggesting there may be a long-term effect of family routines on children's social competence. Child gender was a significant covariate, with females having significantly higher social competence scores than males, further supporting the need to examine gender differences across models. The majority of the remaining covariates, including race ethnicity, were not significant. When 24-month family routines were added to the model (see Model 2, Table 11), the effect of 14-month family routines declined but remained statistically significant and there was improved model fit. In addition, when controlling for 14-month routines, family routines at 24 months positively and significantly

predicted children's social competence at 36 months. This again suggests there may be long-term effects of early routines on children's social competence. Importantly, the effect may be additive, as evidenced by the fact that both 14- and 24-month routines were statistically significant when considered simultaneously. Finally, when the 36-month family routines construct was added to the model, the effects of family routines at 14 and 24 months became non-significant (i.e., zero) but the 36-month family routines construct positively and significantly predicted children's social competence at 36 months. That is, children in families with more routines at 36 months also had higher social competence scores at 36 months. This indicates that while early routines appear to matter for later child outcomes when considered separately from concurrent effects, the concurrent effects of 36-month family routines on social competence may outweigh the early effects when all three constructs are considered simultaneously. Model 3 (Table 11), which included family routines at all three time points, offered an improved fit over Model 2 ($\chi^2 = 1311.37$, $df = 456$, $p = .00$; CFI = .88; RMSEA = .039, $p = 1.00$).

I re-fit these models using the observed cognitive composite I created as the outcome variable instead of the social competence latent construct. The pattern of findings was similar to that found for social competence, with two exceptions. First, the covariates, including child gender and race/ethnicity, more strongly predicted children's 36-month cognitive ability, such that females had significantly higher cognitive ability scores than males, and ethnic minorities had significantly lower cognitive ability scores when compared to ethnic majority children (Table 12). Second, there were not concurrent effects of 36-month family routines on children's cognitive ability when the 14- and 24-month constructs were included. Conversely, when 36-month family routines were added to the model, 14- and 24-month family routines continued to positively and significantly predict children's 36-month cognitive ability and 36-month family

routines were not a significant predictor. This suggests that while concurrent routines may be critical for fostering social competence at 36 months, early family routines may be more important for predicting children's 36-month cognitive ability. Model 3 (Table 12), which included family routines at all three time points, offered an improved fit over Model 2 (χ^2 = 1220.49, *df* = 390, *p* = .00; CFI = .89; RMSEA = .042, *p* = 1.00).

Finally, to investigate which specific routines at 36 months might best predict children's social and cognitive outcomes at 36 months, each of the observed indicators of family routines (i.e., parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine) was included in a set of hierarchical regression models. Although some routines appear to be more salient than others both within and across domains (e.g., Parent-child outside activity predicted social competence but not cognitive skills at 36 months and reading routines strongly predicted cognitive skills at 36 months but not social skills in the final model), overall the results suggest that it is routines as a whole rather than independent family routines that contribute the most to children's social competence at 36 months. More specifically, bedtime routines, regular bedtime, reading routines, and parent-child outside activity, but not parent-child play, contributed to children's social outcomes at 36 months. Controlling for additional routine types, the coefficients for bedtime routine, regular bedtime, reading routines, and parent-child play decline across models, again indicating that it is the routines as a whole that matter the most. Parent-child outside activities, with the largest coefficient of all models, appeared to be the most salient routine for children's social outcomes (see Model 5, Table 13). Parent-child play, on the other hand, was the least salient routine when predicting social outcomes, and when added to the model did not significantly improve model fit. Even within one family, parent-child play can look different from day to day and week to week, making it difficult to accurately measure.

As expected, the pattern of findings for children's cognitive outcomes differed somewhat from children's social outcomes. Bedtime routine and reading routines, but not regular bedtime, parent-child play, and parent-child outside activity, contributed to children's cognitive outcomes at 36 months. Reading routines, with the largest coefficient and best model fit, most strongly predicted children's cognitive outcomes at 36 months (Model 8, Table 13). Even when parent-child play and parent-child outside activities were added to the model, the coefficient for reading routines did not decline. Thus, for cognitive outcomes, the group of routines appears less important than then the independent reading routine.

Research Question 2: Do family routines predict preschoolers' social/behavioral development and cognitive ability beyond general positive parenting? Parameter estimates and goodness of fit statistics from the models addressing my second research question are presented in Table 11 (social) and 12 (cognitive), Models 4 through 6. Unexpectedly, when 14-month general parenting was added to the 14-month family routine model, the coefficient for 14-month family routines remained statistically significant but became negative for both social competence and cognitive ability, suggesting that family routines and general parenting as measured in this study may be highly collinear constructs and thus their simultaneous inclusion produced this pattern of results. However, adding general parenting to the model did lead to better overall model fit for both social competence and cognitive ability (social, $\chi^2 = 1267.75$, $df = 457$, $p = .00$; CFI = .89; RMSEA = .038, $p = 1.00$; cognitive, $\chi^2 = 1075.70$, $df = 391$, $p = .00$; CFI = .91; RMSEA = .038, $p = 1.00$), suggesting that general parenting matters for child outcomes, controlling for family routines. It is likely that family routines represent just one aspect of the general parenting indicators added to the models, thus when general parenting is added to the model the overall representation of parenting becomes stronger, and the model fit

better. When 24-month general parenting was added to the model containing both 14- and 24-month family routines constructs, all of the coefficients on the key predictors (i.e., family routines at 14 and 24 months and general parenting at 14 and 24 month) for both social competence and cognitive ability, became negative and non-significant (see Tables 11 and 12). This pattern of findings continued when 36-month family routines were added to the model. This provides further evidence that the routines and parenting constructs are likely highly collinear, measuring the same (or a similar) underlying domain of parenting. Importantly, when 36-month general parenting was added to the model, model fit became worse for both social competence and cognitive abilities (social, $\chi^2 = 1427.91$, $df = 454$, $p = .00$; CFI = .87; RMSEA = .038, $p = 1.00$; cognitive, $\chi^2 = 1243.16$, $df = 388$, $p = .00$; CFI = .88; RMSEA = .042, $p = 1.00$). Thus the final models for social competence and cognitive ability do not include 36-month family routines and general parenting constructs, but rather only 14- and 24-month constructs. It is worth noting that these are highly conservative models, particularly Model 6 with high correlations between constructs across time. The overlap among the latent constructs for family routines and general parenting does not permit proper interpretation of the coefficients because the constructs are likely explaining the same variation in the outcome.

Research Question 3: Do family routines moderate the relationship between general parenting and child outcomes at 36 months? Does child gender and race/ethnicity moderate the relationship between family routines and child outcomes at 36 months? Although I fit a series of models testing interactions between the latent constructs representing family routines and those representing general parenting, the models failed to identify or produce reliable estimates of the interaction coefficients. I then tested interactions between the five observed family routine variables and the three observed general parenting variables. All interactions were

non-significant. Thus, it does not appear that the effect of general parenting on children's social and cognitive outcomes differs by family routines. This is not especially surprising given the considerable overlap in the domains/practices measured. As found in Research Question 2, when both family routines and general parenting were in the model simultaneously, unexpected results were obtained because the constructs are highly correlated. It is difficult to tease apart and identify the unique contributions of family routines from general parenting as they are measured in this dataset due to this high collinearity.

Differences by child gender. Unstandardized parameter estimates and goodness of fit statistics for the multi-group analyses are presented in Tables 14 (social) and 15 (cognitive). Models 1, 5 and 9 reflect the constrained models (i.e., factor loadings for measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Models 2, 6 and 10 reflect the regression unconstrained models (i.e., structural parameters linking routines to child outcomes were freely estimated but the factor loadings for the measurement models were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Models 3, 7 and 11 reflect the measurement unconstrained models (i.e., factor loadings for the measurement models were freely estimated but the structural parameters linking routines to child outcomes were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Finally, Models 4, 8, and 12 reflect the fully unconstrained models (i.e., factor loadings for measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes were freely estimated) at 14 months, 24, and 36 months respectively.

Family routines at 14 months. In the model in which I constrained the parameters of interest (i.e., factor loadings for the measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes) to be fixed and equal across girls and boys, 14-month family routines positively and significantly predicted both girls' and boys' 36-month social competence (see Model 1, Table 14) and cognitive ability (see Model 1, Table 15). Standardized coefficients (not presented in the tables) suggest that the effect size for social competence and cognitive skills was approximately equal for girls and boys (.26 ($p < .001$) and .24 ($p < .001$) for social competence and .23 ($p < .001$) and .22 ($p <. 001$) for cognitive ability). Model fit statistics suggest that the constrained model provides a relatively poor fit to the data, as indexed by the high chi-square statistics and the low CFI statistics.

Next I allowed the main parameter of interest, the structural parameter linking routines to child outcomes, to be freely estimated across groups but the factor loadings for the measurement models were fixed to be equal across groups. Family routines at 14 months had a modest effect on both girls' and boys' social competence (see Model 2, Table 14 and Figure 6) but the effect was much larger for girls than for boys (standardized coefficient was .32 ($p < .10$) for girls and .18 ($p < .05$) for boys). The effect of 14-month routines on children's cognitive skills (see Model 2, Table 15 and Figure 7) was slightly larger for girls than for boys (i.e., standardized coefficients were .24 ($p < .001$) for girls and .21 ($p < .001$) for boys). A comparison of the model fit statistics between the fully constrained and regression unconstrained models indicated that the latter model provided a better fit to the data. On average, girls appear to benefit more from 14-month family routines than do boys. Specifically, girls whose families have more routines at 14 months demonstrated better social and cognitive outcomes than did boys whose families has similar routines.

Given that the measurement model for family routines looked somewhat different across time (described above), I also tested the possibility that the gender differences I identified in the structural pathways were attributable to differences in the measurement models across girls and boys. That is, routines could look very different for girls than for boys and thus differences in the structural paths might reflect differences in what routines looks like for each group rather than the association between family routines and child outcomes per se. In fact, constraining the regression parameters to be equal across groups but allowing the measurement models to be freely estimated provided a better fit to the data than the fully constrained model for both social competence (see Model 3, Table 14) and cognitive ability (see Model 3, Table 15). This suggests that, on average, routines may look very different for girls and boys. Investigation of the means of family routines at 14 months indicates that on average, families with boys tend to have significantly fewer family routines than families with girls, as evidenced by the negative and statistically significant coefficients for the 14-month means. In addition, the factor loadings for the 14-month family routines construct indicate that while the contribution of each observed variable was the same for girls and boys (e.g., parent-child play had the highest factor loading and regular bedtime the lowest for both groups), the relative magnitude of the loadings differed across groups such that the loadings were stronger for girls (e.g., parent-child play had a loading of 5.67 ($p < .001$) for girls and 3.77($p < .001$) for boys). A comparison of the model fit statistics between the fully constrained model (Model 1) and measurement free (Model 3) models indicated that the model in which the measurement models were freely estimated and the regression was fixed provided a better fit to the data than the fully constrained model. This suggests that, on average, families with girls tend to have more routines at 14 months than

families with boys and thus group differences may simply reflect differences in the quantity of routines rather than the relative importance of routines for each outcome.

Finally, I allowed all of the parameters of interest, including factor loadings for the measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes, to be freely estimated across groups. Family routines at 14 months had a modest effect on both girls' and boys' social competence (see Model 4, Table 14) but the effect was much larger for girls than for boys (standardized coefficient was .32 ($p < .05$) for girls and .19 ($p < .05$) for boys). In contrast, the effect of 14-month routines on girls' and boys' cognitive skills (see Model 4, Table 15) were approximately the same (standardized coefficients were .24 ($p < .10$) for girls and .21 ($p < .001$) for boys), suggesting that child gender likely moderates the link between family routines at 14 months and children's 36-month social competence but not their cognitive skills. Regardless of the size of the effect, it is important to note that family routines at 14 months was a consistent positive predictor of children's social competence and cognitive ability across groups. A comparison of the model fit statistics between the model allowing only the measurement models to be freely estimated (Model 3) and the fully unconstrained model (Model 4) indicated that the model in which all parameters were freely estimated provided the best fit to the data. This suggests that, on average, the link between family routines at 14 months and children's social competence at 36 months is stronger for girls than for boys partly because girls' families tend to have more routines than boys' families.

Family routines at 24 and 36 months. A similar taxonomy of models was fitted for family routines at 24 and 36 months and the findings were comparable with four exceptions. First, converse to the 14-month results, the effects of family routines at 24 or 36 months on children's social competence was much larger for boys than for girls (standardized coefficient

was .20 ($p < .05$) for girls and .27 ($p < .10$) for boys at 24-months; .22 ($p < .05$) for girls and .36 ($p < .001$) for boys at 36-months), in the model allowing the regression parameter to be freely estimated (see Figure 6). This suggests that while early routines may be especially important for girls' outcomes, later routines seem to be more salient for boys. Second, the effect of 24-month routines on children's cognitive skills was the same for boys and girls (standardized coefficients were .24 ($p < .001$) for girls and .24 ($p < .001$) for boys) in both the model allowing the regression parameter to be freely estimated and the fully unconstrained model. This suggests, unlike the 14-month family routines, that child gender likely moderates the link between family routines at 24 months and children's 36-month social skills but not their cognitive skills. Third, the effect of 36-month routines on children's cognitive skills in the fully unconstrained model (see Model 12, Table 15) was much larger for boys than for girls (i.e., standardized coefficients were .16 ($p < .10$) for girls and .26 ($p < .10$) for boys), suggesting that child gender likely moderates the link between family routines at 36 months and children's 36-month social and cognitive skills, while gender only moderates the link between family routines at 14 months and children's social competence. Finally, converse to 14-month family routines, the best fitting model for 24- and 36-month family routines is the model allowing only the measurement models to be freely estimated. This suggests that, on average, differences in routines at 24 and 36 months are more salient than the difference in the effect of the routines for children's social competence and cognitive ability at 36 months.

Differences by race/ethnicity. Unstandardized parameter estimates and goodness of fit statistics for the multi-group analyses are presented in Tables 16 (social) and 17 (cognitive). Models 1, 5 and 9 reflect the constrained models (i.e., factor loadings for measurement models, intercepts for the observed variables, and structural parameters linking routines to child

outcomes were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Models 2, 6 and 10 reflect the regression unconstrained models (i.e., structural parameters linking routines to child outcomes were freely estimated but the factor loadings for the measurement models were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Models 3, 7 and 11 reflect the measurement unconstrained models (i.e., factor loadings for the measurement models were freely estimated but the structural parameters linking routines to child outcomes were fixed to be equal across groups) at 14 months, 24, and 36 months respectively. Finally, Models 4, 8, and 12 reflect the fully unconstrained models (i.e., factor loadings for measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes were freely estimated) at 14 months, 24, and 36 months respectively.

Family routines at 14 months. In the model in which I constrained the parameters of interest (i.e., factor loadings for the measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes) to be fixed and equal across European-American, African-American, and Hispanic children, 14-month family routines positively and significantly predicted European-American, African-American, and Hispanic children's 36-month social competence (see Model 1, Table 16) and cognitive ability (see Model 1, Table 17). Standardized coefficients (not presented in the tables) suggest that the effect size for social competence and cognitive skills was approximately equal for European-American, African-American, and Hispanic children (.21 ($p < .001$), .36 ($p < .001$), and .18 ($p < .001$) for social competence and .23 ($p < .001$), .26 ($p < .001$), and .21($p < .001$) for cognitive ability). Model fit statistics suggest that the constrained model provides a relatively poor fit to the data, as indexed by the high chi-square statistics and the low CFI statistics.

Next I allowed the main parameter of interest, the structural parameter linking routines to child outcomes, to be freely estimated but the factor loadings for the measurement models were fixed to be equal across groups. Family routines at 14 months had a modest effect on both European-American and African-American children's social competence (see Model 2, Table 16 and Figure 8) but no effect on Hispanic children's social competence. The effect was much larger for African Americans than for European Americans (standardized coefficient was .39 ($p < .10$) for African Americans and .20 ($p < .05$) for European Americans). In contrast, the effect of 14-month routines on children's cognitive skills was approximately the same for European-American and African-American children (i.e., standardized coefficients were .27 ($p < .001$) for European Americans and .29 ($p < .001$) for African Americans), suggesting that child race/ethnicity likely moderates the link between family routines at 14 months and children's 36-month social skills but not their cognitive skills (see Figure 9). Family routines at 14 months had no effect on Hispanic children's cognitive ability. A comparison of the model fit statistics between the fully constrained and regression unconstrained models indicated that the latter model provided a better fit to the data. On average, African Americans appear to benefit more from 14-month family routines than do European Americans and Hispanics. Specifically, African Americans whose families have more routines at 14 months demonstrated better social and cognitive outcomes than did European Americans and Hispanics whose families has similar routines.

I also tested the possibility that the race/ethnicity differences I identified in the structural pathways were attributable to differences in the measurement models across European Americans, African Americans, and Hispanics. Constraining the regression parameters to be equal across groups but allowing the measurement models to be freely estimated provided a

better fit to the data than the fully constrained model for both social competence (see Model 3, Table 16) and cognitive ability (see Model 3, Table 17). This suggests that, on average, routines look very different for European Americans, African Americans, and Hispanics. However, investigation of the means of family routines at 14 months indicates that there are no differences in the measurement models across European Americans, African Americans, and Hispanics. In addition, the factor loadings for the 14-month family routines construct indicated that the contribution of each observed variable was the same for European Americans, African Americans, and Hispanics (e.g., parent-child play had the highest factor loading and regular bedtime the lowest for all three groups), and the relative magnitude of the loadings was similar across groups. A comparison of the model fit statistics between the fully constrained (Model 1) and measurement free (Model 3) models indicated that the model in which the measurement models were freely estimated and the regression was fixed provided a better fit to the data than the fully constrained model. However, the measurement models do no differ by race/ethnicity. The model may fit better simply because any model where paths are freely estimated tends to fit better than a fully constrained model as well as because of the presence of the additional measurement models (for 24- and 36-month routines) in the overall model.

Finally, I allowed all of the parameters of interest, including factor loadings for the measurement models, intercepts for the observed variables, and structural parameters linking routines to child outcomes, to be freely estimated. Family routines at 14 months had a modest effect on both European Americans' and African Americans' social competence (see Model 4, Table 16) but the effect was much larger for African Americans than for European Americans (standardized coefficient was .20 ($p < .01$) for European Americans and .35 ($p < .01$) for African Americans). There was no effect of 14-month routines on Hispanic children's social competence.

In contrast, the effect of 14-month routines on European Americans' and African Americans' cognitive skills (see Model 4, Table 17) were approximately the same (standardized coefficients were .26 ($p < .001$) for European Americans and .24 ($p < .001$) for African Americans), suggesting that race/ethnicity likely moderates the link between family routines at 14 months and children's 36-month social competence but not their cognitive skills. Again, there was no effect of 14-month routines on Hispanic children's cognitive ability. Regardless of the size of the effect, it is important to note that family routines at 14 months was a consistent positive predictor of children's social competence and cognitive ability for European Americans and African Americans, but not Hispanics. A comparison of the model fit statistics between the model allowing only the measurement models to be freely estimated (Model 3) and the fully unconstrained model (Model 4) indicated that the model in which only the measurement model was freely estimated provided the best fit to the data. This suggests that, on average, the link between family routines at 14 months and children's social competence at 36 months is stronger for African Americans than for European Americans because routines may be more important for African American families, not because the number of routines is higher.

Family routines at 24 and 36 months. A similar taxonomy of models was fitted for family routines at 24 and 36 months and the findings were comparable with two exceptions. First, unlike 14-month routines, the effect of 24- and 36-month routines on children's cognitive skills was larger for African Americans than European Americans (i.e., standardized coefficients were .22 ($p < .001$) for European Americans and .34 ($p < .001$) for African Americans at 24 months; .22 ($p < .001$) for European Americans and .26 ($p < .001$) for African Americans at 36 months), suggesting that race/ethnicity likely moderates the effect of family routines at 24- and 36-months on children's social and cognitive outcomes in both the model allowing the regression

to be freely estimated and the fully unconstrained model. Second, despite the effects of routines being strongest for African Americans, African American families had significantly fewer family routines when compared to both European American and Hispanic families at 24- and 36-months (Note: The results for the 24-month measurement free model are only for social competence as the cognitive ability model failed to identify). In addition, the factor loadings indicate that while the observed indicators of routines maintain the same rank order when describing routines for all three racial/ethnic groups, they more strongly contribute to European American's and Hispanic's outcomes.

Discussion

Thirteen million American children live in families with incomes below the federal poverty level, which in 2010 was $22,050 a year for a family of four, and 6.2 million of them live in extremely poor families (Wight, Chau, & Aratani, 2011). Official poverty rates are highest for young children: 22% of children under age 6 live in poverty. Children in poverty experience myriad hardships including food insecurity, crowded housing, and lack of health insurance, among others. The hardships associated with poverty have severe negative consequences for children's development including poor cognitive, social, and academic outcomes (Duncan et al., 1994), many of which tend to have lasting effects (Duncan et al., 2010). Thus, understanding not just the mechanisms by which poverty affects development, but also how we can most effectively support positive outcomes across domains is crucial.

There is evidence to suggest that family routines can be used by parents as a means to buffer the effects of challenging contexts for school-aged children (Brody & Flor, 1997; Fiese & Everhard, 2008) but we know little about the role of these routines in very young children's development. Importantly, little research has investigated the contribution that routines make to children's development above and beyond that of general parenting. Thus, the purpose of this study was to examine the relationship between family routines at 14, 24 and 36 months and preschoolers' social competence and cognitive ability at 36 months, above and beyond general parenting. Family routines include family-level behaviors (e.g., mealtime) and child activities (e.g., homework time) that are supervised or arranged by an adult, all of which provide order, predictability, and structure to everyday life (McLoyd et al., 2008). Five separate family routines

- parent-child play, parent-child outside activities, bedtime routine, regular bedtime, and reading routine - were considered in the current study. This allowed for the exploration of the role of general family routines as well as activity-specific routines in children's social and cognitive outcomes, providing critical insight into whether certain family routines contribute more to positive development than other routines, as well as whether there are differential contributions of specific routines to specific outcomes. Additionally, exploring family routines and general parenting as two separate constructs allows us to understand the role of family routines beyond general parenting. While this has not yet been examined, it is necessary to fully understand the benefits of family routines as a prevention or intervention tool. Utilizing longitudinal data exploring a young, higher risk sample adds to the current family routines literature and provides novel findings that can assist practitioners and teachers working with low-income families as well as low-income parents themselves.

Consistent with prior research which reported that the presence of family routines was associated with cooperative, compliant child behavior, social skills, and academic achievement among young low-income children (Fiese, 2002; Keltner, 1990; Koblinsky et al., 2006), I found that family routines were associated with higher levels of social competence and cognitive ability at 36 months. More specifically, children in families that reported higher levels of routines at 14 and 24 months had higher levels of social competence and cognitive ability at 36 months, suggesting there may be both long-term and additive effects of family routines on children's outcomes. These findings are consistent with previous research, which reported that family routines at 4-years of age predicted academic achievement at 9-years of age (Fiese, 2002). These results suggest that the influences of family routines during early development are not only immediate, but are evident months or years later. These findings are similar to research on the

effects of childhood poverty, which indicates that family income in the first five years of life is highly correlated with later developmental outcomes (Duncan et al., 1998; Linver et al., 2002). Since preschool development sets the stage for the transition into early childhood, adolescence, and even adulthood, family routines must be established early in an effort to reduce the effects of the often chaotic environment in which high risk children develop.

Interestingly, when 36-month family routines were taken into account, findings differed for social and cognitive outcomes. More specifically, while early routines do matter for children's later social competence, concurrent (i.e., 36 months) family routines appear to outweigh the early effects when all three constructs are considered simultaneously. Conversely, compared with concurrent family routines, early family routines appear to matter more for children's 36-month cognitive skills, as evidenced by the fact that the 36-month family routines construct did not significantly predict cognitive ability when early routines were taken into account. These findings provide some evidence that routines in general may work differently at different ages and across different outcomes. More specifically, early family routines provide structure (Fiese & Wamboldt, 2000), which may reduce, to some extent, the chaos experienced by children living in poverty and facilitate children's cognitive development. This is likely done through the increased positive behavioral adjustment associated with the use of family routines (Hofferth & Sandberg, 2001; Sytsma et al., 2001). Children in families who utilize routines are better able to self-regulate and manage their behaviors (Evans et al., 2001; 2005) which allows for children to attune to important information, and to have more opportunities to engage in learning activities. In addition, family routines encourage parent-child relationships (Woods & Goldstein, 2003), a key context in which natural learning opportunities arise and are utilized in the home. In contrast, the salience of later routines for children's social competence may reflect

the fact that children are interacting more with peers at this age (i.e., in preschool or child care) and family routines may help them transition into their new social world, a critical developmental task during this period (Fiese & Everhard, 2008; Fiese & Wamboldt, 2000). Future research should not only consider age-salient routines but also multiple outcomes as they may be affected differently.

Further investigation of the observed indicators of family routines at 36 months suggested that family routines as a whole rather than activity-specific routines contribute the most to children's social competence at the same age. This likely has more to do with how the routines were measured (i.e., primarily as broad dichotomous variables) in the current study than the actual type of routine. More research is needed that gathers detailed information (i.e., frequency of routine use and what specific bedtime or play activities are utilized) on each routine to fully understand the unique role that activity-specific routines might play in children's social development. With that noted, parent-child outside activities was the most salient predictor of children's social competence. Parent-child outside activities included taking the child to religious services, visiting a museum or going on an outing such as shopping, to the park, or on a picnic. These activities provide the child with an opportunity to meet other children and adults and gain experience with social interactions, as well as to practice positive behavior. These findings align with past literature which indicates that when everyday community activities, such as grocery shopping, visiting the library, playground or recreational activities, or eating out, are used as learning opportunities parents report their children have better communication skills, social adaptive capabilities, and socialization (Dunst, Bruder, Trivette, & Hamby, 2006; Dunst et al., 2000; Dunst et al., 2002). Parent-child play, on the other hand, was the least salient family routine in predicting children's social competence. Despite these findings, past research has

found parent-child play is related to positive child development (Ginsburg, 2007). More specifically, play has been found to have positive effects on children's brain development (Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004), enhance learning readiness and problem-solving skills (Fisher, 1992), increase social-emotional learning (Zins, 2004), and build enduring parent-child relationships critical for positive child development (Henry, 1990; Smith, 1995; Tsao, 2002). The fact that findings from the current study did not illustrate this may reflect the fact that parent-child play can be difficult to accurately measure because it can be represented in many different forms depending on the family. Even within one family, parent-child play likely looks different from day to day and week to week.

Interestingly, routines as a whole appeared less important for explaining variance in cognitive ability than the reading routine variable alone. Previous research has demonstrated that parent-preschooler reading is related to language growth, emergent literacy, and reading achievement in later development (Bus, van IJzendoorn, & Pellegrini, 1995). A regular reading routine insures the facilitation of these activities. Shared book reading between parents and young children is positively associated with language development and past research has found that children who are read to regularly in early childhood enter school more prepared than their peers (Britto, Fuligni, & Brooks-Gunn, 2002; Burgess, Hecht, & Lonigan, 2002; Bus et al., 1995). This may be especially important for high risk children because they tend to be exposed to fewer words as well as less quality verbal content than their more affluent peers (Hart & Risley, 1992). Bedtime routines also significantly predicted children's cognitive ability. Past research has found children who participate in a regular bedtime routine, such as taking a bath, changing into pajamas, and reading a story, get to bed faster and have more satisfying sleep with fewer night wakings (Christodulu & Durand, 2004; Mindell, Telofski, Wiegand, & Kurtz, 2009).

In turn, adequate sleep is positively associated with increased intellectual ability and academic achievement (Buckhalt, El-Sheikh, Keller & Kelly, 2009). Clearly there may be differences in the relative salience of specific routines for specific outcomes. Future research should continue to consider multiple outcomes as well as activity-specific routines in family routines research.

Previous research by McLoyd et al. (2008) found that routines may buffer the negative effects of everyday life stress for school-aged African-American children; however, the authors did not include measures of general parenting in their model and in turn questioned whether the effects of routines would remain once more conventional measures of parenting were accounted for. In the current study, I explored this question and found that routines, as measured here, no longer matter when general parenting (i.e., maternal support, cognitive and language stimulation, and mild discipline) is considered. Koblinsky and her colleagues (2006) offer the only other study to include measures of both positive parenting and family routines in the same model and while the authors did not ask if routines matter above and beyond general parenting, the coefficients in their study indicate that family routines predicted child outcomes above and beyond positive parenting on several occasions, including predicting children's total social skills, cooperation, assertion, and responsibility. One possible explanation for my findings is that the constructs representing family routines and general parenting were highly collinear. That is, families with positive parenting practices are perhaps more likely to engage in routines than are families with poorer parenting practices (Jordan, 2003). Jordan (2003) found that high rates of parental involvement promoted family routines, and low rates of parental monitoring/supervision disrupted family routines. In addition, parenting practices accounted for most of the variance in child routines, beyond demographic and child behavior variables, further suggesting that parenting practices predict family routines. However, Jordan (2003) suggests that the fact that

family routines were not significantly predicted by family demographic variables, as parenting practices generally are, may indicate that family routines do function beyond parenting practices. These findings illustrate a critical need to develop methods of measuring routines and general parenting more independently. Again, perhaps a more detailed assessment of routines would be of assistance, in this case possibly to help differentiate the two constructs. In addition, Koblinsky et al.'s (2006) findings indicate it may also be beneficial to look at more specific aspects of child outcomes rather than broad overall social competence and cognitive ability measures. The fact that family routines did not moderate the relationship between general parenting and child outcomes is also likely due to the high collinearity between constructs.

Previous research by Churchill and Stoneman (2004) found routines were more salient for girls than boys utilizing correlational analyses; however, the authors suggested the associations should be further explored using more advanced analytic techniques. I used multi-group analyses and found that while early routines may be critical for fostering social competence and cognitive ability among girls, concurrent family routines may have a stronger effect on boys' outcomes. These gender differences may be due to boys' delayed maturation when compared to girls. For example, past research has found boys exhibit higher levels of externalizing behaviors than girls in preschool, which may indicate less developed self-regulation and social competence (Chen, 2010). In turn, family routines may be more difficult for families with boys to establish early on. Interestingly, the effect of 24-month family routines on children's cognitive ability does not vary for girls and boys. Further research is needed to fully understand this pattern of findings.

The effect of family routines on child outcomes also differed by race/ethnicity with the strongest effects being found for African-American children, although the effects for European-

Americans were also modest; there were no effects for Hispanic children. These findings provide some support for the hypothesis that routines may be especially important for higher risk children. Indeed, research suggests that minority status may heighten the risks associated with poverty (Duncan et al., 1994; McLoyd, 1990, 1998). For example minority children are more likely to exhibit problem behaviors and aggression (Gross et al., 1999; Leadbeater & Bishop, 1994) as well as perform less well on cognitive tests than do low-income European-American children (Brooks-Gunn et al., 1996). In turn, race/ethnicity and income are often highly confounded. High risk children often live in homes that are overcrowded and noisy, and their home lives are often hectic, unstructured, and unpredictable (Evans et al., 2005; Evans et al., 2001). This chaos can disrupt typical functioning across multiple domains. Thus, the structure provided by family routines, no matter how minimal, may be especially important for supporting positive development among high-risk children. Unfortunately, in most studies, income and race/ethnicity are highly confounded so we know little about the unique contribution of each. Future work is needed to tease apart these effects.

With more chaos in the home, the presence of only a few routines can lead to a large benefit, as evidenced by the impact of family routines on African-American children in the current study. Low-income European-American children, while still at risk, may have other structures present in their neighborhoods (i.e., social support) and fewer barriers to those structures that make the presence of routines less salient to their social competence and cognitive ability. Research indicates, for example, that low-income minorities are less likely to have access to primary health care (Newacheck, Hughes, & Stoddard, 1996) and quality infant and toddler child care (Becerra & Chi, 1992), among other services that may assist parents and increase positive child development. Interestingly, family routines at 14, 24, and 36 months had no effect

on Hispanic children's social competence or cognitive ability. The lack of significant findings for Hispanic children suggests the measurement of family routines may not be culturally sensitive. Future research should explore how families within different cultures define family routines.

Although the level of family routines at 14 months looked similar across cultures, there were clear racial/ethnic differences in the quantity of routines at 24 and 36 months. More specifically, African-American families had significantly lower levels of family routine usage when compared to European-American and Hispanic families. Interestingly, despite having fewer routines, African-American children appear to benefit more from family routines than do European-American or Hispanic children. This suggests that as children get older, family routines may play a differing role depending on the family's cultural background. Fiese (2006) notes the benefits of studying family routines across varying cultures, including revealing social values and roles, and she calls for a more process-orientated examination of routines across families of different cultural backgrounds. Currently, we lack empirical literature examining the differences and similarities of the definition of routines, routine use, and the effects of routines across cultural groups. While the current study contributes to this gap in the literature, continued work is needed in this area.

Limitations and Future Directions

Although the results from the current study contribute to our knowledge about the role of family routines in the development of very young children, especially by exploring differences by gender and race ethnicity, there were several limitations of this study. First, because of the nature of secondary data analysis, there are limits to the measures and variables available to create constructs. For example, it would have been ideal to examine a larger range of family routines, including measures representing family mealtime; however, only a select number of

family routines were represented in the current dataset. Furthermore, three of the five items used to represent family routines were dichotomous, allowing only for the examination of the presence and absence of a given routine; a continuous variable, on the other hand, would allow us to examine questions about how much of a given routine is important. Exploring the frequency of routine use by utilizing continuous variables would be useful in attempting to address how routine use changes over time. Future research should also consider additional items allowing for the effects of multiple routine types to be explored. In addition, it is likely the measurement of family routines is not culturally sensitive. Focus groups should be conducted to fully understand what routines look like in different cultures.

Furthermore, while the current study was longitudinal, growth was not found and thus the latent constructs were used separately by age to predict child outcomes at 36 months. The aforementioned lack of available variability within items may help explain why no growth was found. In addition, as demonstrated by the model fit being best for the unconstrained model, in the current study routines looked different across time. More specifically, the underlying construct was not represented in the same way at 14, 24, and 36 months. Although it is also possible that growth is not present in routines from 14 to 36 months because measuring routines at 14 months may be too early in development, it is likely these measurement limitations also play a role in explaining why I did not identify growth. While a limitation, this may also represent reality. As Churchill and Stoneman (2004) suggest, routines likely change as children grow, such that routines appropriate for infants might not be for preschoolers. There is currently a lack of longitudinal research exploring family routines. A longitudinal design that includes more detailed assessments of developmentally appropriate routines is clearly needed.

Because the family routines and general parenting constructs were so highly correlated, the current study did not allow us to answer whether family routines predict preschoolers' social competence and cognitive ability beyond general parenting. When both constructs were in the model coefficients unexpectedly became negative. The overlapping of the constructs did not permit proper interpretation of the coefficients. Furthermore, the current models may have been over-controlled. That is, I controlled for earlier family routines and general parenting when investigating later family routines and general parenting. I also controlled for income, gender, race/ethnicity, and maternal qualities that might be important in predicting social competence and cognitive abilities. Future studies should consider more distinct constructs and fewer control variables.

The intercorrelation of the constructs also made it difficult to tease apart and identify the unique contributions of family routines versus general parenting. Measures representing positive general parenting, or parenting style more specifically, were very limited in the current study. Future research is necessary in order to determine how family routines can be measured independently of general parenting. In the future, researchers may be able to represent general parenting more as parenting style. Evidence from work by Mize and Petitt (1997) and Mounts (2002) supports the idea that parenting style and parenting practices are two separate constructs and that parenting practices can compensate for weakness is parenting style. Researchers should conduct similar testing with family routines representing parenting practices.

Finally, although the current study offered a diverse sample with respect to race/ethnicity, it lacked families representing various income ranges. The study focused on a low-income Head Start sample, allowing for an understanding of how family routines influence low-income preschoolers; however, the findings could not be compared to middle or high income

preschoolers. Replication with a nationally representative sample is necessary to fully understand whether routines are especially important for higher risk children.

Implications

It is clear that family routines are important for children's positive social and cognitive development. Few researchers have focused on the effect of family routines on preschoolers' development and even fewer have focused on prosocial skills (most focus on problem behavior). In the current study, however, I have taken a strength based approach by focusing on the presence of positive parental attributes rather than simply the absence of negative parenting attributes. By investigating family routines in this way, practitioners will be able to build upon what low-income parents are already doing in their homes by providing strategies that enhance or expand upon their daily activity. In addition, by providing low-income parents with a new idea, or a "do" rather than a "don't," practitioners can encourage positive parent-child interactions. Relative to other parenting skills (i.e., discipline) and style (i.e., warmth), family routines offer a tangible skill that parents can initiate and maintain with assistance. Efforts to develop family routines can be presented in concrete steps which allows for family routines to be acquired more easily. Most importantly, as previously mentioned, family routines can be tailored to a family's strengths and needs allowing the family to guide their own change. The current findings indicate that family routines are a promising tool that should be a facet of comprehensive family prevention and intervention efforts in the future.

References

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T.M., & Rescorla, L.A. (2000). *Manual of ASEBA preschool forms and profiles*. Burlington: University of Vermont, Research Center for Children, Youth, & Families.

Ackerman, B. P., Brown, E. D., & Izard, C. E. (2004). The relations between persistent poverty and contextual risk and children's behavior in elementary school. *Development Psychology, 40,* 367-377. doi: 10.1037/0012-1649.40.3.367

Administration on Children and Families (2002). *Making a difference in the lives of children and families: Impacts of Early head start programs on infants and toddlers and their families.* Washington, D.C.: U.S. Department of Health and Human Sciences.

Anthony, L. G., Anthony, B. J., Glanville, D. N., Naiman, D. Q., Waanders, C., & Shaffer, S. (2005). The relationships between parenting stress, parenting behavior and preschoolers' social competence and behavior problems in the classroom. *Infant and Child Development, 14,* 133-154. doi: 10.1002/icd.385

Baydar, N., Brooks-Gunn, J., & Furstenberg, F. (1993). Early warning signs of functional illiteracy: Predictors in childhood and adolescence. *Child Development, 64,* 815-829.

Bayley, N. (1993). *Bayley Scales of Infant Development: Manual* (2nd ed.). San Antonio, TX: Psychological Corporation.

Becerra, R. M., & Chi, I. (1992). Child care preferences among low-income minority families. *International Social Work, 35*, 35-47.

Bennett, L. A., Wolin, S. J., & Reiss, D. (1988). Deliberate family process: A strategy for protecting children of alcoholics. *British Journal of Addiction, 83,* 821-829.

Benzies, K., & Mychasiuk, R. (2009). Fostering family resiliency: A review of the key protective factors. *Child and Family Social Work, 14,* 103-114. doi: 10.1111/j.1365-2206.2008.00586.x

Boyce, W. T., Jensen, E. W., James, S. A., & Peacock, J. L. (1983). The Family Routines Inventory: Theoretical origins. *Social Science Medicine, 17,* 193-200.

Berger, L. M., Paxson, C., & Waldfogel, J. (2009). Income and child development. *Children and Youth Services Review, 31,* 978-989. doi: 10.1016/j.childyouth.2009.04.013

Bradley, R. H. (1989). HOME measurement of maternal responsiveness. *New Directions for Child Development, 43,* 63-74.

Bradley, R. H. (1995). Environment and parenting. In M. H. Bornstein (Ed.), *Handbook of Parenting* (pp. 235-261). Mahwah, NJ: Erlbaum.

Bradley, R. H., & Caldwell, B. M. (1984). The relation of infants' home environments to achievement test performance in first grade: A follow-up study. *Child Development, 55,* 809-809.

Bradley, R. H., Chazan-Cohen, R., & Raikes, H. (2009). The impact of Early Head Start on school readiness: New looks. *Early Education and Development, 20,* 883-892.

Brady-Smith, C., O'Brien, C., Berlin, L., Ware, A., & Fauth, R. C. (2000). Child–Parent Interaction Rating Scales for the Three-Bag Assessment (36 months). National Center for Children and Families, Teachers College, Columbia University.

Briggs-Gowan, M. J., Carter, A. S., Skuban, E. M., & Horowitz, S. M. (2001). Prevalence of social-emotional and behavioral problems in a community sample of 1- and 2-year-old children. *Journal of the Academy of Child and Adolescent Psychiatry, 40,* 811-819.

Britto, P. R., Fuligni, A. S., & Brooks-Gunn, J. (2002). Reading, rhymes, and routines: American parents and their young children. In N. Halfon & K. T. McLearn (Eds.), *Child rearing in America: Challenges facing parents with young children.* New York, NY: Cambridge University Press.

Brody, G. H., & Flor, D. L. (1997). Maternal psychological functioning, family processes, and child adjustment in rural, single-parent, African American families. *Developmental Psychology, 33,* 1000-1011.

Brody, G. H., Flor, D. L., & Gibson, N. M. (1999). Linking maternal efficacy beliefs, developmental goals, parenting practices, and child competence in rural single-parent African American families. *Child Development, 70,* 1197-1208.

Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children: Children and Poverty, 7,* 55-71.

Brooks-Gunn, J., Berlin, L. J., Leventhal, T., & Fuligni, A. (2000). Depending on the kindness of strangers: Current national data initiatives and developmental research. *Child Development, 71,* 257-267.

Brooks-Gunn, J., Klebanov, P. K., & Duncan, G. J. (1996). Ethnic differences in children's intelligence test scores: Role of economic deprivation, home environment, and maternal characteristics. *Child Development, 67,* 396-408

Bub, K. L., McCartney, K., & Willett, J. B. (2007). Behavior problem trajectories and first-grade cognitive ability and achievement skills: A latent growth curve analysis. *Journal of Educational Psychology, 99,* 653-670. doi: 10.1037/0022-0663.99.653

Buckhalt, J. A., El-Sheikh, M., Keller, P. S., & Kelly, R. J. (2009). Concurrent and longitudinal relations between children's sleep and cognitive functioning: The moderating role of parent education. *Child Development, 80,* 875-892.

Burgess, S.R., Hecht, S.A., & Lonigan, C.J. (2002). Relations of the Home Literacy Environment (HLE) to the Development of Reading-Related Abilities: A One-Year Longitudinal Study. *Reading Research Quarterly, 37,* 408–426. doi: 10.1598/RRQ.37.4.4

Bus, A. G., van IJzendoorn, M. H., Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research, 65,* 1-21.

Caldwell, B. & Bradley, B. (1984). *Home Observation for Measurement of the Environment.* Little Rock, AR: University of Arkansas at Little Rock.

Chazen-Cohen, R., Ayoub, C., Pan, B. A., Roggman, L., Raikes, H., McKelvey, L., Whiteside-Mansell, L., & Hart, A. (2007). It takes time: Impacts of Early Head Start that lead to reductions in maternal depression two years later. *Infant Mental Health Journal, 28,* 151-170. doi: 10.1002/imhj.20127

Chen, J. J. (2010). Gender differences in externalizing problems among preschool children: Implications for early childhood educators. *Early Child Development and Care, 180,* 463-474.

Christodulu, K. V., & Durand, V. M. (2004). Reducing bedtime disturbance and night waking using positive bedtime routines and sleep restriction. *Focus on Autisim and Other Developmental Disabilities, 19,* 130-139. doi: 10.1177/10883576040190030101

Churchill, S. L., & Stoneman, Z. (2004). Correlates of family routines in Head Start families. *Early Childhood Research and Practice, 6* (1). Available at http://ecrp.uiuc.edu/v6n1. Accessed 19 July 2010.

Conger, R. D., & Conger, K. J. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development, 63,* 526-541.

Conger, R. D., & Conger, K. J. (2002). Resilience in midwestern families: Selected findings from the first decade of a prospective, longitudinal study. *Journal of Marriage and Family, 64,* 361-373.

Duncan, G. J., & Brooks-Gunn, J., (Eds.). (1997). *Consequences of growing up poor.* New York: Russell Sage Foundation.

Duncan, G. J., & Brooks-Gunn, J. (2000). Family poverty, welfare reform, and child development. *Child Development, 71,* 188-196.

Duncan, G. J., Brooks-Gunn, J., & Klebanov P. K. (1994). Economic deprivation and early child development. *Child Development, 65,* 296-318.

Duncan, G. J., Yeung, W. J., Brooks-Gunn, J., & Smith, J. R. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review, 63,* 406-423.

Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. *Child Development, 81,* 306-325.

Dunn, L. M., & Dunn, L. M. (1981). *Peabody Picture Vocabulary Test – Revised: Manual.* Circle Pines, MN: American Guidance Service.

Dunn, L.M., & Dunn, L.M. (1997). *Peabody Picture Vocabulary Test* (3rd ed.). Circle Pines, MN: American Guidance Service.

Dunn, L., & Dunn, L. (2001). *Peabody Picture Vocabulary Test* (3rd ed.). Circle Pines, MN: American Guidance Service.

Dunst, C. J., Bruder, M. B., Trivette, C. M., & Hamby, D. W. (2006). Everyday activity settings, natural learning environments, and early intervention practices. *Journal of Policy and Practice in Intellectual Disabilities, 3,* 3-10.

Dunst, C. J., Hamby, D., Trivette, C. M., Raab, M., & Bruder, M. B. (2000). Everyday family and community life and children's naturally occurring learning opportunities. *Journal of Early Intervention, 23,* 151-164. doi: 10.1177/10538151000230030501

Dunst, C. J., Hamby, D., Trivette, C. M., Raab, M., & Bruder, M. B. (2002) Young children's participation in everyday family and community activity. *Psychological Reports, 91,* 875-897.

Economics and Statistics Administration. (2009) *Income, poverty, and health insurance coverage in the United States: 2008* (Report P60-236). Washington, DC: U.S. Government Printing Office.

Elder, G. H. (1979). Historical change in life patters and personality. In P.B. Baltes & O. G. Brim, Jr. (Eds.), *Lifespan development and behavior* (Vol. 2, pp. 117-159). New York: Academic Press.

Evans, G. W., Gonnella, C., Marcynyszyn, L. A., Gentile, L., & Salpekar, N. (2005). The role of chaos in poverty and children's socioemotional adjustment. *Psychological Science, 16,* 560-565.

Evans, G. W., Saltzman, H., & Cooperman, J. L. (2001). Housing quality and children's socioemotional health. *Environment and Behavior, 33,* 389-399.

Fiese, B. H. (2002). Routines of daily living and rituals in family life: A glimpse at stability and change during the early child-raising years. *Zero to Three, 22,* 10-13.

Fiese, B. H. (2006). *Family routines and rituals.* New Haven: Yale University Press.

Fiese, B. H., & Everhart, R. S. (2008). Routines. In *Encyclopedia of infant and early childhood development* (pp. 34-41). Boston: Elsevier Academic Publishing.

Fiese, B. H. & Kline, C. A. (1993). Development of the Family Ritual Questionnaire: Initial reliability and validation studies. *Journal of Family Psychology, 6,* 1-10.

Fiese, B. H., Tomcho, T. J., Douglas, M., Josephs, K., Poltrock, S., & Baker, T. (2002). A review of 50 years of research on naturally occurring family routines and rituals: Cause for celebration? *Journal of Family Psychology, 16,* 381-390.

Fiese, B. H., & Wamboldt, F. S. (2000). Family routines, rituals, and asthma management: A proposal for family-based strategies to increase treatment adherence. *Families, Systems and Health, 18,* 405-418.

Fisher, E. P. (1992). The impact of play on development: A meta-analysis. *Play Culture, 5,* 159.

Flores, R. L. (2004). The effects of poverty on young children's ability to organize everyday events. *Journal of Children and Poverty, 10,* 99-118. doi: 10.1080/1079612042000271558

Flores, G., Tomany-Korman, S. C., & Olson, L. (2005). Racial and ethnic disparities in health-related early childhood home routines and safety practices. *Archives of Pediatric and Adolescent Medicine, 159,* 158-165.

Gagnon, S. G., & Nagle, R. J. (2000). Comparison of the revised and original versions of the Bayley Scales of Infant Development. *School Psychology International, 21*, 293–305.

Garmezy, N. (1991). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annals, 20,* 459-466.

Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. Pediatrics, 119, 182-191. doi: 10.1542/peds.2006-2697

Gross, D., Sambrook, A., & Fogg, L. (1999). Behavior problems among young children in low-income urban day care centers. *Research in Nursing and Health, 22,* 15-25.

Guidubaldi, J., Cleminshaw, H. K., Perry, J. D., Nastasi, B. K., & Lightel, J. (1986). The role of selected family environment factors in children's post-divorce adjustment. *Family Relations, 35,* 141-151.

Guo, G., Brooks-Gunn, J., & Harris, K. M. (1996). Parents' labor force attachment and grade retention among urban black children. *Sociology of Education, 69,* 217-236.

Guo, G., & Harris, K. M. (2000). The mechanisms mediating the effects of poverty on children's intellectual development. *Demography, 37,* 431-447.

Halpern, R. (1990). Poverty and early childhood parenting: Toward a framework for intervention. *American Journal of Orthopsychiatry, 60,* 6-18.

Hart, B., Risley, T. R. (1992). American parenting of language-learning children: Persisting differences in family-child interactions observed in natural home environments. *Developmental Psychology, 28,* 1096-1105.

Hawley, D. R., & DeHaan, L. (1996). Toward a definition of family resilience: Integrating life-span and family perspectives. *Family Process, 35*, 283-298.

Henry, M. (1990). More than just play: The significance of mutually directed adult, child activity. *Early Child Development and Care, 60,* 35-51.

Jackson, A. P., Brooks-Gunn, J., Huang, C., & Glassman, M. (2000). Single mothers in low-wage jobs: Financial strain, parenting, and preschoolers' outcomes. *Child Development, 71,* 1409-1423.

Jensen, E. W., James, S. A., Boyce, W. T., & Hartnett, S. A. (1983). The Family Routines Inventory: Development and validation. *Social Science Medicine, 17,* 201-211.

Jordan, S. S. (2003). Further validation of the Child Routines Inventory (CRI): Relationship to parenting practices, maternal distress and child externalizing behavior (Doctoral dissertation, Louisiana State University). Retrieved from http://etd.lsu.edu/docs/available/etd-0612103-213510/unrestricted/Jordan_dis.pdf

Kaiser, A. P., & Delaney E. M. (1996). The effects of poverty on parenting young children. *Peabody Journal of Education, 71,* 66-85.

Kaminski, J. W., Perou, R., & Claussen, A. H. (April, 2011). Individual, familial, and neighborhood predictors of resilient parenting among low-income mothers. Symposium presented at the Society for Research in Child Development, Montreal, CA.

Keltner, B. (1990). Family characteristics of preschool social competence among Black children in a Head Start program. *Child Psychiatry and Human Development, 21,* 95-108.

Kishiyama, M. M., Boyce, W. T., Jimenez, A. M., Perry, L. M., & Knight, R. T. (2009). Socioeconomic disparities affect prefrontal function in children. *Journal of Cognitive Neuroscience, 21,* 1106-1115.

Koblinsky, S. A., Kuvalanka, K. A., & Randolph, S. M. (2006). Social skills and behavior problems of urban, African American preschoolers: Role of parenting practices, family

conflict, and maternal depression. *American Journal of Orthopsychiatry, 76,* 554-563. doi: 10.1037/0002-9432.76.4.554

Kotchick, B. A., & Forehand, R. (2002). Putting parenting in perspective: A discussion of the contextual factors that shape parenting practices. *Journal of Child and Family Studies, 11,* 255-269.

Korenman, S., Miller, J., & Sjaastad, J. (1995). Long-term poverty and child development in the United States: Results from the NLSY. *Children and Youth Services Review, 17,* 127-155.

Koulouglioti, C., Cole, R., & Kitzman, H. (2009). The role of children's routines of daily living, supervision, and maternal fatigue in preschool children's injury risk. *Research in Nursing and Health, 32,* 517-529. doi: 10.1002/nur.20346

Kubicek, L. F. (2002). Fresh perspectives on young children and family routines. *Zero to Three, 22,* 4-9.

Land, A., C. & The Foundation for Child Development (2010). *2010 Child Well-Being Index.* Duke University.

Linver, M. R., Brooks-Gunn, J., & Kohen, D. E. (2002). Family processes as pathways from income to young children's development. *Developmental Psychology, 38,* 719-734. doi: 10.1037//0012-1649.38.5.719

Leadbeater, B. J., & Bishop, S. J. (1994) Predictors of behavior problems in preschool children of innter-city Afro-American and Puerto Rican adolescent mothers. *Child Development, 65,* 638-648.

Loeber, R., & Farrington, D. P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology, 12,* 737-762.

Loukas, A., & Prelow, H. M. (2004). Externalizing and internalizing problems in low-income Latino early adolescents: Risk, resource, and protective factors. *The Journal of Early Adolescence, 24,* 250-273. doi: 10.1177/0272431604265675

Lucyshyn, J. M., Albin, R. W., & Nixon, C. D. (1997). Embedding comprehensive behavioral support in family ecology: An experimental, single-case analysis. *Journal of Consulting and Clinical Psychology, 65,* 241-251.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology, 12,* 857-885.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71,* 543-562.

Markson, S., & Fiese, B. H. (2000). Family rituals as a protective factor for children with asthma. *Journal of Pediatric Psychology, 25,* 471-479.

Masten, A. S. (2001). Ordinary Magic: Resilience processes in development. *American Psychologist, 56,* 227-238. doi: 10.1037//0003-066X.56.3.227

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2,* 425-444.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist, 53,* 205-220.

Maupin, A. N., Brophy-Herb, H. E., Schiffman, R. F., & Bocknek, E. L. (2010). Low-income parental profiles of coping, resource adequacy, and public assistant receipt: Links to parenting. *Family Relations, 59,* 180-194. doi: 10.1111/j.1741-3729.2010.00594.x

McGroder, S. (2000). Parenting among low-income, African American single mothers with preschool-age children: Patterns, predictors, and developmental correlates. *Child Development, 71,* 752-771.

McIntire, S. A., & Miller, L. A. (2007). *Foundations of psychological testing a practice approach.* Thousand Oaks California: Sage Publications.

McLeod, J. D., & Shanahan, M. J. (1996). Trajectories of poverty and children's mental health. *Journal of Health and Social Behavior, 37,* 207-220.

McLoyd, V. C. (1990). The impact of economic hardship on Black families and children: Psychological distress, parenting and socioemotional development. *Child Development, 61,* 311-346.

McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53,* 185-204.

McLoyd, V. C., Toyokawa, T., & Kaplan, R. (2008). Work demands, work-family conflict, and child adjustment in African American families: The mediating role of family routines. *Journal of Family Issues, 29,* 1247-1267. doi: 10.1177/0192513X08320189

Menaghan, E. G., & Parcel, T. L. (1991). Determining children's home environments: The impact of maternal characteristics and current occupational and family conditions. *Journal of Marriage and the Family, 53,* 417-431.

Mindell, J. A., Telofski, L. S., Wiegand, M., & Kurtz, E. S. (2009). A nightly bedtime routine: Impact on sleep in young children and maternal mood. *Sleep, 32,* 599-606.

Mistry, R. S., Biesanz, J. C., Taylor, L. C., Burchinal, M., & Cox, M. J. (2004). Family income and its relation to preschool children's adjustment for families in the NICHD study of early child care. *Developmental Psychology, 40,* 727-745.

Mistry, R. S., Vandewater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic well-being and children's social adjustment: The role of family process in an ethnically diverse low-income sample. *Child Development, 73,* 935-951.

Mize, J., & Pettit, G. S. (1997). Mothers' social coaching, mother-child relationship style, and children's peer competence: Is the medium the message? *Child Development, 68,* 312-332.

Mounts, N. S. (2002). Parental management of adolescent peer relationships in context: The role of parenting style. *Journal of Family Psychology, 16,* 58-69. doi: 10.1037//0893-3200.16.1.58

Muthen, B., & Curran, P. (1997). General longitudinal modeling of individual differences in experimental designs: A latent variable framework for analysis and power estimation. *Psychological Methods, 2,* 371-402.

Muthén, L.K., & Muthén, B. O. (1998-2007). *Mplus User's Guide.* Fifth Edition. Los Angeles, CA: Muthén & Muthén.

National Research Council (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

Newacheck, P. W., Hughes, D. C., & Stoddard, J. J. (1996). Children's access to primary care: Differences by race, income, and insurance status. *Pediatrics, 97,* 26-32.

NICHD Early Child Care Research Network. (1997). The effects of infant child care on infant–mother attachment security: Results of the NICHD Study of Early Child Care. *Child Development, 68,* 860–879.

NICHD Early Child Care Research Network. (1999). Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. *Developmental Psychology, 35,* 1297–1310.

Orthner, D. K., Jones-Sanpei, H., & Williamson, S. (2004). The resilience and strengths of low-income families. *Family Relations, 53,* 159-167.

Patterson, J. M. (2002). Integrating family resilience and family stress theory. *Journal of Marriage and Family, 64,* 349-360.

Patterson, C. J., Kupersmidt, J. B., & Vaden, N. A. (1990). Income level, gender, ethnicity, and household composition as predictors of children's school-based competence. *Child Development, 61,* 485-494.

Petterson, S. M., & Albers, A. B. (2001). Effects of poverty and maternal depression and early child development. *Child Development, 72,* 1794-1813.

Qi, C. H., & Kaiser, A. P. (2003). Behavior problems of preschool children from low-income families: Review of the literature. *Topics in Early Childhood Special Education, 23,* 188-216.

Radke-Yarrow, M., & Brown, E. (1993). Resilience and vulnerability in children of multiple-risk families. *Development and Psychopathology, 5,* 581-592.

Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1,* 385–401.

Ross, C.E., Mirowsky, J., & Huber, J. (1983). Dividing work, sharing work, and in-between: Marriage patterns and depression. *American Sociological Review, 48,* 809–823.

Russell, M., Harris, B., & Gockel, A. (2008). Parenting in poverty: Perspectives of high-risk parents. *Journal of Children and Poverty, 14,* 83-98. doi: 10.1080/10796120701871322

Scaramella, L., Barnett, M. A., Sohr-Preston, S. L., McGoron, L., & Weiss, J. (April, 2011). Resiliency and sensitive parenting: The role of maternal perceptions and cognitive competence. Symposium presented at the Society for Research in Child Development, Montreal, CA.

Seaton, E. K., & Taylor, R. D. (2003). Exploring familial processes in urban, low-income African American families. *Journal of Family Issues, 24,* 627-644. doi: 10.1177/0192513X03252572

Seccombe, K. (2002). "Beating the odds" versus "changing the odds": Poverty, resilience, and family policy. *Journal of Marriage and Family, 64,* 384-394.

Smith, D. (1995). How play influences development at home and school. *Journal of Physical Education, 66,* 19-23.

Smith, J., Brooks-Gunn, J., & Klebanov, P. (1997). Consequences of living in poverty for young children's cognitive and verbal ability and early school achievement. In G. Duncan, & J. Brooks-Gunn (Eds.), *Consequences of Growing Up Poor*. (pp. 132-189). New York: Russell Sage.

Spiker, D., Ferguson, J., & Brooks-Gunn, J. (1993). Enhancing Maternal Interactive Behavior and Child Social Competence in Low Birth Weight, Premature Infants. *Child Development, 64,* 754-768.

Stipek, D. J., & Ryan, R. H. (1997). Economically disadvantaged preschoolers: Ready to learn but further to go. *Developmental Psychology, 33,* 711-723.

Sytsma, S. E., Kelley, M. L., & Wymer, J. H. (2001). Development and initial validation of the child routines inventory. *Journal of Psychopathology and Behavioral Assessment, 23,* 241-251.

Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & Lamb, M. E. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75,* 1806-1820.

Taylor, R. D. (1996). Adolescents' perceptions of kinship support and family management practices: Association with adolescent adjustment in African American families. *Child Development, 32,* 687-695.

Takeuchi, D. T., Williams, D. R., & Adair, R. K. (1991). Economic stress in the family and children's emotional and behavioral problems. *Journal of Marriage and Family, 53,* 1031-1041.

Trentacosta, C. J., Hyde, L. W., Shaw, D. S., Dishion, T. J., Gardner, F., & Wilson, M. (2008). The relations among cumulative risk, parenting, and behavior problems during early childhood. *Journal of Child Psychology and Psychiatry, 49,* 1211-1219. doi: 10.1111/j.1469-7610.2008.01941.x

Tsao, L. (2002). How much do we know about the importance of play in child development? *Child Education, 78,* 230-233.

Webster-Stratton, C., & Hammond, M. (1998). Conduct problems and level of social competence in Head Start children: Prevalence, pervasiveness, and associated risk factors. *Clinical Child and Family Psychology Review, 1,* 101-124.

Wechsler, D. (1991). *Manual for the Wechsler Intelligence Scale for Children – Third Edition.* San Antonio, TX: The Psychological Corporation.

Wight, V. R., Chau, M., Aratani, Y. (2011). Who are American's poor children? : The official story. National Center for Children in Poverty, Columbia University Mailman School of Public Health.

Willet, J. B., & Bub, K. L. (2004). Latent growth curve analysis. In D. Rindskoph (Ed.), *Encyclopedia of statistics in the behavioral sciences*. Sussex, UK: John Wiley and Sons.

Willet, J. B. & Sayer, A.G. (1994). Using covariance structure analysis to detect correlates and predictors of individual change over time. *Psychological Bulletin, 116,* 363-381.

Woods, J. & Goldstein, H. (2003). When the toddler takes over: Changing challenging routines into conduits for communication. *Focus on Autism and Other Developmental Disabilities, 18,* 176-181.

Yoos, H. L., Kitzman, H., & Cole, R. (1999). Family routines and the feeding process. In D. B. Kessler & P. Dawson (Eds.), Failure to thrive and pediatric undernutrition: A transdisciplinary approach (pp. 375-384). Baltimore, MD: Paul H. Brookes Publishing Co.

Yeung, W. J., Linver, M. R., & Brooks-Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child Development, 73,* 1861-1879.

Zins, J. E. (2004). *Building academic success on social and emotional learning: What does the research say?* New York, NY: Teachers College Press.

Appendices

Appendix A

Family Routine Items

6.2 Does (CHILD) have a regular bedtime during the week?

FRQ

YES 01

NO . . . . . 00 GO TO Q6.2C

C. Some families have a routine of things they do when it is time to put a child to sleep. Do you (or FATHER/FATHER-FIGURE) have a regular routine of things you do with (CHILD) when you put (him/her) to sleep?

YES 01

NO . . . . . 00 GO TO Q6.3

7.1 How many times in the past month have you done any of the following with (CHILD)?

SCS SNOW

In the past month, how often did you (READ ITEM)? Was it more than once a day, about once a day, a few times a week, a few times a month, rarely, or not at all in the past month?

HOME

PROBE: In the last 30 days.

SHOW CARD 9

CODE ONLY ONE RESPONSE FOR EACH STATEMENT.

	More Than Once a Day	About Once a Day	A Few Times a Week	A Few Times a Month	Rarely	Not At All
A. Sing nursery rhymes like "Jack and Jill" with (him/her)?	01	02	03	04	05	06
B. Sing songs with (him/her)?	01	02	03	04	05	06
C. Dance with (him/her)?	01	02	03	04	05	06
D. Read stories to (CHILD)?	01	02	03	04	05	06
E. Tell stories to (him/her)?	01	02	03	04	05	06
F. Play outside in the yard, a park or a playground with (him/her)?	01	02	03	04	05	06
G. Play chasing games?	01	02	03	04	05	06
H. Take (CHILD) on an outing such as shopping, to the park or a picnic?	01	02	03	04	05	06
I. Take (CHILD) with you to a religious service or religious event?	01	02	03	04	05	06
J. Take (CHILD) to any type of a museum such as a children's museum, scientific, art or historical museum?	01	02	03	04	05	06
K. Try to tease (CHILD) to get (him/her) to laugh?	01	02	03	04	05	06

Appendix B

Tables

Table 1.

Descriptive Statistics for All Study Variables

	Age at Assessment		
	14-months	24-months	36-months
Variable	Mean/% (SD)	Mean/% (SD)	Mean/% (SD)
Outcomes			
BRS: Emotion Regulation			4.01 (.68)
BRS: Orientation/Engagement			3.93 (.67)
Child Behavior Checklist (Aggressive behavior subscale)			11.21 (6.18)
Mental Development Index			91.33 (12.40)
Peabody Picture Vocabulary Test			83.85 (14.70)
Control			
Program Group (Early Head Start Program Status)	53%		
Male	49%		
White	48%		
Black	39%		
Hispanic	13%		
High School Diploma or GED	67%		
Not Married or Cohabitating	79%		
Maternal Depression	23%		
Income-To-Needs	60.26 (54.21)		
Inadequate Money	19%		
Family Routines			
Bedtime Routine	69%	69%	69%
Regular Bedtime	62%	58%	57%
Reading Routines	51%	58%	57%
Parent-Child Play	4.54 (.76)	4.56 (.81)	4.44 (.80)
Parent-Child Outside Activity	2.62 (.63)	2.81 (.72)	2.89 (.69)
General Positive Parenting			
Discipline Severity Index	2.27 (1.53)	2.77 (1.70)	3.52 (1.62)
Physical Discipline	17%	31%	51%
Prevent/Distract	62%	70%	67%

Threaten	31%	34%	11%
Shout	3%	5%	8%
Talk/Explain	20%	34%	69%
Remove Object	78%	82%	82%
Time Out	-	-	31%
Warn/Remind Nonverbal	-	-	33%
Warn/Remind Verbal	-	-	8%
Restrain	-	-	25%
Language and Cognitive Stimulation	10.12 (1.53)	10.54 (1.36)	10.79 (1.86)
Maternal Supportiveness	4.04 (1.03)	4.05 (1.04)	4.00 (.91)

Table 2.

Descriptive Statistics and Individual t-tests for All Study Variables by Gender

Variable	Male Mean/% (SD)	Female Mean/% (SD)	*t*
Outcomes			
BRS: Emotion Regulation – 36m	3.91 (.70)	4.11 (.65)	-4.97***
BRS: Orientation/Engagement – 36m	3.89 (.67)	3.97 (.66)	-2.17*
Child Behavior Checklist – 36m (Aggressive behavior subscale)	11.69 (6.50)	10.75 (5.83)	2.67**
Mental Development Index – 36m	89.97 (12.49)	92.62 (12.18)	-3.76***
Peabody Picture Vocabulary Test – 36m	82.48 (14.59)	85.15 (15.70)	-3.19***
Family Routines			
Bedtime Routine – 14m	67%	72%	-1.74+
Bedtime Routine – 24m	69%	69%	-.01
Bedtime Routine – 36m	67%	71%	-1.39
Regular Bedtime – 14m	62%	61%	.45
Regular Bedtime – 24m	57%	59%	-.94
Regular Bedtime – 36m	58%	57%	.35
Reading Routines – 14m	47%	56%	-2.96**
Reading Routines – 24m	55%	60%	-1.83+
Reading Routines – 36m	54%	60%	-2.08*
Parent-Child Play – 14m	4.50 (.77)	4.58 (.75)	-1.59
Parent-Child Play – 24m	4.53 (.82)	4.60 (.80)	-1.54
Parent-Child Play – 36m	4.37 (.82)	4.50 (.78)	-2.59**
Parent-Child Outside Activity – 14m	2.60 (.61)	2.63 (.65)	-.99
Parent-Child Outside Activity – 24m	2.79 (.68)	2.82 (.75)	-.76
Parent-Child Outside Activity – 36m	2.89 (.69)	2.90 (.68)	-.24
General Positive Parenting			
Discipline Severity Index – 14m	2.34 (1.58)	2.20 (.90)	1.54
Discipline Severity Index – 24m	2.80 (1.69)	2.75 (1.69)	.42
Discipline Severity Index – 36m	3.53 (1.61)	3.50 (1.62)	.26
Physical Discipline – 14m	20%	15%	2.23***
Physical Discipline – 24m	31%	30%	.38
Physical Discipline – 36m	52%	51%	.26
Prevent/Distract – 14m	60%	65%	-1.85+

Prevent/Distract – 24m	68%	72%	-1.34
Prevent/Distract – 36m	67%	67%	.15
Threaten – 14m	30%	32%	-.64
Threaten – 24m	35%	34%	.57
Threaten – 36m	11%	11%	-.29
Shout – 14m	3%	3%	-.70
Shout – 24m	4%	5%	-.50
Shout – 36m	9%	7%	1.14
Talk/Explain -14m	19%	21%	-1.07
Talk/Explain -24m	32%	36%	-1.34
Talk/Explain -36m	68%	69%	-.45
Remove Object – 14m	78%	78%	-.17
Remove Object – 24m	83%	82%	.58
Remove Object – 36m	81%	83%	-.70
Time Out – 36m	30%	31%	-.49
Warn/Remind Nonverbal – 36m	33%	34%	-.54
Warn/Remind Verbal – 36m	9%	7%	1.13
Restrain – 36m	26%	24%	.72
Language and Cognitive Stimulation – 14m	10.05 (1.55)	10.18 (1.52)	-1.38
Language and Cognitive Stimulation – 24m	10.44 (1.49)	10.62 (1.23)	-2.11*
Language and Cognitive Stimulation – 36m	10.62 (1.94)	10.95 (1.78)	-3.11**
Maternal Supportiveness – 14m	3.97 (1.06)	4.11 (.99)	-2.23*
Maternal Supportiveness – 24m	3.99 (1.09)	4.11 (.99)	-1.84+
Maternal Supportiveness – 36m	3.97 (.93)	4.03 (.90)	-1.22

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 3.

Descriptive Statistics and Individual ANOVAS for All Study Variables by Race/Ethnicity

Variable	White Mean/% (SD)	Black Mean/% (SD)	Hispanic Mean/% (SD)	F
Outcomes				
BRS: Emotion Regulation – 36m	4.02 (.68)	4.02 (.67)	3.98 (.73)	.66
BRS: Orientation/Engagement – 36m	4.05 (.62)	3.78 (.68)	3.92 (.70)	14.08***
Child Behavior Checklist – 36m (Aggressive behavior subscale)	11.66 (6.15)	10.91 (6.15)	10.94 (6.47)	2.78*
Mental Development Index – 36m	94.92 (12.18)	87.51 (11.57)	90.29 (11.69)	32.69***
Peabody Picture Vocabulary Test – 36m	88.45 (13.86)	80.43 (12.92)	77.32 (17.64)	40.03***
Family Routines				
Bedtime Routine – 14m	75%	63%	67%	5.59***
Bedtime Routine – 24m	75%	60%	71%	7.89***
Bedtime Routine – 36m	74%	63%	67%	5.46***
Regular Bedtime – 14m	69%	54%	56%	7.77***
Regular Bedtime – 24m	63%	53%	55%	3.63*
Regular Bedtime – 36m	62%	52%	52%	5.59***
Reading Routines – 14m	55%	50%	46%	2.22+
Reading Routines – 24m	66%	49%	54%	8.27***
Reading Routines – 36m	66%	47%	55%	13.08***
Parent-Child Play – 14m	4.57 (.74)	4.53 (.80)	4.51 (.76)	.77
Parent-Child Play – 24m	4.61 (.78)	4.48 (.85)	4.64 (.74)	2.50+
Parent-Child Play – 36m	4.50 (.78)	4.37 (.80)	4.37 (.87)	2.95*
Parent-Child Outside Activity – 14m	2.52 (.53)	2.68 (.68)	2.80 (.70)	9.33***
Parent-Child Outside Activity – 24m	2.67 (.63)	2.92 (.82)	2.95 (.68)	10.97***
Parent-Child Outside Activity – 36m	2.80 (.61)	2.99 (.78)	2.86 (.61)	8.20***
General Positive Parenting				
Discipline Severity Index – 14m	1.98 (1.33)	2.79 (1.67)	1.87 (1.35)	28.07***
Discipline Severity Index – 24m	2.34 (1.56)	3.58 (1.68)	2.19 (1.34)	53.13***
Discipline Severity Index – 36m	2.91 (1.57)	4.41 (1.24)	3.22 (1.58)	93.35***
Physical Discipline – 14m	10%	29%	10%	24.51***
Physical Discipline – 24m	19%	54%	11%	59.42***

Physical Discipline – 36m	32%	80%	41%	101.53***
Prevent/Distract – 14m	63%	55%	77%	8.27***
Prevent/Distract – 24m	70%	66%	81%	3.93*
Prevent/Distract – 36m	69%	61%	76%	5.11**
Threaten – 14m	30%	36%	22%	3.41*
Threaten – 24m	30%	42%	31%	5.73***
Threaten – 36m	8%	12%	17%	3.95**
Shout -14m	2%	4%	2%	1.74
Shout -24m	4%	5%	6%	.16
Shout -36m	7%	9%	8%	.79
Talk/Explain -14m	23%	17%	18%	1.79
Talk/Explain -24m	35%	32%	38%	.59
Talk/Explain -36m	70%	64%	76%	3.86**
Remove Object – 14m	81%	75%	76%	1.73
Remove Object – 24m	86%	79%	77%	3.29*
Remove Object – 36m	90%	73%	81%	17.77***
Time Out – 36m	40%	22%	24%	14.92***
Warn/Remind Nonverbal – 36m	29%	40%	29%	5.90***
Warn/Remind Verbal – 36m	7%	8%	13%	2.20+
Restrain – 36m	28%	21%	25%	2.03
Language and Cognitive Stimulation – 14m	10.54 (1.29)	9.78 (1.66)	9.73 (1.57)	25.00***
Language and Cognitive Stimulation – 24m	10.91 (1.07)	10.14 (1.52)	10.34 (1.43)	26.82***
Language and Cognitive Stimulation – 36m	11.18 (1.73)	10.31 (1.98)	10.73 (1.72)	18.56***
Maternal Supportiveness – 14m	4.38 (.98)	3.64 (1.01)	3.93 (.89)	39.76***
Maternal Supportiveness – 24m	4.32 (1.00)	3.64 (1.03)	4.10 (.91)	31.11***
Maternal Supportiveness – 36m	4.15 (.88)	3.80 (.94)	4.06 (.88)	12.08***

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 4

Correlations for All Study Variables for 14-months

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. BRS: Emotion Regulation 36m	--											
2. BRS: Orientation/Engagement - 36m	.29***	--										
3. Child Behavior Checklist Aggression Subscale -36m	-.14***	-.05+	--									
4. Mental Development Index – 36m	.32***	.37***	-.08**	--								
5. Peabody Picture Vocabulary Test - 36m	.27***	.37***	-.09**	.57***	--							
6. Program Group	-.01	.01	-.05+	.03	.05	--						
7. Child Sex	-.14***	-.06*	.08**	-.11***	-.09***	-.01	--					
8. White	.02	.18***	.06*	.27***	.30***	-.03	-.04	--				
9. Black	.000	-.18***	-.05	-.25***	-.18***	.02	.03	-.76***	--			
10. Hispanic	-.02	-.01	-.02	-.04	-.17***	.02	.02	-.38***	-.31***	--		
11. Education Level	.04	.09**	.01	.22***	.19***	.003	-.03	.18***	-.11***	-.11***	--	
12. Not Married or Cohabitating	-.10***	-.09**	.04	-.16***	-.12***	.05	.03	-.33***	.29***	.07*	-.09**	--
13. Maternal Depression	-.02	-.08+	.12**	-.11**	-.12**	-.03	-.04	-.05	.08+	-.04	-.03	.04
14. Income-to-Needs	.06*	.02	-.09**	.03	.09**	.03	.004	.07*	-.11***	.05	.07*	-.24***
15. Inadequate Money	-.03	-.02	.06*	-.03	-.02	-.03	.03	.06*	-.04	-.04	-.05**	.004
16. Bedtime Routine	-.02	.05+	-.05	.11***	.07*	-.002	-.05+	.12***	-.11***	-.02	.06*	-.07*
17. Regular Bedtime	-.01	.08**	-.06*	.11***	.12***	.02	.01	.14***	-.12***	-.04	.10**	-.05+
18. Reading Routine	.04	.08**	-.11***	.10***	.12***	-.04	-.09**	.06*	-.03	-.05	-.03	-.09**
29. Parent-Child Play	.06*	.09**	-.09***	.09**	.08**	-.02	-.05*	.03	-.02	-.02	.003	-.03
20. Parent-Child Outside Activity	.08**	-.04	-.07*	.02	-.04	-.01	-.03	-.15***	.08*	.11***	.03	-.03
21. Discipline Severity Index	-.002	-.10***	.05+	-.13***	-.12***	-.05	.05	-.19***	.27***	-.11***	-.06+	.12***
22. Language and Cognitive Stimulation	.08*	.18***	-.08**	.23***	.28***	.002	-.04	.26***	-.19***	-.11***	.19***	-.17***
23. Maternal Supportiveness	.15***	.20***	-.08*	.37***	.35***	.01	-.07*	.32***	-.30***	-.04	.20***	-.22***

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 4 (cont.)

Correlations for All Study Variables for 14-months

	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
1. BRS: Emotion Regulation											
2. BRS: Orientation/Engagement											
3. Child Behavior Checklist											
4. Mental Development Index											
5. Peabody Picture Vocabulary Test											
6. Program Group											
7. Child Sex											
8. White											
9. Black											
10. Hispanic											
11. Education Level											
12. Not Married or Cohabitating											
13. Maternal Depression	--										
14. Income-to-Needs	-.07	--									
15. Inadequate Money	.13**	-.10**	--								
16. Bedtime Routine	-.01	.03	.02	--							
17. Regular Bedtime	-.12**	.09**	-.02	.25***	--						
18. Reading Routine	-.07	.02	-.03	.16***	.15***	--					
19. Parent-Child Play	-.05	.004	-.01	.20***	.17***	.51***	--				
20. Parent-Child Outside Activity	-.01	.05	-.02	.12***	.02	.24***	.34***	--			
21. Discipline Severity Index	.06	-.07*	.06*	-.07*	-.13***	-.06*	-.05^{+}	.06*	--		
22. Language and Cognitive Stimulation	-.15***	.10**	-.03	.19***	.21***	.33***	.35***	.12***	-.14***	--	
23. Maternal Supportiveness	-.05	.05	.05	.10**	.10***	.10***	.13***	.04	-.18***	.29***	--

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Table 5

Correlations for All Study Variables for 24-months

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. BRS: Emotion Regulation – 36m	--											
2. BRS: Orientation/Engagement – 36m	.29***	--										
3. Child Behavior Checklist Aggression Subscale – 36m	-.14***	-.05+	--									
4. Mental Development Index – 36m	.32***	.37***	-.08**	--								
5. Peabody Picture Vocabulary Test - 36m	.27***	.37***	-.09**	.57***	--							
6. Program Group	-.01	.01	-.05+	.03	.05	--						
7. Child Sex	-.14***	-.06*	.08**	-.11***	-.09***	-.01	--					
8. White	.02	.18***	.06*	.27***	.30***	-.03	-.04	--				
9. Black	.00	-.18**	-.05	-.25***	-.18***	.02	.03	-.76***	--			
10. Hispanic	-.02	-.01	-.02	-.04	-.17***	.02	.02	-.38***	-.31***	--		
11. Education Level	.04	.09**	.01	.22***	.19***	.003	-.03	.18***	-.11	-.11***	--	
12. Not Married or Cohabitating	-.10***	-.09**	.04	-.16***	-.12***	.05	.03	-.33***	.29***	.07*	-.09**	--
13. Maternal Depression	-.02	-.08+	.12**	-.11**	-.12**	-.03	-.04	-.05	.08+	-.04	-.03	.04
14. Income-to-Needs	.06*	.02	-.09**	.03	.09**	.03	.004	.07*	-.11***	.05	.07*	-.24***
15. Inadequate Money	-.03	-.01	.06*	-.03	-.02	-.03	.03	.06*	-.04	-.04	-.05	.004
16. Bedtime Routine	.06*	.08**	-.05	.15***	.17***	.03	.00	.13***	-.15***	.02	.08*	-.04
17. Regular Bedtime	.02	.03	-.06*	.06+	.04	.03	-.03	.10***	-.08**	-.03	.10**	-.04
18. Reading Routine	.04	.11***	-.10***	.18***	.18***	.06*	-.06+	.15***	-.13***	-.03	.06+	-.07
19. Parent-Child Play	-.01	.15***	-.10***	.14***	.11***	.04	-.05	.05+	-.08**	.04	.02	-.01
20. Parent-Child Outside Activity	-.004	.02	-.12***	.02	-.01	.01	-.02	-.18***	.13***	.08*	-.03	.02
21. Discipline Severity Index	-.04	-.10***	-.003	-.17***	.13***	-.08**	.01	-.26***	.36***	-.14***	-.09**	.17***
22. Language and Cognitive Stimulation	.08*	.14***	-.06*	.30***	.28***	.04	-.06*	.27***	-.23***	-.06+	.22***	-.01***
23. Maternal Supportiveness	.10**	.13***	-.09**	.35***	.31***	.07*	-.06+	.27***	-.29***	.02	.20***	-.15***

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 5 (cont.)

Correlations for All Study Variables for 24-months

	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
1. BRS: Emotion Regulation											
2. BRS: Orientation/Engagement											
3. Child Behavior Checklist											
4. Mental Development Index											
5. Peabody Picture Vocabulary Test											
6. Program Group											
7. Child Sex											
8. White											
9. Black											
10. Hispanic											
11. Education Level											
12. Not Married or Cohabitating											
13. Maternal Depression	--										
14. Income-to-Needs	-.07	--									
15. Inadequate Money	.13**	-.10**	--								
16. Bedtime Routine	-.12*	.002	.01	--							
17. Regular Bedtime	.01	.02	.07*	.26***	--						
18. Reading Routine	-.06	.07*	-.03	.12***	.12***	--					
19. Parent-Child Play	.01	-.001	.004	.12***	.17***	.61***	--				
20. Parent-Child Outside Activity	.03	-.004	-.01	-.01	.001	.21***	.36***	--			
21. Discipline Severity Index	.08^{+}	-.05	-.04	-.09**	-.04	-.13***	-.05	.09**	--		
22. Language and Cognitive Stimulation	-.16***	.10**	-.07*	.16***	.14***	.32***	.35***	.12***	-.20***	--	
23. Maternal Supportiveness	-.08^{+}	.15***	.02	.15***	.11***	.21***	.17***	-.01	-.21***	.26***	--

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Table 6

Correlations for All Study Variables for 36-months

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. BRS: Emotion Regulation -36m	--											
2. BRS: Orientation/Engagement -36m	.29***	--										
3. Child Behavior Checklist Aggression Subscale -36m	-.14***	-.05+	--									
4. Mental Development Index -36m	.32***	.37***	-.08**	--								
5. Peabody Picture Vocabulary Test -36m	.27***	..37***	-.09**	.57***	--							
6. Program Group	-.01	.01	-.05+	.03	.05	--						
7. Child Sex	-.14***	-.06*	.08**	-.11***	-.09***	-.01	--					
8. White	.02	.18***	.06*	.27***	.30***	-.03	-.04	--				
9. Black	.00	-.18**	-.05	-.25***	-.18***	.02	.03	-.76***	--			
10. Hispanic	-.02	-.01	-.02	-.04	-.17***	.02	.02	-.38***	-.31***	--		
11. Education Level	.04	.09**	.01	.22***	.19***	.003	-.03	.18***	-.11***	-.11***	--	
12. Not Married or Cohabitating	-.10***	-.09**	.04	-.16***	-.12***	.05	.03	-.33***	.29***	.07*	-.09**	--
13. Maternal Depression	-.02	-.08+	.12**	-.12***	-.12**	-.03	-.04	-.05	.08+	-.04	-.03	.04
14. Income-to-Needs	.06*	.02	-.09**	.03	.09**	.03	.004	.07*	-.11***	.05	.07*	-.24***
15. Inadequate Money	-.03	-.02	.06*	-.03	-.02	-.03	.03	.06*	-.04	-.04	-.05	.004
16. Bedtime Routine	.06*	.06*	-.11***	.10***	.08**	-.01	-.04	.10***	-.10***	-.02	.01	-.07**
17. Regular Bedtime	.06*	.05	-.13***	.08**	.05+	.02	-.01	.10***	-.08**	-.04	.09**	-.06*
18. Reading Routine	.05	.13***	-.14***	.19***	.16***	.05+	-.06*	.17***	-.17***	-.01	.05	-.07*
19. Parent-Child Play	.02	.14***	-.13***	.10***	.10***	.06*	-.07**	.08**	-.06+	-.03	-.01	.00
20. Parent-Child Outside Activity	.07*	.08**	-.14***	-.04	.02	.01	-.01	-.12***	.13***	-.01	-.04	.004
21. Discipline Severity Index	-.03	-.16***	.13***	-.21***	-.22***	-.04	.01	-.37***	.43***	-.08**	-.09*	.20***
22. Language and Cognitive Stimulation	.11***	.28***	-.14***	.37***	.36***	.05+	-.09**	.20***	-.20***	-.01	.22***	-.17***
23. Maternal Supportiveness	.14***	.12***	-.07*	.28***	.23***	.06*	-.04	.15***	-.18***	.02	.21***	-.11***

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 6 (cont.)

Correlations for All Study Variables for 36-months

	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
1. BRS: Emotion Regulation											
2. BRS: Orientation/Engagement											
3. Child Behavior Checklist											
4. Mental Development Index											
5. Peabody Picture Vocabulary Test											
6. Program Group											
7. Child Sex											
8. White											
9. Black											
10. Hispanic											
11. Education Level											
12. Not Married or Cohabitating											
13. Maternal Depression	--										
14. Income-to-Needs	-.07	--									
15. Inadequate Money	.13**	-.10**	--								
16. Bedtime Routine	-.04	.05	.01	--							
17. Regular Bedtime	-.05	.04	.04	.24***	--						
18. Reading Routine	-.12**	.10**	-.001	.15***	.15***	--					
19. Parent-Child Play	-.01	.01	-.01	.10***	.09**	.54***	--				
20. Parent-Child Outside Activity	.004	.07*	-.03	.05^{+}	.03	.19***	.37***	--			
21. Discipline Severity Index	.06	-.11***	-.01	-.09***	-.14***	-.19***	-.09**	-.03	--		
22. Language and Cognitive Stimulation	-.04	.10**	-.04	.17***	.12***	.32***	.31***	.19***	-.26***	--	
23. Maternal Supportiveness	-.002	.08*	.04	.11***	.07*	.15***	.10***	.08*	-.22***	.35***	--

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Table 7.

Stability of Predictors Over Time

Variable	14 Months	24 Months	36 Months
Family Routines			
Bedtime Routine			
14 months	--	.12***	.17***
24 months		--	.26***
36 months			--
Regular Bedtime			
14 months	--	.20***	.15***
24 months		--	.26***
36 months			--
Reading Routines			
14 months	--	.32***	.22***
24 months		--	.37***
36 months			--
Parent-Child Play			
14 months	--	.47***	.44***
24 months		--	.55***
36 months			--
Parent-Child Outside Activity			
14 months	--	.38***	.30***
24 months		--	.42***
36 months			--
General Parenting			
Discipline Severity Index			
14 months	--	.36***	.31***
24 months		--	.40***
36 months			--
Language and Cognitive Stimulation			
14 months	--	.45***	.41***
24 months		--	.45***
36 months			--
Maternal Supportiveness			
14 months	--	.55***	.39***
24 months		--	.50***
36 months			--

***$p < .001$

Table 8.

Estimated Psychometric Properties and Factor Loadings for Family Routines Measurement Model

Variable	Observed Variance	Error Variance	True Variance	Reliability (True V/Obs V)	Factor Indicator Correlation	Unstd. Factor Loading	Std. Factor Loading
14-month Routines							
Bedtime Routine – 14m	.21	.20	.01	.05	.25	1.00	.25
Regular Bedtime – 14m	.24	.22	.02	.08	.22	.95***	.22
Reading Routines – 14m	.25	.14	.11	.44	.65	2.86***	.65
Parent-Child Play – 14m	.59	.23	.36	.61	.78	5.25***	.78
Parent-Child Outside Activity – 14m	.40	.35	.05	.13	.35	1.93***	.35
24-month Routines							
Bedtime Routine – 24m	.22	.21	.01	.05	.15	1.00	.15
Regular Bedtime – 24m	.24	.23	.01	.04	.20	1.45***	.20
Reading Routines – 24m	.24	.13	.11	.46	.69	5.10***	.69
Parent-Child Play – 24m	.65	.14	.51	.78	.89	10.59***	.89
Parent-Child Outside Activity – 24m	.52	.46	.06	.11	.33	3.52***	.33
36-month Routines							
Bedtime Routine – 36m	.21	.21	0	0	.14	1.00	.14
Regular Bedtime – 36m	.25	.24	.01	.04	.14	1.05***	.14
Reading Routines – 36m	.25	.14	.11	.44	.65	4.97***	.65
Parent-Child Play – 36m	.64	.20	.44	.69	.83	10.29***	.83
Parent-Child Outside Activity – 36m	.48	.41	.07	.15	.36	3.78***	.36

***$p < .001$

Table 9.

Estimated Psychometric Properties and Factor Loadings for Parenting Measurement Model

Variable	Observed Variance	Error Variance	True Variance	Reliability (True V/Obs V)	Factor Indicator Correlation	Unstd. Factor Loading	Std. Factor Loading
14-month Parenting							
Maternal Supportiveness – 14m	1.06	.65	.41	.39	.62	1.00	.62
Discipline Severity Index – 14m	2.34	2.12	.22	.09	-.30	-.72***	-.30
Language and Cognitive Stimulation – 14m	2.40	1.89	.51	.21	.46	1.12***	.46
24-month Parenting							
Maternal Supportiveness – 24m	1.08	.74	.34	.31	.56	1.00	.56
Discipline Severity Index – 24m	2.85	2.50	.35	.12	-.35	-1.01***	-.35
Language and Cognitive Stimulation – 24m	1.85	1.43	.42	.23	.48	1.11***	.48
36-month Parenting							
Maternal Supportiveness – 36m	.83	.59	.24	.29	.53	1.00	.53
Discipline Severity Index – 36m	2.61	2.05	.56	.21	-.46	-1.54***	-.46
Language and Cognitive Stimulation – 36m	3.49	2.25	1.24	.36	.60	2.29***	.60

Table 10.

Estimated Psychometric Properties and Factor Loadings for Social Outcomes Measurement Model

Variable	Observed Variance	Error Variance	True Variance	Reliability (True V/Obs V)	Factor Indicator Correlation	Unstd. Factor Loading	Std. Factor Loading
BRS:Orientation/ Engagement	.47	.11	.36	.77	.33	1.00	.33
BRS: Emotion Regulation	.45	.40	.05	.11	.88	2.74^{+}	.88
Child Behavior Checklist (Aggressive behavior subscale)	38.18	37.22	.96	.03	-.16	-4.51***	-.16

$^{***}p < .001$ $^{+}p < .10$

Table 11.

Regression Model for Social Outcomes (standardized results)

Variables	Research Question 1			Research Question 2		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Routines						
14-months	.25***	.17**	.10	-.51**	.99	-.32*
	(.05)	(.07)	(.07)	(.16)	(1.85)	(.15)
24-months		.15*	.07		-.93	.06
		(.06)	(.07)		(1.20)	(.11)
36-months			.19**			-.11
			(.07)			(.10)
Parenting						
14-months				1.13***	-2.44	.30*
				(.21)	(4.39)	(.12)
24-months					3.04	-.19
					(3.91)	(.12)
36-months						.79***
						(.18)
Covariates						
Program Group (Early Head Start Program Status)	.02	.01	.004	-.05	-.08	-.06
	(.04)	(.04)	(.04)	(.06)	(.13)	(.05)
Male	-.17***	-.16***	-.15***	-.14*	-.05	-.14**
	(.04)	(.05)	(.05)	(.06)	(.16)	(.05)
Black	-.09	-.09	-.08	.34**	.19	.17+
	(.06)	(.06)	(.06)	(.12)	(.28)	(.10)
Hispanic	-.03	-.03	-.02	.17*	-.20	.02
	(.05)	(.05)	(.05)	(.07)	(.46)	(.06)
High School Diploma or GED	.07	.07	.08+	-.20*	-.11	-.16*
	(.05)	(.05)	(.05)	(.08)	(.19)	(.08)
Not Married or Cohabitating	-.10*	-.10*	-.10*	.05	-.21	.03
	(.05)	(.05)	(.05)	(.07)	(.34)	(.06)
Maternal Depression	-.07	-.08	-.07	.10	.16	-.13+
	(.06)	(.06)	(.06)	(.09)	(.23)	(.07)
Income-To-Needs	.04	.03	.02	-.01	-.18	-.01
	(.05)	(.05)	(.05)	(.06)	(.26)	(.06)
Inadequate Money	-.04	-.04	-.04	-.05	-.07	-.04
	(.05)	(.04)	(.04)	(.06)	(.13)	(.05)
Fit Statistics						
χ^2 (*df*)	1324.31***	1318.99***	1311.37***	1267.75***	1263.69***	1427.91***
	(458)	(457)	(456)	(457)	(455)	(454)
$\Delta\chi^2$ (*df*)		5.32*(1)	7.62**(1)	56.56***(1)	55.30***(1)	116.54 (2)
Comparison		Model 1	Model 2	Model 1	Model 2	Model 3
CFI	.88	.88	.88	.89	.89	.87
RMSEA	.039, *p*=1.00	.039, *p*=1.00	.039, *p*=1.00	.038, *p*=1.00	.038, *p*=1.00	.038, *p*=1.00

Table 12.

Regression Model for Cognitive Outcomes (standardized results)

Variables	Research Question 1			Research Question 2		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Routines						
14-months	.23***	.11**	.09*	-.52***	-.92	-.15
	(.03)	(.05)	(.05)	(.12)	(.68)	(.11)
24-months		.17***	.15***		.25	.06
		(.04)	(.04)		(.45)	(.08)
36-months			.07			-.22**
			(.04)			(.07)
Parenting						
14-months				1.11***	2.14	.04
				(.15)	(1.63)	(.10)
24-months					-.89	-.15+
					(1.43)	(.09)
36-months						.87***
						(.12)
Covariates						
Program Group (Early Head Start Program Status)	.06*	.05+	.04+	-.02	-.003	-.01
	(.03)	(.03)	(.03)	(.04)	(.08)	(.04)
Male	-.08**	-.08**	-.07**	-.06	-.08	-.07*
	(.03)	(.03)	(.03)	(.04)	(.08)	(.03)
Black	-.25***	-.23***	-.22***	.21*	.24	-.05
	(.03)	(.03)	(.03)	(.09)	(.16)	(.07)
Hispanic	-.18***	-.18***	-.18***	.01	.12	-.19***
	(.03)	(.03)	(.03)	(.06)	(.19)	(.04)
High School	.17***	.16***	.17***	-.10	-.11	-.03
Diploma or GED	(.03)	(.03)	(.03)	(.06)	(.11)	(.06)
Not Married or	-.03	-.04	-.04	.10*	.17	.06
Cohabitating	(.03)	(.03)	(.03)	(.05)	(.15)	(.04)
Maternal Depression	-.12**	-.12**	-.12**	.06	.04	-.18***
	(.04)	(.04)	(.04)	(.07)	(.13)	(.05)
Income-To-Needs	.01	.01	.01	-.02	.03	-.02
	(.03)	(.03)	(.03)	(.05)	(.12)	(.04)
Inadequate Money	-.01	-.01	-.01	-.03	-.03	-.01
	(.03)	(.03)	(.03)	(.05)	(.08)	(.04)
Fit Statistics						
χ^2 (df)	1241.44***	1222.67***	1220.49***	1075.70***	1074.50***	1243.16***
	(392)	(391)	(390)	(391)	(389)	(388)
$\Delta\chi^2$ (df)		18.77***(1)	2.18*(1)	165.74***(1)	148.17***(1)	22.67 (2)
Comparison		Model 1	Model 2	Model 1	Model 2	Model 3
CFI	.88	.89	.89	.91	.91	.88
RMSEA	.042, *p*=1.00	.042, *p*=1.00	.042, *p*=1.00	.038, *p*=1.00	.038, *p*=1.00	.042, *p*=1.00

Table 13.

Regression Model for Observed Indicators of Routines at 36-months (standardized results)

Observed Variables	Social Outcomes					Cognitive Outcomes				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Bedtime Routine	.11*	.09*	.08+	.08+	.08+	.06*	.06*	.05+	.05+	.05+
Regular Bedtime		.09*	.08+	.08+	.08+		.01	-.001	-.002	-.001
Reading Routines			.12**	.08	.08			.11***	.11***	.11***
Parent-Child Play				.10+	.04				.01	.02
Parent-Child Outside Activity					.16***					-.01
Fit Statistics										
χ^2 (df)	1338.37*** (458)	1333.80*** (457)	1326.36*** (456)	1322.61*** (455)	1311.15*** (454)	1278.59*** (392)	1278.46*** (391)	1261.13*** (390)	1260.93*** (389)	1260.82*** (388)
$\Delta\chi^2$ (df)		4.57* (1)	7.44** (1)	3.75 (1)	11.46*** (1)		.13 (1)	17.33*** (1)	.2 (1)	.11 (1)
Comparison		Model 1	Model 2	Model 3	Model 4		Model 6	Model 7	Model 8	Model 9
CFI	.88	.88	.88	.88	.88	.88	.88	.88	.88	.88
RMSEA	.042, *p*=1.00	.039, *p*=1.00	.039, *p*=1.00	.039, *p*=1.00	.039, *p*=1.00	.043, *p*=1.00	.043, *p*=1.00	.043, *p*=1.00	.043, *p*=1.00	.043, *p*=1.00

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 14.

Multi-Group Model for Gender and Social Outcomes (unstandardized results)

	14-Month Models				24-Month Models				36-Month Models			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free
Girls												
Regression Parameters												
Routines	.71***	.96**	.57**	1.47*	.97**	.88*	1.06**	.89*	1.22***	.90*	1.20***	.77*
	(.216)	(.318)	(.194)	(.645)	(.309)	(.378)	(351)	(.423)	(.351)	(.363)	(.350)	(.320)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.87***	1.06***	1.43***	1.77**	1.22***	1.22***	1.34***	1.26***	1.14***	.99***	.87**	.76**
Bedtime	(.166)	(.180)	(.356)	(.572)	(.245)	(.260)	(.412)	(.390)	(.246)	(.230)	(.309)	(.248)
Reading	3.08***	2.80***	3.45***	4.42**	4.24***	4.37***	4.99***	4.64***	4.23***	4.27***	4.54***	3.80***
Routines	(.451)	(.401)	(.798)	(1.42)	(7.34)	(.803)	(1.29)	(1.24)	(.757)	(.764)	(1.13)	(8.16)
Parent-Child	4.51***	4.61***	5.67***	7.19**	7.08***	7.41***	8.01***	7.44***	7.56***	6.75***	6.61***	5.48***
Play	(.650)	(7.16)	(1.28)	(2.62)	(1.25)	(1.38)	(2.08)	(1.99)	(1.38)	(1.22)	(1.64)	(1.18)
Parent-Child	2.44***	1.64***	2.32***	2.87**	2.06***	2.15***	2.83***	2.63**	1.94***	2.56***	3.05***	2.52***
Outside Activity	(.381)	(2.85)	(.612)	(.977)	(.453)	(.494)	(.870)	(.830)	(.451)	(.529)	(.823)	(.610)
Means												
Routines -14m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -24m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -36m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Boys												
Regression Parameters												
Routines	.71***	.52*	.57**	.40*	.97**	1.22**	1.06**	1.21*	1.22***	1.51***	1.20***	1.86*
	(.216)	(.233)	(.194)	(.176)	(.309)	(.438)	(.351)	(.486)	(.351)	(.446)	(.350)	(.729)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 14 (cont.)

Multi-Group Model for Gender and Social Outcomes

Regular	.87***	1.06***	.77***	.73***	1.22	1.22***	1.17***	1.23***	1.14***	.99***	1.11***	1.36**
Bedtime	(.166)	(1.80)	(.178)	(.160)	(.735)	(.260)	(.319)	(.364)	(.246)	(.230)	(.318)	(.492)
Reading	3.08***	2.80***	2.25***	2.10***	4.24***	4.37***	3.93***	4.16***	4.23***	4.27***	4.07***	5.13**
Routines	(.451)	(.401)	(.366)	(.311)	(.735)	(.803)	(.854)	(1.07)	(.757)	(.764)	(1.03)	(1.63)
Parent-Child	4.51***	4.61***	3.77***	3.50***	7.08***	7.41***	7.22***	7.64***	7.56***	6.75***	7.63***	8.86**
Play	(.650)	(.644)	(.603)	(.510)	(1.25)	(1.38)	(1.62)	(2.01)	(1.26)	(1.22)	(1.99)	(2.84)
Parent-Child	2.44***	1.64***	1.22***	1.14***	2.06***	2.15***	1.72***	1.82**	2.10***	2.56***	1.86**	2.74**
Outside Activity	(.381)	(.285)	(.269)	(.239)	(.453)	(.494)	(.541)	(.624)	(.461)	(.529)	(.627)	(.999)
Means												
Routines -14m	-.07***	-.02*	-.03*	-.03*	-.07***	-.02*	-.03*	-.03*	-.07***	-.02*	-.03*	-.03*
	(.012)	(.009)	(.011)	(.012)	(.012)	(.009)	(.012)	(.012)	(.012)	(.009)	(.012)	(.012)
Routines -24m	-.03***	-.01+	-.01+	-.01+	-.04***	-.01+	-.01+	-.01+	-.03***	-.01+	-.01+	-.01+
	(.008)	(.006)	(.006)	(.006)	(.009)	(.006)	(.007)	(.007)	(.008)	(.006)	(.007)	(.006)
Routines -36m	-.04***	-.02*	-.01*	-.01*	-.04***	-.02*	-.01*	-.01*	-.05***	-.02*	-.02**	-.01*
	(.010)	(.006)	(.006)	(.006)	(.010)	(.006)	(.006)	(.006)	(.010)	(.006)	(.007)	(.006)
Fit Statistics												
χ^2 (*df*)	2626.81** (933)	1865.03** (916)	1836.13** (899)	1830.85** (898)	2627.74** (933)	1867.38** (916)	1833.59** (899)	1833.29** (898)	2622.21** (933)	1858.66** (916)	1827.66** (899)	1824.66** (898)
$\Delta\chi^2$ (*df*)		761.78*** (17)	790.68*** (34)	5.28* (1)		760.36*** (17)	794.15*** (23)	.3 (1)		763.55*** (17)	794.55*** (34)	3.00 (1)
Comparison		Model 1	Model 1	Model 3		Model 5	Model 5	Model 7		Model 9	Model 9	Model 11
CFI	.77	.87	.87	.87	.77	.87	.87	.87	.77	.87	.87	.87
RMSEA (CI)	.054 (.052 to .057)	.041 (.038 to .044)	.041 (.038 to .044)	.041 (.038 to .044)	054 (.052 to .057)	.041 (.038 to .044)	.041 (.038 to .044)	.041 (.038 to .044)	054 (.052 to .057)	.041 (.038 to .044)	.041 (.038 to .044)	.041 (.038 to .044)

***p < .001 **p < .01 *p < .05 +p < .10

Table 15.

Multi-Group Model for Gender and Cognitive Outcomes (unstandardized results)

	14-Month Models				24-Month Models				36-Month Models			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free
Girls												
Regression Parameters												
Routines	22.45***	25.11***	20.76***	37.45**	29.73***	31.32***	31.84**	31.85***	28.85***	22.58**	29.65***	19.27**
	(4.71)	(6.13)	(4.27)	(13.70)	(6.25)	(7.84)	(6.89)	(9.77)	(6.88)	(7.37)	(7.10)	(6.63)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.89***	1.08***	1.40***	1.78***	1.17***	1.15***	1.19***	1.19***	1.12***	.98***	.88**	.75**
Bedtime	(.167)	(.181)	(.315)	(.560)	(.231)	(.242)	(.334)	(.364)	(.243)	(.228)	(.320)	(.248)
Reading	3.04***	2.74***	3.23***	4.23***	4.10***	4.20***	4.45***	4.45***	4.22***	4.28***	4.75***	3.83***
Routines	(.445)	(.394)	(.664)	(1.33)	(.690)	(.745)	(.959)	(1.14)	(.753)	(.766)	(1.18)	(.827)
Parent-Child	4.38***	4.44***	5.25***	6.80***	6.71***	6.98***	7.06***	7.06***	7.39***	6.64***	6.83***	5.48***
Play	(.632)	(.619)	(1.05)	(2.10)	(1.14)	(1.25)	(1.53)	(1.82)	(1.34)	(1.20)	(1.69)	(1.18)
Parent-Child	2.39***	1.59***	2.15***	2.75**	1.96***	2.03***	2.48***	2.48***	1.80***	2.43***	3.09***	2.47***
Outside Activity	(.373)	(.277)	(.522)	(.922)	(.421)	(.455)	(.674)	(.764)	(.426)	(.503)	(.835)	(.603)
Means												
Routines -14m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -24m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -36m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Boys												
Regression Parameters												
Routines	22.45***	20.04***	20.76***	15.66***	29.73***	32.44***	31.84**	31.83***	28.85***	36.16***	29.65***	44.37**
	(4.71)	(5.55)	(4.27)	(4.18)	(6.25)	(8.42)	(6.89)	(9.73)	(6.88)	(9.20)	(7.10)	(15.80)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Table 15 (cont.)

Multi-Group Model for Gender and Cognitive Outcomes

Regular	.89***	1.08***	.81***	.74***	1.17***	1.15***	1.15***	1.15***	1.12***	.98***	1.09***	1.34**
Bedtime	(.167)	(.181)	(.183)	(.162)	(.231)	(.242)	(.315)	(.336)	(.243)	(.228)	(.307)	(.481)
Reading	3.04***	2.75***	2.29***	2.09***	4.10***	4.20***	4.03***	4.02***	4.22***	4.28***	4.01***	5.10***
Routines	(.445)	(.394)	(1.37)	(.312)	(.690)	(.745)	(.844)	(.998)	(.753)	(.766)	(.823)	(1.60)
Parent-Child	4.38***	4.44***	3.71***	3.40***	6.71***	6.98***	7.08***	7.08***	7.39***	6.64***	6.71***	8.52**
Play	(.632)	(.619)	(.593)	(.495)	(1.14)	(1.25)	(1.52)	(.1.78)	(1.34)	(1.20)	(1.39)	(2.69)
Parent-Child	2.39***	1.59***	1.20***	1.10***	1.71**	2.03***	1.71***	1.13***	1.80***	2.43***	1.94***	2.46**
Outside Activity	(.373)	(.277)	(.269)	(.235)	(.569)	(.455)	(.524)	(.237)	(.426)	(.503)	(.540)	(.903)
Means												
Routines -14m	-.07***	-.02*	-.03*	-.03*	-.07***	-.02*	-.03*	-.03*	-.07***	-.02*	-.03*	-.03*
	(.012)	(.009)	(.011)	(.012)	(.012)	(.009)	(.012)	(.012)	(.012)	(.009)	(.012)	(.012)
Routines -24m	-.03***	-.01+	-.01*	-.01+	-.04***	-.01+	-.01+	-.01+	-.03***	-.01+	-.01+	-.01+
	(.008)	(.006)	(.006)	(.006)	(.009)	(.006)	(.007)	(.007)	(.008)	(.006)	(.007)	(.006)
Routines -36m	-.04***	-.02*	-.01*	-.01*	-.04***	-.02*	-.01*	-.01*	-.05***	-.02*	-.02**	-.01*
	(.010)	(.006)	(.006)	(.006)	(.010)	(.006)	(.006)	(.006)	(.010)	(.006)	(.007)	(.006)
Fit Statistics												
χ^2 (*df*)	2450.94** (801)	1688.50** (784)	1658.77 (767)	1654.26** (766)	2440.28** (801)	1676.96** (784)	1643.82** (767)	1643.82** (766)	2454.63** (801)	1688.49** (784)	1657.40** (767)	1654.27** (766)
$\Delta\chi^2$ (*df*)		762.44*** (17)	792.17*** (34)	4.51* (1)		763.32*** (17)	796.46*** (34)	0 (1)		766.14*** (17)	797.23*** (34)	3.13 (1)
Comparison		Model 1	Model 1	Model 3		Model 5	Model 5	Model 7		Model 9	Model 9	Model 11
CFI	.77	.88	.88	.88	.78	.88	.88	.88	.77	.88	.88	.88
RMSEA (CI)	.058 (.055 to .060)	.043 (.040 to .046)	.043 (.041 to .046)	.043 (.041 to .046)	058 (.055 to .060)	.043 (.040 to .046)	.043 (.040 to .046)	.043 (.040 to .046)	058 (.055 to .061)	.043 (.040 to .046)	.043 (.041 to .046)	.043 (.041 to .046)

***p < .001 **p < .01 *p < .05 +p < .10

Table 16.

Multi-Group Model for Race/Ethnicity and Social Outcomes (unstandardized results)

	14-Month Models				24-Month Models				36-Month Models			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free
White												
Regression Parameters												
Routines	.68***	.65*	.55**	.68*	.95**	.76*	.72**	1.38	1.25***	.91*	1.15***	1.01*
	(.211)	(.264)	(.190)	(.299)	(.322)	(.340)	(.273)	(.899)	(.362)	(.371)	(.340)	(.479)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.93***	1.05***	1.15***	1.25***	1.29***	1.27***	2.06***	2.89*	1.17***	1.02***	1.34***	1.15**
Bedtime	(.168)	(.175)	(.227)	(.285)	(.267)	(.271)	(.647)	(1.43)	(.254)	(.233)	(.420)	(.419)
Reading	2.98***	2.76***	2.88***	3.15***	4.31***	4.34***	6.05***	8.05*	4.23***	4.18***	5.09***	4.24***
Routines	(.430)	(.390)	(.498)	(.655)	(.781)	(.803)	(1.76)	(3.94)	(.772)	(.746)	(1.30)	(1.25)
Parent-Child	4.51***	4.60***	4.57***	4.71***	7.54***	7.69***	11.67***	16.32*	7.57***	6.83***	10.28***	8.71***
Play	(.637)	(.636)	(.773)	(.972)	(1.41)	(1.46)	(3.50)	(8.14)	(1.41)	(1.24)	(2.70)	(2.65)
Parent-Child	2.29***	1.69***	1.47***	1.60***	2.36***	2.32***	3.66**	5.17^{+}	2.42***	2.77***	4.40***	3.65**
Outside Activity	(.356)	(.285)	(.315)	(.393)	(.525)	(.526)	(1.21)	(2.71)	(.524)	(.551)	(1.19)	(1.17)
Means												
Routines -14m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -24m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Routines -36m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
African American												
Regression Parameters												
Routines	.68***	.71**	.55***	.65*	.95**	.97***	.72**	.62*	1.25***	1.50***	1.15***	1.18**
	(.211)	(.261)	(.190)	(.275)	(.322)	(.410)	(.273)	(.267)	(.362)	(.467)	(.340)	(.407)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Table 16 (cont.)

Multi-Group Model for Race/Ethnicity and Social Outcomes

Regular	.93***	1.05***	.83***	.858**	1.29***	1.27***	.72***	.71***	1.17***	1.02***	.75**	.76**
Bedtime	(.168)	(.175)	(.256)	(.271)	(.267)	(.271)	(.221)	(.212)	(.254)	(.233)	(.260)	(.269)
Reading	2.98***	2.76***	2.61***	2.67***	4.31***	4.34***	3.06***	2.95***	4.23***	4.18***	4.16***	4.22***
Routines	(.430)	(.390)	(.555)	(.625)	(.781)	(.803)	(.651)	(.610)	(.772)	(.746)	(.972)	(1.08)
Parent-Child	4.51***	4.60***	4.77***	4.87***	7.54***	7.69***	4.87***	4.67***	7.57***	6.83***	4.82***	4.89***
Play	(.637)	(.636)	(1.00)	(1.12)	(1.41)	(1.46)	(1.03)	(.966)	(1.41)	(1.24)	(1.06)	(1.18)
Parent-Child	2.29***	1.69***	2.26***	2.28***	2.36***	2.32***	1.47**	1.40**	2.42***	2.77***	1.47**	1.48**
Outside Activity	(.356)	(.285)	(.566)	(.610)	(.525)	(.526)	(.477)	(.450)	(.524)	(.551)	(.478)	(.509)
Means												
Routines -14m	-.05***	-.02	-.02	-.02	-.05***	-.01	-.01	-.02	-.05***	-.01	-.01	-.02
	(.012)	(.010)	(.010)	(.011)	(.012)	(.010)	(.010)	(.011)	(.012)	(.010)	(.010)	(.011)
Routines -24m	-.04***	-.03***	-.05***	-.05***	-.04***	-.03***	-.05***	-.05***	-.04***	-.03***	-.05***	-.05***
	(.009)	(.008)	(.014)	(.015)	(.009)	(.008)	(.014)	(.015)	(.009)	(.008)	(.014)	(.015)
Routines -36m	-.04***	-.03***	-.04***	-.04***	-.05***	-.03***	-.04***	-.04***	-.05***	-.03***	-.05***	-.05***
	(.010)	(.008)	(.013)	(.013)	(.010)	(.009)	(.013)	(.013)	(.010)	(.009)	(.012)	(.013)
Hispanic												
Regression Parameters												
Routines	.68***	-.48	.55***	-.35	.95**	-.47	.72**	-.51	1.25***	.50	1.15***	.84
	(.211)	(.607)	(.190)	(.432)	(.322)	(.865)	(.273)	(.805)	(.362)	(.689)	(.340)	(1.42)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.93***	1.05***	1.15***	.85**	1.29***	1.27***	2.06***	1.05+	1.17***	1.02***	1.34***	1.82
Bedtime	(.168)	(.175)	(.227)	(.331)	(.267)	(.271)	(.647)	(.633)	(.254)	(.233)	(.420)	(1.47)
Reading	2.98***	2.76***	2.88***	1.90***	4.31***	4.34***	6.05***	4.08*	4.23***	4.18***	5.09***	7.18
Routines	(.430)	(.390)	(.498)	(.569)	(.781)	(.803)	(1.76)	(1.88)	(.772)	(.746)	(1.30)	(5.64)
Parent-Child	4.51***	4.60***	4.58***	3.84***	7.54***	7.69***	11.67***	6.80*	7.57***	6.83***	10.28***	14.69
Play	(.637)	(.636)	(.773)	(1.14)	(1.41)	(1.46)	(3.50)	(3.19)	(1.41)	(1.24)	(2.70)	(11.81)
Parent-Child	2.29***	1.69***	1.47***	.87	2.36***	2.32***	3.66**	1.90	2.42***	2.77***	4.40***	6.48
Outside Activity	(.356)	(.285)	(.315)	(.558)	(.525)	(.526)	(1.21)	(1.16)	(.524)	(.551)	(1.19)	(5.22)
Means												
Routines -14m	-.05**	-.02	-.02	-.03	-.05**	-.02	-.02	-.03	-.04**	-.02	-.02	-.03
	(.014)	(.014)	(.014)	(.020)	(.015)	(.014)	(.014)	(.020)	(.015)	(.014)	(.014)	(.020)
Routines -24m	-.01	-.002	-.003	-.01	-.01	-.002	-.004	-.01	-.01	-.002	-.004	-.01
	(.009)	(.008)	(.005)	(.011)	(.009)	(.009)	(.006)	(.011)	(.009)	(.008)	(.005)	(.011)
Routines -36m	-.03**	-.02*	-.02*	-.01	-.03**	-.02*	-.02*	-.01	-.03**	-.02*	-.02*	-.01
	(.011)	(.010)	(.009)	(.012)	(.011)	(.010)	(.009)	(.012)	(.011)	(.010)	(.008)	(.012)

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 16 (cont.)

Multi-Group Model for Race/Ethnicity and Social Outcomes

Fit Statistics												
χ^2 (*df*)	2952.25** (1362)	2326.33** (1334)	2181.83** (1318)	2156.32** (1298)	2954.65** (1362)	2329.23** (1334)	2182.98** (1318)	2158.50** (1298)	2947.04** (1362)	2319.25** (1334)	2170.97** (1318)	2148.27** (1298)
$\Delta\chi^2$ (*df*)		625.92*** (28)	770.42*** (44)	25.51 (20)		625.42*** (28)	771.67*** (44)	24.48 (20)		627.79*** (28)	776.07*** (44)	22.70 (20)
Comparison		Model 1	Model 1	Model 3		Model 5	Model 5	Model 7		Model 9	Model 9	Model 11
CFI	.75	.84	.86	.87	.75	.84	.86	.86	.75	.85	.87	.87
RMSEA (CI)	.054 (.051 to .056)	.043 (.040 to .046)	.040 (.037 to .043)	.040 (.037 to .043)	054 (.051 to .056)	.043 (.040 to .046)	.040 (.037 to .043)	.040 (.037 to .043)	054 (.051 to .056)	.043 (.040 to .046)	.040 (.037 to .043)	.040 (.037 to .043)

***p < .001 **p < .01 *p < .05 +p < .10

Table 17.

Multi-Group Model for Race/Ethnicity and Cognitive Outcomes (unstandardized results)

	14-Month Models				24-Month Models				36-Month Models			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free	All Fixed	Regress Free	Measure Free	All Free
White												
Regression Parameters												
Routines	22.33***	26.86***	20.46***	27.46***	30.91***	30.16***	IE	49.96*	27.41***	30.93***	26.13***	31.06**
	(4.57)	(6.41)	(4.60)	(7.79)	(6.65)	(8.26)		(25.28)	(6.95)	(8.94)	(6.51)	(11.77)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.94***	1.07***	1.13***	1.24***	1.22***	1.22***		2.65*	1.17***	1.01***	1.09***	1.18**
Bedtime	(.166)	(.176)	(.230)	(.287)	(.247)	(.258)		(1.23)	(.254)	(.231)	(.343)	(.417)
Reading	2.89***	2.68***	2.85***	3.79***	4.15***	4.24***		7.59*	4.26***	4.17***	3.92***	4.26***
Routines	(.411)	(.379)	(.484)	(.671)	(.725)	(.766)		(3.47)	(.777)	(.745)	(.890)	(1.23)
Parent-Child	4.33***	4.39***	4.13***	4.62***	7.04***	7.33***		14.56*	7.45***	6.65***	7.43***	8.04***
Play	(.606)	(.605)	(.696)	(.966)	(1.25)	(1.35)		(6.76)	(1.38)	(1.20)	(1.76)	(2.37)
Parent-Child	2.22***	1.58***	1.41***	1.57***	2.20***	2.23***		4.44*	2.26***	2.63***	3.09***	3.53***
Outside Activity	(.343)	(.272)	(.306)	(.392)	(.474)	(.495)		(2.20)	(.493)	(.522)	(.801)	(1.05)
Means												
Routines -14m	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)	(.000)
Routines -24m	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)	(.000)
Routines -36m	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)	(.000)
African American												
Regression Parameters												
Routines	22.33***	24.26***	20.46***	20.10***	30.91***	45.51***	IE	26.13***	27.41***	32.84***	26.13***	23.60**
	(4.57)	(6.07)	(4.60)	(6.32)	(6.65)	(9.82)		(6.53)	(6.95)	(9.44)	(6.51)	(7.81)
Factor Loadings												
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)	(.000)

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 17(cont.)

Multi-Group Model for Race/Ethnicity and Cognitive Outcomes

Regular	.94***	1.07***	.96***	.924***	1.22***	1.22***	.69***	1.17***	1.01***	.76**	.74**
Bedtime	(.166)	(.176)	(.263)	(.272)	(.247)	(.258)	(.587)	(.254)	(.231)	(.274)	(.262)
Reading	2.89***	2.68***	2.58***	2.55***	4.15***	4.24***	2.87***	4.26***	4.17***	4.20***	3.99***
Routines	(.411)	(.379)	(.551)	(.591)	(.725)	(.766)	(.587)	(.777)	(.745)	(1.02)	(.994)
Parent-Child	4.33***	4.39***	4.61***	4.56***	7.04***	7.33***	4.60***	7.45***	6.65***	5.06***	4.81***
Play	(.606)	(.605)	(.966)	(1.03)	(1.25)	(1.35)	(.941)	(1.38)	(1.20)	(1.16)	(1.14)
Parent-Child	2.22***	1.58***	2.09***	2.06***	2.20***	2.23***	1.51***	2.26***	2.63***	1.43**	1.36***
Outside Activity	(.343)	(.272)	(.544)	(.561)	(.474)	(.495)	(.459)	(.493)	(.522)	(.505)	(.485)
Means											
Routines -14m	-.05***	-.02	-.02	-.02	-.05***	-.02	-.02	-.05***	-.01	-.02	-.02
	(.012)	(.010)	(.011)	(.012)	(.012)	(.010)	(.011)	(.012)	(.010)	(.011)	(.011)
Routines -24m	-.04***	-.03***	-.05***	-.05***	-.04***	-.03***	-.05***	-.04***	-.03***	-.05***	-.05***
	(.009)	(.008)	(.015)	(.015)	(.010)	(.009)	(.015)	(.009)	(.008)	(.015)	(.015)
Routines -36m	-.05***	-.03***	-.05***	-.05***	-.05***	-.03***	-.05***	-.05***	-.03***	-.05***	-.05***
	(.010)	(.009)	(.013)	(.013)	(.010)	(.009)	(.013)	(.010)	(.009)	(.013)	(.014)
Hispanic											
Regression Parameters											
Routines	22.33***	-18.41	20.46***	-14.15	30.91***	-20.87	-27.71	27.41***	6.09	26.13***	11.75
	(4.57)	(11.63)	(4.60)	(9.41)	(6.65)	(16.44)	(19.78)	(6.95)	(12.29)	(6.51)	(25.46)
Factor Loadings											
Bedtime	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Routine	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Regular	.94***	1.07***	1.59	.85*	1.22***	1.22***	1.13	1.17***	1.01***	2.28	1.80
Bedtime	(.166)	(.176)	(.969)	(.334)	(.247)	(.258)	(.701)	(.254)	(.231)	(1.94)	(1.45)
Reading	2.89***	2.68***	3.90+	1.92***	4.15***	4.24***	4.28*	4.26***	4.17***	9.44	7.17
Routines	(.411)	(.379)	(2.25)	(.576)	(.725)	(.766)	(2.08)	(.777)	(.745)	(7.48)	(5.62)
Parent-Child	4.33***	4.39***	7.88+	3.94***	7.04***	7.33***	7.32*	7.45***	6.65***	19.46	14.68
Play	(.606)	(.605)	(4.56)	(1.18)	(1.25)	(1.35)	(3.66)	(1.38)	(1.20)	(15.70)	(11.77)
Parent-Child	2.22***	1.58***	1.69	.88	2.20***	2.23***	2.04	2.26***	2.63***	8.47	6.41
Outside Activity	(.343)	(.272)	(1.40)	(.566)	(.474)	(.495)	(1.29)	(.493)	(.522)	(6.88)	(5.15)
Means											
Routines -14m	-.05***	-.02	-.02	-.04+	-.05***	-.02	-.03	-.05***	-.02	-.03+	-.03+
	(.015)	(.014)	(.014)	(.020)	(.015)	(.014)	(.020)	(.015)	(.014)	(.020)	(.020)
Routines -24m	-.01	-.004	-.01	-.01	-.02+	-.01	-.01	-.01	-.01	-.01	-.01
	(.009)	(.008)	(.012)	(.011)	(.009)	(.009)	(.011)	(.009)	(.009)	(.011)	(.012)
Routines -36m	-.04***	-.02***	-.02	-.01	-.04***	-.02*	-.01	-.04***	-.02*	-.01	-.02
	(.011)	(.010)	(.013)	(.013)	(.011)	(.010)	(.012)	(.011)	(.010)	(.010)	(.013)

***$p < .001$ **$p < .01$ *$p < .05$ +$p < .10$

Table 17(cont.)

Multi-Group Model for Race/Ethnicity and Cognitive Outcomes

Fit Statistics												
χ^2 (*df*)	2779.93** (1168)	2111.05** (1140)	1957.61** (1106)	1944.89** (1104)	2770.48** (1168)	2102.02** (1140)		1936.56** (1104)	2790.61** (1168)	2125.34** (1140)	1959.50** (1106)	1958.99** (1104)
$\Delta\chi^2$ (*df*)		668.88*** (28)	822.32*** (62)	12.72** (2)		668.46*** (28)		833.92*** (64)		665.27*** (28)	831.11*** (62)	.51 (2)
Comparison		Model 1	Model 1	Model 3		Model 5		Model 5		Model 9	Model 9	Model 11
CFI	.74	.85	.86	.87	.75	.85		.87	.74	.84	.86	.86
RMSEA (CI)	.058 (.056 to .061)	.046 (.043 to .049)	.044 (.040 to .047)	.043 (.040 to .047)	058 (.055 to .061)	.046 (.043 to .049)		.043 (.040 to .046)	059 (.056 to .061)	.046 (.043 to .049)	.044 (.040 to .047)	.044 (.041 to .047)

$^{***}p < .001$ $^{**}p < .01$ $^{*}p < .05$ $^{+}p < .10$

Appendix C

Figures

Figure 1. Hypothesized latent growth curve models for family routines and parenting

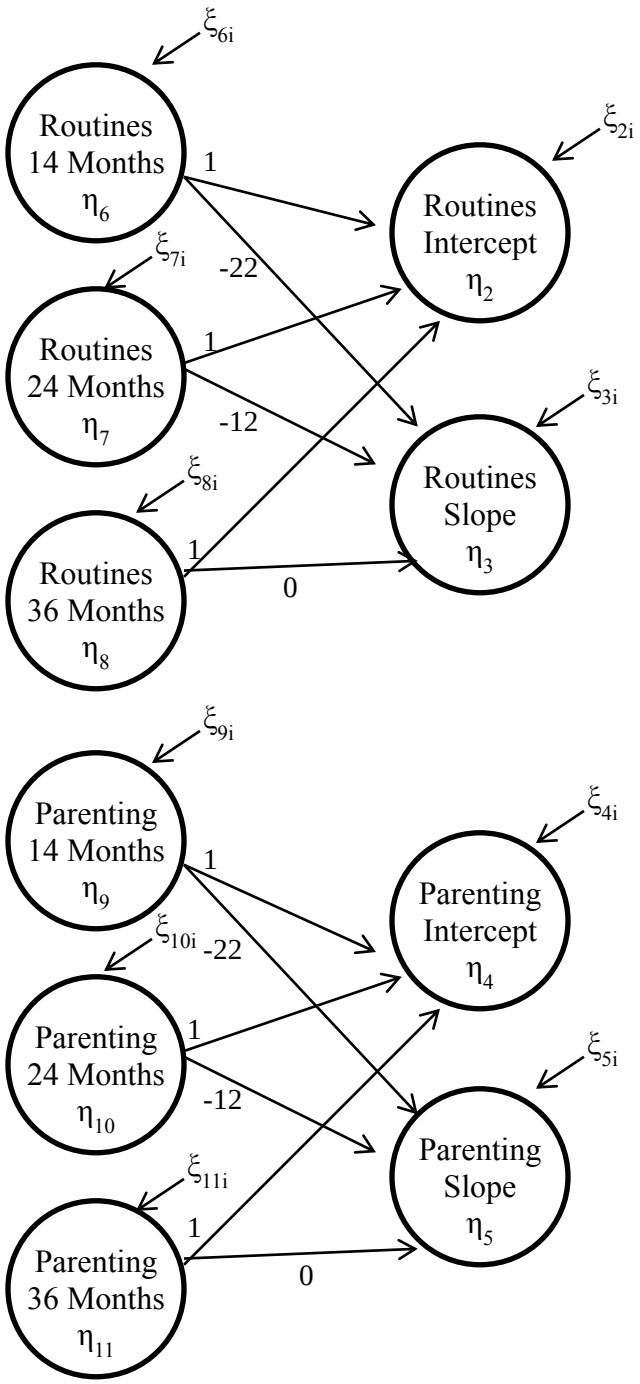

Figure 2. Hypothesized Regression Model

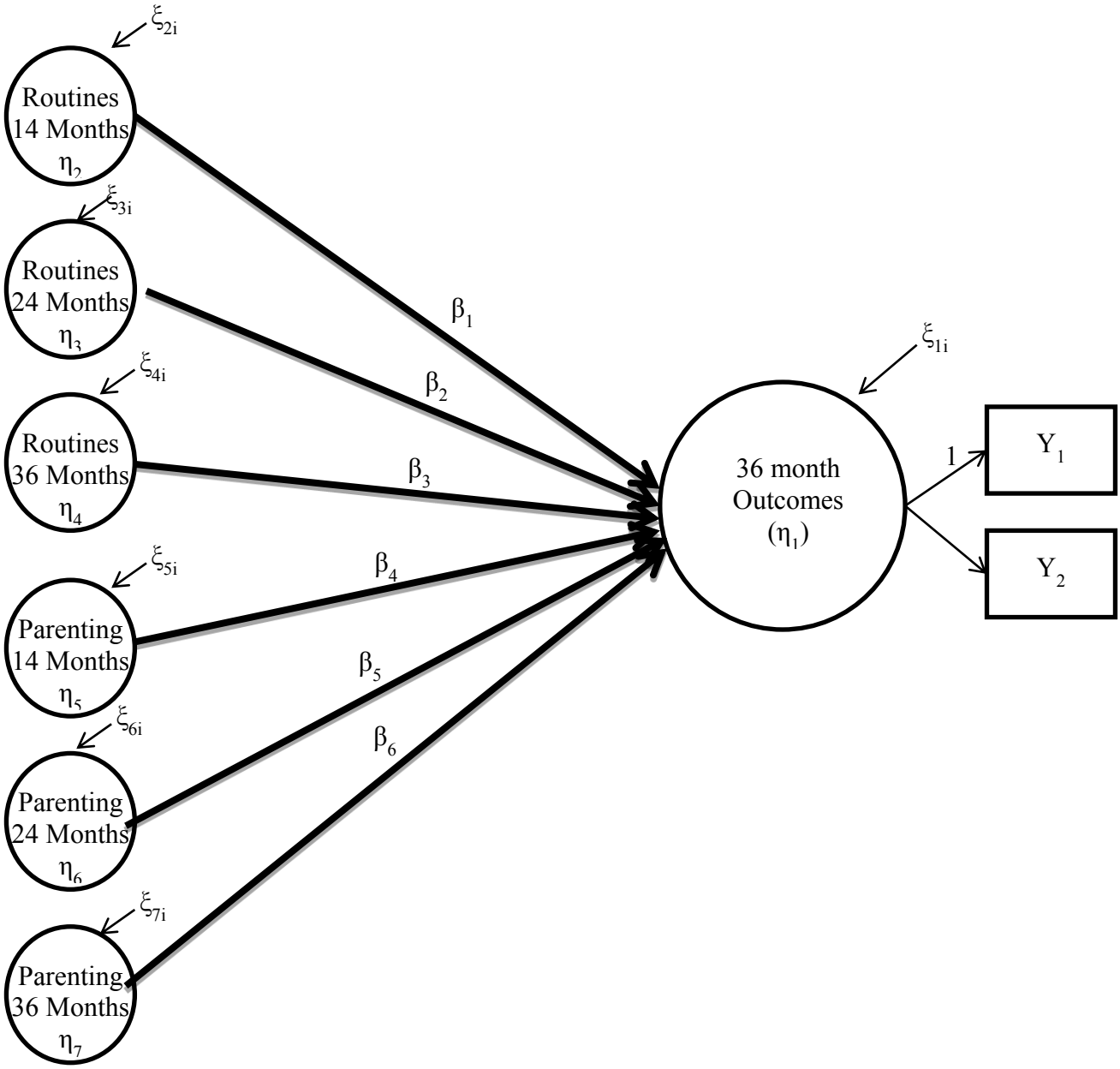

Figure 3. Fitted Path Diagram for Social Outcomes Measurement Model (standardized results with standard errors in parenthesis)

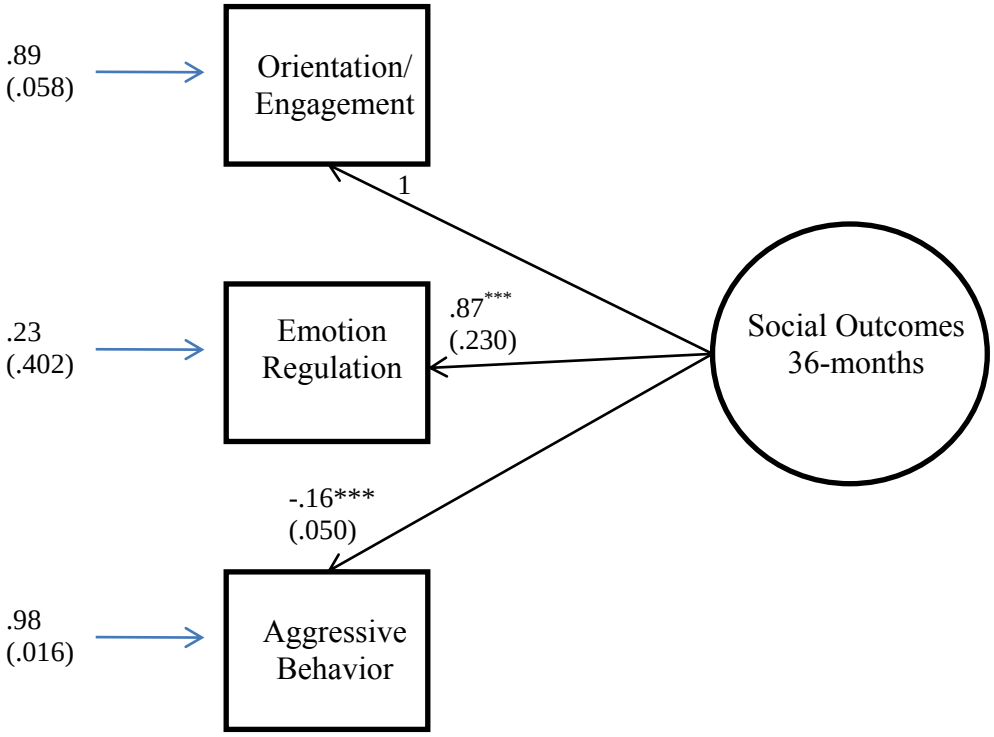

Figure 4. Fitted Path Diagram for Family Routines Measurement Model (standardized results with standard errors in parenthesis)

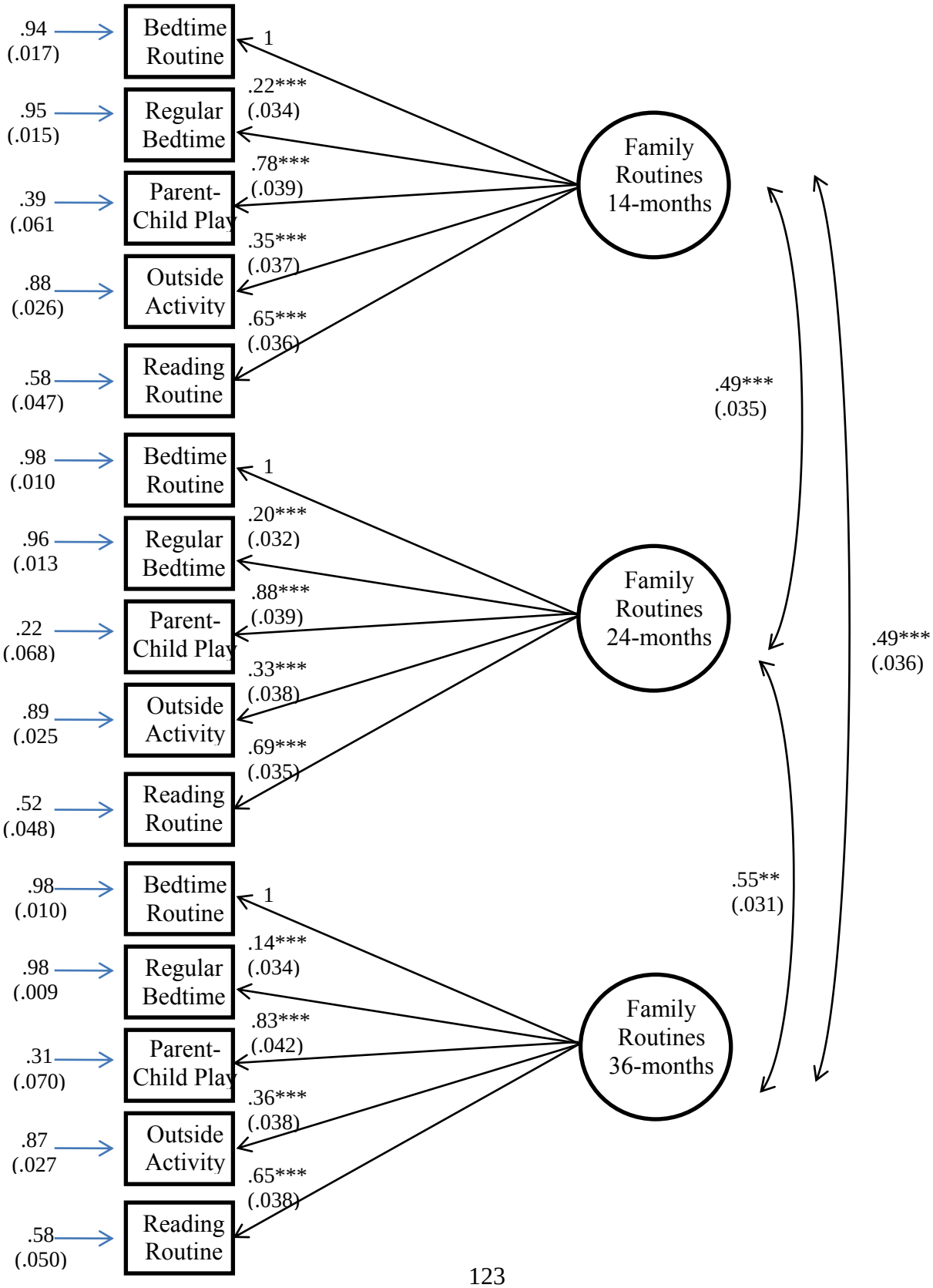

Figure 5. Fitted Path Diagram for General Parenting Measurement Model (standardized results with standard errors in parenthesis)

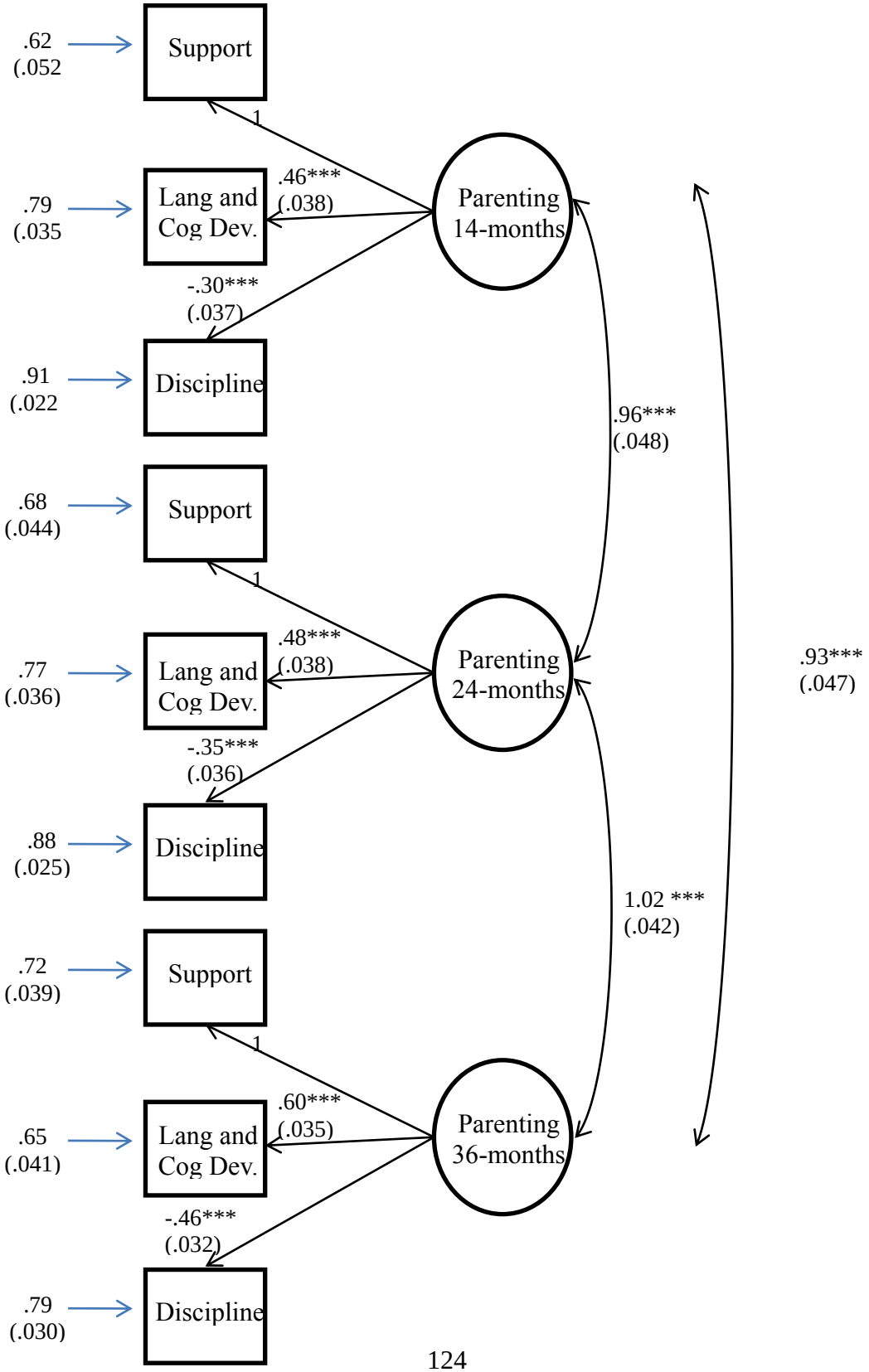

Figure 6. Multi-group model for the relationship between family routines at 14, 24, or 36 months and child social competence at 36 months by child gender (girls are represented by orange and boys by maroon; standardized results for regression free model with standard errors in parenthesis)

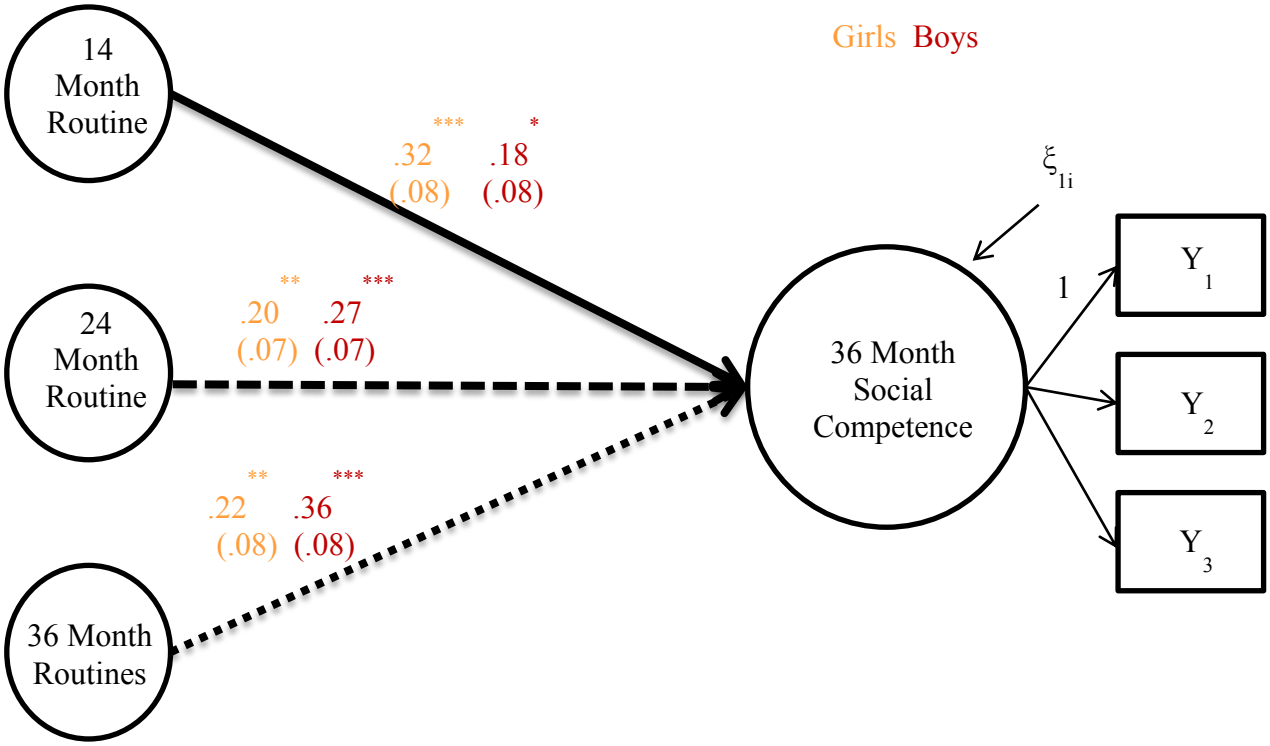

Figure 7. Multi-group model for the relationship between family routines at 14, 24, or 36 months and child cognitive ability at 36 months by child gender (girls are represented by orange and boys by maroon; standardized results for regression free model with standard errors in parenthesis)

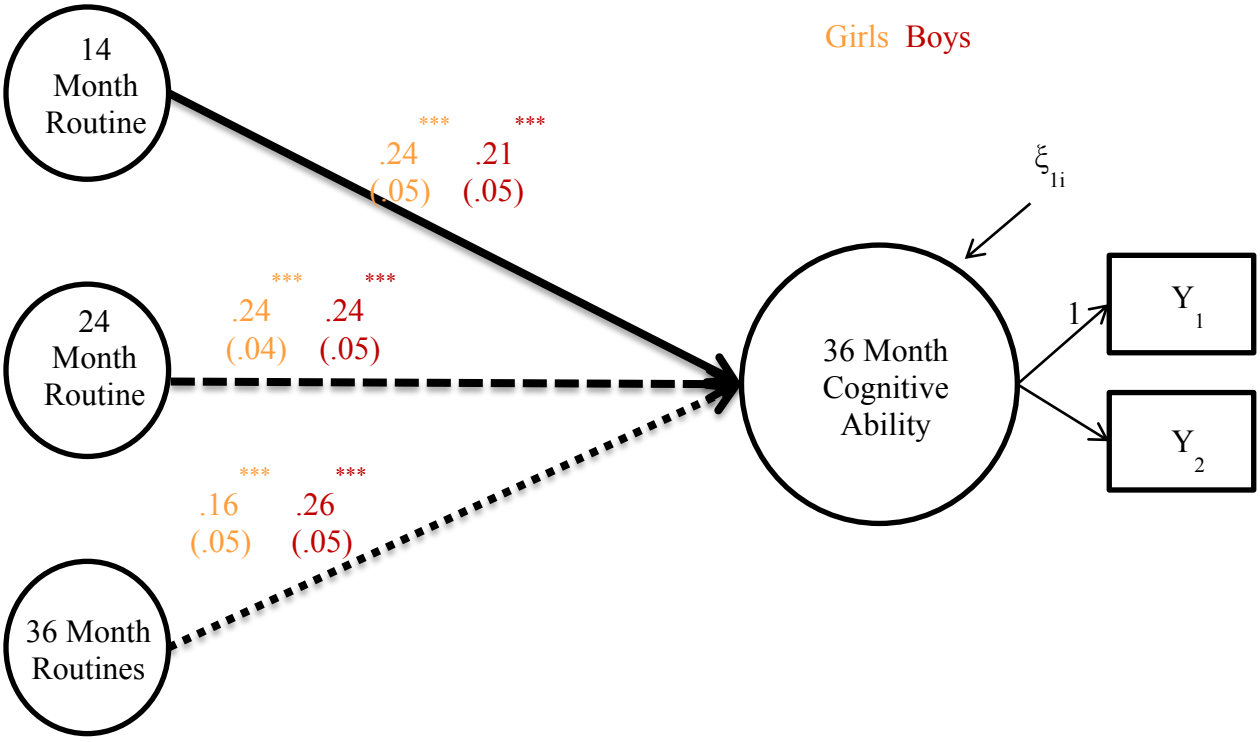

Figure 8. Multi-group model for the relationship between family routines at 14, 24, or 36 months and child social competence at 36 months by race/ethnicity (European Americans are represented by orange, African Americans by maroon, and Hispanics by brown; standardized results for regression free model with standard errors in parenthesis)

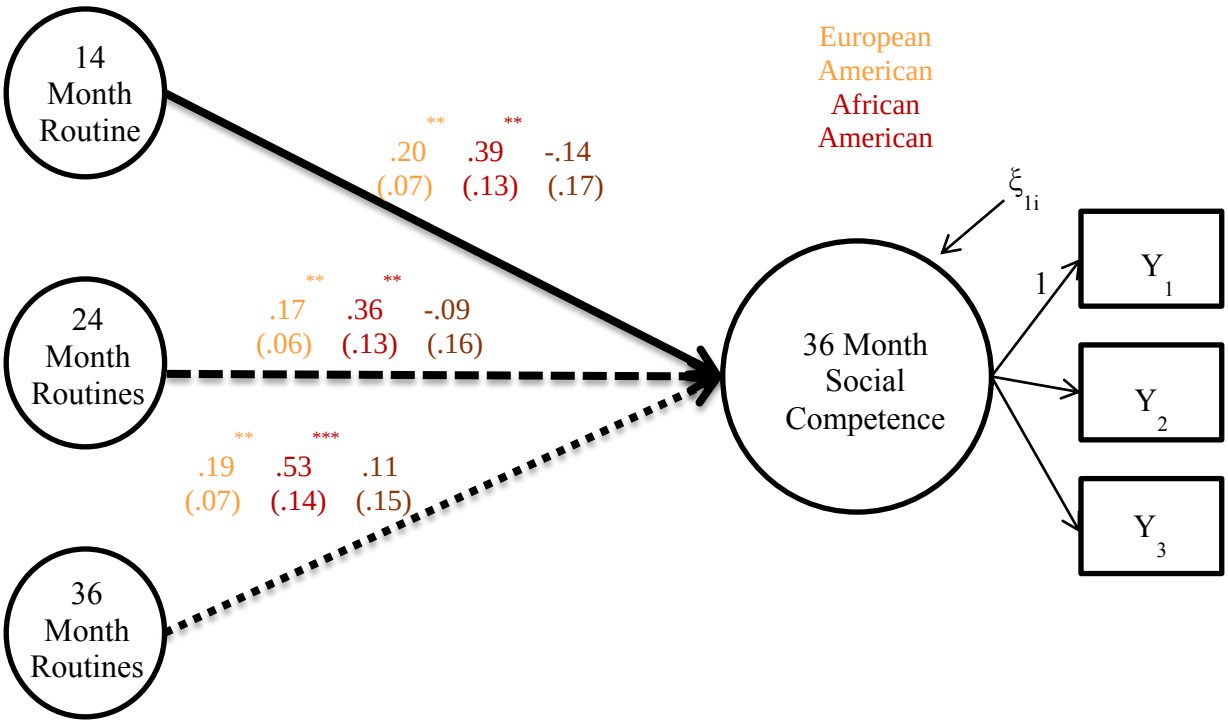

Figure 9. Multi-group model for the relationship between family routines at 14, 24, or 36 months and child cognitive ability at 36 months by race/ethnicity (European Americans are represented by orange, African Americans by maroon, and Hispanics by brown; standardized results for regression free model with standard errors in parenthsis)