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School readiness research has indicated parents play salient roles in promoting school readiness skills for their children. However contextual factors such as household risk and quality early care and education programs influence how parents engage in educational practices at home. Quality early care and education settings catering to low-income families can be a protective factor to help parents work to reduce the school readiness gap for their children. This study was designed to investigate how participating in Head Start may impact parents' engagement in educational practices. Drawing on data from the Head Start Impact Study, the current study examined a nationally representative sample of 1,751 low-income parents with Head Start eligible three-year-old children. The current study hypothesized that parents with a child enrolled in Head Start would engage in more educational practices than parents who had a child in another early care arrangement. The study also hypothesized that household risk levels (low, moderate, and high) would moderate the relationship between Head Start participation and parents' educational practices. Specifically, differences in the frequency of educational practices between household risk level homes would be present. Results indicated that participation in Head Start did have significant effect on parent educational practices and parents with a child enrolled in Head Start engaged more frequently in educational practices at home. However, findings revealed household risk did not moderate Head Start's impact on parents. Implications for future research are discussed.

HEAD START IMPACT ON PARENT EDUCATIONAL PRACTICES  
AND THE INFLUENCE OF HOUSEHOLD RISK

by

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To my family and friends for their love and support on this journey. To my mentors for their guidance as I learn more about myself and research.

APPROVAL PAGE

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	v
CHAPTER	
I. INTRODUCTION .....	1
II. THEORETICAL FRAMEWORK .....	6
III. LITERATURE REVIEW .....	11
IV. METHODS .....	28
V. RESULTS .....	37
VI. DISCUSSION .....	41
REFERENCES .....	50
APPENDIX A. DATA TABLES .....	60

## LIST OF TABLES

	Page
Table 1. Demographic of Sample (N=1751).....	60
Table 2. Alpha Levels for Study Measures.....	61
Table 3. Descriptive Statistics for Study Measures .....	61
Table 4. Correlations between Covariates, Predictor, and Spring Parent Educational Practices .....	62
Table 5. Summary of Hierarchical Regression Analyses for Spring Educational Practices .....	63

## CHAPTER I

### INTRODUCTION

School readiness broadly encompasses children's transition skills and the gaining of competencies across different developmental domains before entering a formal school setting (Britto, 2012). In research and policy, the concept of school readiness is focused on the development of children in the first few years of life, specifically aged three to six-years old, and their environments in preparation for kindergarten. In terms of preparation for school, in the current study, children who are prepared for school are defined as possessing listening, oral, and writing skills to effectively communicate and socialize with others (e.g., teachers and peers) in the classroom through means of recognizing and knowing the letters, words, and numbers; while children who begin school unprepared exhibit difficulties in expressing themselves (i.e., written or verbal) and working with others on academic and social tasks.

School readiness has been shown to be a consistent indicator of later achievement, in terms of educational, behavioral, and social outcomes (Duncan et al., 2007; Rouse, Brooks-Gunn & McLanahan, 2005; Snow, 2006). Children who enter formal schooling with the competence and skills associated with school success (e.g. ability to recognize and know letter, words, and numbers) are more likely to have better academic outcomes, complete school and attain higher levels of education, secure employment, and are more

likely to have greater life time successes than peers who enter school unprepared (Rouse et al., 2005; Child Trends, 2015). Children's school readiness has both individual and societal short and long-term implications with regard to public health and education, the workforce, and economy (Duncan et al., 2007; Snow, 2006; Britto, 2012).

With great strives politically to increase the amount of school readiness skills in all children and the number of children that are prepared for school, recent research shows that there has been a slow increase in school readiness skills and identifiable gaps between children in the United States over the past 20 years (Child Trends, 2015). Using national data from multiple studies, the proportion of children beginning school with particular school readiness skills (ability to recognize letters and count to 20 or higher) has slowly increased from about 50% to 60% of children between the ages of 3 and 6-years old (Child Trends, 2015). The slow increase over the past 25 years indicates that substantial portions of children still begin formal school unprepared.

The absence of school readiness skills and the perpetuation of school readiness gaps has been found to contribute to multiple disparities for children immediately and later in life (Rouse et al., 2005; Child Trends, 2015). When children begin school unprepared they are more likely to have difficulties in academic settings which can lead to increased negative behaviors, disengagement in school, and higher school dropout rates (Rouse et al., 2005; Lee & Burkman, 2002). Research acknowledges many disparities in school readiness and most commonly report on gaps and inequalities based on socioeconomic status and race and ethnicity (Lee & Burkman, 2002; McKown, 2013; Zill & West, 2001). There is a disparity in the United States that children in low-income

families and Black and Hispanic children who are particularly overrepresented in low-income families have more challenges starting school than their higher income counterparts and White peers. Additionally, the school readiness gap increases over time, widening between prepared and unprepared children as they matriculate through school. (Rouse et al., 2005; Baker & Iruka, 2013). However, school readiness encompasses more than just children's academic abilities, as gaps in school readiness are due to a range of factors that can influence children, as some researchers consider the family, home, community and availability of resources, crucial elements influencing school readiness (Maxwell & Clifford, 2004; Miller, Farkas, & Duncan, 2015). Young children's school readiness skills are fostered in the home with their families and in early care and education settings (Rouse et al., 2005).

Numerous studies have provided empirical evidence suggesting that how parents interact with their children can influence school readiness skills and lead to a reduction in the school readiness gap (Ansari & Gershoff, 2016; Ansari, Purtell & Gershoff, 2016; Barbarin et al., 2008; Chazen-Cohen et al., 2009; Henrich & Gadaire, 2008; Puccioni, 2015). As their children's first teachers, parents play a significant role in their school readiness outcomes. Specifically, literature on reducing the school readiness gap indicates a heavy emphasis on parent child interactions and the home learning environment as being strong predictors for and associated with school readiness skills (Chazen-Cohen et al., 2009, Baker et al., 2012). The attitudes, behaviors, and practices parents engage in have been found to influence children's school readiness levels, later adjustment, and academic achievement (Barbarin et al., 2008; Duncan et al., 2007; Puccioni, 2015). Low

income children who are at greatest risk of being impacted by the school readiness gap do have parents who engage in educational practices and interactions at home, but they encounter identifiable risk that lead to differences between families and their level of engagement in school readiness practices (Mistry, Benner, Biesanz, Clark, & Howes, 2010). Poverty and associated risk such as low maternal education, single parent households and welfare receipt have been found to be directly and indirectly associated with less school readiness skills and thus a continuation of the school readiness gap (Mistry et al., 2010).

There is evidence that indicates participation in quality early care and education can prepare low-income children to enter formal schooling and children who attend higher quality care also commonly display better school readiness skills, impacting cognitive and language development (Burchinal, Roberts, Riggins, Jr., Zeisel, Neebe, & Bryant, 2000). Findings also suggest that participation in quality early care has lifelong and societal benefits for all, such as building a better workforce and advantages in educational and health outcomes (Winter & Kelley, 2008). One example of a quality early care setting that has been found to support low-income child and parent school readiness outcomes is the Head Start early learning program (Zigler & Styfco, 2010).

Head Start is a nationally funded early childhood program that has been working to reduce the school readiness gap for low-income children since its inception in 1965 (Zigler & Styfco, 2010). Head Start has been established as a two-generation program, not only focusing on children's developmental outcomes but supporting their parents' development through providing parent education and family services (Ansari & Gershoff,

2016; Ansari, Purtell & Gershoff, 2016). The populations eligible for participation in Head Start are living in poverty and susceptible to several household risk factors that impact their school readiness outcomes (Mistry et al., 2010). Nevertheless, as an early care and education program, Head Start strives to embody a “whole child” model and help parents and children overcome various barriers by providing “wrap around” services (i.e. addressing educational, behavioral, and health outcomes), family programming and all-day child care services (Zigler & Styfco, 2010). Although Head Start may provide supports for reducing the school readiness gap in low-income families and has been deemed a quality early care setting, the findings on Head Start’s impact have been contradictory. There is also limited research examining the effects Head Start has on parenting practices. Therefore, the current study sought to understand the role Head Start may have in supporting parents’ facilitation of educational practices to help their children develop school readiness skills, while accounting for the household risk factors that families who are eligible for Head Start face.

## CHAPTER II

### THEORETICAL FRAMEWORK

#### **Bronfenbrenner's PPCT Model**

School readiness literature is informed by Bronfenbrenner's theory which acknowledges the interactions between developing people and their environments. (Bronfenbrenner, 2001). The process-person-context-time (PPCT) model derived from Bronfenbrenner's bioecological theory, reflects the dynamic interplay among family, the community, and the pervasive influence of macrosystem factors such as poverty and risk (Rosa & Tudge, 2013; Tregaskis, 2015). Using the PPCT model in this study helps to understand the relationship between different contexts (household and early care and education setting) that influence the educational practices parents engage in with their children to help their school readiness skills and overall development. The four components of the PPCT model should be simultaneously as opposed to individually addressed to understand school readiness outcomes for families. In the context of this study, parents are conceptualized as the focal "developing person".

**Process.** *Process* in the PPCT model refers to proximal processes, defined as bidirectional interactions between developing individuals and their environments (Bronfenbrenner & Morris, 2006). Proximal processes are everyday interactions that become increasingly complex as individuals consistently engage with symbols, (e.g. letters and pictures) objects, (e.g. books and toys) and other people (e.g. children and

parents) (Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 2006). The variations in proximal processes and interactions are influenced by the merging of person characteristics, the social environment, and time. The parent educational practices discussed in the current study, are proximal processes that likely impact children's school readiness skills. Example proximal processes that impact child outcomes include interactive shared book reading activities, working on arts and crafts together, and engaging in early numeracy games. However an example of a proximal processes that can influence parent engagement in educational practices is supportive interactions between parents and early care teachers or dialogue in parent education workshops. These proximal processes differ based on household and parent characteristics such as maternal education and their access to resources and can either lead to diverse levels of engagement in educational practices, thus leading to differences (positive or negative) in school readiness gains for their children.

**Person.** The *person* concept in the PPCT model pertains to individual characteristics such as race, age, temperament, identity, and determination that shape parents' experiences. The person characteristics are conceptualized into three distinctive types labeled force, resource, and demand. Force characteristics are defined as developmentally generative, so initiating proximal processes, or developmentally disruptive, which hinder proximal processes' effects on development (Bronfenbrenner & Morris, 2006; Rosa & Tudge, 2013). For example, generative characteristics include determination and responsiveness to others and the environment, while disruptive characteristics obstruct engagement in educational practices such as inattentiveness.

Resource characteristics either activate development, such as abilities, and experiences, or limit the engagement in proximal processes through means such as genetic and birth defects or illness (Bronfenbrenner & Morris, 2006). Demand characteristics influence how proximal processes are established. A parent's demand characteristics can either invite or discourage reactions from the environment and others. A parent's features (e.g. race, age, and gender) affect how they may engage in proximal processes with their children. For example, it has been found that parent age impacts engagement in school readiness educational practices. Fagan and Lee (2013) found that younger mothers engage in less educational practices than older mothers and younger fathers engage in even fewer reading practices with their children. In the context of this study, race and age were two demand characteristics that were able to be included in the analyses of the study. However, specific person characteristics acknowledging parent characteristics (e.g. parent beliefs and attitudes, previous experiences, and efforts) were not assessed in the original Head Start Impact study and are therefore beyond the scope of the current study. Nevertheless, the combination of individual characteristics parents have may shape their receptiveness to Head Start's supportive services as well as impact how they engage in educational practices with their children.

**Context.** The concept of *context* in the PPCT model addresses the proximal and distal environments in which proximal processes occur. There are multiple contextual systems (microsystems, mesosystems, exosystems, and macrosystems) that all provide context for understanding the types of proximal processes families with young children may engage in. In the current study, the most proximal setting in which parent

educational practices took place was the household (microsystem). The home provides a space for parents and children to interact on a consistent basis, and different household characteristics affect parents' ability to thoughtfully engage in educational practices.

Mesosystems are connections between two or more different contexts, such as the home and school context, that directly impact how parents engage with their children. Families are nested within mesosystems that include their household and differing early care and education programs.

Exosystems are also connections between two or more contexts but the developing person is not directly connected or in one of the context. For example, there can be indirect effects for parents from the employment system and workforce.

Unemployed parents may be stressed about the lack of employment opportunities in their community, which could cause them to be less engaged in their children and more preoccupied about finding a job. The macrosystem encompasses the political, educational, and economic systems that positively or negatively impact the functioning of all proximal processes (Rosa & Tudge, 2013). Within the macrosystem is embedded multiple relationships and context that perpetuate challenges or supports for families.

Examples of macrosystem supports relevant to parent engagement in educational practices include the culture of valuing the importance parent child interactions or government policies that provide subsidies for child care services to low-income families.

Consequently, challenges such as limited access to education and the cultural belief that school teachers are the primary teachers of children can potentially negatively impact what parents believe their role is and how they prioritize and engage in educational

practices. In the context of this study, context was used to acknowledge the level of risk within the home environment and the type of early care and education settings in which parents and their children are nested.

**Time.** The *time* concept in the PPCT model explains development over time and encompasses the impact of the historical time point in a person's life. The national and international happenings within a society and culture shape the characteristics of people as well as the type of setting in which families live (Bronfenbrenner & Morris, 2006). Bronfenbrenner and Morris (2006) described time in three levels: microtime, mesotime, and macrotime. Microtime is focused on the continuity of proximal processes, mesotime referred to the frequency of proximal processes over days and weeks and lastly macrotime included changes over time in society as well as across and within generations (Bronfenbrenner & Morris, 2006). The Head Start impact study was conducted in 2002 just a few years after the National Education Panel declared that by 2000 all children would enter school ready to learn, as well as during the No Child Left Behind Act. Both recent national campaigns for children being prepared for school could have influenced not only Head Start and the programs' efforts for getting parents engaged but also the families' interest in wanting to uphold both recent policy changes in the United States. In the context of this study, time was used to acknowledge the longitudinal study and assess how parent educational practices may have shifted over a year period. In general, using the PPCT model provides a framework for examining low-income families and exploring the interconnectedness between contextual factors (household risk and early care and education setting) that contribute to influencing parents and their educational practices.

## CHAPTER III

### LITERATURE REVIEW

#### **School Readiness**

School readiness has been defined as children's competence and capacity for learning across different developmental domains consequently determining how prepared they are to function and learn in a formal school environment (Snow, 2006). The knowledge and skills gained before entering kindergarten are foundational for later development and affect children's future educational and behavioral trajectories (Britto, 2012; Duncan et al., 2007; Rouse et al., 2005). Studies confirm the transition to kindergarten is a pivotal milestone for young children. The level of success in the transition may result in different achievement patterns and influence the course of children's school experiences, which largely impacts their overall development well into adolescence and adulthood (Duncan et al., 2007; Puccioni, 2015).

School readiness became the forefront of educational and societal concern in 1991, when the National Education Goals Panel declared that by the year 2000, all children should enter school "ready to learn" (NEGP, 1997). With academic achievement as a high indicator of later life successes (e.g. school completion and employment), early care and education programs, policy makers, and researchers, find that it is beneficial to promote certain readiness skills prior to formal school entry, particularly early math and reading skills (Duncan et al., 2007). School readiness is a

multidimensional construct and Child Trends (2015) and National Education Goals Panel (1997) define school readiness within five dimensions: (a) social and emotional development, (b) physical well-being and motor development, (c) early language development, (d) approaches to learning and (e) general knowledge.

Social and emotional development is the development of relationships and includes the ability to regulate and express emotion, as well as the ability to interact socially and form relationships. This dimension helps children participate in the classroom and create a safe and nurturing environment for students and teachers (Barbarin et al., 2008; NEGP 1997). Physical well-being and motor development includes the development physical fitness, fine and gross motor skills, as well as the ability to self-help. Language development includes nominal knowledge, such as knowing letters and numbers, but also includes children's listening, oral, and writing skills, which are needed to help them communicate their thoughts, ideas, and experiences with others (Barbarin et al., 2008; NEGP 1997). Child Trends (2015) also includes early literacy skills within this dimension. Approaches to learning refers to children's learning style and dispositions, such as their level of curiosity, persistence, and imagination. This dimension recognizes the individuality within students that shapes their development and learning (Barbarin et al., 2008; NEGP 1997). Lastly, cognition and general knowledge is the foundation for later learning and includes inferential reasoning and the acquisition of information through making predictions, drawing conclusions, and thinking "outside the box" (Barbarin et al., 2008; NEGP 1997).

With concentration on school and academic achievement as a focal outcome to improve society, most literature emphasizes the impact and need to foster school readiness skills in the early language and literacy school readiness domain (Barbarin et al., 2008; Duncan et al., 2007). Early language and literacy is the foundation for academic knowledge and success in the American school system (Snow, 2006). Schools and teachers in the United States value oral language and communication skills, an understanding of foundational number and math concepts, as well as the ability to work independently and in a group (Barbarin et al., 2008; Duncan et al., 2007). Children's academic school readiness levels indicate universal indirect effects on later academic achievement, (Connell, & Prinz, 2002; Duncan et al., 2007), thus could be why research and society prioritizes assessing and addressing outcomes related to early language and literacy. Subsequently, the scope of this study will address school readiness with a focus on the same single dimension of school readiness. It should be noted that the author does acknowledge that school readiness is a multidimensional construct and encompasses much more than academic skills and language and literacy development. But for the purposes of this study the term school readiness will be specifically addressing the skills in the language and literacy dimension.

**School Readiness Gap.** Several empirical and review studies have captured the gaps in school readiness outcomes of preschool children and have consistently found differences between populations (Britto, 2012; Brooks-Gunn & Markman, 2005; Rouse et al., 2005). Literature acknowledges many disparities in school readiness from differences in socioeconomic status, parent education, race and ethnicity, and home language (Rouse

et al., 2005; Lee & Burkman, 2002; Zill & West, 2001). The most commonly researched disparities between children's school readiness skills in the United States include race and ethnicity, as well as socioeconomic status differences (McKown, 2013). Children in low-income families are exposed to multiple risk factors that impact school readiness gains including parents with little education, single parent homes, home instability, and financial stress (Brooks-Gunn & Markman, 2005; Dotterer, Iruka, & Pungello, 2012; Duncan & Magnuson, 2005; Lee & Burkman, 2002). As the literature states for racial disparities, Black and Hispanic children are overrepresented in low-income families and are therefore more likely to experience the multiple risk factors associated with poverty than their White peers (Brooks-Gunn & Markman, 2005; Lee & Burkman, 2002; Zill & West, 2001).

School readiness not only addresses children's readiness for school but includes families' preparedness for helping children as they transition to school (Miller et al., 2015; Rouse et al., 2005). Not all families invest similarly in their children, and parent engagement with children is dependent upon many external factors that affect parents such as poverty, maternal education level, and access to resources. The structure and resources or lack thereof within a family changes the values and practices within a home setting (Barbarin et al., 2008; Duncan & Magnuson, 2005). The type and amount of engagement that parents provide for the children depends on their personal characteristics and the environment in and outside of the home (Bronfenbrenner & Morris, 2006). Family characteristics and home environments are important components that speak to why some children are more likely to start school unprepared (Bronfenbrenner, 2001).

## **Cumulative Risk Impact on School Readiness and Parent Engagement**

Children in poverty are more likely to live in lower quality homes and communities (i.e. limited access to developmental resources such as quality playground and libraries, economic pressures, and parental mental health issues) (Duncan & Brooks-Gunn, 2000). Children in low-income families are also more likely to have parents who use a limited vocabulary, talk less to their children, and who are less likely to read to them, than children in middle income families. (Brooks-Gunn & Markman, 2005). The culmination of challenges families face helps identify why it is important to acknowledge how household risk impacts engagement in educational practices. Specifically, the household risk index used within this study focused on five sociodemographic risks, including low maternal education, single and teenage motherhood, parental employment status, and welfare recipient (U.S. Department of Health and Human Services, 2010a). The household risk factors that families endure, due to systemic inequalities, can explain how risk can impede development and proximal processes within the home (Pratt, 2016).

Low income and household structure are interrelated, and single parent homes tend to have few economic and psychological resources for their children to support school readiness (Pratt, 2016). In addition, children with less educated parents are more likely to have parents who are stressed and only have limited access to better quality homes and child care arrangements (Duncan & Brooks-Gunn, 2000). Bracken and Fischel (2008) found that when parent education levels were higher, so was the parent interest in reading and parent child reading interactions. Consequently, low-income parents with high school degrees or less may not engage in the critical educational

practices that help school readiness outcomes. In relation to the age of parents, young and teenage parents showed less interest in reading and were more likely not to engage in parent child reading interactions (Bracken & Fischel, 2008). West, Denton, and Germino-Hausken (2000) found that children in households that do not receive welfare services have been found to have higher reading and print skills, compared to children who do receive welfare, therefore possibly indicating that less educational practices take place in homes that receive welfare. Even so, less engagement in educational practices is less indicative of receiving welfare and more so suggestive that families who receive welfare have less materials and time to devote to educational practices due to financial limitations.

**Household Risk as a Moderator.** Risk at various levels may intensify the influence of living in low-income families causing greater variability in school readiness skills for young children, as well as the educational practices parents engage in (Pratt, McClelland, Swanson & Lipscomb, 2016). Using a cumulative risk index and measuring child school readiness outcomes, Pratt and colleagues (2016) found that children in the low risk profile displayed stronger school readiness skills than the elevated risk profile families. Although the study focused on child outcomes, parent and child outcomes are related, it therefore could be hypothesized that the low to no risk households may engage in elevated levels of educational practices that support school readiness.

In contrary, in the HSIS final report, (2010) it was found that in comparison to the control group, children from high risk households in Head Start showed favorable cognitive outcomes and improvements in five direct assessments of academic skills. This

finding indicates treatment group (Head Start) children in the high-risk category had better academic outcomes than their control group counterparts. Therefore, this supports the claim that the parents of the children in high risk households may engage in higher levels of educational practices than families with low risk level and that Head Start may have larger effects on families who live in more disadvantaged context to begin with. This research provided evidence that there are diverse outcomes depending on the home life circumstances for families and some families benefit and develop in positive manners more so than others. However, this leads to inconsistencies in understanding risk impact in low income homes.

Overall, the combination of low parental education level, living in poverty, and limited access to resources can lead to different household risk levels, affecting parent and child abilities (Miller et al., 2015; Pratt et al., 2016). The contradictory findings in school readiness outcomes for low-income children provides undeniable evidence that household risk factors impact child and parent outcomes. This confirms the need to understand how household risk may moderate participation in Head Start and parents' educational practices.

**Acknowledging Parents' Impact.** Although there are disparities and differences between children's school readiness and parent engagement abilities, low-income, Black and Hispanic parents play a key role in reducing the school readiness gap and parenting practices have been found to moderate the relationships between risk factors and school readiness outcomes (Dotterer et al., 2012). Unfortunately, most often research focuses on what parents are not doing in homes with children that are at risk of falling behind;

however, presented in this review are a few studies that attempt to highlight strengths that families in difficult living situations do to help their children. A majority of the work reviewed includes low income samples, and Black and Hispanic families since they are most at risk for starting school unprepared.

Not all children in lower income families and elevated risk situations, begin school with low school readiness skills and many come ready to learn with the skills they need to succeed (e.g. ability to successfully communicate and participate in academic activities) (Zill & West, 2001; Lee & Burkman, 2002; Duncan & Magnuson, 2005). Therefore, research needs not only report on the disparities and risk factors that impact parent engagement (e.g., low maternal education, single and teenage motherhood), but also begin to find and report on the protective factors (e.g., engagement in parenting practices and participation in early care and education programs) that low income populations implement. Since not all children in these populations begin school behind their White and higher income counterparts, recognizing what families are doing to ensure that their children are ready to learn is essential for closing the school readiness gap.

### **The Role of Parent Engagement and the Home Learning Environment**

Parent engagement is a parenting practice where parents participate in learning at home, creating a home environment that provides stimulation and is conducive for gaining school readiness skills (Henrich & Gadaire, 2008). There are several family and home factors that can alter the trajectory for children before they begin school and start kindergarten. Specifically, quality engagement in home educational practices and

experiences (e.g., playing board games, making books) is positively associated with children's cognitive development and school readiness development (Puccioni, 2015). Studies have also found direct correlations between family engagement in activities such as telling stories, counting, and making books and children's reading and math achievement in kindergarten (Jung, 2016; Puccioni, 2015). The home learning environment is the first place where children encounter stimulation through the ability to explore with the world around them (Braken & Fischel, 2008). Positive home learning practices can impact academic skills regardless of financial, resourceful, or educational constraints (Braken & Fischel, 2008; Kingston et al., 2013).

**Parent Educational Practices.** In terms of this study, parent educational practices are cognitive and pre-academic activities and interactions between a family member and child, which have been found to positively influence the school readiness of preschool children (Ansari & Gershoff, 2016; Henrich & Gadaire, 2008). The Head Start Impact Study defined educational practices as parent engagement in particularly early literacy and language activities as well as culturally enriching activities (U.S. Department of Health and Human Services, 2010a). Examples of educational practices include reading to children, participating in interactive activities such as storytelling, playing rhyming and number games and practicing writing letters and words (Bracken & Fischel, 2008; Garden-Neblett & Iruka, 2015; Sawyer et al., 2016). Parent educational practices and the home learning environment are strong predictors and can mediate the relationship between low income and school readiness, therefore there is a need to understand the role

low income parents play within the home to reduce the school readiness gap (Chazen-Cohen et al., 2009; Baker & Iruka, 2013; Dotterer et al., 2012; Sawyer et al. 2016).

Low income African American and Hispanic parents engage in a variety of literacy promoting activities and many are focused on nominal knowledge such as letter recognition and vocabulary (Jarrett et al., 2015; Sawyer et al., 2016). Jarrett, Hamilton, and Coba-Rodriquez (2015) interviewed low income African American mothers and found that they engage in various educational practices that enhance literacy including shared reading, alphabet, and word recognition as well as some writing of letters and their names. Jarrett et al. (2015) and Sawyer et al. (2016) also found that many mothers used the help of extended family including grandparents, siblings, and aunts to help their child's literacy development, which can be a culturally relevant piece for early care programs helping children with school readiness skills and reducing the gap. Sawyer et al. (2016) conducted a study interviewing low income African American and Puerto Rican mothers and found that mothers implement a variety of educational practices, both formal (i.e. practicing writing letters) and informal (i.e., pointing out posters and words in the car). It should be noted that although most mothers read to their children, less than half the mothers in the sample reported using interactive reading strategies such as asking questions, which is known to help increase school readiness skills and literacy development in young children (Pillinger and Wood, 2014).

**Engaging in Interactive Practices.** As showed low-income parents are engaging in educational practices but how interactive parents are while engaging in educational practices is conducive to more gains in school readiness skills. Braken and Fischel (2008)

conducted a study to examine parent reading behavior and found that parent child interactions during reading was a predictor of increased early literacy skills in the children, and more so when parents engaged in interactive shared book reading. Interactive book reading is when parents ask open ended questions and encourage children to use discuss the story using book related vocabulary (Child Trends, 2007). Specifically, parent child interactive reading is significantly influential for children's vocabulary, story concepts and literacy skills (Gardener-Neblett & Iruka, 2015; Jarret et al., 2015; Puccioni, 2015; Sawyer et al., 2016). Another study with a national representation of African American mothers and children examined maternal functioning and school readiness with home learning environment as a mediator. They found that mothers who were warm and had positive interactions with their children during learning activities influenced their literacy skills, which contributes to increased school readiness skills (Baker & Iruka, 2013). In another study, Britto, Brooks-Gunn and Griffin (2006) examined maternal reading patterns in relation to their children's school readiness skills and found that low income mothers who were supportive and provided guidance during interactive book reading and story-telling time had children with higher school readiness and language scores than children whose mother did not have those maternal behaviors. Mothers were categorized as either Story-Readers or Story-Tellers. Story-Teller mothers were supportive and spoke to their child throughout the shared reading interaction leading to their children having higher scores on literacy and school readiness skills (Britto, Brooks-Gunn, & Griffin, 2006).

Many low-income parents employ protective factors in order to cope and overcome household risk factors (David, LeBlanc & Self-Brown, 2015; Jarrett et al., 2015; Kingston et al., 2013). Family protective factors (such as engagement in educational practices) may offset the negative effects of poverty for many families living in risky households, allowing the promotion of school readiness skills (David et al., 2015; Holliday et al., 2014; Kingston et al., 2013). So, although parents may face multiple household risk, this population still manages to support their children's language and literacy development (Jarrett et al., 2015). Parents are resilient but cannot prepare their children for school alone, therefore outside protective factors in conjunction with parents' efforts can make significant impact on the school readiness gaps. One protective resource that has been known to support families in disadvantaged context help promote their children's school readiness is participation in quality early care and education.

### **Quality Early Care and Education**

Low-income parents with more support and resources can further support their children's development and learning (Jarret et al., 2015; Sawyer et al., 2016). Although many families living in poverty do have limited resources for their families, parents are involved and find ways to help their children develop school readiness skills (Jarret et al., 2015, Pratt et al., 2016). Various researchers have reported that high quality early education settings can help support families and address the school readiness gap for low income and minority children (Magnuson & Waldfogel, 2005). Quality early care and education is defined as programs that have skilled and responsive teachers, small class sizes and a stimulating structured classroom where children and families have the ability

to engage in developmentally appropriate learning activities (Zill et al., 1998). Many early education and care programs focus on addressing children's cognitive, social, and physical competences on the idea that all domains contribute to a child's overall wellbeing and readiness for school (Duncan et al., 2007). Burchinal and colleagues (2000) reported that participation in high quality early education can prepare low-income children to enter formal schooling and children who attend higher quality care also commonly display better school readiness skills. Holliday and colleagues (2014) found that children who attended child care more often had higher proficiency in literacy, approaches to learning, and math outcomes. The study also found an interaction between parents' level of education and child care which resulted in better school readiness outcomes, specifically literacy achievement for children.

Positive parent behaviors such as reading, constant communication with teachers, and a home school connection could also be a strategy to support low income parents and reduce disparities in school readiness for children (Kingston et al., 2013). Families in poverty struggle with a host of issues that impact family functioning, however two-generation and multilevel early care and education programs have been found to provide collective changes and produce better outcomes for families (Newland, 2014). Mollborn and Dennis (2012) report findings that predicted teen parents are more likely to have children who are not ready for school, but suggested encouraging parental education, investment in mental health, as well as basic socioeconomic support, could improve school readiness. One example of a quality early childhood program that claims to

provide services and support families at risk while working to reduce the school readiness gap is the Head Start early learning program.

**Head Start.** Head Start is the largest publicly financed year-round early childhood education and care program in the country and provides comprehensive supports to low income and often disadvantaged children and their families (Child Trends, 2015; Lipscomb et al., 2012). Families in Head Start are largely eligible based on the income they make, with most families earning less than 130% of the federal poverty level (Gelber & Isen, 2013). Since its inception Head Start has set the goal to close or at least lessen the school readiness achievement gap between upper and lower-income children (Zigler & Styfco, 2010). Holistic programs like Head Start were created to lessen the school readiness gap by supporting their students in and out of the classroom and influencing a variety of proximal processes in the home (Miller et al., 2014). Head Start is an two-generation program that assists parents by modeling developmental and culturally appropriate practices, and alleviating stress in parents' lives by providing outside resources, such as employment and education opportunities for parents (Zigler & Styfco, 2010). A two-generation program is an approach that addresses needs and provides opportunities for children and the adults in their lives. Head Start also strives to support parents advocate for themselves and their children's education (Ansari & Gershoff, 2016; Henrich & Gadaire, 2008). Head Start engages parents in their children's learning and provides parents with services and opportunities with the belief that these factors are important in helping promote their children's school readiness (Miller et al., 2014; U.S. Department of Health and Human Services, 2010a). One way Head Start

engages families is by offering parent workshops, allowing parents to visit the classroom and volunteer on the policy councils. Head Start also creates home-school connections through home visits and parent/teacher conferences (Henrich & Gadaire, 2008).

Literature on the effects of Head Start have found that the program impacts an array of both child and parent outcomes, however the level of impact is dependent on a variety of factors (child, parent, and home characteristics) (Ansari, Purtell & Gershoff, 2016; Henrich & Gadaire, 2008) Head Start has been found to increase early math and literacy skills (Miller et al., 2015). Gelber and Isen (2013) found that parents who have children in Head Start read to their children more often and for longer periods of time than parents who do not have children enrolled in Head Start. Multiple studies indicate Head Start causes a substantial increase in parents' effortful and direct involvement with their children (Ansari et al., 2016; Henrich & Gadaire, 2008) and that there are long term effects for the participation in Head Start from improvements in children's cognition, children's school attainment and schooling future (Gelber & Isen 2013; Ludwig & Miller, 2007). Therefore, Head Start may serve as a protective factor that plays a vital role in relation to parents' engagement in educational practices and their children's school readiness.

The goal for this chapter was to acknowledge the school readiness gap and parents' roles in promoting school readiness through engagement in educational practices and the roles household risk and early care and education programs may play in helping or hindering parents. Thus, a goal of the study was to understand how different contexts, household and early care and education (Head Start), can influence parent engagement

and the home learning environment, to ultimately lead to reducing the school readiness gap for low-income children.

### **Current Study**

The current study was a random assignment design program evaluation assessing parent educational practices over the course of one year, in Fall 2002 (Time 1) and Spring 2003 (Time 2), between parents who had a child enrolled in Head Start and parents with a child in another early care arrangement, which could include parental care. The current project aimed to study the impact that participation in Head Start has on the educational practices that parents engage in that contribute to their children's school readiness. The study also examined whether the level of household risk moderates the effect of Head Start on parents' educational practices.

*Research Question 1:* When controlling for initial level of educational practices, what impact does participation in Head Start have on parent use of educational practices (at the end of the Head Start Year) in preparing their children for school?

*Hypothesis 1:* Participation in Head Start will improve the use of educational practices for parents that are enrolled in Head Start over parents with a child enrolled in a different early care program. More specifically, parents with a child enrolled in Head Start will increase the amount of positive educational practices at home.

*Research Question 2:* Does the level of household risk moderate the impact of participation in Head Start on parents' educational practices? Does the frequency of educational practices change based on the household risk level?

*Hypothesis 2:* Household risk levels will moderate the impact of parent's educational practices such that the association between Head Start participation and parent educational practices at Time 2 will vary across households categorized as low, moderate and high risk. The author does not have specific predictions about how the moderator will operate. It is possible that Head Start may have the most impact on parents/families who are the most disadvantaged, or alternatively that Head Start may have larger impacts for families who face fewer challenges.

Overall, there is minimal research that focuses on how Head Start impacts parent outcomes. Since Head Start takes a multigenerational approach in their program, it is critical to assess how participation in Head Start influences the skills they have to improve their children's school readiness outcomes and themselves. There are clear associations between the impact of early child care and household factors that influence parents' educational practices, while directly influencing their children's school readiness outcomes (Dotterer et al., 2008). Therefore, this study will also investigate the interaction of these two factors by testing how the household risk level of families changes the impact of Head Start and parents' engagement in educational practices.

## CHAPTER IV

### METHODS

#### **Data Source**

Data for this study comes from the Head Start Impact Study (HSIS), a nationally representative sample of 84 grantee/delegate agencies with a total of about 5,000, 3 and 4-year-old children, spread across 23 different states (U.S. Department of Health and Human Services, 2010a). Grantee agencies are programs that are contracted by the government to run one or more Head Start centers. The HSIS used a multi-stage sampling process to select a representative sample of Head Start programs in which the number of eligible children for Head Start was greater than the available spaces for newly enrolling children (Ansari et al., 2016; Miller et al., 2015). The second stage of sampling was identifying Head Start programs in clusters of 25, and randomly sampling three programs from each Head Start program cluster. Once the 383 centers were selected, the study used a lottery process to determine which children were and were not assigned to Head Start centers (U.S. Department of Health and Human Services, 2010a; Miller et al., 2015). The Head Start treatment group could enroll in the assigned Head Start center, while the control group was not accepted nor granted access and had to find alternative early care arrangements.

It should be noted that families in the control group could have enrolled in similar high-quality centers, family-based care, parental care, or in some cases other Head Start

centers (U.S. Department of Health and Human Services, 2010a; Miller et al., 2015). A small percentage of the control group (9%) ended up enrolling in a Head Start center outside of the Head Start Impact Study and these participants were called “cross-overs” because they received the “treatment” even though they were in the control group. In addition, a small percentage of the children assigned to a Head Start within the treatment group (5%) did not attend Head Start programs at all and they were called “no shows”.

The Head Start Impact Study began in the fall of 2002, gathering data bi-annually for a nationally representative sample of Head Start eligible three and four-year-old children through their first-grade year in Spring 2006. At each data collection time point, parent and teacher interviews and child assessments were conducted to measure children’s cognitive, social, and emotional development, their health and well-being, and their experiences at home and in early care and education environments.

### **Analysis Sample**

In the context of this study, only the 3-year-old cohort parent interviews at baseline (Time 1- Fall 2002) and one year later (Time 2- Spring 2003) were assessed. The 3-year-old cohort was chosen because it is more likely that these children would not have entered another child care center or Head Start before the beginning of the study (Lee, 2008); whereas, children in the 4-year-old cohort may have already had a year of Head Start (or other center-based program) before baseline. Also, when four and five-year-old children are exposed to childcare at an earlier age, there have been stronger effects on their school readiness development, especially for African American and low-income children (Connell, & Prinz, 2002). The 3-year-old cohort was comprised of 2,449

children, 1,464 in the Head Start group and 985 in the control group. Overall the response rates were fairly high for the parent interviews the first year of the study. At Time 1, in fall of 2002 92% of the Head Start parents completed the parent interview while 84% of the control group parents completed the interview. At time 2, in the spring of 2003, 88% of the parents in the Head Start group completed the in-home parent interview, while 80% of the control group parents completed the interview (U.S. Department of Health and Human Services, 2010a). The final analysis sample consisted of 1,751 children (1,107 in the treatment group, 644 in the control group) who had complete data on all of the analysis variables (e.g. demographic characteristics, covariates, Fall parent interview data, and Spring parent interview data). There was a loss of approximately 700 cases using listwise deletion and majority of the missing data came from lower reports on the child gender and fall educational practices variables. Other data were dropped from the analysis due to including all the mother characteristics variables as well (low maternal education, single and teenage motherhood, parental employment status, and welfare recipient).

In the original HSIS sample, the ethno-racial identification of the 3-year-old cohort was distributed relatively equally between Hispanic (37.4%), non-Hispanic Black (32.8%) and non-Hispanic White (29.8%) children (U.S. Department of Health and Human Services, 2010a). In the subsample used for this study, race and ethnicity of the children were also distributed relatively equally between Hispanic (34%), non-Hispanic Black (35%) and non-Hispanic White (28%), with a small percentage of children identified as belonging to another racial group (3%), mostly multiracial, Asian or Pacific

Islander. All the demographics for parent and child characteristics for the full sample and separately by random assignment group are shown in Table 1.

## **Measures**

The measures used in this analysis came entirely from the parent interview, which was conducted in the fall (Time 1) and spring (Time 2) of the Head Start year. The parent interview included information on family demographics, educational practices, and household risk factors. In person interviews were approximately one hour in length and were conducted primarily in the home with the parent or primary caregiver of each child in the study; a majority of the respondents were biological or adoptive mothers. Parents were asked to report about a variety of their child's characteristics such as their demographics, health rating, behaviors and developmental accomplishments and disabilities, if any. The parents also reported on parental characteristics, household and community characteristics, parent-child activities, parenting practices, and their child's experiences during preschool. Parent interviews were available in both English and Spanish versions with bilingual interviewers and interpreters available when needed (U.S. Department of Health and Human Services, 2014). The study also included direct child assessments, teacher surveys and child ratings, however I only analyzed data from the parent interviews.

**Parent Educational Practices.** In the HSIS, the principle investigators measured a variety of outcomes that they hypothesized participation in Head Start would impact for both parents and children. In the parenting practices domain of outcomes there were four categories of practices that the PIs believed would change which included (a)

Disciplinary practices, (b) Educational Supports, (c) Safety Practice and finally (a) Parenting Styles (U.S. Department of Health and Human Services, 2010a). The current study focused specifically on educational supports because these are the practices that are likely to be most relevant for influencing school readiness outcomes (Ansari, Purtell, & Gershoff, 2016). Educational practices were assessed in the HSIS through questions about early literacy/numeracy educational activities within the home. Both the Fall (Time 1) and Spring (Time 2) parent interviews contained a measure of educational practices, however they differed in number of items and response scales.

In the Fall (Time 1) parent interview questionnaire, I analyzed nine questions that provided understanding of parents' engagement in educational literacy and numeracy practices. Some sample items included "In the past week have you or someone in your family: "told (him/her) a story", "practiced writing or spelling [Child's] name" or "talked about the calendar or days of the week". The nine questions analyzed were asked as two-part questions. Parents first responded to a yes/no question about whether a family member had engaged in an educational activity and then if so, about the frequency in the past week (one or two times; three or more times). I combined information from these two questions and have a variable for each activity that ranges from 0-2 (0= Never, 1= one or two times, 2= three or more). A higher score indicates higher frequency of educational practices being implemented in the home. This scale evidenced adequate internal consistency ( $\alpha = .744$ ) within the sample.

In the spring (Time 2) parent interview, there were eleven questions about similar activities as the fall interview, although the specific wording and response scale differed.

Sample items included “work on learning the names of the letter”, “Retell or make up a story” or “Count things such as small toys or chips, to learn math”. The 11-item measure used a 6-point frequency response scale (ranging from 1 = never to 6 = everyday). A higher score indicated higher frequency of educational practices being implemented in the home. This scale evidenced strong internal consistency ( $\alpha = .873$ ) within the sample.

**Household Risk Level.** Questions addressing the household risk index were also in the parent interview under section G (“You and Your Family”) and H (“Income and Housing”). The Household Risk Index, (computed by HSIS staff) included five variables that were summed together, which could then be ranked between low, moderate, and high household risk level. The five variables were 1) if the household received food stamps or TANF in Fall 2002, 2) if neither parent was a high school graduate, 3) if neither parent is working or in school, 4) if the mother was a teen mother, 5) and if the mother was a single mother. Sample items included “What is (your/her) current marital status?” “What is the highest grade or year of school that (you/she) completed?” or “Do you or anyone in your household get...Food Stamps? Checks from TANF?”. Families were characterized according to the number of risk indicators they had; 0-2 (no/low), 3 (moderate), or 4-5 (high). The breakdown of household risk for this sample included: Low/no risk (72%), moderate (20%) and high (8%).

**Covariates.** All models controlled for the same set of child and family baseline characteristics, which included: child ethno-racial identification (Hispanic, Non-Hispanic Black, Non-Hispanic White, Other), child gender, if the children were “cross-overs” or “no shows”, maternal education status (high school graduate and beyond = 0, Below high

school graduate), maternal marital status (married =0, single (separated, divorced, widowed, never married) = 1), maternal employment (0=Employed or in school=0, Unemployed =1), household assistance status ( 0=no, 1 = yes), teenage mother status (0 = no, 1 = yes), and how many weeks occurred between the fall parent interview and spring parent interview. The Fall educational practices (Time 1) were also included in the model as a covariate. This was done to assess the sole effect of the Head Start treatment and identify if parents with a child enrolled in Head Start significantly improved in educational practices beyond parents with children in other child care and education arrangements.

### **Analysis Plan**

All descriptive statistics, bivariate correlations, and regressions were computed using SPSS version 25 and Stata. Stata software was used to apply sample weights because of the complex sampling design of the HSIS, and to accurately depict a nationally representative population of Head Start eligible three-year olds in 2002. Descriptive statistics (mean, standard deviation, and range) were computed to describe the demographics of the sample and the distribution of the study measures. A series of independent sample t-tests were conducted to examine mean differences between the treatment and control group for all the analysis variables, however none were found to be significantly different, which is expected since in an experimental design the groups should be similar. For covariates, t-tests helped test the assumptions of random assignment (i.e., the treatment and control group should be comparable on baseline characteristics). For the outcome variable (spring educational practices), the t-test

provided a preliminary evaluation of whether Head Start assignment was associated with higher educational practice scores. Bivariate correlations were computed among the covariates, the focal predictor (HS participation) and the outcome variable (spring educational practices), to note any relationships between variables.

To examine the treatment effect of Head Start participation on parent educational practices, I conducted hierarchical linear regression models with participation in Head Start as the predictor and spring educational practices as the focal outcome. To address research question 1, the regression included all family and child baseline characteristics and fall parent educational practices as covariates, so that the spring educational practices could be explained as changing over a year in Head Start. For research question 2, the household risk levels and an interaction (HS\*Risk) term was added to address interaction effect of household risk and Head Start participation on parents' educational practices.

Hierarchical linear regression models were used to statistically evaluate the additional contributions of predictors beyond previous variables. The testing of four models was used to analyze the effect of the predictor while controlling for other variables that have either been found to influence (i.e. maternal characteristics) or are correlated with (Fall educational practices) the outcome variable (Spring educational practices). Model 1 included only fall parent educational practices in relation to spring parent educational practice. Model 2 included all covariates and fall parent educational practices in relation to spring parent educational practices. In Model 3, all covariates and fall parent educational practices were included with the addition of the Head Start treatment variable. Model 4 included all previous variables with the inclusion of

indicators of household risk level and the interaction term (HS\*Risk) to test for moderation. Research Question 1 was answered by analyzing Model 1, 2, and 3, while Research Question 2 was addressed by examining the results across all four regression models to evaluate whether incorporating household risk as a moderator improves the predictive value of the model.

## CHAPTER V

### RESULTS

#### **Preliminary Analyses**

Descriptive statistics (mean, standard deviation, range) for all study variables are shown for the full sample and by treatment group and presented in Table 3.

**Fall Educational Practices.** Overall, parents of Head Start-eligible 3-year olds reported engaging in educational practices at a low to moderate level, participating in educational practices one to two times a week (mean of .94 on a scale of 0-2) at baseline (Fall 2002). To test whether there were differences between the treatment and control groups without accounting for anything, independent sample t-test were conducted. These analyses (presented in Table 3) show that there were significant differences in the fall parent educational practices between the treatment and control groups ( $t = -2.96, p < .05$ ). Head Start treatment parents started the three-year old year of early care with higher levels of engagement in educational practices ( $M=.98$ ) than control group parents ( $M=.89$ ).

**Spring Educational Practices.** After a year of having a child in an early care program (Spring 2003), parents of 3-year olds again reported engaging in educational practices at a low to moderate level, participating in educational practices one to two times a week (mean of 3.67 on a scale of 1-6). The spring parent educational practice were also statistically different between the treatment and control groups ( $t = -3.58, p \leq$

.001), providing evidence that without taking child and family characteristics into account, there were differences in parenting practices between the Head Start treatment and control groups from the beginning of the school year (Time 1), and these differences appeared to persist until the end of the school year. Average mean levels of these variables suggest some engagement in educational practice, although there was variation in parent's responses.

Correlation analyses were conducted to examine associations between all demographic variables (covariates) and spring parent educational practices, as shown in Table 4. All covariates were associated in the expected directions, except for single mom, teen mom, and receiving household assistance in relation to fall and spring educational practices. All correlations between those variables were less than .01, however they indicated that some of the household risk factors were associated with higher scores of fall and spring educational practices.

The fall and spring educational practices were significantly correlated ( $r = .463, p < .001$ ) with one another. Placement into treatment group, although small was significantly correlated with both fall educational practices ( $r = .099, p < .01$ ) and spring educational practices ( $r = .129, p < .001$ ).

### **Primary Analysis**

Study hypotheses were examined using hierarchical linear regressions using a 4-step model. To test Hypothesis 1, regression analyses were conducted to examine changes in parent educational practices over one year in Head Start by predicting spring educational practices, controlling for initial fall educational practices and baseline parent

and child characteristics. To test Hypothesis 2, regression analyses were conducted to examine if household risk levels impacted parent educational practices and moderated the effect of participation in Head Start over one year, while also controlling for initial fall educational practices and parent/child characteristics.

As shown in Table 5, to test the first hypothesis a 3-step hierarchical linear regression was conducted with spring parent educational practices as the focal outcome variable. In Model 1, fall educational practices were the sole predictor of spring parent educational practices. The fall educational practices alone were highly significant ( $B = 1.185, p < .001$ .) and accounted for 20.4% of the variance in parents' spring educational practices. In Model 2, parent/child characteristics were added to the model, and together with fall educational practices, accounted for 22.3% of the variance in parents' spring educational practices. Finally, testing the main research question, the indicator of whether families participated in Head Start was added in Model 3. The coefficient for Head Start participation was statistically significant ( $B = .216, p < .05$ ), indicating that spring educational practice scores were higher in the treatment group than in the control group; this model accounted for 23% of the variance in spring educational practices. Thus, when controlling for initial educational practices and parent/child characteristics, participation in Head Start was predictive of higher levels of parent engagement in educational practices.

To test Hypothesis 2, a fourth model was evaluated to examine the potential moderating role of household risk. In addition to the variables in Model 3, Model 4 included indicators of moderate and high household risk (the low risk category was

omitted) as well as an interaction term between Head Start treatment and household risk (HS\*RISK). When compared to the low household risk group, both parents in the moderate and high household risk groups did not differ on engagement in educational practices at home ( $B = .024, n.s.$ ;  $B = .051, n.s.$ ). The interaction of Head Start and household risk level was not significant, ( $B = -.65, n.s.$ ), therefore household risk did not moderate the relationship between participation in Head Start and parents' engagement of educational practices after one year of care. Overall household risk levels did not impact engagement in educational practices and there was no difference between level of engagement in educational practices between the three different household risk levels.

Other notable findings include differences in spring educational practices based on child race and gender. Throughout the models, there was a significant difference in the amount of practices parents engaged in based on the gender of their child. Parents that had female children engaged in more educational practices than if they had male children ( $B = -.162, p < .05$ ). Also compared to parents of Black, parents of White children engaged in more educational practices ( $B = .242, p < .01$ ).

Overall, Head Start had an impact on parents' educational practices such that parents in Head Start engaged in more practices than parents with children in other early care arrangements. Contrary to expectation, household risk levels did not moderate the influence of Head Start on parent educational practices.

## CHAPTER VI

### DISCUSSION

#### **Overview**

Using Bronfenbrenner's PPCT model as a framework, the aim of the present study was to examine the relationships between early care and education settings, household risk, and parents' engagement in educational school readiness practices. Specifically, this study assessed the impact of participating in Head Start on low-income parents, whose children are at a greater risk of beginning school unprepared, with less early math and literacy skills than their higher income counterparts. Existing literature primarily focuses on child school readiness development, while some studies acknowledge parental behaviors and influence, the emphasis is on child outcomes (Ansari & Gershoff, 2016; Miller et al., 2014). The current study aimed to contribute to the limited body of research that reports on parent outcomes, and changes that parents implement when their child is enrolled in a quality early care and education program (Ansari et al., 2016).

While research affirms the importance of parent engagement in relation to school readiness outcomes for children, it is imperative to examine factors that may influence how low-income parents engage in educational practices. To date, few studies have examined differences within low-income families and the cumulative risk factors that can impact their engagement with their preschool children (Pratt et al., 2016). It is important

to examine within group differences, because not all low-income families are the same and this gives voice to families that are often stereotyped. Thus, the current study is noteworthy for examining how distinct levels of household risk may moderate the impact of participating in a two-generation program that provides quality early care and education along with various forms of family support, particularly Head Start.

### **Baseline Findings**

When examining the demographic and descriptive results, a general snapshot of the families in the sample developed. More than half of the children in the sample had a single and unemployed mother. Almost half of the children lived in a household where their mother was not a high school graduate and/or received government assistance (Food Stamps/TANF). However, few children (8%) lived in homes with more than three of these risk factors combined. A majority of the children in the sample were Black and Hispanic, which accurately describes the ethno-racial background of children eligible for Head Start and who are at risk of entering school with fewer academic skills than their White peers (Brooks-Gunn & Markman, 2005).

An analysis of baseline data showed that, on average, parents randomly assigned to the Head Start treatment group reported higher levels of engagement in parent educational practices at the beginning of the study than parents with children in other early care arrangements. Also, surprising given the randomized design, the treatment group had higher percentages of mothers who were not high school graduates which contradicts findings that confirm less educated mothers engage in less educational practices (Holliday et al., 2014; Molborn & Dennis, 2012). Nevertheless, a possible

explanation for why treatment parents in this sample tended to have overall higher levels of educational practices in the fall is that they could have already been exposed to Head Start's model of parent involvement. For example, just orientation or a few weeks with a child enrolled in Head Start could encourage parents to engage with their child more often because of the support gained from a two-generation program that values parent child interactions (Henrich & Gadaire, 2008).

**Hypothesis 1.** Hypothesis 1 predicted that there would be a significant relationship between placement in a certain early care setting and parent educational practices. It was expected that parents who had a child enrolled in Head Start would report higher levels of engagement in educational practices over time than parents with a child in another early care arrangement. The baseline difference in educational practices between the Head Start and the control group is an important reason that fall educational practices were included as a covariate. The assumption with an experimental design is that the two groups would have a comparable starting point, which was not the case, thus the group difference at Time 2 would be attributed to the "treatment of Head Start" alone. There were notable improvements (defined as increased number and/or frequency of literacy focused activities) over time for all parents in the sample; in addition, parents in Head Start exhibited greater levels of engagement over time than their counterparts in the control group. However, if the hypothesis that Head Start may have already had an impact a few weeks in, then the estimate of the treatment effect may be conservative, meaning that the total effect of the program may be bigger, including Fall effect and Spring effect. Nevertheless, with the small significant difference in parent educational

practices, this finding confirms that Head Start is one example of a quality early childhood two-generation program that is partially meeting the goal of improving school readiness practices for low income parents, and a possible assistant in reducing the school readiness gap.

**Hypothesis 2.** Hypothesis 2 posited that varying household risk levels would influence the treatment effect and the amount of educational practices parents implemented would differ. As stated in the literature, low-income families are vulnerable to household characteristics that have been found to negatively impact the home environment and parent engagement (e.g. low maternal education, teen mother), hence the belief that a culmination of risk factors may change how responsive parents are to Head Start efforts and their own engagement. The findings show that household risk did not moderate the relationship between participation in Head Start and parent educational practices. In other words, the association between Head Start participation and parent educational practices did not vary significantly across households categorized as having low, moderate, or high risk. This finding suggests that no matter the household characteristics, the culmination of certain risk does not change the frequency in practices within low income families. Although this research question was exploratory, and no directional hypothesis was formed, this finding is surprising given that fact that studies have shown differences in school readiness outcomes for children of varying risk.

The current study finding contrasts with previous studies that have found children with a greater number of risk tend to have lower school readiness outcomes (Pratt et al., 2016). Pratt and colleagues (2016) found that children with higher levels of family risk

had poorer school readiness outcomes than children with less household risk. However previously mentioned, in the final report for the HSIS study, Puma, and colleagues (2010) found that the high-risk household children in the Head Start treatment group showed favorable cognitive development above high risk household children in the control groups. Although the current study addressed parent outcomes, research demonstrates that parent practices and child school readiness are highly correlated, (Baker & Iruka, 2013; Jung 2016) given these findings I would propose that there would have been some differences in parent level of engagement depending on their household risk levels.

Another possible reason that no differences were found between household risk levels in this sample could be due to the measuring of the five variables that cumulated the household risk index. The household risk index addressed five variables (welfare receipt, maternal age, marital status, education, and occupation) that are usually used to conceptualize socioeconomic status, but since all families in the study are of lower SES then these variables may not have acknowledged actual risk differences between these families (Dotterer et al., 2012). Another hypothesis is that much of the sample (72%) had no/low risk factors, thus proving difficult to have the power to detect differences between the household risk levels. A possible solution could have been combining moderate and high risk level households for a total of 28% of the sample.

### **Limitations and Future Research**

This study provided some information about the impact of Head Start on parent outcomes, however it was not without limitations. The primary limitations in the study were measurement related. Although data were used to explore the role of Head Start on

parenting practices, the data were based on self-report and specifically the parent interview only had a few specific items that assessed the focal variables. The larger HSIS focused on a wide range of parent and child behaviors and practices, so survey length and concerns about participant burden may have led to the limited number of items that pertained to educational practices and their narrow focus on the language and literacy domains of school readiness. The questions that were used to measure educational practices were also limited to nominal knowledge and skills-based activities (naming and listing letters, words, and numbers). Barbarin and colleagues (2008) confirmed that although these activities help school readiness skills, they do not address all practices that can assist in reducing the school readiness gap in terms of cognitive and language development. Additionally, although the alpha reliability was adequate to strong, a measure designed to specifically assess the educational practices construct with more items could increase the validity and reliability of the focal variables.

Related to the items, the study focused only on the frequency of parent practices and not the quality. Therefore, even though someone in the home may be reading or working on letter sounds with their young child, the way in which they are doing so was not captured. As stated in the literature, the quality of parent/child interactions makes an impact thus, future research should consider more in-depth interviews and in-home observations for populations that are lagging in the school readiness gap. Observations can provide data about the nuances of parents' roles and capture how parents are engaging in school readiness practices. Additionally, future research assessing the impact

of Head Start on parent outcomes would benefit from measuring a larger range of educational practices and the quality in which they were implemented.

The current study was also unable to capture the influence of personal characteristics. As posited in Bronfenbrenner's PPCT model (2006), a parent or child's force characteristics play a part in how interactions occur. There was no measure of parental warmth or confidence in abilities, as two examples of factors that have been found to change the quality of parent child interactions (Baker & Iruka, 2013; Watkins-Lewis & Hamre, 2011). The current study did not assess for child characteristics either, such as their interest or willingness to participate in educational activities. These are crucial elements that impact how and when parent may try to implement practices and should be included in future studies (Bronfenbrenner & Morris, 2006).

Unlike Head Start, many programs do not directly focus on helping parents develop their personal and parenting skills and this finding suggest that more early care arrangements could benefit from using a multigenerational approach to ensure the progress of children as well as their families. Future studies need to explore the effects of poor to average quality early care programs, which many Head Start eligible children and parents will experience if not attending Head Start or a similar program. The first suggestion is for future studies to find out what mechanisms in the Head Start two-generation approach may be causing the positive impact on parenting practices. Some suggestions for increased engagement in educational practices include the inclusion of parent training with a focus on reading and educational practices as well as incorporating intensive, individualized intervention for families (Winter & Kelley, 2008). There is also

variation across Head Start programs and future studies need to explore how certain programs offer different supports and services for the families, which can impact parent engagement.

### **Implications and Conclusion**

This study strived to highlight the vital role quality early child care and education programs, specifically Head Start, may play when supporting parents. This study found that low-income parents when enrolled and participating in a quality early care program engage in more practices that may help prepare children for some of the demands of school. Although Head Start provides an array of services, the current study provided limited information about Head Start's specific role in supporting low income parents' facilitation of school readiness practices. However, there is some indication that Head Start has impact and does support parent engagement.

This study examined group differences among low-income parents. This is important given that many studies examining low-income populations use a comparative design to test differences from middle and upper-income families. Low-income families face unique barriers and possess different familial factors, and this diversity needs to be addressed in the literature. Although this study did not support the moderating hypothesis and capture differences within low income families in terms of engagement in educational practices, it did find that when low income parents have a child enrolled in an inclusive early care setting such as Head Start, it does have a positive impact. Future studies should work to acknowledge and examine the variation in resources and

protective factors that would be more telling of differences within low income family engagement, rather than traditional risk indices alone.

The school readiness gap predicts lifelong differences between children and the process to reduce the gap must start early. Children suffering from multiple risk in low income homes who are more susceptible to falling behind are also the same children who have access, on average, to lower quality care in the home and at school. Parents are critical contributing factors and play a significant role in their children's development, however many may need guidance and support from outside sources. Overall this study provides evidence that low-income families are participating and working towards reducing the school readiness gap and that Head Start does play a role in supporting parents as they support their children.

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APPENDIX A.

DATA TABLES

**Table 1. Demographic of Sample (N=1751)**

Child and Family Characteristics	Full Sample (n=1751)	Treatment Group (n=1107)	Control Group (n=644)
Control Group Crossover	9%	n/a	19%
Treatment Group No Show	5%	10%	n/a
Ethno-Racial Identification			
Hispanic	34%	35%	32%
Non-Hispanic White	28%	28%	28%
Non-Hispanic Black	35%	35%	36%
Other	3%	2%	4%
Child is a boy	48%	48%	47%
Mother not a high school graduate	44%	55%	33%
Teenage Mother	14%	13%	16%
Mother Unemployed	64%	70%	57%
Single Mother	55%	58%	52%
Receives Household Assistance	47%	50%	44%
Household Risk Index			
No/Low Household Risk	72%	71%	73%
Moderate Household Risk	20%	20%	20%
High Household Risk	8%	9%	7%

*Note.* There were no treatment/control group differences as indicated by pairwise t-tests.

**Table 2. Alpha Levels for Study Measures**

Parent Educational Practices	Alpha Level	Number of Items
Fall	.744	9
Spring	.873	11

**Table 3. Descriptive Statistics for Study Measures**

Parent Educational Practices	M	M Treatment	M Control	t	Min	Max
Fall <sup>a</sup>	.94	.98	.89	**	0	2
Spring <sup>b</sup>	3.67	3.81	3.53	***	1	6

*Note.*  $N=1751$  \*\* $P < .01$  \*\*\* $P \leq .001$

<sup>a</sup>Range: 0 Never, 1 One or two times (a week), 2 Three or more (a week)

<sup>b</sup>Range: 1 Never, 2 Once a month or less, 3 Two or three times a month, 4 Once or twice a week, 5, Three or four times a week, 6 Everyday

**Table 4. Correlations between Covariates, Predictor, and Spring Parent Educational Practices**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Fall Practices	1																
2. Treatment Group	.099**	1															
3. Spring Practices	<b>.463**</b>	<b>.129**</b>	1														
4. Child Gender	<b>-.097**</b>	.002	<b>-.114**</b>	1													
5. Hispanic	<b>-.190**</b>	.007	<b>-.127**</b>	.047*	1												
6. NH White	.008	-.023	.077*	-.008	<b>-.440**</b>	1											
7. NH Black	<b>.164**</b>	.034	.056	-.037	<b>-.560**</b>	<b>-.387**</b>	1										
8. Other	.030	-.043	-.006	-.065	<b>-.123**</b>	<b>-.104**</b>	<b>-.132**</b>	1									
9. No/Low HH Risk	-.055**	.007	-.032	.012	<b>.101**</b>	.072**	<b>-.177**</b>	.050	1								
10. Moderate HH Risk	.024	-.015	-.002	-.022	-.075**	-.072**	<b>.146**</b>	-.026	<b>-.781**</b>	1							
11. High HH Risk	.053	.009	.054	.012	-.055*	-.013	.076**	-.042*	<b>-.490**</b>	<b>-.162**</b>	1						
12. Single Mother	.061*	.030	.049*	-.017	<b>-.186**</b>	-.080*	<b>.280**</b>	-.063*	<b>-.340**</b>	<b>.280**</b>	<b>.208**</b>	1					
13. Teenage Mother	<b>.089**</b>	-.047	.059*	.023	-.051	-.001	.056*	-.014	<b>-.380**</b>	<b>.093**</b>	<b>.471**</b>	<b>.123**</b>	1				
14. Receives Assistance	<b>.087**</b>	-.035	.060*	-.001	<b>.032**</b>	.032	<b>.163**</b>	-.072*	<b>-.523**</b>	<b>.378**</b>	<b>.308**</b>	<b>.216**</b>	<b>.084**</b>	1			
15. Mother not HS Grad	-.004	.029	.006	.012	.057	-.041**	-.018	-.010	-.068*	.070	.011	.185	.032	-.003	1		
16. Mother Unemployment	.031	-.010	-.022	.011	-.018	.029	-.008	-.043	-.005	.014	-.010	.112	-.028	-.002	.219	1	
17. Week of PI	.420*	-.064	-.091*	.009	.081	-.127	-.054	-.065	-.002	.010	-.010	.023	.010	-.008	-.043	-.007	1

Note. N=1751 \*p<.05, \*\*p<.01, **bolded \*\*p≤.001**

**Table 5. Summary of Hierarchical Regression Analyses for Spring Educational Practices**

Spring Educational Practices	Model 1			Model 2			Model 3			Model 4		
Variables	B	SE B		B	SE B		B	SE B		B	SE B	
Fall Educational Practices	1.185	.073	***	1.16	.068	***	1.14	.070	***	1.14	.069	***
Child is a Boy				-.157	.076	*	-.162	.078	*	-.162	.080	*
Hispanic				.067	.079		.057	.079		.055	.078	
NH White				.252	.079	**	.248	.078	**	.242	.075	**
Other Race				.040	.171		.074	.162		.073	.161	
Teenage Mother				.093	.084		.117	.088		.128	.101	
Single Mother				.051	.050		.045	.051		.047	.053	
Mother not a HS graduate				.002	.004		.001	.004		.002	.004	
Mother Unemployed				-.004	.008		-.005	.008		-.005	.008	
Received HH Assistance				.060	.172		.051	.052		.061	.070	
Crossover				.009	.143		.129	.199		.130	.202	
No Show				-.148	.012		-.245	.148		-.243	.148	
Week of PI				-.018	.427		-.015	.013		-.015	.013	
Head Start Treatment							.216	.461	*	.318	.160	
Moderate Household Risk										.024	.110	
High Household Risk										.051	.242	
HS*Risk										-.075	.115	
R <sup>2</sup>		.2037**			.2232**			.2303*			.2307	
R <sup>2</sup> Change					.0195			.0071			.0004	
F		262.05**			3.40**			6.26*			.14	

Note. N=1751 \*p<.05 \*\*p<.01 \*\*\*p<.001