

THE RELATIONSHIP BETWEEN PARENT INVOLVEMENT AND A CHILD'S
TRANSITION INTO KINDERGARTEN

by

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A dissertation submitted to the
Graduate School – New Brunswick
Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Doctor of Philosophy

Graduate Program in Social Work

Written under the direction of

Doctor Antoinette Farmer

And approved by

New Brunswick, New Jersey

October, 2010

ABSTRACT OF THE DISSERTATION

The Relationship between Parent Involvement and a Child's Transition into
Kindergarten

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Parent involvement is a multidimensional construct that has been shown to be a strong predictor of positive educational outcomes. While many studies have examined the relationship between parent involvement and academic achievement, research attempting to link parent involvement with social and behavioral outcomes is limited. Moreover, it is unclear which aspects of parental involvement would be most effective in preparing a child to enter school for the first time. In addition, many studies have overlooked sociodemographic characteristics when conducting empirical analyses.

The purpose of this study is to fill these gaps in the literature by examining the effects of parent involvement as a form of social capital on a child's reading skills, self-control and school adjustment at school entry while taking into account various sociodemographic factors.

This study used data from the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K, 2002). A secondary data analysis was conducted on a nationally representative sample of male and female children between the ages of 3 and 5 years old (n = 13,111, unweighted sample).

Bivariate analysis indicated that parent involvement was associated with all the outcome variables. Parent involvement was related to the child's reading, self-control, and school adjustment, although the correlation coefficients were small. Using hierarchical regression analysis, parent involvement was found to have an influence on reading; however the effect was negligible. Moreover, a hierarchical regression analysis indicated that parent involvement had an influence on self-control; however, the effect was weak. Results of a multivariate binary logistic regression analysis indicated that the model was not a good predictor of school adjustment.

The results suggest that parent involvement, as defined in this study, may not directly influence the adaptive transition to preschool for very young children. Other factors including more nuanced measures of parent-child interaction and parental expectations, as well as parenting styles, may be more robust indicators, and should be studied in the future.

DEDICATION

I dedicate this dissertation to my children, Roy, Dawn, Nina and Justin. Their patience, understanding, support, belief in my ability and most of all their love, made it a worthwhile endeavor and a possible achievement. I love you.

ACKNOWLEDGEMENTS

I wish to thank the members of my committee for their support, patience, guidance, and their dedication to the final completion of this dissertation. Their contribution and high level of commitment during the dissertation process was invaluable.

I am very grateful for my chairperson, Dr. Antoinette Y. Farmer. Her genuine kindness, tremendous patience, and encouragement make her an exceptional dissertation chairperson. From the time she began working with me, she was able to put a seemingly insurmountable task in perspective, helping me to understand the process and reach my goal. She was flexible and generous with her time spent with me. Dr. Farmer truly has a broad understanding of dissertation expectations, and was extraordinary in helping me to stay focused and to make incremental progress. She is a meticulous editor. The emotional support and assurance she provided throughout the process as well as her feedback and her careful evaluation of my dissertation has been most appreciated.

My gratitude goes to Dr. Kathleen Pottick for her interest in my research, all of her ideas and input, and the considerable time she spent in the dissertation process. Her exceptional organizational skills in her professional teaching and mentorship, as well as her ability to present material in a logical and orderly fashion gave me direction and the encouragement to begin the dissertation process. After reading and conscientiously critiquing my work, she would return it promptly. Her approach to teaching was motivating, encouraging and challenging. She constantly provided practical and insightful ideas and assisted in my efforts to keep up with current research pertaining to

my dissertation topic. Dr. Pottick provided me with a remarkable mentorship that significantly contributed to a successful completion of the process.

My sincere appreciation goes to Dr. G. Lawrence Farmer for his many hours of patience and guidance. Throughout my training, his availability was superb, and he was flexible and generous with his time spent with me. Dr. G. Lawrence Farmer was very helpful in providing statistical and content advice and assistance. He showed considerable knowledge of research and great interest in my specific area of study. He exemplifies all the positive qualities of an instructor, advisor and mentor. His ideas and insights were invaluable, and he continually challenged me to think critically. After Dr. G. Lawrence Farmer's official departure from the Rutgers University School of Social Work, he remained dedicated to seeing my training to completion. I am extremely grateful for his commitment and contribution to the dissertation process.

My gratitude goes to Dr. Helene White. She was truly dedicated to seeing me succeed. She had the ability to make an overwhelming workload seem manageable, and a way of simplifying and making things clear. I am sincerely grateful for Dr. White's interest in my research, all of her ideas and input, and the considerable time she spent in the dissertation process. Her contribution and willingness to participate as a member on my committee is very much appreciated.

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CHAPTER I: STATEMENT OF THE RESEARCH PROBLEM

Many young children today are at risk for academic failure in America's schools (Stringfield & Land, 2002). They are at risk based on their demographic characteristics including living in a single family home, low socioeconomic status, being a member of a minority group and having limited English proficiency. Moreover, they are at risk because they exhibit behaviors that interfere with attaining an education such as poor academic performance, frequent absenteeism, retention in one or more grades, severe behavior problems, and drug and alcohol use (Angiulli, Siegel & Maggi, 2004; Beasley, 2002; Hamre & Pianta, 2005; Fashola & Slavin, 1997; Meisels & Liaw, 1993; McCann & Austin, 1988; Reig, 2007; Rush, 1994). Students may be placed at risk for academic failure because they attend schools which have high poverty rates, large class sizes, and teachers with low expectations about school performance (Rossi, 1994; Stringfield & Land, 2002). They also may be at risk for academic failure because of the communities in which they reside. These communities may lack support services such as child care and recreational facilities. Moreover, these communities may be unsafe (Rossi, 1994). Characteristics of the parents such as their low level of education and their use of their native language to communicate with their child in the home may also increase their child's chances of academic failure (Beasley, 2002; Rumberger, 1998). Race/ethnicity is another factor associated with a child's failure in school, with Black and Hispanic children having lower academic achievement and higher dropout rates than Whites (Stringfield & Land, 2002). Finally, individual characteristics of the child may also interfere with his or her attaining an education. Many students exhibit externalizing behaviors such as delinquency, aggression, anti - social behaviors, and internalizing

behaviors including expressions of sadness, withdrawal, and depressed/anxious behavior (National Center for Education Statistics; NCES, 2000). These behaviors can impact educational achievement and overall well-being. In addition, many children in today's society are experiencing significant mental health problems, or childhood disorders, which inevitably will impact their overall academic achievement, social performance, and emotional well-being. For example, according to the American Psychiatric Association (2000), from 3%-7% of the school-aged population suffer from attention deficit hyperactive disorder (ADHD), and 2% -16% of school-aged children are diagnosed with oppositional defiant disorder (ODD). It is further estimated that less than 1% to more than 10% of children have conduct disorder (CD), one of the most frequently diagnosed disorders for children (American Psychiatric Association, 2000). The National Institute of Child Health and Human Development (2005) reported that an estimated 2.7 million children are noted by their parents to suffer from noticeable or severe emotional or behavioral problems that may interfere with their family life and their ability to learn and make friends. Kessler, Foster, Saunders, and Stang (1995) suggest that educational failure is positively associated with early onset of psychiatric disorders such as anxiety, mood, substance abuse and conduct disorders.

Research suggests that early educational experiences have an important impact on children's later development in school (Baker & Roth, 1997; Barnett, 2001). For children who are at risk for educational failure, these early experiences may be particularly crucial. Children who are at risk for academic failure live in socioeconomic conditions that increase the likelihood of academic failure (Angiulli et al., 2004; McCann & Austin, 1988). For example, parents' low socioeconomic status may lead to children having

fewer books, games and other resources; thus, these children may be less prepared for school due to a lack of access to resources which promote and support young children's development (Entwisle & Alexander, 1995; NCES, 2000).

A potential link between family background experiences, individual child characteristics, community characteristics and student achievement is parent involvement. It is often said that parents are the first teachers and home is the first school (Bandura, 1997). Parents can provide resources and support that influence their children's readiness for school and increase their child's chances of succeeding later in life. Increasing parent involvement in a child's education is an important goal for schools, particularly those serving students at risk for academic failure.

Concerns about the crisis in public education, that is, children at risk for failing and dropping out of school, led to the establishment of the National Educational Goals by the National Education Goals Panel (1999). This Panel was composed of eight governors, four legislators, four members of congress, and two members appointed by the former President George W. Bush, who recognize that children's early learning and development are multidimensional, complex and influenced by individual, cultural and contextual variation. The goals represented a strategic plan to increase achievement level and enhance learning opportunities for all students. The Panel assessed and reported on state and national progress toward achieving the national goals. Two major foci of this plan were school readiness and parent involvement, which were discussed in goals one and eight. Goal one targeted school readiness, stating that "all children should start school ready to learn (U.S. Department of Education, 1995, p.2)." The objectives of this goal emphasized the need for quality early childhood educational programs to promote

school readiness. The eighth goal emphasizes the importance of parental participation in student's education stating "every school will promote partnerships that will increase parent involvement and participation in promoting the social, emotional, and academic growth of children" (U.S. Department of Education, 1995, p.2).

The National Education Goals Panel identified readiness taking into account five dimensions that together enable a child to take full advantage of formal schooling. These five dimensions are: (1) health and physical development (e.g., adequate nutrition), (2) social and emotional development (e.g., self-confidence, security and ability to interact successfully with other children and with adults), (3) approaches toward learning (e.g., qualities of curiosity, creativity, motivation, independence, cooperation, interest and persistence that enable children from all cultures to get involved in and maximize their learning), (4) language and communicative skills (e.g., involvement with books), and (5) cognition and general knowledge (exposure to a wide range of activities and creative play) (National Education Goals Panel, 1998)

The National Educational Goals include six additional goals to enhance learning opportunities for all children. These goals are as follows: greater levels of high school completion (goal 2), improved student achievement and citizenship (goal 3), stronger teacher education and professional development (goal 4), enabling U.S. students to be first in the world in mathematics (goal 5), literacy and lifelong learning (goal 6), and safe, disciplined, and alcohol and drug-free schools (goal 7) (National Education Goals Panel, 1999).

To further encourage achievement of these goals, former President Bush made strengthening our schools his highest priority (U.S. Dept. of Education, 2001). His plan,

titled the *No Child Left Behind Act*, and signed into law on January 8, 2002, was based on four principles: (1) increased accountability for states and school districts to help students to achieve academic proficiency; (2) greater choice for parents and students to choose another school if their child's school is low performing or unsafe; (3) expanded parental notice, that is, producing annual state and school district report cards informing parents of state and school progress; and (4) more flexibility in the use of Federal education dollars, and stronger emphasis on reading, supporting scientifically-based reading instruction programs in the early grades (U.S. Dept. of Education, 2001). This plan to make sure that no child is left behind in a school whose academic performance has not met state proficiency requirements on the state assessment was designed to increase accountability for student performance, focus on what works, reduce bureaucracy and increase flexibility and empower parents' role in education serves the children first and foremost and not just the system (U.S. Dept. of Education, 2001).

While the deficits in academic achievement associated with family background experiences such as low socioeconomic status and being a member of a minority group have led to the establishment of the National Educational Goals and No Child Left Behind policy initiatives, earlier research on the causes of poor academic achievement for disadvantaged children focused attention to research on early childhood education and programs such as Head Start (Ross, 1972). This program is designed to provide the children of low-income families with cognitive and social enrichment during early childhood development (Ross, 1972). According to Barnett (2001), a preschool education can reduce the deficits in literacy for lower SES children.

In the literature on early childhood, little is known about the effects of parent involvement on children's development, social competence, and school readiness; only recently, did researchers begin examining how parent involvement improves a child's school readiness (Parker, Boak, Griffin, Ripple & Peay, 1999). Because a parent's socioeconomic status (SES), educational level and occupational standing have been shown to be related to parent involvement, and the absence of parent involvement can place children at risk for academic failure, the influence of parent involvement on a child's achievement and social development, and readiness needs to be examined.

According to Coleman (1990), parent involvement behaviors vary according to family background factors including race, socioeconomic status (income, education and occupation) and family structure. Since parent involvement is a multidimensional construct that relates to various student academic and behavioral outcomes and varies according to family background factors, significant questions remain as to what types of involvement are associated with positive outcomes for students from disadvantaged backgrounds.

Research attempting to link parent involvement with social and behavioral outcomes is limited. Most research available on the effects of parental involvement on educational outcomes has been conducted on high school and middle school youth (DeSimone, 1999; Dubois & Eitel, 1994; Eccles, J. & Eccles, S., 1993; Ho Sui-Chi & Williams, 1996; Keith, 1998; Trivette & Eileen, 1995). These studies have found parent involvement to be a strong positive predictor of greater academic achievement.

Given the above, it is unclear which aspects of parental involvement would be most effective in preparing a child to enter school for the first time. The main purpose of

this dissertation is to fill this gap by examining the effects of parent involvement on a child's reading, self-control and school adjustment. Along with their cognitive knowledge and skills, children's non-cognitive knowledge and skills, including their self-control (pro-social skills) as well as their school adjustment, are important for school success. Studies (e.g., Aviles, Anderson, & Davila, 2006; Brigman, Lane, Switzer & Lawrence, 1999) have suggested that prosocial skills are the foundation for social and academic adequacy, which can lead to successful functioning in society.

The term parent involvement is broadly used in the literature, and measures of parent involvement differ substantially. Some examples include parent help with homework (Balli & David, 1998; Keith, 1998), parent school involvement such as participation in Parent Teacher Organization (PTO) or volunteering in school (Feuerstein, 2000, Griffith, 1996), parent-child communication (Simmons-Morton & Crump, 2003), and cognitive stimulation (Parcel, Dufur, & Mikaela, 2001). Studies have found statistically significant effects of parent involvement on various student outcomes.

In this dissertation, parent involvement is defined as the cognitive stimulation a parent provides for his/her child prior to entering kindergarten. Previous studies defining parent involvement as cognitive stimulation use indicators describing parents' provision of stimulating materials in the home such as books and audiotapes (NCES, 2000) or parents reading books to their child (Britto & Brooks-Gunn, 2001; Roberts, Jurgens & Burchal, 2005). Reading to a child and providing stimulating materials improve language, comprehension and spelling skills (Berk, 2005), expressive and receptive communication skills (Roberts et al., 2005), and vocabulary and listening comprehension skills (Senechal & LeFevre, 2002). While the influence of parents reading to their child is

well documented, what the literature has not examined is the influence of various other types of home involvement that would expose children to a wide range of activities and play such as doing arts and crafts, teaching about nature, building things and playing sports, which may improve the child's cognitive capacity, social development, school adjustment and overall comfort with academic demands and adjustment to kindergarten.

This dissertation examines the effects of parent involvement, operationalized as the following activities in which the parent engages with their child: reading, telling stories, singing songs, doing arts and crafts, teaching about nature, building things and playing sports, on the child's school readiness. The literature discusses the importance of these child-centered activities for a child's academic, social and emotional development. For example, children's involvement in arts and crafts is positively associated with literacy development (Nord, Lennon, Liu, & Chandler, 2002). Fantuzzo and McWayne (2002) suggest that children who play at home are likely to demonstrate prosocial behavior in the classroom. Building blocks, for example, can serve as a foundation for literacy by helping children understand symbolization, refine visual discrimination, develop fine-motor coordination and practice oral language (Berk, 2005). While it is important to cultivate young minds in reading, it is also important to cultivate their sense of the natural world. Children who are exposed to nature have reduced symptoms of attention deficit/hyperactivity disorder (Kuo & Taylor, 2004). Exposure to nature also stimulates social interaction between children (Bixler, Floyd, & Hammitt, 2002). Finally, consistent with the National Goals Panel's concept of school readiness that includes a physical well-being dimension, this dissertation examines the influence of sports

activities, which research has demonstrated promotes the physical well-being of children, including the prevention of childhood obesity (Kremarik, 2000).

As previously stated, many studies have found statistically significant effects of parent involvement on various student outcomes; however, most of them have used small, nonrandom samples which are not nationally representative. Hence, those findings cannot be generalized to the general population. This dissertation contributes to the research by using a nationally representative sample of kindergartners to examine the effects of parent involvement at home on preparing children to enter kindergarten. This nationally representative sample represents the diverse student population in the United States.

There is no available guidance from the literature to know what types of parent involvement are best for students from disadvantaged backgrounds and students who are preparing to enter school for the first time. Moreover, studies examining the effects of parent involvement on student academic achievement and behavioral outcomes have not controlled for the effects of various sociodemographic or family background characteristics. This dissertation attempts to fill these gaps by examining the effects of parent involvement on educational and behavioral outcomes while controlling for various sociodemographic risk factors, as well as the impact of a child's participation in formal preschool programs. In order to implement successful interventions designed to reduce the chances of school failure for children whose risk factors may interfere with their cognitive and social development, studies need to examine multiple risk factors. This dissertation also investigates whether the impact of parent involvement at home affects children's academic achievement, social development and school adjustment across

children with various sociodemographic characteristics, including varying racial/ethnic groups.

There is a lack of parent reported measures of involvement in the research (Marcon, 1999). This dissertation uses parents' reports as well as teachers' reports of children's behavior to accommodate for different perspectives on the child's school functioning. Also, this dissertation focuses on preschool children, an understudied group. It also focuses on both academic and non-academic outcomes. Research has shown that children with behavior problems are likely to have academic difficulties and have a difficult time adjusting to school (Lane, Gresham, & O'Shaughnessy, 2002; NCES, 2000).

It is important for school social workers to be knowledgeable about what factors facilitate and inhibit parental involvement which ultimately affect the academic achievement and social development of children. School social workers can help influence the quality of a parent's participation through consultation, counseling and advocacy. They can also help facilitate collaborative relationships and communication between parents and their kindergartener's teachers before they enter school, which may be particularly important for children at risk for educational failure. To prepare children for success in school, policies must provide support for the contexts that influence child development. School social workers need to be trained in understanding policy and the impact of school social workers on the school system. They need to develop skills to influence policy formulation and change in order to help meet the needs of children at risk for educational failure, providing them with comprehensive services needed to achieve school readiness.

CHAPTER II: LITERATURE REVIEW

Factors that Influence Parent Involvement on Child Educational Outcomes

According to Coleman's (1990) social capital theory, social capital refers to the relationships parents have with their children, and the resources available to parents that are important for school success. These resources include parents' income, level of education and occupation. According to Coleman, parents with higher SES may have more resources in the home to invest in their child's education, and parents with higher level of education are more likely to provide a cognitive environment for the child that aids learning. Coleman indicated that when mothers are employed, they spend less time with their child in the learning process. He also emphasized the influence of family structure in his framework indicating that single-parent families, compared to dual parent families do not have enough time to give attention to their children. While gender and ethnicity are under-recognized in his social capital framework, (Baron, Field, & Schuller, 2000; Morrow, 1999), inequalities in social capital vary by gender and ethnicity and these factors may also play an important role in a child's achievement. According to Coleman, parent involvement behaviors vary according to these available resources. Using the form and resource characteristics of the social capital construct, social capital theory provides a framework for how parent involvement affects a child's readiness outcomes examined in this dissertation study. Specifically, this theory was used to understand the impact of parental involvement on the child's reading skills, social skills and adjustment to school. My literature review is based on social capital theory in order to advance understanding of existing knowledge and to provide justification for the use of the variables in this dissertation study.

Research has been conducted to identify the many demographic factors (i.e., socioeconomic status, race/ethnicity, family structure, child's gender, and maternal employment) that influence parent involvement and, in turn, influence student success. Coleman's (1990) research demonstrates that student achievement correlates highly with these demographic variables. Research has also been conducted identifying school characteristics (i.e., school climate and teachers' attitudes) that influence the effects of parent involvement on educational outcomes. Studies have found that higher participation was reported in schools with larger classes, larger student-teacher ratios and a positive school climate (Griffith, 1998). Also, teachers who are secure in their perceived capabilities are most likely to invite and support parents' educational efforts (Eccles, J., & Eccles, S., 1993; Snyder, 1999). According to Coleman (1990), family background is analytically separable into three different components that are interrelated: (1) a person's education and employment (human capital), which provides the potential for a cognitive environment for the child that aids learning; (2) income (financial capital), which provides the physical resources that can aid in achievement; and (3) a parent's social network support (time parents spend with others) which is associated with parents' involvement, as well as the interaction of the parent and child, which influences the child's educational development (social capital). What follows is a discussion of how family and child characteristics, as well as school factors, affect parent involvement.

Socioeconomic status

Previous studies have shown that parent involvement varies according to family background factors including race, socioeconomic status (SES) (income, education and occupation) and family structure. McNeal (1999) suggested that the race and

socioeconomic variation in findings may be attributed to the likelihood that there are different forms of social relations (social capital) between minorities and poor students compared to White average SES students, and it is likely that the same forms of social capital will be less effective for minority and poor students. Moreover, he indicated that in many circumstances, what is presumed to be positive influences of social capital persist only for members of traditionally advantaged sections of the population, namely White students, those of middle to upper socioeconomic status, and those from intact households. Studies have shown differences in involvement practices according to SES. For example, Ho Sui-Chi and Williams (1996) found no significant difference between parent participation in PTO meetings between single-parent families versus dual-parent families and suggested that lower academic achievement scores observed for children in single-parent families are associated with SES. Grolnick, Corina, Carolyn and Apostoleris (1997) examined factors influencing parent involvement on their children's schooling for 209 mothers and their children (grades 3-5) and 28 teachers. They found that parents of lower SES had less attendance at school activities and less support of education through home-based activities. Griffith (1998) also found that parents of lower SES had less participation in school activities. Hickman, Greenwood and Miller (1995) found that lower SES was related to parental involvement in supportive roles such as providing transportation for their child. On the other hand, Simon (2004) found that, regardless of SES, parents who perceived outreach from their child's school were involved by volunteering in school activities and at home working with their child on schoolwork.

Overall, researchers have found mixed results pertaining to the association between SES and parental involvement. In many of these studies, parent involvement has been conceptualized in terms of parents' participation in school-based activities (Coll et al., 2002). Differential effects of parent involvement based on SES status have implications for achievement and problem behaviors for children. The effects of SES on achievement and problem behaviors of children will be discussed further in this dissertation.

Race/ethnicity

Racial/ethnicity differences in parent involvement have been noted as early as preschool (NCES, 2000). In 1999 the NCES conducted a study and found White parents to have engaged in more literacy activities with their children than any other racial/ethnic group (NCES, 2000). More specifically, they were more likely to engage in the following activities: reading, telling stories, teaching letters, words and numbers, teaching songs, teaching arts and crafts, and visiting a library. Not surprisingly, parents who engaged in literacy activities with their children had children who were more likely than other children to show signs of emerging literacy (recognizing letters, writing their names, pretending to read storybooks, counting to 20 or higher).

Studies examining the level of parent involvement by race/ethnicity have found that Black parents have higher levels of involvement in certain areas, particularly home involvement such as discussion about the importance of education (DeSimone, 1999; Ho Sui-Chi, & Williams, 1996), and helping with homework (Jeynes, 2003) than White parents. However, Griffith (1998) found that characteristics associated with lower participation in school activities include being Hispanic, Black or Asian American. In

examining the relationship between parental involvement in school and race/ethnicity, Kohl, Liliana, and McMahon, (2000) found no significant racial/ethnic group differences.

DeSimone (1999) used data from the National Educational Longitudinal Study of 1988 (NELS: 88) to examine the relationship between 12 types of parent involvement and 8th grade mathematics and reading scores. Parent and student reported measures were as follows: (1) discussion with child about high school, (2) talk with parents about post-high school, (3) volunteering or fund raising, (4) rules about homework, GPA and chores, (5) PTO involvement, (6) PTO meeting attendance, (7) contact with school about academics, (8) the extent to which parents know the child's friends and parents of friends (parent reported), (9) rules about watching television, staying out with friends, and doing chores (10) helping with homework, (11) discussion with parents about school, and (12) talking with father about planning the high school program (student reported). According to DeSimone, prior to her study no studies had been conducted that compared the effects of multiple forms of parent involvement across several racial/ethnic and income groups. In order to address this gap, DeSimone compared the effects of multiple types of parent involvement across several racial/ethnic and income groups to examine how alternative forms of parental involvement may be differentially effective for students from diverse family backgrounds. DeSimone found that statistically significant differences existed in the relationship between parent involvement and student achievement according to the student's race/ethnicity (Asian, Black, Hispanic and White) and family income, as well as according to how achievement was measured and type of involvement. DeSimone found that discussion was significantly more predictive of gains in achievement for Black children and contact with school personnel was more predictive of achievement for

Whites. Also attendance at PTO meetings was a stronger predictor of grades for Blacks than for any other minority and low income students. DeSimone indicated that school level involvement had less of an effect on achievement than parent-child discussion, which is consistent with previous research (e.g., Muller, 1993).

Ho Sui-Chi and Williams (1996) identified four dimensions of parent involvement (home discussion, home supervision, school communication and school participation), and assessed the relationship of each dimension with parental background and academic achievement for a large representative sample of U.S. middle school students using NELS:88. The analysis used parent involvement as the dependent variables in separate regression equations. Ho Sui-Chi and Williams found that the differences between Blacks and Whites across all parent involvement factors were relatively small. Overall, parent involvement was higher for Blacks in home discussion, school communication and home supervision, while for Whites, volunteering at school and attendance at PTO meetings was greater. Ho Sui-Chi and Williams also found that Hispanics had slightly higher levels of home supervision than did Whites, but were similar to Whites with respect to all other types of involvement. Moreover, they found that school level involvement did not vary greatly across racial/ethnic groups (White, Black, Asian, and Hispanic) or family structure. The results did not support the hypothesis that parents from ethnic minority groups participate less than White parents, which has consistently been found in the literature (e.g., Coleman, 1990; Griffith, 1998; Zellman, 1998). The results also did not vary greatly across family structure.

Watkins (1997) examined the effects of several predictor variables of parent involvement and their ability to mediate the effects of the amount of teacher

communications, child achievement, parent education level and ethnicity on parent involvement. Watkins found that parent education level and ethnicity did not have a direct impact on parent involvement. However, both of these factors indirectly affected parent involvement through parent efficacy and parent performance orientation. Watkins found higher levels of home involvement among Black parents than White or Hispanic parents. He concluded that Black parents and parents with low educational attainment are partly involved because of their interest in improving their children's grades and normative performance. Black parents with greater educational attainment perceive that they are more effective than other parents in helping their children, which encourages their home involvement (Watkins, 1997).

In sum, much of the research on parent involvement has been conducted with low-income, Black or Hispanic families (Cotton & Wikelund, 1989). According to Cotton and Wikelund, several reasons may account for this: (1) both parent involvement activities and the evaluations of them have been mandated as part of government-funded programs for disadvantaged children and (2) educators sensed the potential of parent involvement programs in poor neighborhoods, set these up, and then compared outcomes with those from other schools which are demographically similar. Research on parent involvement with minority populations indicates that minority parents are underrepresented among the ranks of parents involved in schools. There are various reasons for the lack of participation. As previously mentioned, demographic factors such as low SES that cause a parent to have less time, training, or access to resources such as child care and transportation necessary for becoming more involved, are only a part of the problem that creates barriers to parent involvement. Because a disproportionate

number of minorities live in poverty, minorities are often assumed to have lower SES and thus at an educational disadvantage when compared with other families. Some parents, who may have low levels of attendance at school, may be perceived as uninterested in their child's education if they do not attend a school function, when in fact they may be single mothers, for example, with the responsibility of a job/career as well as child care responsibilities. They may also spend more time working with their child with school related activities at home than at school. These parents may feel the lack of welcome from teachers and/or administrators. Also, as previously mentioned, some cultures, as well as many low-income parents in general, see schools as institutionalized authority and, therefore, leave it to the teachers to educate their children.

There is a paucity of studies recognizing class and race variation in how parent involvement in the home affects academic outcomes, and many studies continue to overlook these important dimensions when conducting empirical analysis. Because parent involvement encompasses many behaviors, it is important to examine the relationship between the many components of parent involvement and the racial/ethnic heritage of the family in order to facilitate the development of culturally sensitive interventions as well as decrease the barriers to effective parental involvement.

Family structure

Of all the conditions outside of school thought to place children at risk, single parent homes are perhaps most frequently cited, although the research findings are mixed. For example, Kohl et al., (2000) examined the relationship between six parent involvement factors and single parent family status. Measures were obtained from a normative sample of 387 children in kindergarten and first grade from high-risk

neighborhoods in four different sites. Information regarding family status was collected in home interviews in the summer prior to the child entering the first grade. Kohl and colleagues conducted a path analysis using structural equation modeling to examine the above-mentioned relationships, and found that single compared to married parents reported similar levels of involvement with their children at home. Similar findings were obtained by Ho Sui-Chi and Williams (1996). Their study examined the differences between married and single parents and their involvement in PTO and found that single parents were as equally involved as married parents.

In a National Household Education Survey (NHES, 96) sponsored by the U. S. Department of Education (U. S. Department of Education, 1996), the involvement of fathers in two-parent and father-only families was examined and contrasted with that of mothers in two-parent and in mother-only families. The NHES asked about four types of school activities that parents could participate in during the school year: attending a general school meeting, attending a regularly scheduled parent-teacher conference, attending a school or class event, and serving as a volunteer at the school. Parents were considered to have low involvement in their children's school if they participated in none or only one of the four activities during the current school year. They were categorized as having moderate involvement if they participated in two of the available activities, and those who participated in three or four of the activities are considered to be highly involved in their children's schools. Results were as follows: in two-parent families, children were twice as likely to have mothers who were highly involved than to have fathers who were highly involved in their schools; children living with single fathers or with single mothers were about equally likely to have parents who were highly involved

in their schools (46 percent and 49 percent, respectively); in two parent families, there were two activities for which father's involvement was similar to that of mothers: attendance at school or class events (such as a play, science fair or sports event), and attendance at general school meeting. The finding that mothers in two parent families are more likely to be involved was also found by Grolnick et al. (1997).

Balli and David (1998) evaluated a middle-school mathematics homework intervention designed to increase parent involvement in homework. In contrast to previous research, there were no significant differences in student achievement or reported levels of parent involvement based on family size (families with students having no siblings, one sibling or two or more siblings); however, results indicated that two-parent families reported significantly more involvement with mathematics homework than did single-parent families.

Overall, most of the research in this area has indicated that single parents are not less involved with their children at home or at school than married parents. However, in two-parent families mothers are more likely to be involved than fathers. Just because children may have two parents in the home does not necessarily lead to greater parent involvement. Single mothers and single fathers are involved in their children's education, even though they do not have help from a second parent with other obligations.

Parental employment/working mothers

The employment rate for mothers of young children has increased dramatically over the past 25 years (Hill, Waldfogel, Brooks-Gunn, & Wen-Jui Han, 2005). Early and recent research indicates mothers' employment status, particularly part-time employment,

has a positive effect on families and children (Muller, 1995; Smith, 2004). For example, Muller (1995) examined the relationship among parent involvement, maternal employment and math achievement among 8th graders. He found mothers who worked part-time, compared to those working full-time or not at all, generally had the highest level of involvement with their children. He further found that children performed better on a base-year achievement test when mothers were employed part-time or not employed compared to when mothers worked full-time. Muller suggested that many mothers who are employed part-time have resources and opportunities to allow them to both work outside the home and ensure high levels of social capital for their child. Muller also found that families in which the mother was not in the labor force tended to be of lower socioeconomic status than the others, and families in which the mother was employed part-time were of slightly higher socioeconomic status, and tended to be the most highly educated families. Other studies have examined mothers' full-time employment outside the home and found that parents who work full-time read less to their children than parents who work part-time (Fuller et al., 2002; Nomaguchi, 2006). In contrast, according to Zick, Bryant and Osterbacka (2001), both parents in a household where the mother is employed spend more time reading and engaging in homework activities than do parents in households where the mother is unemployed.

In sum, research has shown that parental work status has an effect on parent involvement. Overall, it suggests that mothers who work part-time spend more time with their children than mothers who work full-time or are unemployed.

Child's gender

A review of the research indicates that parent involvement differs by gender of the child. Flouri (2004) found that girls rate their mothers higher in involvement activities than boys rate their mothers. Similarly, Uptegraff, McHale, Crouter, and Kupanoff (2001) found that parents are more involved with their adolescents of the same gender than with adolescents of the opposite gender.

Other researchers have found no significant difference between parent involvement and the child's gender. For example, Flouri (2004) used longitudinal data from the National Child Development Study to examine the association between parent involvement (mother and father) and their child's educational attainment. Parent involvement was defined as: (1) parents' reading to the child, (2) parents taking outings with the child, (3) parents' interest in the child's education and (4) parents' managing or caring for the child. Outcome variables were defined as the child's general intellectual ability and academic motivation. Results indicated that there was no difference in either the association between fathers' or the mothers' involvement and educational attainment for sons and daughters. In addition, there was no significant difference between parent involvement and the outcome measures.

Research in the area of parent involvement and child's gender has been limited and the findings have been equivocal. Because of the potential differences in parent involvement according to the child's gender, more research is needed to determine the most effective type of parent involvement for successful educational outcomes for girls and boys.

School factors

While most effectiveness studies focus on relationships between school-level factors and achievement, there is a growing body of literature that examines the relationship between school-level factors and parent involvement (Feuerstein, 2000). As previously mentioned, parents are the first teachers and home is the first school.

Kerbow and Bernhardt (1993) suggested that factors, such as average SES in the school and racial composition of the school, seem to play a crucial role in level of parent involvement. Using hierarchical linear modeling, Kerbow and Bernhardt demonstrated that the higher the school's SES average, the more likely it is for parents to contact the school for academic reasons, to volunteer and to attend PTO meetings.

Griffith (1998) examined the relation of school structure and social climate on parent involvement. The sample consisted of 11,317 parents identified as European American, African American, Asian, or Hispanic. Higher participation was reported in schools with higher SES, larger classes, larger student-teacher ratios and a positive school climate.

Teachers' attitudes about having children at risk in their classroom, in addition to their attitudes regarding their own teaching efficacy, have been shown to directly influence the child's achievement, teachers' attitudes toward parent involvement, and may affect the level of parent involvement as well (Eccles & Midgley, 1993). School personnel may inhibit parent involvement by their own beliefs and attitudes about parent involvement. Factors that influence teachers' attitudes about parent involvement are: knowledge of specific strategies for getting parents more involved, plans for implementing these strategies and support for implementing specific plans, beliefs about

appropriate amount and type of parent involvement, beliefs about influences on parents' level of participation, beliefs as to why parents are not involved, and sense of efficacy about their ability to affect the parent's level of participation (Eccles & Midgley, 1993). According to Bandura (1997), a teacher's sense of efficacy partly determines the level of parental participation in children's scholastic activities. Teachers who are secure in their perceived capabilities are most likely to invite and support parents' educational efforts.

Feuerstein (2000) used data from NELS: 88 to explore a variety of school level factors and their relationship to parent involvement. The school level variables included student-teacher ratio, number of minority teachers, approach to discipline, teacher morale, academic focus and extent to which parents are contacted. Parent involvement variables included parents talking with students about school, parent contact with school, parent volunteerism, parent expectations, parent participation in PTO, parent visits to school, structure of home-learning environment, and parental involvement in grade-placement decisions. The analysis focused on the 25, 599 eighth grade students who filled out a base-year questionnaire as well as their parents and principals. OLS regression was used to analyze the data. This study controlled for family structure, race, urbanicity and SES. Over 10% of the variance in five types of parent involvement was explained by the control variables. The most important variables associated with parents speaking to their children about school were SES and student grades. Parent volunteering at school appeared to be lower for public school parents than private school parents, decreased as school enrollment increased and was positively associated with higher SES. Expectations appeared to be positively influenced by higher levels of SES, higher grades and higher numbers of minority students in the school population. Participation in PTO,

like volunteerism, seemed to occur less frequently among public school parents than among private school parents.

Overall, researchers have found that parent involvement varies according to family background factors including SES, race/ethnicity, and family structure as well as maternal employment, the child's gender and various school factors. Because parent involvement encompasses many behaviors, it is important to examine the relationship between these behaviors and the factors that could facilitate or hinder parent involvement. More research about the factors that influence parental participation in their child's educational process could help assist in developing interventions to increase parent involvement at home and at school.

Parent Involvement in Head Start/Center-Based Care

Research indicates that parent involvement in the preschool years can have a positive impact on a child's learning (Parker et al., 1999). Parent involvement is central to the philosophy of Head Start with parents being involved in several aspects of the program such as serving on policy councils, contributing to program planning, working with children in classrooms, attending parenting and child development programs, and receiving services to support their emotional, social, and vocational needs (Berk, 2005). Several studies have focused on the level of parent's participation in early intervention programs such as Head Start and its effects on parent's home level participation and school readiness (Baker & Roth, 1997; Reynolds, Mavrogenes, Bezruczko, & Hagemann, 1996; Parker & Asher, 1997). Parker et al. (1999) examined several links between the parent-child relationship, home learning environment and school readiness. Hierarchical regression analysis demonstrated that a warm, reciprocal parent-child interaction

facilitates cognitive development. They suggested that a parent's involvement in early intervention programs such as Head Start positively affects the parent-child relationship and the home environment, which, in turn has an impact on the child's school readiness. They also suggested that parent participation in Head Start may enhance the parent-child relationship by providing the parent with increased feelings of competence, new understandings of child development, and improved methods of parenting and interacting with his/her children. Head Start involvement for parents may also enhance what parents provide at home to stimulate early learning skills.

Marcon (1999) used teacher ratings to identify the extent of parent involvement for three cohorts of predominantly low-income, urban 4 year-olds attending public kindergarten or Head Start programs. Parent involvement was defined as attendance at parent teacher conferences, classroom visits and parents helping with class activities. In this study, the classroom edition of the Vineland Adaptive Behavior Scales was used to measure preschool children's language, self-help, social, motor and adaptive development. The school district's Early Childhood Progress report was used to measure how well each child mastered early basic school skills. Results indicated that girls scored higher than boys in all sub-domains, except for expressive language, domestic skills, play and leisure, and gross motor skills. Increased parent school involvement was particularly associated with positive development and academic performance in the preschool boys.

Overall, research indicates that parent involvement in Head Start programs can have a positive impact on a child's learning, adaptive behavior, school readiness and school adjustment. The National Educational Goals (1997) emphasized the importance of parental involvement in supporting the social, emotional, and academic development of

children. Parents can help to minimize or alleviate some of the problems children may have by teaching them specific skills that will help them transition to kindergarten. Since parent involvement in Head Start programs is expected to enhance parent-child interactions, it is important to examine parent involvement in Head Start programs in order to help parents prepare children for school and meet the expectations of educational reform efforts.

Components of Parent Involvement and their Effects on Student's Educational Outcomes

Impact on Academic Achievement

Researchers (e.g. McNeal, 1999; Simmons-Morton & Crump, 2003) have examined the components of parent involvement and their influence on children's academic achievement, behavior and school adjustment. These components describe the processes and behaviors of the parent's involvement. Family process variables - the specific activities that parents engage in to support their children's learning - are considered more important for promoting educational outcomes than are family status variables, such as social class or family configuration (Christenson & Christine, 1997; Raffael & Linda, 1999).

A review of the research suggests that most definitions of parent involvement fall into two main categories: home and school. Home involvement encompasses the following: parent participation at home that encourages learning and indicates a value for schooling, and includes family factors or family process variables such as reading to the child, tutoring/helping with homework, parent/child discussion about school, and involvement in extracurricular activities) as well as parent's expectations for success. On the other hand, school involvement pertains to parent participation at school that supports

the teacher-parent relationship and includes volunteering in the classroom, school governance, attending conferences and attending school events.

Most studies examining the effects of parent involvement on children's outcomes have used measures that assess both home and school involvement instead of treating parent involvement as a unidimensional construct. The literature indicates that parent involvement in children's education appears to be associated with a range of positive outcomes for elementary school children, including fewer behavior problems (Comer, 1984; McNeal, 1999), higher academic achievement (Muller, 1995), higher standardized achievement scores (Parcel, Nickoll, Dufur, 1996), higher grades (Keith, 1998; Trivette & Eileen, 1995), and better school adjustment (DuBois & Eitel, 1994; Simmons-Morton & Crump, 2003).

The results of these studies are in support of Coleman's (1990) theory that parents' involvement in their child's education can convey a message of the importance of an education. Several of these studies have used the NELS: 88 data to analyze the relationship between various types of parent involvement and particular student outcomes.

As previously stated, while most parent involvement research supports the importance of parent involvement for students' academic achievement (Keith, 1998; Reynolds et al., 1996; McNeal, 1999), the results of these studies are difficult to compare because the measures of parent involvement differ substantially. Keith (1998) examined the effects of parent involvement (parent aspirations and parent discussion at home) as a predictor of student achievement measured by GPA, using NELS: 88. The sample was 6% Asian, 11% Hispanic, 10% African American 1% Native American and 72%

European American. He found that parents' communication with their child had an important positive effect on achievement. This research used a relatively narrow definition of parent involvement, and only assessed two components of parent involvement.

Reynolds et al. (1996) investigated mediators of the effects of preschool intervention on sixth grade children's school achievement, using a confirmatory factor model, which incorporated cognitive readiness at kindergarten entry and parent involvement in school. Parent involvement was defined as parents volunteering as classroom aides, interacting with other parents in the parents' resource room, participating in educational workshops and courses, attending school events, accompanying classes on field trips, and attending parent-teacher meetings on behalf of the child. The sample consisted of 360 low - income mostly Black children. Results indicated that preschool participation at ages 3 or 4 was significantly associated with higher reading achievement, higher math achievement, and lower incidence of grade retention. Cognitive readiness and parent involvement in school significantly mediated the estimated effects of preschool participation on school achievement and grade retention seven years post-program.

McNeal (1999) used the NELS: 88 data to examine two indicators of parent involvement: parent-child discussion, PTO involvement, monitoring and educational support, and their effect on cognitive (science achievement) and behavioral outcomes (truancy and dropping out) outcomes. The sample was stratified on the basis of the size of the eighth grade classes and included an oversampling of private schools. McNeal found parent involvement to be more effective in raising achievement and reducing

problematic behavior for higher SES students compared to lower SES students. He found that the influence of discussion and parents' attendance at PTO meetings had no effect on lower SES students. PTO and monitoring negatively influenced science achievement for middle SES students and positively influenced science achievement for upper SES students. Educational support strategies were only effective at reducing truancy for students of higher SES status. McNeal found parent-child discussion to be the only predictor consistent in terms of improving student achievement and reducing problematic behavior for both high and low SES students. He suggested that these findings provide evidence to support social capital theorists who contend social capital leads to increased achievement and reduced non-normative behavior, as well as support for social capital's greater effect on behavioral rather than cognitive outcomes. With this being said, McNeal also acknowledged that his findings indicated that social capital's effects are not equally distributed. In other words, many positive influences only persist for members of traditionally advantaged sections of the population.

Similar findings have been found with home-level parent involvement. For example, Entwisle and Alexander (1995) suggested that a parent's low economic status leads to children having fewer books and games in the home, fewer recreational activities and trips and more daily pressures that may prevent single parents from spending time interacting with their children. Families with lower SES may have less success in preparing their children for school due to their lack of access to a wide range of resources to promote and support young children's development as well as their inability to provide their children with books and toys to encourage their children to engage in various learning activities at home. According to the NCES (2000), the percentages of first-time

kindergarteners by numbers of books in the home according to race/ethnicity are as follows: 9% of Whites compared to 50% of Blacks, 46% of Asians and 52% of Hispanics reported having fewer than 26 books in the home and 25% of European Americans compared to 4% of Blacks 8% of Asians and 6% of Hispanics reported having more than 100 books in the home.

In a meta-analysis, Jeynes (2003) examined 21 studies to determine the impact of parental involvement on the academic achievement of minority children. The components of parent involvement included the extent to which parents communicated with their children about school, whether parents checked their children's homework, parental expectations for the academic success of their children, whether parents encouraged their children to do outside reading, whether parents attended or participated in school functions, the extent to which there were household rules regarding school and/or leisure activities, and parenting style and warmth. The results indicated that the impact of parental involvement was significant for all the minority groups in the study including Blacks, Hispanics and Asian Americans, although the effects were greater for some groups than others; for example, parent involvement was found to be more beneficial for Blacks and Hispanics than Asian Americans. Parent involvement affected all levels of academic achievement including GPA and standardized tests. According to Jeynes, Asian Americans may be less affected by parent involvement because there is a great deal of educational emphasis in the Asian American culture. Thus, it may be that there are enough educational incentives present in other aspects of Asian American culture, so that even without a large degree of parental involvement, students still do relatively well.

While most studies have shown a positive relationship between parent involvement and student achievement, a few studies however, have shown a negative one (Balli & David, 1998; Powell, Stoner, Shinn, & Good, 2000; Reynolds, 1992), and one study found no relationship between these variables (Trivette & Eileen, 1995). Using data from NELS: 88, Trivette and Eileen identified four components of parent involvement: parent aspirations, parent-child communication about school, home environment (structure), and parental participation in school. They found that parent participation in school activities had no effect on achievement in the eighth grade. Trivette and Eileen suggested that this form of participation may vary with age so that attending PTO meetings and school activities, volunteering for school events and projects, attending classes and speaking to the school counselor may be related more to achievement for younger children while producing marginal effects on adolescent achievement.

Balli and David (1998) designed a study providing homework interventions in order to increase parent involvement. The sample in this study was seventy - four 6th grade students enrolled in one of three math classes. In the first class, the students were told not to prompt their parents for help with their homework, while in the second class, they were told to prompt their parents for help with their homework. Finally, in the third class, the students were told to prompt their parents for help while the teachers directly asked the parents to do the same. This study found that families that were prompted were significantly more involved; however, higher levels of parent involvement in math homework were not associated with higher student achievement. Pre-and post math scores for the three groups were not significantly different. On the other hand, when

students and teachers both prompted the parents, the students had the highest average homework scores, whereas with no prompting, the students had the lowest math scores. Due to the small sample size, however, these findings were not statistically significant.

Powell et al. (2000) examined the impact of two home-based reading tutoring programs on student reading achievement with a sample of thirty – six 2nd grade students and their parents. One program trained parents to use literature – based materials and the other program trained parents to use curriculum – based reading materials in tutoring their children at home. The findings indicated that two different parent-implemented tutor programs had no significant effect upon student reading achievement. The researchers suggested that their findings were due to the fact that parents self-reported their involvement, and the control group parents had higher levels of education.

Reynolds (1992) used the Longitudinal Study of Children at Risk and collected data from parents, teachers and students regarding perceptions of parent involvement. The indicators of parent involvement were potentially enriching interactions with the child at home (reading) and supporting the child at school (participating in school activities). Data were collected on low-income minority students' reading and math achievement and several socio-demographic control variables. Results indicated stronger support for the influence of school involvement than home involvement. Parent involvement at home had a negligible effect on achievement. Reynolds indicated that these findings may be due to the low correlations in ratings of parent involvement among parents, teachers and students or to the differences in the types of parent involvement assessed by each group.

Griffith (1996) examined school-level components of parent involvement including frequency of participation in volunteer activities, attending association meetings, and after school activities, and found a positive correlation between parent involvement and student achievement.

One of the limitations of previous studies in linking parent involvement to achievement is that they have not fully assessed the extent to which parent involvement differentially affects academic achievement by race/ethnicity. A review of the literature indicates some studies were limited in their generalizability because the sample was specific to a certain racial/ethnic group (Parker et al., 1999). More research is needed to determine why particular types of parental involvement are especially beneficial for certain racial/ethnic groups' academic achievement.

Impact on behavior

Students who exhibit behaviors that interfere with their attaining an education may also be at risk for academic failure. In addition, children who exhibit early behavior problems experience difficulties interacting with peers, teachers, and parents and engaging in classroom activities (Harden, et al., 2000). Warger (1993) suggested that children who are socially deficient have more school problems, are at greater risk for dropping out of school, have higher juvenile delinquency rates, and are employed less than those who have good social skills.

While research has shown that parents' involvement is associated with fewer behavior problems (Comer, 1984), empirical research has failed to examine the effects of parent involvement on preschool age children's internalizing and externalizing behaviors and their school readiness. Externalizing problem behaviors include delinquent,

aggressive, and anti-social behaviors and internalizing behaviors include expressions of sadness, withdrawal, and depressed/anxious behavior (NCES, 2000). Students with externalizing disorders are some of the most difficult students to manage in an educational setting, disrupt orderly classrooms, have academic difficulties, and have the highest dropout rates (Jenson, Olympia, Farley, & Clark, 2004; Parker & Asher, 1997).

Self-control has also been shown to have a strong positive association with later school success (Lane, Wehby, & Cooley, 2006), and low self-control is positively associated with involvement in delinquency (Burt, Ronald, & Simons, 2006). Self-control assesses the child's ability to maintain self-control, a pro-social skill that facilitates successful social interaction such as accepting peers' ideas for group activities, and responding appropriately to pressure from peers. As previously mentioned, children with pro-social skills, such as good self-control may experience an easier time adjusting to the school setting, while children who exhibit aggressive or antisocial behaviors may have a more difficult time adjusting to school. Research demonstrates that existing measures of self-control vary. For example, most research has examined self-control using measures of social competence such as delay of gratification (Lee, Lan, Wang, & Chiu, 2008; Logue & Chavano, 1992; Olson & Hoza, 1993) hyperactivity (low self-control) (Brannigan, Gemmell, Pevalin & Wade, 2002) and problem behavior (Meier, DiPerna, & Oster, 2006). More empirical research is needed on the influence of parents' involvement and children's self-control.

Parcel and Mikaela (2001) used the National Longitudinal Survey of Youth data merged with the Child-Mother Data to analyze school and family social, human and financial capital as parallel concepts and to investigate their effects on child social

adjustment. The sample consisted of 1,833 children who had measures of both behavioral adjustment and reading recognition for 1992 and 1994 as well as reported data on school type. Results suggested that family and school social capital, as well as human and financial capital, operate in predictable ways to promote child social adjustment. Moreover, Parcel and Mikaela found that parent involvement, as well as parents' knowing their child's friends and location, the child's church attendance, attendance at a private school, and attendance at school where teachers care, help to reduce child behavior problems. Furthermore, the results suggest children from larger families were at higher risk for increased behavioral problems. These authors speculated that these children were at higher risk because the amount of social capital available to each child in these families is decreased. Finally, they found that some combinations of family and school resources provide an extra boost or challenge to children in terms of their effects on social adjustment; children who enjoy high levels of social capital both at home and at school have fewer behavior problems.

Teachman, Paasch, and Carver (1996) examined the effects of various forms of parent involvement on the likelihood of dropping out of school in the U.S. The analysis, based on data from the NELS: 88 looked at the impact of parent involvement, controlling for the financial and human capital of parents on the likelihood of dropping out of school between the 8th and 10th grades. They explored whether family structure and attendance at a Catholic School were related to more direct measures of social capital including: the number of times a student changed schools, whether parents knew the parents of their child's closest school friends, parent-child-connectivity, and parent-school connectivity. Teachman, et al. found that changing schools was particularly detrimental to the

schooling of children. They also found that parent-child connectivity retained a significant relationship with dropping out of school; parents who sent their children to Catholic schools were more closely connected with their child's school and; knowing the parent of the child's school friend was not significantly related to dropping out of school.

Runyan (1998) examined the extent to which parent involvement was associated with positive developmental and behavioral outcomes in high-risk preschool children. He attempted to determine the extent to which an accumulation of social capital might exert a protective influence on children known to be at-risk. Using a social capital index, social capital indicators were (1) two parent figures in the home; (2) social support of the maternal caregiver; (3) no more than two children in the family; (4) neighborhood support; and (5) regular church attendance. In this study, the Child Behavior Checklist (CBCL) was used to determine outcomes. Children were classified as doing well if their scores on the CBCL indicated neither behavioral nor developmental problems. Results suggested that parent involvement was strongly associated with positive developmental and behavioral outcomes. The social capital index was strongly associated with positive developmental and behavioral outcomes, more so than any single indicator.

Impact on school adjustment

While studies have addressed factors that influence a child's educational outcomes, research also is available that examines factors associated with school adjustment including parent involvement (DuBois & Eitel, 1994; Simons-Morton & Crump, 2003), school climate (Wentzel, 1999), personal factors including child's academic achievement skills, child's age and gender (Ricard & Miller, 1995), and the teacher-student relationship (Esposito, 1999).

School adjustment has been both narrowly and broadly defined in the literature. For example, Spencer (1999) defined school adjustment as the degree of school adaptations necessary for maximizing the educational fit between the student's qualities and the requirements of learning environments. DuBois and Eitel (1994), in investigating the relationship between family experiences and school adjustment in a two-year longitudinal study of a community sample of 4th to 6th grade youth (N = 159), operationalized school adjustment as grades, frequency of absences from school and self-reported scholastic self-concept. Family measures assessed perceptions of overall social support received from family members, various dimensions of the family environment, and parent-child relationships. The focal analyses of the study examined the longitudinal associations between measures of family relationships and school adjustment. Parent involvement was associated with reduced absences, higher grades and more positive ratings of scholastic self-concept at follow-up. Multiple regression analyses were conducted to investigate whether taking into account demographic differences (age, race, gender, and parental socioeconomic status) among youth in the sample had any effects on the longitudinal and prospective correlations that were found between measures of family experiences and school adjustment. The findings were not substantially different, with all correlations that had been found to be significant previously, still reaching statistical significance after sociodemographic factors were controlled.

Simons-Morton and Crump (2003) examined the interrelationships among parent involvement, social competence, and school adjustment and engagement using 6th graders in four middle schools in one U.S. school district. To identify factors associated with school adjustment and engagement, 1,267 sixth graders were surveyed at the beginning

(time 1) of the school year. Predictors of school adjustment included school engagement, parent involvement, parental monitoring, parental expectations, school climate, social competence, and students' perceptions of feelings of depression. A school adjustment scale was used in this study and consisted of 11 items that asked the students how they were doing at school relative to other students on their school work, getting homework done on time, following rules, staying out of trouble, making friends, and getting along with classmates and teachers. Results indicated that parent involvement was a better predictor of school adjustment and engagement than any other measures of parenting behavior, including monitoring and expectations. The measure of involvement focused on teen's perceptions about how much their parents know about their lives, which probably reflects how much time parents spend with their children and the nature and quality of parent-child communication. School adjustment was lower for boys than it was for girls, and for Black children than White children at Time 1 and Time 2.

In summary, studies examining the effects of parent involvement on child outcomes have produced mixed, but generally positive results. One primary reason for the inconsistency of findings may be that there is no one standard definition for parent involvement. Another reason may be because studies have assessed parent involvement using measures that assessed both home and school involvement, making it difficult to differentiate the effects of home and school involvement on the outcomes under investigation. Overall, the research has shown that parent involvement is a positive predictor of academic achievement, behavior and child's adjustment. In addition, overall research suggests that parent involvement positively affects the academic achievement of children no matter what their racial/ethnic background, although the effects are stronger

for some groups than others. Most of these studies have examined a number of measures of parent involvement practices as well as other factors associated with children's adjustment. More empirical research is needed on the influence of parents' involvement and children's school adjustment.

Factors that Influence Child Educational Outcomes

Research has been conducted to identify the many demographic factors (i.e., socioeconomic status, race/ethnicity, family structure, maternal employment, child's gender) that influence student success. In addition, research has focused on the effects of attending Head Start or other center-based care facilities. As previously mentioned, family characteristics such as family structure and low income may influence a child's ability to do well in school (Rumberger, 1998). Race/ethnicity is another factor associated with a child's failure in school, with Black and Hispanic children having lower academic achievement and higher dropout rates than Whites (Stringfield & Land, 2002). Researchers have also found gender differences in student achievement, with girls doing better than boys. Finally, school factors, such as high poverty rates, and teachers with low expectations, have been shown to have a negative influence on school performance (Stringfield & Land, 2002).

Socioeconomic status

The literature on the relationship between socioeconomic status and student achievement demonstrates that SES is highly correlated with student educational outcomes. Lower SES is a risk factor that has repeatedly been shown to be negatively linked to a wide range of indicators of student outcomes such as low academic achievement (especially in math) (Hughes, 2003; McGraw, Lubienski, & Struchens,

2006; Xin, 2005), school dropout (Reschly & Christenson, 2006), and poor school adjustment (Miech, Essex, & Goldsmith, 2001). Moreover, Clements, Reynolds, and Hickey (2004) found that schools with families of low-income are more likely to have poorer academic achievement and social outcomes.

As previously stated, because a disproportionate number of minority families live in poverty, minorities are often assumed to have lower SES and thus to be at an educational disadvantage when compared with other families. Their low achievement may be attributed to the lack of resources due to low income, low parental education and low status parental occupation. Hughes (2003) examined the effects of SES and ethnic group differences on 3rd grade math scores. Hughes found that Whites of higher SES scored higher than Blacks of lower SES in math. In addition, more Black than White students received free lunch.

Although research has consistently demonstrated differences in student achievement based on SES, the conceptualization of SES has varied as has the student achievement indicators that have been measured. For example, Hughes (2003) indicated math test scores varied by SES (defined as free/reduced lunch qualifications and parents' education) with students of lower SES scoring lower in math. Defining SES as income and education, Toutkoushian and Curtis (2005) found that students of higher SES had higher standardized test scores. Reschly and Christenson (2006) defining SES by income, education and occupation status found that students of lower SES had higher dropout rates than children of higher SES.

Overall, research has found that students from families of higher SES out-perform students of lower SES families on a wide range of indicators of student achievement.

Further, SES is a strong predictor of school dropout. As previously stated, for persons who come from low SES backgrounds, low academic achievement may be attributed to the lack of resources. Because students at risk for educational failure are a major concern of educational policy and discussion, it is important to examine the relationship between SES and student achievement. More research about the factors that influence student achievement could lead to the development of interventions for groups of students who may experience academic difficulty.

Race/ethnicity

Race/ethnicity has a direct effect on children's development and learning. Minorities in the United States have fewer opportunities and are faced with greater obstacles than are non-minorities, placing them at educational risk (NCES, 2000). Schools have a powerful influence on the academic achievement and social development of children. Schools where Black children tend to experience a cycle of failure seem to be structured for failure (Swick, Brown, & Boutte, 1994). Moreover, schools where there is a lack of direction and cultural sensitivity, negative teacher attitudes, tracking, family-school isolation, and low academic expectations appear to create an ecology of failure for many Blacks and other culturally different children (Swick et. al., 1994). Black students are at a disadvantage in course taking patterns and have greater retention, suspension, and expulsion rates, lower academic achievement and educational aspirations and higher drop-out rates (Hoffman, Llagas, & Snyder, 2003), and poorer school adjustment (Pigott & Cowen, 2000; Simmons-Morton & Crump, 2003). Black male students generally earn lower grades, drop out more often and attain less education than do White students (Mickelson, 1990). Ogbu (1992) proposed that Black students have lower achievement

motivation, lower grades and lower subsequent orientation toward further educational attainment than do White students because they perceive early on that the likelihood for commensurate rewards in the job market is limited.

Although the high school completion rate continues to rise, the gap between Blacks-Whites has not narrowed since the early 1980's (Livingston, 2006). According to the National Center for Educational Statistics (2000), Whites have a lower drop-out rate than Blacks, and Hispanic children have the highest dropout rate of any group in the country. On the 2005 National Assessment of Educational Progress reading assessment-a national test that gauges states' academic progress, White 4th graders scored higher on average than Black 4th graders in reading and math (Livingston, 2006). The racial achievement gap also exists in the academic performance between White and Hispanic children, with White 4th graders scoring higher in reading and math than Hispanic children (Livingston, 2006). These minority children may suffer because of unmet instructional needs and language barriers.

Family structure

A review of the research indicates that student achievement differs by family structure. Although children from two-parent families perform better academically than children from single parent homes (Battle, 1997; Biblarz & Raftery, 1999; Entwisle, 1996) and have fewer behavioral problems (Hilton & Desrochers, 2001; Ram & Feng 2003), the research indicates that the relationship between family structure and student achievement is dependent on SES. For example, Carlson and Corcoran (2001) found that children who grew up in single and step-parent families had lower reading and math scores and had more behavior problems than children who grew up in two-parent homes.

However, the difference between family structure and academic and behavior outcomes was not significant once family income was controlled. Similarly, Ram and Feng (2003) found that children from two-parent families did better in math and reading and had fewer behavior problems than children who grew up in single-parent and step-parent homes, but they did not find a significant difference between family structure and behavior outcomes once family income was controlled. Battle (1997) also found that Hispanic students in two-parent households had better academic achievement than Hispanic students in single-parent households; however, when controlling for SES, students from one-parent households were not statistically different in their achievement from students in dual-parent households. Entwisle (1996) indicated that regardless of family structure, students whose families have more economic resources consistently outperform students from single family homes. In contrast, in a study of children whose parents did not receive public assistance (AFDC), Brody (1995) found that children from two parent families whose parents did not receive public assistance (AFDC) had higher math and reading proficiency scores than children from one-parent families.

The majority of research in this area has demonstrated that children from single parent families are at greater risk of educational difficulties than children living with two parents; they score lower on standardized tests, get lower grades in school, and are twice as likely to drop out of school before graduation (Allen-Meares, Washington & Welsh, 2000). Yet, the findings are quite consistent that these differences are due primarily to economic factors and that once family income is controlled, these differences disappear. Nevertheless, many single parents work outside the home and assume all the burdens of

child care alone. Their economic pressures interfere with their time and resources to support academic socialization in the home (Entwisle & Alexander, 1995).

Maternal employment

Prior research has demonstrated that the effect of parental employment on child academic achievement and well-being varies depending on parental background and family circumstances (Parcel & Menaghan, 1994). Bogenschneider and Steinberg (1994) found that among younger children, maternal employment is associated with diminished school achievement for White, middle class boys who were from two parent families. Waldfogel, Wen-Jui, and Brooks-Gunn (2002) found negative effects of maternal employment for the cognitive functioning and social well-being of non-Hispanic, White children but not for Black children. On the other hand, Parcel, et al. (1996) investigated the effects of maternal employment on children's reading and math achievement using the merged Child-Mother Data from the 1992 wave of the National Longitudinal Survey of Youth. The sampling frame consisted of 9 to 12-year old children of employed and non-employed mothers in 1992. Findings suggested that maternal work did not have a strong direct effect on cognitive outcomes. There was no significant difference in reading and math achievement between children of employed and non-employed mothers. Baum (2004) examined the long-term effects of maternal employment on student achievement and found that maternal employment does not have an effect on high school grades; however, children of employed mothers received lower grades in the adolescent years.

Horwood and Fergusson (1999) found that children of employed compared to non-employed mothers obtained higher scores on three standardized tests (word

recognition, reading comprehension and mathematical reasoning). Moreover, these researchers found that the relationship between maternal employment and these academic outcomes were similar for males and females. On the other hand, while Muller (1995) did not examine gender differences, she found that children of unemployed mothers had higher math achievement than children of employed mothers. Han and Brooks-Gunn (2001) found a significant negative effect of maternal employment on children's behavior problems. They also examined ethnic group differences in behavior and found the negative effect of maternal employment for White children, but not for Black children. Fuller et al., (2002) found that mother's employment was significantly associated with lower incidences of aggressive behavior and inattentiveness for girls.

In summary, research on maternal employment and child achievement has produced mixed results and the outcome measures vary. While some researchers have found that mother's employment status has a positive effect on families and children, other researchers have found a negative effect on children's outcomes. When children of employed versus non-employed mothers are compared in terms of cognitive and socioemotional development, significant differences have generally not been found. Finally, it has been consistently found that mother's employment status has been associated with different outcomes based on social class and children's gender.

Gender of child

Research has demonstrated differences in students' academic achievement depending on gender. For example, Mau and Lynn (2000) found that boys perform better in science and girls complete more homework. Duckworth and Seligman (2006) suggested that from elementary to high school girls earn higher grades than boys in all

major subjects; however, boys perform better on achievement and IQ test. According to Simmons-Morton and Crump (2003), girls have better school adjustment than boys.

Most of the research that has examined gender differences in school performance has focused specifically on the students' performance in reading and math. These research findings have shown that boys perform better than girls in math (Leahey & Guo, 2001; Mau & Lynn, 2000; Reis & Park, 2001), and girls perform better than boys in reading (Chatterji, 2006; Diamond, 2001; Mau & Lynn, 2000; Pecjak, S. & Peklaj, C., 2006); however, the findings have been mixed. For example, a meta-analysis by Hyde, Fennema, Ryan, Frost, and Hopp (1990) of 100 studies revealed that in elementary and middle school, girls perform slightly higher in math than boys.

By contrast, Hall, Davis, Bolen, and Chia (1999) found no significant differences in math performance (math calculation and math concepts) between 5th and 8th grade boys and girls. Downey and Vogt Yuan (2005) used the NELS: 88 data set to assess the patterns of gender differences in math test scores and math grades between 8th and 12th grades and also found no difference in math grades in middle school; however, in the 12th grade, girls outperformed boys in math grades. Downey and Vogt Yuan also found that boys scored higher in math from 8th to 12th grade. These authors also assessed patterns of gender differences in reading test scores and English test scores and found that girls earned higher reading test scores from 8th to 12th grades. Finally, in both the 8th and 10th grades they found that girls' English grades were substantially better than boys. Mau and Lynn (2000) also found that girls in the 10th and 12th grades performed better than boys in reading and boys performed better in math. Reis and Park (2001) found that high

achieving males not only had higher standardized math test scores, but they had higher self-concepts than high achieving girls.

Some researchers have also examined reasons why boys and girls excel in different academic subjects and found that girls excel better in reading because they are more interested in reading, are better readers, read more, and enjoy reading more than boys (Merisuo-Storm, 2006, Pecjak & Peklaj, 2006). On the other hand, boys feel more competent than girls in math and science (Berk, 2005). In a study of 3rd graders, Herbert and Stipek (2005) found that when parents rate boy's math competencies as higher than girls, the boys perceive themselves as more competent and have higher achievement scores in math than girls.

Overall, research indicates that girls perform better in reading than boys and boys perform better in math than girls, although the results of these studies vary. Also these gender differences in types of achievement increase as students move into the higher grades. Therefore, it is important to examine gender differences in achievement in order to address different approaches to learning, and provide the most appropriate instructional services and experiences to meet students' needs. In addition, this type of research would inform the development of interventions to help improve interest and motivation so that students will perform better and feel more competent in the different subject areas.

School factors

Researchers have examined the effects of various school characteristics such as quality of school climate (Esposito, 1999; Gaziel, 1997; McNeal, 1997), an atmosphere of social trust (Bryk & Camburn, 1996; Sebring & Bryk, 2000), school SES (Rumberger & Palardy, 2005), principal instructional leadership, instructional climate (Hallinger,

Bickman, & Davis, 1996), educational equity and school structure (Douglas, Lee & Welner, 2004; McNeal, 1997) on academic achievement. According to Allen-Meares et al., (2000), school is the 2nd most important influence (after the family) on the academic achievement and behavior of children. Most studies that have examined the effects of various school characteristics suggest that a positive school climate supports the educational process; however, the findings have been mixed and the outcome variables have varied.

McNeal (1997) found that schools with a higher percentage of minorities increased the chances of school drop-out, whereas the school's emphasis on academic achievement was not found to significantly affect dropping out. On the other hand, Gaziel (1997) found that emphasis on academic achievement improved students' performance in their academic subjects, specifically, reading, math and Hebrew. Gaziel also found that student participation in school affairs, as well as teamwork, orderliness, and continuous school improvement all have a significant positive relationship with students' academic achievement. Esposito (1999) defined school climate as (1) the relationships among and between administration, teachers, parents, students and communities, (2) instructional and extracurricular management, (3) the condition of the school building and grounds, and (4) the encouragement of the development of academic and social values among students. While Esposito found that the teacher-student relationship and the condition of the school building were not significant in predicting math or reading in kindergarten or 2nd grade, he found that the overall school climate had a positive influence on academic achievement and school adjustment. Hallenger et al., (1996) found a statistically significant positive relationship between principal leadership

and instructional climate (school mission, opportunity to learn and teacher expectations). In addition, positive school climate had a positive effect on reading achievement. Thus, Hallenger and colleagues found an indirect effect of principal leadership on student achievement.

Not only does the SES of the family affect academic achievement, but the SES of the school does as well. For example, Rumberger and Palardy (2005) found that students in higher SES schools scored higher in math, science, reading and social science than students attending lower SES schools. The above-named researchers also found that the SES of a student's school had a stronger impact on the student's achievement than his/her own SES. In addition, the researchers examined racial/ethnic differences and found that Asians performed better academically than Whites in middle and high SES schools, but not in low SES schools. They also found that Blacks do not perform as well academically as Whites in low and middle SES schools; however, they have similar academic performance in high SES schools from the 8th to 12 grades.

Overall, the studies that have examined school factors and their influence on student achievement found that students achieve better when schools are committed to the values of a quality school climate. A very important part of this commitment is including parents in the educational process as well as continuity between the culture of the home and that of the school. For the educational process to be a success, everyone needs to work together, while respecting each other's differences and needs. Further research is needed to help find the most effective strategies for use in schools with disadvantaged students. In addition, there is a need for respectful, mutually supportive relationships between teachers, parents, students and principals. Finally, the research

suggests the need for a staff that shows genuine care and concern for the students, and teachers that provide opportunities in the classroom conducive to learning for all students.

Head Start and other center-based facilities

Head Start is a federally funded comprehensive child and family development program, which started in 1965 by the Office of Economic Opportunity and is designed to meet the needs of low-income families with preschool children and provide the children with cognitive and social enrichment during early childhood development (Berk, 2005; Ross, 1972). It provides comprehensive services that children living in poverty need to achieve school readiness. This program was initiated as a result of evidence indicating that lower class children were educationally handicapped when they entered elementary school and assumptions that early childhood experiences are important in determining intelligence, development and achievement (Ross, 1972). An important component of the Head Start program is parent involvement (Parker et al., 1999). The program offers a variety of experiences and activities for parents including volunteering and working with children in the classrooms, attending programs on parenting and child development, contributing to program planning, and participating in policy making activities (Berk, 2005). Parents also receive services that focus on helping them with their emotional, social and vocational needs. These programs and activities are designed to enhance their parenting skills, help parents learn about age-appropriate preschool behavior as well as discipline strategies, and increase their ability to take a more active role in facilitating their child's learning processes such as introducing new learning materials in the home to stimulate their early learning skills (Parker, et al., 1999).

Overall, Head Start's parent involvement is essential to the children's and families growth and development. The program provides an opportunity for parents to better understand how their child grows and develops.

Studies of programs such as Head Start have shown that one or two years of preschool can improve children's school readiness, early scholastic achievement and school competence, resulting in lower grade retention and less special education placement (Reynolds, Temple, & Suh-Ruu, 2003). Further, research supports the effects of these programs on positive behavioral outcomes and better social skills (Niles, Reynolds, & Roe-Sepowitz, 2008; Tankersley & Kamps, 1996).

Lee, Brooks-Gunn, Schnur, and Fong-Ruey (1990) investigated the sustained effects of Head Start into kindergarten and first grade for disadvantaged Black children. Their study was based upon a previous study conducted in 1988 (Lee, Brooks-Gunn, & Schnur, 1988) examining children's one year gains in Head Start. These Head Start children were compared to two comparison groups: (a) disadvantaged children not in preschool and (b) children in non-Head Start preschools for disadvantaged children. Head Start effects significantly favored Black students who ranked below average in initial cognitive status; thus, it appeared to work best for those who were most socially and cognitively disadvantaged. Lee et al. (1990), in their follow-up study, examined children from the original sample who remained in their communities and who attended half-day public school kindergartens in 1970-1971 and first grade in 1971-1972. Findings suggested that participation in Head Start had enduring effects for disadvantaged Black children through first grade, particularly compared to no preschool attendance.

As one of the goals of the Head Start program is to promote social enrichment during early childhood development, the teaching of social skills in this program is essential for the child's social transition into kindergarten. Tankersley and Kamps (1996) assessed the effects of a school - based prevention program in countering antisocial behaviors that could lead to the onset of conduct disorder. The prevention program consisted of activities designed to promote positive interactions and systematic instruction of social skills. All participants in this study were enrolled in Head Start classrooms. The control group participated in the standard Head Start Program, while the target group was in the standard Head Start program and participated in the prevention program. Results indicated that the target students receiving the social interventions had increased levels of positive/appropriate peer interaction and they engaged in fewer disruptive behaviors. In addition, the target group demonstrated significantly lower rates of aggression, destruction, grabbing and negative verbal statements than did the control students. Further, the target group students were significantly more compliant than were the students in the control group.

Other preschool experiences besides Head Start are also designed to provide cognitive and social enrichment during early childhood development for the successful transition into kindergarten and to prevent poor school adjustment outcomes such as school failure, unemployment and poverty (Lundenburg, 2000). Three notable studies that have examined the long-term effects of preschool are the High/Scope Perry Preschool Project, the Abecedarian Project and the Chicago Child-Parent Center Program (Bracey & Stellar, 2003). In the High/Scope Perry Preschool Project, during the mid 1960's, Black children whose parents had applied to a preschool program in Ypsilanti,

Michigan were randomly assigned to receive the program or not, while the control group remained at home. The curriculum categories included creative representation, language and literacy, social relations and personal initiative, movement, music, classification, seriation (creating series and patterns), numbers, space, and time with children participating in small and large group activities. By the age of 19, those who had attended preschool, compared to those who had not, had higher graduation rates and were less likely to have been in special education. By the time the two groups turned 27, 71% of the preschool group had earned high school diplomas or GED's, compared to 54% of the control group. The preschoolers also earned more, were more likely to own their own homes, and had longer and more stable marriages. Members of the control group were arrested twice as often, and five times as many members of the control, compared to the experimental group, had been arrested five or more times (Bracey & Stellar, 2003).

The second study, the Abecedarian Project, identified children at birth and provided them full-day care, 50 weeks a year, from birth until they entered school. The adults would talk to the children, show them toys and pictures, and offer them opportunities to react to sights and sounds in the environment. However, as the children grew, these adult-child interactions became more concept and skills oriented (Bracey & Stellar, 2003). The children were randomly assigned to the groups in this study. The researchers provided the control group with enriched baby formula to reduce the chances that any differences might come from nutritional deficiencies affecting brain growth; the control group also received services such as social work and crisis intervention. A 1988 follow-up of the subjects at age 21 indicated the following: young adults who had taken part in this project completed more years of schooling than the controls; more members

of the experimental group were still in school, and more had enrolled in four-year colleges; 47% percent of the experimental group worked at skilled jobs compared to just 27% of the control group; individuals from the experimental group were less likely to smoke or use marijuana, but they were no less likely to use alcohol or to indulge in binge drinking (Bracey & Stellar, 2003).

In the third study, the Chicago Child-Parent Center Program (CPC), the children were not randomly assigned to experimental and control groups. This project took place in 20 centers, all centers adopting a program developed through the Chicago Board of Education that emphasized three major areas: body image and gross motor skills, perceptual/motor and arithmetic skills, and language skills (Bracey & Stellar, 2003). In a 2006 follow-up study by Suh-Ruu and Reynolds (2006), subjects at age 22 who had taken part in the project had more years of education, higher rates of high school completion, and higher rates of college attendance than those who had not taken part in the project. Since the children in this study were not randomly assigned to groups, one cannot rule out the possibility that pre-existing differences between the experimental and control group may have contributed to the differences in outcomes and internal validity is reduced. Thus, the study cannot conclude definitively that the participation in the program caused the positive outcomes.

Kindergarten is a critical period in children's early school careers. Investing in the quality care and education of children before they enter school is increasingly seen as key to solving many of America's educational problems. Preschool experiences are designed to provide cognitive and social enrichment during early childhood development and promote children's ability to make the transition to school.

Concept of Readiness

The concept of school readiness has been defined in the literature as the minimum level of development a child needs to exhibit to respond successfully to the demands of the school curriculum (Duncan et al., 2007). Studies suggest that school readiness is a multidimensional concept involving academic, social and emotional qualities as well as cognitive abilities that reflects the child's ability to learn specific material and be successful in the school environment (Carlton & Winsler, 1999; Duncan et al., 2007; May et al., 1994; McClellan, Morrison & Holmes, 2000; Smith, Borkowski, & Whitman, 2008). Thus, school readiness indicates that children are ready for school if they are able to adapt successfully to formal school settings by demonstrating that they can meet the school's academic demands as well as social and behavioral competencies that enable them to socialize effectively with their peers. This study recognizes that children's self control skills are a result of what they have been taught at home and reflect skills that may render them able to participate successfully in kindergarten.

According to Carlton and Winsler (1999), determining who is and who is not ready, and the ability to give those who need additional time the opportunity to have it before they begin formal schooling requires that at least three assumptions be met. First, there is a minimum, definable, developmental level at which children can function well in school; second, there are assessments that can determine whether or not children have reached this point; and finally, there are viable alternatives for children found to be not ready that will help them be more successful when they do enter kindergarten. The first procedure for determining readiness is an attempt to ensure a minimal maturity level by requiring that a child achieve a specific age before being able to enroll in kindergarten,

which has the potential of being easy and potentially equitable. There is concern with the validity of this implicit assumption guiding school readiness practices. Using birthday requirements for children's entry is an ineffective policy because of parental choice and parental attempts to circumvent policy; parents of children whose birthdays arrive just before the cut-off date often choose to hold their children back to gain the perceived extra edge of another year, while many other children who are far from the deadline are pushed ahead by parents who believe that the earlier year of schooling is what their children really need (Carlton & Winsler, 1999).

A second procedure, the use of standardized testing instruments, can be classified into two categories: those that measure developmental milestones such as the Gesell Test and those that measure academic knowledge such as the Metropolitan Readiness test or a combination of the two such as the DABERON-2 (Carlton & Winsler, 1999). Many researchers (e.g., Bear & Modlin, 1987; Ellwein, Walsh, Eads, & Miller, 1991; Freberg, 1991; May, 1986) have found that widely used readiness tests are relatively poor predictors of future school success and that typical assessment practices lack sufficient validity and reliability for making placement decisions (Carlton & Winsler, 1999).

The third procedure for determining a child's readiness assumes that there are viable alternatives for children who are not ready for school; these alternatives will make those children ready and able to meet the demands of the public school system (Carlton & Winsler, 1999). These options include redshirting (delayed entry) or attendance in a special transition (i.e. young fives) class where lower functioning children from a heterogeneous classroom are placed in a homogeneous classroom where they are taught "learning to learn" skills rather than direct subject area skills (Carlton & Winsler, 1999).

Impact of parent involvement on readiness for school

A review of the literature suggests that whether or not children are prepared for school and succeed later in life is related to multiple aspects of the child's development including their cognitive skills, social and emotional development, physical health and well-being, and their approaches to learning. Measures of children's knowledge and behavior at school entry can serve as indicators of how well families, child-care institutions, and preschool programs prepare children for school (NCES, 2000). Parents share the responsibility for goal 1 of the National Educational Goals with the community, social and health agencies, preschool and day care providers, and state and national leaders who shape policy for young children. As previously stated, goal 1 targeted school readiness, stating that "all children should start school ready to learn (U.S. Department of Education, 1995, p.2)." Parent involvement is the key to school readiness.

Parent involvement research supports the need for parent involvement in a child's educational process that affects their readiness for school (Baker & Roth, 1997; Belsky & MacKinnon, 1994; Carlton & Winsler, 1999; Fantuzzo, 1999; Lunenburg, 2000; Maxwell & Eller, 1994; Parker et. al., 1999; Reynolds et al., 1996; Swick et al., 1994). In early childhood education, little is known about the effects of parent involvement on children's development, social competence and school readiness (Parker et al., 1999). According to Maxwell and Eller (1994), children whose parents expect them to do well in school tend to perform better than do children whose parents have low expectations, even taking the child's mental ability into consideration.

Evidence consistently indicates that the cognitive stimulation that a child experiences at home is also systematically related to children's school performance

(Belsky & MacKinnon, 1994; Clarke & Kurtz-Costes, 1997; Machida, Taylor, & Kim, 2002; Parker et. al., 1999). A strong indicator of the literacy environment in the home may be the number of child-oriented resources (e.g., books, tapes, and CD's; NCES, 2000). Bradley, Caldwell, and Rock (1988) suggested that the availability of appropriate play materials in the home, throughout infancy and toddler-hood, has a positive effect on achievement in early elementary school, particularly in reading achievement, while Snow (1991) suggested that a literacy rich environment contributes to children's language and literacy development, which in turn plays a role in their chances for school success.

Studies examining the relationship between the literacy rich environment as well as the interaction between parents and the child in educational activities and the child's educational success are of interest to policymakers, researchers and educators. Research can inform policymakers and advise them about the need for strategies of intervention and relevance of programs that produce long-term positive outcomes for children and encourage parent involvement, such as Head Start. Empirically-based research related to the importance of the literacy-rich environment and parent-child interaction can help establish the relevance of encouraging the involvement of parents in their child's education. Further, research in this area can help educators meet the goal of helping children start school ready to learn, encourage parent involvement and maximize parent-child interactions.

More information about the home environment may shed light on how to improve a child's cognitive skills, as well as their social skills and approaches to learning, before they enter kindergarten. Families who engage in more teaching at home and who provide more toys, games and books have children who out-perform their age-mates in reading

and writing early in their school years (Belsky & MacKinnon, 1994). Parents, parenting styles (e.g., their level of warmth in interacting with their children) and marital interaction styles (i.e., negative and positive interactions) also significantly predict children's kindergarten achievement (Belsky & MacKinnon, 1994; MacKinnon, 1989).

Children's home environments reflect parental investment in child well-being (Parcel et al., 2001). These authors found that parental investment in age-appropriate cognitive stimulation, an effectively warm style of interaction with children, and in general cleanliness and safety of the home environment combine to promote positive child outcomes. Further, children who have better access to cognitive supports or who live in a literacy environment develop more capital in the school (Parcel et al., 2001). Social capital associated with schools most directly refers to bonds between parents and schools that can facilitate educational outcomes and is characterized by community ties, relationships that parents form with school teachers, level of intellectual stimulation and level of affective support (Parcel et al., 2001).

Discussion between parents and children is an important theoretical mechanism for improving school readiness because it is through active parent-child communication that the importance of schooling and education is conveyed to the child (McNeal, 2001). Coleman (1990) contended that parents' involvement with their child's schooling, for example, through parent-child discussion creates extra sources of social constraint to influence the child's behavior. In early childhood, less is known about the effects of parent involvement on children's development, school competence and school readiness, while several studies have indicated that even at a younger age, greater parent involvement positively affects school readiness and adaptation to elementary school

(Baker & Roth, 1997; Parker & Asher, 1997; Reynolds et. al., 1996). Parent-child interactions with reading materials are important during the preschool period because it is during these years that children become familiar with story structures, complex syntax and vocabulary. Research has suggested that higher achieving children have parents who read to them more frequently and help them attain phonemic awareness (Juel & Leavell, 1988). Research has also suggested that reading and storytelling stimulate the imagination, help to increase children's vocabularies, introduce them to components of stories (such as character, plot, action, and sequence), and provide them with information about the world around them (The National Education Goals Panel, 1997). Goal I of the National Educational Goals Panel, which recognizes the importance of family-child engagement in literacy activities for children's learning and readiness for school, suggests that for all children in America to start school ready to learn, parents need to devote time each day to teaching them.

According to data from the Early Childhood Longitudinal Study 1998-99, sponsored by the U.S. Department of Education Statistics, the differences we see in children's knowledge and skills as they enter kindergarten can result from variation in family characteristics such as maternal education, family structure, and home experiences such as home educational activities and non-parental care. The data from that report suggest that mothers with less than a high school education decrease the chances of their children succeeding in school. Brody (1995) suggested that a high-level of parental education, particularly maternal education, predicts family financial resources, which directly link with more harmonious and supportive family interactions and ultimately greater academic competence. Educationally advantaged parents often go to great

lengths to prepare their children socially, cognitively, and motivationally for academic learning and are more involved in their child's school than less educated parents (Bandura, 1997). Parents who work outside the home are less likely to be involved in school, but parents' working status does not seem to affect the level of involvement at home (Eccles, J. & Eccles, S., 1993).

Limitations of the Previous Research

Despite the sizable research relating different types of parent involvement to student outcomes, we do not have a clear understanding of how patterns and effects of parent involvement differ across racial/ethnic groups, nor do we know what types of parent involvement are best for students from disadvantaged backgrounds and students who are preparing to enter school for the first time. This dissertation will attempt to fill this gap by determining the effect of parent involvement defined as cognitive stimulation in the home on children's reading skills and self-control outcomes, as well as their school adjustment prior to the child entering kindergarten.

Schools are increasingly being asked to serve diverse student populations and give special attention to improving the academic and social outcomes of racial/ethnic minority and low-income students. In order to use parent involvement as a mechanism to improve school opportunities and outcomes for students, especially those at risk, schools must understand the types of parent involvement most effective at different stages of schooling as well as how parent involvement effects differ by family background characteristics (e.g., racial/ethnic background, social economic status).

Although the research relating different types of parent involvement to student outcomes is sizable, much research continues to overlook race/ethnicity when conducting

empirical analysis. Not accounting for across group variation in the effects of parent involvement may confound our understanding of the valid relationships between parent involvement and student achievement. Some studies suggest there is a need for more analytic work to further differentiate the effects of involvement practices on student educational achievement, especially among various racial and ethnic groups (Epstein, 1991; Keith & Benson, 1992; McNeal, 1999). McNeal (1999) suggest there is a need to further quantify and measure the various constructs of parent involvement to determine the effects of parent involvement on other student outcomes (e.g., truancy engagement, preparedness, course taking, etc.), which indirectly affect academic achievement.

Evaluating parent involvement as social capital on children's school performance and development is difficult not only due to the varying definitions of what constitutes involvement, but also because of the lack of agreement on how best to measure such involvement and from what source (Marcon, 1999). Teacher ratings have been used by some researchers to measure parent involvement in school (Feuerstein, 2000; Marcon, 1999; Zellman, 1998). Some researchers have used student records, such as log-in sheets or case management files to quantify parent involvement (Griffith, 1996). Others have used self-report questionnaires or interviews with parents and students to assess parent participation in school activities and governance, home involvement and barriers to parent involvement (Chavkin & Williams, 1990; Griffith, 1996; McNeal, 1999; Watkins, 1997). While parents can provide key information about their involvement practices at home including home educational activities, as well as the child's social development and behaviors, Marcon (1999) suggests there is a lack of parent and child reported measures of involvement in the literature.

More research should attempt to understand how social capital affects a range of behavioral variables including school preparedness. While McNeal (1999) examined whether parent involvement had a greater impact on cognitive skills (science achievement) and behavior (truancy and dropping out) in high school students, the present study attempted to determine if parent involvement, as a social capital predictor, had an effect on kindergarten children's reading skills, self-control or school adjustment outcomes while controlling for the influence of socioeconomic status, family structure, race/ethnicity and a child's gender, and whether or not a child had a formal preschool experience. This study also addressed some of the inconsistencies, contributing to the research by conceptualizing parent involvement as social capital, that is, the home cognitive stimulation the parent provided for the child prior to entering kindergarten and its influence on reading, self-control and adjustment to school of children from various sociodemographic and racial/ethnic backgrounds.

Based on the existing literature, three important questions remain:

- Does parent involvement at home before the child enters kindergarten have an influence on a child's reading readiness for school, controlling for socioeconomic status (SES), race/ethnicity, family structure, child's gender and whether or not the child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?
- Does parent involvement at home before the child enters kindergarten have an impact on the child's self-control, controlling for the influence of socioeconomic status, family structure, race/ethnicity, child's gender, and whether or not the

child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?

- Does parent involvement at home before the child enters kindergarten have an impact on the child's school adjustment, controlling for the influence of socioeconomic status, family structure, race/ethnicity, child's gender, and whether or not the child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?

This dissertation addresses these questions. What follows is an overview of the theoretical framework that guided this research.

CHAPTER THREE: THEORETICAL FRAMEWORK

Social Capital Theory: A Comprehensive View

Social capital has been defined and operationalized in many ways in the past two decades (Bourdieu, 1986; Coleman, 1990; Putnam, 2000). Regardless of which definition of social capital one adheres to, McNeal (1999) lists three distinct elements that researchers must address when conceptualizing social capital: structural forms (the structural aspects of the social ties and relations), norms of obligation and reciprocity (some sense of investment with the expectation of a return on that investment owing to a sense of trust, obligation or norm of reciprocity), and resources (existence and degree of resources within the network as well as those that can be drawn from outside the network). These characteristics of social capital provide the theoretical framework for how parent involvement can be conceptualized as social capital and its influence on a child's readiness for school.

In terms of a structural form, parent involvement can be defined as the dyadic relationship between parent and child. Social capital theory explains how the strength of the relationship between parents and children helps facilitate a child's educational process.

In terms of norms, obligations and reciprocity, parent involvement can be used to explain the parent's investment in a child's development and education according to the norms of American society. Thus, social capital is concerned with not only interpersonal relationships, but also with values, norms and social attitudes. Shared norms and values can result in feelings of trust, obligation, and actions of reciprocity (McNeal, 1999). Parents provide the cognitive stimulation for the child and this investment of time can be

viewed as an investment in the child with the expectation that the child will have positive educational outcomes. When a child performs well in school, it may increase his/her chances of having better occupational placement and greater income capacity. Thus, a parent's investment in their child can promote positive child outcomes that may be of future benefit to society.

Social capital theory also explains how the degree of resources available to parents affects the amount of social capital they can provide to their child. These resources, for example, may include access to additional social resources such as knowing the child's friend's parents, relationships, information, language, money, and physical goods (Monkman, Ronald & Theramene, 2005). Thus, Coleman (1990) describes social capital as the resources located in the family as well as outside the family or community social organization that can generate valued outcomes for a child's development. Also, in terms of the existence and degree of resources, parents have various levels of physical/financial capital (i.e., income), human capital (i.e., employment, education) and social capital (i.e., networks with other parents) to invest in their children. Coleman was particularly interested in how social capital operates to facilitate the creation of human capital among children as he described the role of social capital in promoting high school completion among youth.

Using the form and resource characteristics of social capital theory, this study provides a theoretical framework for how parent involvement affects a child's readiness outcomes examined in this study. Specifically, this theory was used to understand the impact of parental involvement on the child's readiness; in other words, the social capital

for the child that influences his/her cognitive development, social skills and adjustment to school.

Major Contributors

Three major contributors to social capital theory are James Coleman (1990), Robert Putnam (2000) and Pierre Bourdieu (1986). They each emphasize different dimensions of social capital, approaching the theory from a different perspective. For James Coleman (1990), social capital is significant primarily as a way of understanding the relationship between social inequality and educational achievement. He focused on how social capital itself has an independent effect contending that social capital itself is a contributing factor to a child's academic success. Coleman's social capital theory gives us the basis for explaining the influence of parent involvement on a child's educational process. Coleman noted differences in the social networks available to parents from different types of schools. He distinguishes between social capital within the family (the relations between children and parents) that gives the child access to the adult's human capital-family structure, and social capital outside the family (the parent's relations with the institutions in the community).

Coleman's theoretical discussion of social capital encompasses social capital at home and social capital outside of the home, as previously mentioned, with many of his indicators of social capital focusing within the family. For example, Coleman believed there is more social capital in the family when there are two parents at home (better child rearing benefits), when the mother is home instead of working (less opportunity to form bonds with neighbors, and useful for protecting and socializing children), when there are fewer siblings (more children dilute the intensity of parent-child relationships), and when

parents spend time interacting with the child, providing stimulation to promote their children's well-being. Social capital describes the interactions between parent and child as avenues to social benefits (Coleman, 1990).

According to Coleman (1990), social capital reflects the time and attention parents spend interacting with their child engaging in activities that promote his or her well-being, including educational achievement. It is the strength of the relationship between parents and children, emphasized by Coleman (1990), that is critical in shaping youngsters human capital, and then determines whether children can take advantage of whatever financial and human capital their parents possess. Human and financial capital can benefit a child if there is a high level of family social capital (Coleman, 1990). For example, parents who spend more time reading to their child can help to promote high school completion, thus, enhancing their child's educational opportunity, further improving labor market prospects and greater income capacity. Coleman used data from a national survey to examine the influence of social capital on the formation of human capital, and operationalized social capital using the following indicators: (1) the presence of both parents in the household, (2) presence of one versus four siblings, (3) fewer changes in school since fifth grade, (4) regular attendance at religious services, and (5) mother's high expectations for child's educational attainment.

According to Coleman (1990), there is less social capital in single-parent than dual earner families because single-parent families do not have enough time to give attention to their children. Further, when there are more children in a family there is less quantity of time for the parents to spend with their children (Coleman, 1990). Coleman suggested that social relations are disrupted when children move to another school.

Finally, according to Coleman, family norms and parental investment in their child are reflected through mothers' high expectations.

Social capital may be most crucial for families who have fewer financial and educational resources. Families with lower socioeconomic status may have less success in preparing their children for school due to their lack of access to a wide range of resources such as books and toys to promote and support their child's development. Social capital is essential in promoting skills that lead to future success. The central idea underlying social capital theory is that the social relationships as well as the personal networks which they create are resources which can be used to generate valued outcomes for the child's development (Coleman, 1990).

While social capital has been operationalized in various ways, there is empirical support for the impact of social capital on a child's educational attainment. For example, Furstenburg and Hughes (1995) found that parents' knowledge of their child's friends promotes high school completion, and Parcel et al. (2001) found that parents' knowing their child's friends, defined as social capital, improves children's reading outcomes. Other researchers have found that parents' involvement in school organizations such as the PTA can positively influence child outcomes such as mathematics (Parcel et al., 2001), science achievement (McNeal, 1999), and grade point average (Gardner, Hao & Pong, 2005). Social capital defined as parent involvement in church activities has been found to decrease behavior problems in adolescents (Runyan, 1998; Wright & Fitzpatrick, 2006). Social capital, defined as the presence of two parents residing in the home, has been found to be associated with positive outcomes for children (Feuerstein, 2000; Runyan, 1998).

Coleman's (1990) empirical work on social capital included a series of large-scale longitudinal studies from 1980-1982 designed to compare the outcomes of sophomores in U.S public and private Catholic high schools with those in non-parochial high schools. Using a logistic regression analysis, Coleman studied the effect of variation in social capital available to high school sophomores on whether or not students dropped out of school before graduation. He found markedly higher levels of attainment in most students at Catholic high schools and noted higher expectations of teachers in those schools. Furthermore, Coleman suggested that this was particularly beneficial for pupils coming from the least advantaged backgrounds. The results of this analysis showed the drop-out rates between sophomore and senior year to be 14.4% in public schools, 3.4% in Catholic schools, and 11.9% in other private schools. According to Coleman, these differences are not due to the religion of the student or to the degree of religious observance, as Catholic students in public schools are only slightly less likely to drop out than non-Catholics. Coleman also found low drop-out rates in the Catholic schools, the absence of low drop-out rates in other private schools and an independent effect of frequency of religious attendance. In summation, Coleman believed that since students in Catholic schools possessed more social capital than students who attended non-Catholic schools, they tended to outperform public school students academically and have a lower drop-out rate. He believed that social capital rather than the students' affiliation with religion explained their students' better performance over the performance of public school students.

Following Coleman, who coined the term "social capital," Putnam (2000), who packaged and developed the theory of social capital, defined social capital as a 'key

characteristic of communities rather than of individuals.’ For Putnam, social capital consists of the following: networks, which together constitute the civic community (institutions, facilities and relationships) in the voluntary, state and personal spheres; peoples’ sense of belonging to the civic community together with a sense of solidarity and equality with other community members; norms of cooperation, reciprocity and trust, which govern the functions of networks; and positive attitudes to the institutions, associated facilities and relationships constituting the civic community as well as civic engagement, which involves participation in the process of sustaining and/or using such voluntary, state and interpersonal works (Morrow, 1999). According to Putnam (2000), the best indicator of social capital is involvement in a voluntary association such as a choir, political party, or a football league. His research showed that areas with strong social capital have better educational performance, reduced crime levels and higher neighborhood quality of life.

Social capital for Bourdieu (1986) consists of social networks and connections: contacts and group membership, which through the accumulation of exchanges, obligations, and shared identities provide actual or potential support and access to valued resources. According to Bourdieu, social capital is a multiplier of an individual’s own capital as a result of the resources and other forms of stocks of capital available through the collectivity. Additionally for him, economic capital is at the root of all other types of capital, and Bourdieu is primarily concerned with how economic capital underpins these other forms.

Bourdieu (1986), like Coleman, sees social capital as a source of educational advantage. According to his theory, schools represent and reproduce middle or upper

class values and forms of communication and schools embody those values because teachers come from predominantly middle or upper class backgrounds. The teachers are better able to communicate with the middle or upper class parents who share similar beliefs but have difficulty relating to parents who come from a different cultural frame of reference (Feuerstein, 2000). This bias puts lower and working class students and parents at a disadvantage because they must adapt to the dominant culture of the school to meet teacher expectations. It also promotes the involvement of middle and upper class parents and limits the involvement of those with lower socioeconomic status (Feuerstein, 2000). Parents have various levels of physical capital, human capital and cultural capital to invest in their children, and the potential benefit of social capital is likely relative and dependent upon the parent's position in the social hierarchy (McNeal, 1999), so that, for example, a child with a parent from a low socioeconomic status and non-intact household would likely have less resources to invest in his/her child's education. While Bourdieu used social capital to denote the ways in which elite groups use their contact to reproduce their privilege, Coleman extended the scope of the concept to encompass the social relationships of non-elite groups. Unlike Putnam, Bourdieu did not focus on community in his formulation of social capital (Morrow, 1999).

Because Coleman developed his idea of social capital in the education context, Coleman's social capital theory will be used in this dissertation to explain the influence of parent involvement on a child's reading achievement, self-control, and school adjustment. Further, although now overshadowed by Putnam in the wider public policy debate, Coleman has had the greatest influence on scholarship, at least in the domain of education (Schuller, 2000). According to Baron, et al. (2000), Coleman was especially

interested in how social capital can be used to understand the underachievement of poor children in school and hence the continuing under-representation of people from poor backgrounds in higher education and white collar jobs. Coleman (1990) defined social capital as the set of resources that inhere in family relations that are useful for the cognitive or social development of a child or young person.

According to Coleman (1990), the strength of the relationship and the basic measure of social capital between parents and children can be measured in the time that parents spend in interacting with children and the stimulation they provide to promote their children's well-being. Moreover, Coleman distinguished among social capital (defined as positive interaction among parents and children) and the derived benefits, financial capital and human capital. Financial capital is measured approximately by families' wealth or income, which provides the physical resources that can aid in achievement, such as a fixed place in the home for studying, and the purchase of materials to aid in learning, as well as the financial resources to smooth family problems. Human capital is measured approximately by a parent's education and provides the potential for a cognitive environment for the child that aids learning. Coleman (1990) suggested that these forms of capital are interrelated and essential for the development and well-being of a child.

Coleman (1990) emphasized the ways in which social capital can help counter racial and social inequality in the educational institution, and he stressed the importance of the social capital available within families as an influence on children's outcomes. Coleman's contribution to social capital theory has strongly shaped the contemporary

debate; by subjecting the concept of social capital to empirical scrutiny, he was able to develop ways of operationalizing it for research purposes (Baron et al., 2000).

Although his contributions have been both influential and significant, Coleman's theory has also been criticized. His theory has been criticized for the various ways in which it has been operationalized. The use of different theoretical conceptualizations of social capital can help explain the inconsistencies in findings among previous studies. The mixed findings on the relationship between parent involvement as social capital and student achievement can be explained by the non-standard operational definition of what constitutes social capital.

The most common criticism of Coleman's (1990) theory is his overemphasis on primary connections such as kinship (family relationships) and neighborhood on the lives of children and too little emphasis on secondary connections such as social networks and civic engagement (Baron et al., 2000; Morrow, 1999). In other words, Coleman's empirical evidence was largely drawn from studies of the social network, attitudes and influences of schools on pupils rather than on the networks of adults (Baron et al., 2000). Many of the studies which measured social capital seem to assume that individual children are only influenced by family structure and school: they do not take into account the broader social context that can affect a child's well-being such as friends, social networks, out of school activities such as paid work and children's activities in their communities (Morrow, 1999).

Inequalities in social capital vary by gender and race/ethnicity and these factors may also play an important role in a child's achievement. However, Coleman has had little to say about these variables (Baron et al., 2000; Morrow, 1999). Coleman ignored

the effects of gender, except to portray the consequences of women's employment as negative, both for community cohesion and for their individual children (Morrow, 1999; Parcel et al., 1996). Coleman is also criticized for not considering the relevance of social and economic history in his argument: in poor areas where many people rely on their family and social ties for economic survival, there may be considerable social capital. However, the assets a person might obtain through social capital rarely allow individuals to avoid poverty or there may be no effective long-term reward for school achievement, which may increase the chances of school drop-out or they may turn to crime (Morrow, 1999).

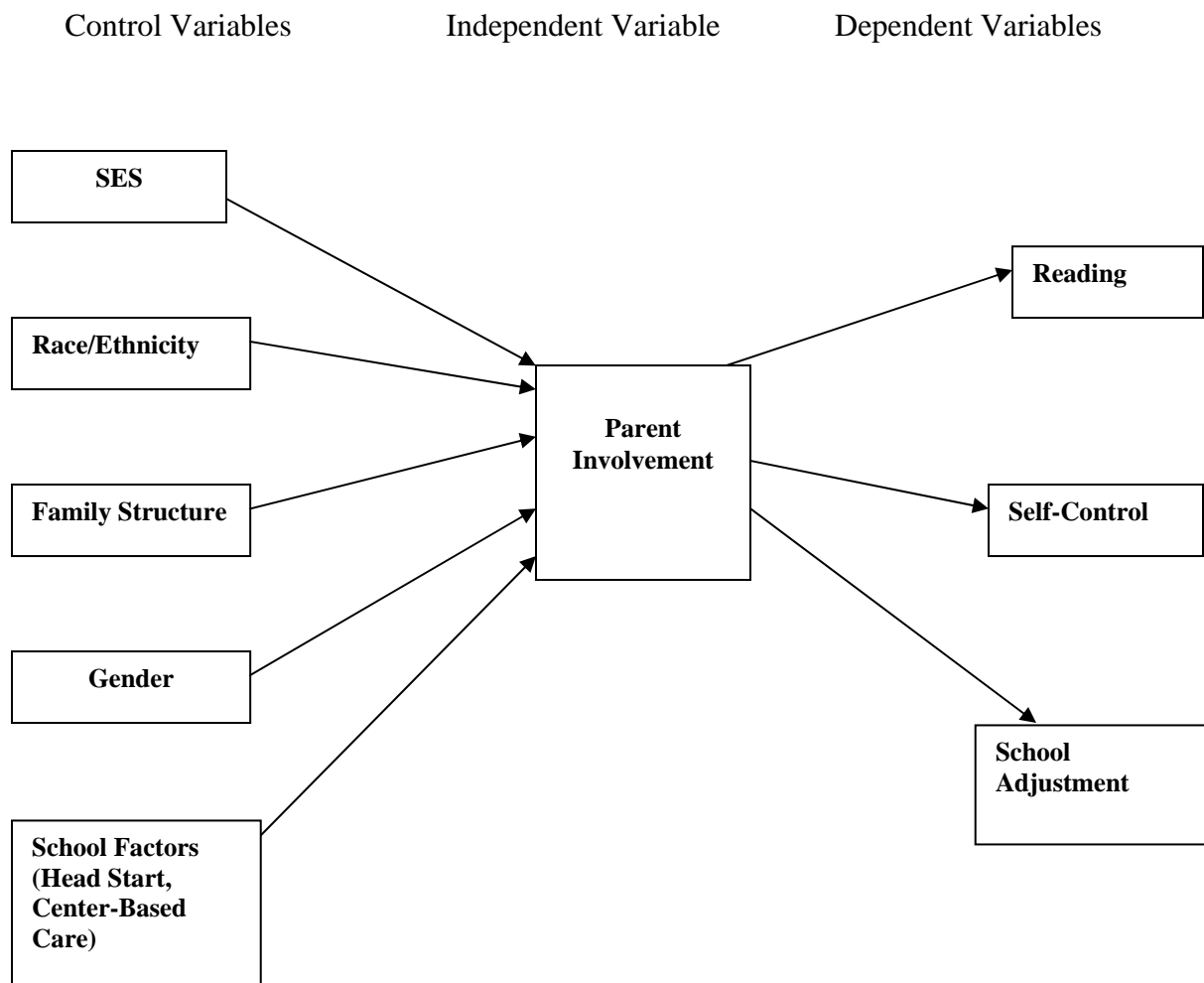
Conceptual Model

Figure 1 presents the conceptual model for the dissertation. It specifies the interrelationships among the variables of interest. As shown in Figure 1, several control variables are included in the model. Previous studies have shown that SES, race/ethnicity, family structure, gender and school factors have an effect on both parent involvement and children's outcomes. Hence, to accurately assess the effects of parent involvement on child outcomes, these variables must be controlled. Although the model does not delineate the relationships among the control variables and the dependent variables, they are examined in all analyses. In this model, parent involvement serves as an independent variable, and it is operationally defined as parent involvement in the home. Previous research has demonstrated that this variable has an impact on child outcomes. The dependent variable, which is school readiness, is operationalized by three indicators: reading, self-control and school adjustment.

Based on this model, it is hypothesized that parent involvement will be a significant positive predictor of a child's reading achievement, self-control and school adjustment while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start or other center-based care facilities. Previous literature indicates that parents of lower SES, single parent status, and parents of children with less preschool experience are less likely to be involved in their child's education. As for race/ethnicity and gender, research examining the effects of these variables on parent involvement has produced mixed results. Given this, no hypotheses will be generated; rather, the dissertation will explore the direction of these effects. What

follows is a detailed discussion of the research questions and hypotheses of this dissertation.

Figure 1. Conceptual model



* Model does not delineate the relationships among the control variables and the dependent variables, although they are examined in all analyses.

Research Questions

(1) Does parent involvement at home before the child enters kindergarten influence a child's reading readiness for school controlling for socioeconomic status (SES), race/ethnicity, family structure, child's gender and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?; (2) Does parent involvement at home before the child enters kindergarten have an impact on the child's self-control while controlling for the influence of socioeconomic status, family structure, race/ethnicity and a child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?; and (3) Does parent involvement at home before the child enters kindergarten have an impact on the child's school adjustment while controlling for the influence of socioeconomic status, family structure, race/ethnicity and a child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only?

Hypotheses

Based on social capital theory, which has found that parent/child interactions are associated with increased achievement and less problematic behavior, and based on previous findings in the literature, several hypotheses were investigated. The following hypotheses pertain to the relationship between parent involvement at home and a child's reading achievement, self-control skills and adjustment to school: (1) Parent involvement at home before the child enters kindergarten will be a significant positive predictor of a child's reading achievement while controlling for SES, family structure, race/ethnicity,

child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; (2) Parent involvement at home before the child enters kindergarten will be a significant positive predictor of a child's self-control skills while controlling for SES, family structure, race/ethnicity, a child's gender and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; and (3) Parent involvement at home before the child enters kindergarten will be a significant positive predictor of a child's adjustment to school while controlling for SES, family structure, race/ethnicity and a child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only.

This study also tested for a moderator effect. Because it has been consistently found in the literature that parent involvement on a child's educational attainment varies according to race/ethnicity, this study sought to determine if the effect of parent involvement on reading skills, self-control and school adjustment also varies according parent's race/ethnicity. As I expect the findings of this research to provide positive support for Coleman's social capital theory, with research indicating that some forms of capital may be less effective for some racial groups than others, I expect the relationship to change once race variation is examined. The following hypotheses will be tested regarding moderator effects: (1) There will be an interaction between parent involvement at home before the child enters kindergarten and race/ethnicity when predicting reading scores after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other

center-based care facilities only; (2) There will be an interaction between parent involvement at home before the child enters kindergarten and race/ethnicity when predicting a child's self-control after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; (3) There will be an interaction between parent involvement at home before the child enters kindergarten and race/ethnicity when predicting a child's school adjustment after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only.

CHAPTER FOUR: METHODOLOGY

The purpose of this section is to describe the sample and setting, research design structure, and testing and measurement procedures undertaken with the participants.

Moreover, the variables and the data analyses are described.

Sample and Setting

The Early Childhood Longitudinal Study, Kindergarten (ECLS-K) Class of 1998-99 sampling involved a multistage stratified sampling design. The first stage of sampling involved the selection of 100 primary sampling units (PSU's) from a national sample of PSU's (counties and county groups). Public and private schools were then selected within the PSU's, and children were sampled within the selected schools. Public schools were selected from the Common Core of Data, a public school frame, and private schools were selected from a private school frame developed from the Private School Survey (U. S. Department of Education, 2000).

The ECLS-K provides detailed information on children's early school experiences. The study began in the fall of the 1998-99 school year. The children participating in the ECLS-K are being followed longitudinally through the fifth grade (U. S. Department of Education, 2000). A nationally representative sample of 21,260 children enrolled in 1,277 kindergarten programs during the 1998-99 school year were sampled to participate in the ECLS-K. A total of 17,124 of the 21,260 originally sampled children participated during the base year of the study, a weighted response of 74% for the base year study (U. S. Department of Education, 2000). For the purpose of this study, a total of 2,118 children were excluded due to race. Those children who were not Black, non-Hispanic, White, non-Hispanic or Hispanic were not included in the analytical

sample. These cases that were dropped from the sample due to the above-mentioned exclusion criteria brought the total analytic sample size to 15,006 (unweighted). Moreover, only those cases that had complete data for the variables of interest were selected. Thus, the sample size was reduced by 1,895 cases. Hence, the final sample size was 13,111. The school response rate during the fall was 69.4%. There were 18,101 parent interviews completed during the fall of the school year for a 63% response rate. About 91% of the children had child-specific data reported by their teacher in the fall of kindergarten. The majority of children entering kindergarten in the fall of 1998 were born between September 1992 and December 1993. The children attended both public and private kindergartens that offered full-day and part-day programs. The ECLS-K sample includes 51% female and 49% male children from different racial/ethnic and socioeconomic backgrounds, and over-sampled Asian children and private kindergartens. Most of children were from two-parent households (78%), while the remaining children were from single-parent households (22%). The population percentage of first time kindergarteners in 1998-1999, according to race/ethnicity is as follows: White, non-Hispanic (57%), Black, non-Hispanic (14%), Asian (6%), Hispanic (17%) and Other 6%. Notably, 20% were in the lowest quintile with an income of \$9,969 or below, and 20% were in the highest quintile with incomes of \$71,866 and above.

For the purpose of this study, a secondary data analysis of the ECLS-K was conducted. As mentioned earlier, a total of 17,124 of the 21,260 originally sampled children participated in the base year of this sample size. This study examined the effects of parent involvement as social capital on a child's reading, self-control and school adjustment. The author of this study wanted to determine if combining a Head Start

program, which includes parent involvement as a key component as well as parent education and behavior modification programs with a center based care program is more effective than no formalized childcare. Those children who had no Head Start and no center-based care represented 29.3%. They will be referred to as the no formalized childcare group, which is considered the reference group for all analyses. Also included in this dissertation study are those children who attended Head Start (HS) and center-based care (CBC) combined (4.6%), Head Start but no center-based care (12.1%), and center-based care but no Head Start (54.0%). The author of this study also wanted to know if Head Start or center based care programs individually were more effective than no formalized childcare. The sample was restricted to Black, non-Hispanic, White, non-Hispanic and Hispanic children because the racial achievement gap between European Americans and African Americans and between European Americans and Hispanics is a major issue in educational policy research. Moreover, while the research has shown that Asians, also a minority group and Whites are less likely to experience school failure, Asian Americans may not benefit as much from parent involvement as Blacks, Hispanics and Whites due to their strong emphasis on educational attainment (Jeynes, 2003). This study compared the achievement gap of Black, White and Hispanic racial/ethnic groups to help determine the best quality education and programs to meet the needs of minority racial/ethnic groups who experience school failure. Restricting the sample size to Black, non-Hispanic and White, non-Hispanic children resulted in 2,118 of the 17,124 children being excluded. Moreover, restricting the sample size to only those with completed data on all the variables resulted in 1,895 cases being excluded. Thus, the sample size total

was 13,111 Unweighted and 3,164,275 Weighted. A detailed discussion of the characteristics of the sample is provided in the section entitled, “Descriptive Analyses.”

Research Design

Compared with other nationally representative data sets, the ECLS-K is strong in its coverage of items pertaining to parent involvement, and it focuses on first time kindergarteners’ knowledge and skills and various risk factors that may influence a child’s development. The ECLS-K contains empirical measures of social capital variables that have been shown to influence various educational outcomes. This study used the ECLS-K data set to analyze the relationship between parent involvement as social capital in the home and multiple student outcomes. The content of these items correspond closely to Coleman’s (1990) conceptual description of social capital. That is, parent involvement was examined at home and its effects on the child’s reading skills, self-control skills (positive behaviors that facilitate successful social interaction), and adjustment to school. Given that a cross-sectional, non-experimental design structure was used, the causal inferences are interpretive in nature and derived from the theoretical and parent involvement research literature.

Data Reliability

The ECLS-K is a large-scale survey that uses complex probability sampling procedures including over-sampling, stratification and multiple stages of selection, to obtain a representative sample of the target population. Estimates produced using data from the ECLS-K are subject to two types of error, sampling and non-sampling. Sampling errors occur because the data are collected from a sample rather than a census

of the population. Nonsampling errors are errors made in the collection and processing of data (U. S. Department of Education, 2000).

Sampling Errors and Weighting

In the ECLS-K, a sample of children attending kindergarten was used rather than all the children attending kindergarten that year. Therefore, estimates produced from the ECLS-K sample may differ from estimates that would have been produced from other samples (U. S. Department of Education, 2000). This type of variability is called sampling error because it arises from using a sample of the children rather than all the children attending kindergarten.

In order to produce national estimates from the ECLS-K data during the fall of the 1998-99 school year, the sample data were weighted. Weighting adjusts for the unequal selection probabilities at the school and child levels and adjusts for school, child, teacher and parent non-responses (U. S. Department of Education, 2000). The first stage of the weighting process assigns weights to the sampled PSU's equal to the inverse of the PSU probability of selection. The second stage of the weighting process assigns weights to the schools sampled within the PSU's. The base weight for each sampled school is the PSU weight multiplied by the inverse of the probability of selecting the school. The base weights for eligible schools are adjusted for non-response. These adjustments are made separately for public and private schools.

In addition to properly weighting the responses, special procedures for estimating the statistical significance of the estimates were employed because the data were collected using a complex sample design (U. S. Department of Education, 2000). Complex sample designs, like that in the ECLS-K, result in data that violate the assumptions that are normally required to assess the statistical significance of the results (U. S. Department of Education, 2000). Unlike surveys that have only one type of survey

instrument aimed at one type of sampling unit, the ECLS-K is a complex study with multiple types of sampling units, each having its own survey instrument. The stages of sampling in conjunction with the different non-response level at each stage and the diversity of survey instruments require that the multiple sampling weights be computed for use in analyzing the ECLS-K data (U. S. Department of Education, 2000).

Non-sampling Errors

Non-sampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations, as well as data collection, processing and reporting procedures (U. S. Department of Education, 2000). The sources of non-sampling errors are typically problems like unit and item non-response, the differences in respondents' interpretations of the meaning of the questions, response differences related to the particular time the survey was conducted and the mistakes in data preparation. Another potential source of non-sampling error is respondent bias (when respondents systematically misreport, whether intentionally or unintentionally). In this survey, respondent bias may be present; it is not possible to state precisely how much bias may affect the results (U. S. Department of Education, 2000). In order to minimize bias, all items were subjected to multiple cognitive interviews and field tests and actual teachers were involved in the design of the cognitive assessment battery and questionnaires. NCES also tried to minimize some of the biases in this survey by conducting one on one, un-timed assessments and by asking some of the same questions about the sampled child of both teachers and parents.

Data Collection/Procedures

The ECLS-K includes information that was captured through direct one-on-one child assessments, parent interviews, and teacher questionnaires administered in the fall and the spring of the children's kindergarten year. This study utilized assessments conducted with children and interviews collected with their parents and teachers in the fall of the kindergarten year.

NCES conducted field visits to ensure that the instruments and procedures used in the ECLS-K were sound. In addition, small-scale pilot testing of the ECLS-K instruments assessments were conducted (U. S. Department of Education, 2000).

All variables in the ECLS-K files use a standard scheme for missing values. Codes are used to indicate item non-response, legitimate skips, and unit non-response.

Child assessment

Children were asked to participate in various activities designed to measure important cognitive skills in the general areas of reading competence (reading, language arts and literacy). All measures were obtained through an un-timed assessment of the child. Each child was assessed using a computer-assisted personal interview (CAPI). The ECLS-K battery was a two stage assessment approach, in which the first stage in each domain contained a routine test that determined a child's approximate skills. According to the child's performance on the routine test, the child was administered the appropriate skills level assessment for that domain (second stage). The Reading assessments included questions in basic skills, vocabulary, and comprehension. Children were administered the routine stage and the appropriate skills level stage in the fall while in kindergarten.

The items used in the direct assessment instruments were developed by the ECLS-K assessment work group with many contributions from early childhood development experts, curriculum experts, elementary school teachers and psychometricians. Other items, with permission from existing instrument developers, were adapted from published tests including: the Peabody Individual Achievement Test-Revised (PIAT-R), Peabody Picture Vocabulary Test-Revised (PPVT-R), the Primary Test of Cognitive Skills (PTCS), the Test of Early Reading Ability (TERA-2), and the Woodcock-Johnson Test of Achievement-Revised (WJ-R) (U. S. Department of Education, 2000).

The pools of items were reviewed for appropriateness and for relevance to the test framework. In addition, items were reviewed for sensitivity issues related to minority concerns. Items that passed these content, construct, and sensitivity screenings were assembled into field test booklets (U. S. Department of Education, 2000).

In this study the Item Response Theory (IRT) scale was used to measure student reading achievement. The underlying assumption of IRT is that a test taker's probability of answering an item correctly is a function of his/her ability for the construct being measured and of one or more characteristics of the test item itself. The IRT scale scores are overall, criterion-referenced measures of status at a point in time. They are useful in identifying cross-sectional differences among subgroups in overall achievement level and provide a summary measure of achievement useful for correlational analysis with status variables such as demographics, school type or behavioral measures (U. S. Department of Education, 2000). IRT uses the pattern of right, wrong and omitted responses to the items actually administered in a test, and the difficulty, discriminating ability and "guessability" of each item, to place each student on a continuous ability scale; it is then

possible to estimate the score the student would have achieved if all of the items in all of the test forms had been administered (U. S. Department of Education, 2000).

Cognitive test items were checked for Differential Item Functioning (DIF) for males compared with females and for African American, non-Hispanic and Hispanic compared with European American students. The DIF procedure is designed to protect possible differential functioning for subgroups by comparing performance for a focal group (e.g., females or African American students) with a matched reference group (e.g., males or European American children). DIF refers to the identification of individual items on which members of some population subgroups (the focal group) perform particularly poorly in comparison to a reference group that is matched in terms of performance on the total pool of items. Items that were judged to have content or presentation that might be problematic for a particular focal group were dropped from the item pool. However, items that had DIF that was judged to be a result of possible differential skills in some area of the test framework, and not due to a subgroup membership, were retained (U. S. Department of Education, 2000).

Internal consistency (alpha) coefficients (estimates of reliability) for the routine test and the second stage forms were high (mid to high 80's for each round). Only for the high-level second-stage form (appropriate skill level test), which had much greater variance than did the other forms, did the alpha coefficients approach or exceed .90.

The most appropriate estimate of reliability for the full reading test is based on the IRT theta scores (ability estimates), which range from .93 to .97 (U. S. Department of Education, 2000). This is a more appropriate estimate since it reflects the internal consistency for performance on the combined first and second-stage sections and for the

full range of variance found in the sample as a whole (U. S. Department of Education, 2000). Split-half reliabilities for the clusters of items that define each of the proficiency levels in the reading test were in the high 70's.

Parent interview

This dissertation uses data from the parent interviews administered in the fall of the kindergarten year. Most of the data from parent interviews were collected through computer-assisted telephone interviewing (CATI). When respondents did not have a phone or were reluctant to be interviewed by phone, data were collected through computer-assisted personal interviewing (U. S. Department of Education, 2000). The parent interview averaged about 50 minutes. Typically the respondent for the parent interview was the mother of the child; however, the respondent could be the father, stepparent, adoptive parent, or another relative or non-relative guardian. The respondent had to be knowledgeable about the child's care and education, be 18 years of age or older, and be living in the household with the child.

The parent interview was conducted primarily in English, but provisions were made to interview parents who spoke other languages. The questionnaire was translated into Spanish, which was then printed on hardcopy. Bilingual interviewers were trained to conduct the parent interview in either English or Spanish. If the interview was conducted in Spanish, the interviewer used the hardcopy questionnaire and then entered the respondents' answers in the computer assisted interview (CAI) program.

Parent interviews were used in this study because parents are an important source of information about their child's development at home before they enter school. Parents in the ECLS-K were asked about demographic characteristics including: language spoken

in the home, parent's education, income and employment status, home and school activities, children's abilities and health and parent's values, beliefs and expectations. In this current study, variables pertaining to parent's demographics (race/ethnicity, family structure, SES), parent involvement in home educational activities, child's reading skills, child's self-control, and child school adjustment will be used.

Teacher questionnaires

Teachers completed child-specific questionnaires that collected information on the child's social knowledge and skills. The items measured, used for this dissertation, are the child's pro-social skills and problem behaviors. As reported in the ECLS-K 1999 report, the social rating scale (SRS) used in this dissertation is an adaptation of the Social Skills Rating System (Gresham & Elliot, 1990).

Gresham and Elliot's Social Skills Rating Scale (SSRS) assesses social behaviors that are believed to affect areas such as teacher - student relationships, peer acceptance, and academic performance. On this scale, behaviors are rated according to perceived frequency and importance. This test was standardized on a national sample of over 4,000. Separate norms were provided for boys and girls (ages 3 - 18), and for elementary students with and without disabilities. Internal consistency for the social skills items rated by the teacher was .93 to .94. Test-retest reliability for the teacher's assessment of the social skills domain was .85.

Parents' views of their child's behavior often reflect their perceptions of the child's behavior at home. On the other hand, teachers' perceptions of the child's behavior is determined after the child leaves the home environment and enters school, although the child's skills reflect those learned at home before entering school. The

reliability for the teacher SRS is slightly higher than the reliability for the parent SRS (0.79 vs., 0.74, respectively). Because of this, Gresham and Elliot (1990) concluded that: (a) teachers are exposed to a representative sample of children's classroom social behavior; (b) teacher ratings are efficient and not time consuming; and (c) teachers are reliable and valid raters of problem behaviors.

In this study, both parents' and teachers' perspectives of children's school functioning were used with parents reporting on school adjustment and teachers reporting on self-control to accommodate for different perspectives on the child's school functioning.

Measures

Prescreening of the variables was carried out. The prescreening involved examination of box plots, simple scatter plots, assessment of the values for skewness, kurtosis and Kolmogorov-Smirnov statistics as recommended by Mertler and Vanatta (2001). Results indicated that Reading IRT had a moderate positive kurtosis indicating a peaked distribution. This positive kurtosis is referred to as leptokurtic, in which higher distribution of values are near the mean (DeCarlo, 1997). The reading scores were transformed using a log-transformation. The log reading score was used in all analyses. Higher scores indicated better reading scores. Parent involvement was normally distributed. Examination of the distribution for the items that make up the school adjustment variable indicated the following: child complained about school (78% of parents reported not at all); child was upset or reluctant to go to school (81% of parents reported not at all); and child pretended to be sick to stay home from school (92% of parents reported not at all). Based on the above, it was decided that the school

adjustment variable would be dichotomized, where 0 = difficulty adjusting, which includes those children who had difficulty adjusting more than once a week or once a week or less, and 1 = no difficulty adjusting. The degree of multicollinearity was addressed by inspecting bi-variate correlations (see Table 2). To deal with any multicollinearity problems, any variables that were highly correlated were combined into a composite variable, as an index. The parent involvement items were all highly correlated; thus, it was most appropriate to use it as a composite, index variable in the analyses. Two interaction variables were created (Black, non - Hispanic vs White, non - Hispanic) with parent involvement and Hispanics vs White, non - Hispanic with parent involvement). Each interaction variable was constructed by multiplying the centered variable, parent involvement, by the race/ethnicity variables, which were dummy coded with Whites as the reference group. Researchers recommend centering the predictor variables as an approach to alleviating multicollinearity between the predictor variables (Aiken & West, 1991; Holmbeck, 2002). This is accomplished by subtracting the mean from the score on each variable (Holmbeck, 2002; Pottick, Hansell, Barber, & Coyne, 2001).

Independent variable

The independent variable in this dissertation is parent involvement. All variables are defined as shown in Appendix A.

Parent involvement. This composite variable assesses the level of parent involvement as social capital defined as the amount of cognitive stimulation the parent provides for the child. The parent involvement variable was derived from the parent interview. Parents responded to the following questions: (1) how often do you read to

your child?; (2) how often do you tell your child stories?; (3) how often do you and your child sing songs together?; (4) how often do you help your child do arts and crafts?; (5) how often do you teach your child about nature?; (6) how often do you and your child builds things?; (7) how often do you and your child play sports together?; and (8) how often do you and your child play games together? Each item was given equal weight because this composite variable was combined into one scale that equals the sum of the responses. The items were highly correlated, and the alpha for this variable was .71.

Parents were asked to indicate how often they engaged in the above-mentioned activities with their child in a typical week on a four - point scale, where 1 = not at all, 2 = once or twice, 3 = 3 - 6 times, and 4 = everyday. The sum of responses produced a minimum score of 8 and a maximum score of 32 (See Appendix A). Higher scores indicate more parental involvement. This was a continuous, interval level variable with a mean score of 22.03, which indicates that most parents were engaged in the cognitive stimulating activities with their child before entering school.

Dependent variables

Reading skills. This is a continuous, interval level variable derived from the standardized child assessment. This assessment consisted of two stages. In the first stage the child received a 12 - 20 item routine test. Performance on this routine test determined which of several second stage tests that he/she would receive. The second stage test contained items appropriate for the child's level of ability as determined by the routine test. Reading scores were measured in points on the standardized tests. There were a total of 92 questions, each ranging in value from 0 to 1. The ECLS-K assessment included questions on: (1) basic skills: (print familiarity, letter recognition, beginning and

ending sounds, rhyming sounds and sight-word recognition); (2) vocabulary (picture vocabulary); and (3) comprehension (listening comprehension), and words in context (ability to read simple short passages of text with a missing word, and insert the correct missing word (U. S Department of Education, 2000). For the purpose of this dissertation, the composite variable on an IRT based scale in reading that combines all the above-mentioned skills was used in a continuous form. The reading scores were transformed using a log-transformation. In the ECLS-K, reading scores were based on Item Response Theory (IRT), which uses patterns of correct and incorrect answers as well as other item characteristics previously mentioned to estimate the probability of correct responses for all assessment questions, and establish a consistent pattern. The characteristics that IRT scores consider include: (1) the difficulty of the item, (2) the degree to which it discriminates between high and low achievers and (3) the effect that guessing may have on a student's score and his or her overall pattern of responses. The reliability of the estimate of overall reading skills (IRT-based theta) was .90. The reading scores ranged from a minimum of 1.17 to a maximum of 2.09. Higher scores mean better reading skills. For the dissertation sample, the mean score was 1.45. The mean suggests that the children in this sample had poor reading ability.

Self-Control. The self-control variable is a continuous, interval level variable, which assesses the child's ability to maintain self-control, a pro-social skill that a child must attain before he/she enters kindergarten. Pro-social skills include skills that facilitate successful social interaction. For the ECLS-K, the self control variable was derived from a self-administered questionnaire administered to the teachers in the fall at kindergarten entrance. Teachers used a frequency scale to report how often the child

demonstrated self-control. The self-control scale had four items that indicate the child's ability to control behavior by: (1) respecting the property rights of others, (2) controlling temper, (3) accepting peers ideas for group activities, and (4) responding appropriately to pressure from peers.

Split-half reliability for the self-control scale was .79. Internal consistency was (.93 to .94). Test-retest reliability for the social skills domain was .85. This variable was used as it appeared in the survey. The range of values was 1- 4. Items were rated on a four-point Likert scale, where 1 = never, 2 = sometimes, 3 = often, and 4 = very often. The sum of responses produced a minimum score of 1 and a maximum score of 4. Higher scores indicate better self-control. For the dissertation sample, the mean score was 2.83. The mean suggests that the children had good self-control.

Child Adjustment to School. The child's adjustment to school is a variable derived from the parent interview. Parents were asked during the fall of the kindergarten year, if on average, during the first two months of the school year, did the child display the following behaviors: (1) complained about school, (2) was upset or reluctant to go to school, and (3) pretended to be sick to stay home from school. The items were rated on a three - point Likert scale, where 1 = more than once a week, 2 = once a week or less, and 3 = not at all. As mentioned earlier, in this study the variable was dichotomized, where 0 = difficulty adjusting, which includes those children who had difficulty adjusting more than once a week or once a week or less, and 1 = no difficulty adjusting. The sum of responses produced a minimum score of 0 and a maximum score of 1. Higher scores indicate that a child is having no difficulty adjusting to school. For the dissertation

sample, the mean score was .07. The mean suggests that most children had no difficulty adjusting to school.

Control variables

Socioeconomic Status. This is a continuous, composite variable that reflects the socioeconomic status of the household. The SES variable was derived from two parent interviews in the kindergarten year. This variable was computed using the following components: father/male guardian's education, mother/female guardian's education, father/male guardian's occupation, mother/female guardian's occupation and household income. The information about parent's education was collected in round one. Parents were asked the highest grade they had completed. Parents' occupation information was collected in the fall-kindergarten only. Income information was collected in spring-kindergarten. As a result, income is missing for all households with parents who did not participate in the survey in spring-kindergarten. Because not all the parents responded to all the questions or were respondents in both rounds, there were missing values for some of the components of the SES indicator, with income having the largest percentage missing. A hot deck imputation methodology was used to impute missing values of all components of the SES. In hot deck imputation, the value reported by a respondent for a particular item is given or "donated" to a similar person who failed to respond to that question. The SES variables were highly correlated so a multivariate analysis was more appropriate for examining the relationship of the characteristics of donors and non-respondents (U. S. Department of Education, 2000). Once the components of the SES variable were computed, the z scores values were computed. Thus, each component was converted to a z score with a mean of 0 and a standard deviation of 1. The average of all

five components mentioned above created the continuous SES variable that ranged from -4.75 to 2.275. In this dissertation, this variable was used as it appeared in the survey.

The measure of SES used in this study was a continuous, composite variable derived from parent education, parent occupation and household income measured in income quintiles as follows: first quintile = \$9,968 and less; second quintile = \$9,969 - \$26,980; third quintile = \$26,981 - \$44,453; fourth quintile = \$44,454 - \$71,865; fifth quintile = \$71,866 and above. In this dissertation, SES was used as a continuous composite variable instead of raw income, education or occupation. A composite SES variable was used in this study as the research has shown theoretically that SES is strongly related to achievement. Coleman (1990) has shown that SES is directly necessary for school success by providing resources at home and indirectly necessary by providing the social capital. As previously stated, according to Coleman, these demographic variables that are related to parent involvement are interrelated and essential for the child's achievement. Previous research indicates that the SES variables are highly correlated, and have more explanatory power than any of their individual components alone (Yang & Gustafsson, 2004; Schulting, Malone, & Dodge, 2005). According to Rubin and Babbie (2001), composite variables allow us to represent complex variables with scores that provide greater potential for variance than would a single item.

Family structure/type. This is a variable derived from the household roster. The following information was used in the construction of the household composition variable: whether there was a mother in the household and her relationship to the child (birth, adoptive, step, foster, partner), whether there was a father in the household and his relationship to the child (birth, adoptive, step, foster, partner), and whether siblings were

present or absent in the household. This information was used to construct variables with the following categories: 1 = two parents and sibling (s), 2 = two parents, no sibling (s), 3 = one parent and sibling (s), and 4 = one parent, no sibling (s). For this dissertation study, family structure was recoded to identify those children who lived in single parent households with and without siblings versus those children who lived in dual parent households with and without siblings.

Family structure is a dummy variable, nominal level variable (0 = single parent household with or without siblings (21.7%), 1 = dual parent household with or without siblings (78.3%).

Race/Ethnicity. The race/ethnicity variable was derived from the parent interview in the fall at kindergarten entrance. The data on race/ethnicity were presented in the ECLS-K files in two ways. First, parents indicated the child's race using five race categories: (1) White, (2) Black, (3) American Indian or Alaskan Native, (4) Asian, (5) Native or Pacific Islander. In addition, one more dichotomous variable was created to indicate if the child was multiracial without specifying the race. Five dichotomous race variables were created that indicated separately whether the respondent belonged to any of the five specified race groups. Secondly, parents were asked to indicate the child's ethnicity using the following categories: (1) White, non Hispanic, 57%; (2) Black, non-Hispanic, 14 %; (3) Hispanic, 17%; (4) Asian, 6%; (5) Native Hawaiian/Pacific Islander, 1%; (6) American Indian/Alaskan Native, 2%; (7) More than one race, non Hispanic, 3%.

Although this data set consisted of five race categories, only three race groups were used for this dissertation. The three categories of race used in this study were White, non-Hispanic (62.7%), Black, non-Hispanic (17.2%), and Hispanic (20.1%).

Dummy variables were created to represent the racial/ethnic groups with White, non-Hispanic as the reference group. For the regression analysis, the dummy variables were created as follows: Black, non-Hispanic (1 = Black, non-Hispanic, 0 = White, non-Hispanic-reference group) and Hispanics (1 = Hispanics, 0 = White, non-Hispanic-reference group).

Parent Involvement and race variable interactions. These variables were the interactions (Black*Parent involvement and Hispanic*Parent involvement) between parent involvement and child's race/ethnicity. Each interaction variable was constructed by multiplying the centered parent involvement variable by the child's race/ethnicity variables.

Gender. This composite variable was derived from the parent interview and assesses the child's gender. In this study, parents were asked, if not obvious, the gender of the child. The categories of this composite variable were male vs female. This is a categorical, nominal level variable. A dummy variable was created to represent 0 = male, 1 = female. Gender distribution was as follows: male = 51%; female = 49%.

School Type. The information from this nominal, categorical level variable was collected in the fall parent interview. There were four types of primary childcare identified for children who participated in the study including relative care (relative care in child's home or relative care in another home), non-relative care (non-relative care in child's home), center-based care (day care center, nursery school, preschool, pre-kindergarten, or a before or after-school program), and Head Start. Thus, the study explored both formal and informal childcare options. Parents were asked whether they

used the different arrangements including Head Start, center-based care facilities or if the child received care from relatives or non-relatives.

The analytic sample for this dissertation included those children who attended Head Start (HS) and center-based care (CBC) combined (4.6%), Head Start but no center-based care (12.1%), center-based care but no Head Start (54.0%), or who received no formalized childcare (29.3%). In this dissertation, dummy variables were created to represent the different types of care. For the regression analysis, the dummy variables were created as follows: HS and CBC (1 = HS & CBC, 0 = no formalized childcare – reference group); HS but no CBC (1 = HS but no CBC, 0 = no formalized childcare – reference group); CBC but no HS (1 = CBC but no HS, 0 = no formalized childcare – reference group).

Data Analysis

The ECLS-K survey used complex probability procedures including stratification, multiple stages of selection and oversampling to obtain a representative sample of the target population. Complex sampling designs result in data that violate the assumptions that are normally required to assess the statistical significance of the results (Silbersiepe & Hardy, 1997). Thus, using some traditional software such as SPSS and SAS, to analyze complex sampling data can result in underestimation of the standard error, inappropriate confidence levels, and misleading test of significance (Carlson, Johnson, & Cohen, 1993; Hans-Vaughn, 2006). The above-mentioned statistical software packages use ordinary and generalized least squares estimation techniques (Carlson, et al., 1993), and assume a random sample (Silbersiepe & Hardy, 1997).

When analyzing data from complex surveys, researchers need to account for the sampling weights and use the appropriate statistical software (Rodgers-Farmer & Davis, 2001). Replicate weights incorporating features of the sample design allow for the researcher doing secondary data analysis to use software that will take into account the sample design and sample weights (Rodgers-Farmer & Davis, 2001). Performing data analyses using the appropriate statistical software helps the researcher to achieve more statistically valid inferences for populations measured in complex sample data (Carlson, et al., 1993). Researchers can specify the appropriate weight, strata and cluster variables in the data set (Hans-Vaughn, 2006). For this study, the American Institute (AM) statistical software, Beta Version 0.06.03, designed to analyze data derived from complex survey designs was used to test the significance of the independent variable in prediction of the dependent variables. AM is a specialized software used for large – scale assessment data, which draws data from a complex sample design (American Institute for Research, 2010). AM provides appropriate standard errors for complex samples using a Taylor-series approximation (American Institute for Research, 2010).

To test the hypotheses, the analyses were undertaken in several steps using the AM statistical software. First, the variables were screened in order to detect any data-related problems. Basic descriptive information, means and standard deviations on the interval level continuous variables (see Table 1) and frequency distributions on the nominal and ordinal, categorical variables were obtained for each variable to address issues of missing observations, outliers and normality.

According to the ECLS-K, a standard scheme was used for all missing values. Codes were used to indicate the following: item non-response, legitimate skips, unit non-

response and suppressed data. To handle the issue of missing observations, listwise deletion was used so that the effective sample size includes only cases with complete records except for SES. Outliers (i.e., those scores more than 3 standard deviations from the mean) were dropped from the analysis.

Hierarchical multiple regression analysis is a method of regression analysis in which independent variables are entered into the regression equation in a sequence to examine the relationship between a set of independent variables and a dependent variable after controlling for the effect of some other independent variables on the dependent variables. In addition, the change in R^2 from the first stage to the second is used to evaluate the importance of the variables in the second stage (Cronk, 2004). This type of analysis was used for hypotheses 1 and 2 (see pp. 80 – 81, for hypotheses 1 and 2).

In this study, there were three models: Model 1 (control variables), Model 2 (main effects), and Model 3 (interactions). Variables in the model were as follows: (1) Model 1 included child's gender, race/ethnicity, family structure, socioeconomic status, and school type; (2) Model 2 included the control variables and parent involvement and; (3) Model 3 included the control variables, parent involvement and the interaction between race/ethnicity and parent involvement.

Hierarchical multiple regression analysis was conducted in this study using AM. In step 1 the control variables (i.e., SES, family structure, race/ethnicity, child's gender, and school type) were entered. The predictor variable, parent involvement, was entered at step 2. This method allowed for the controlling of each variable that was added to the analysis. Control variables were included in the analysis for the purpose of explaining variation in the results, while examining the impact of the other variables modeled

simultaneously (Refer to Table 3 in results section). In the third step, the two interactions (Black, non - Hispanic vs White, non - Hispanic with parent involvement, and Hispanics vs White, non - Hispanic with parent involvement) were included.

A multivariate binary logistic regression analysis was conducted for hypothesis 3 (see p. 81, for hypothesis 3). A multivariate binary logistic regression analysis was used since the dependent variable, school adjustment, was dichotomized. Research has demonstrated that logistic regression is a powerful analytic tool to test relationships when the outcome variable is dichotomous (Peng, Lee, Lida, & Ingersoll, 2002). According to Pohlmann & Leitner (2003), while both logistic regression and ordinary least squares (OLS) regression analysis can be used to test relationships with a binary criterion, logistic regression produces more accurate estimates of the probability of belonging to the dependent category.

In model 1, all the control variables (i.e., SES, family structure, race/ethnicity, child's gender, and school type) were entered. Model 2 added the predictor variable, parent involvement. Model 3 included the interactions, which have been described earlier.

CHAPTER FIVE RESULTS:

The purpose of this chapter is to present the results of the statistical analyses conducted on the data that were analyzed for this study. The chapter begins with a presentation of preliminary bivariate analyses. These results are followed by the results of the hierarchical and multivariate binary logistic regression analyses used to test the primary hypotheses. Finally, exploratory analyses were conducted to examine the moderating effects of SES on the relationship between parent involvement and the outcome variables. The moderating effect of SES was not initially hypothesized.

Descriptive Analysis

Table 1 presents the demographic characteristics of the sample. The sample includes 49% female and 51% male children; with 62.7% White, non-Hispanic, 17.2% Black, non-Hispanic, and 20.1% Hispanic. Most of the children were from two-parent households (75.5%), while the remaining children were from single-parent households (24.5%). The percentage of children attending various school types are as follows: Head Start and center-based care facilities combined represented 4.6%, Head Start but no center-based care represented 12.1%, center-based care but no Head Start represented 54.0%, and children that did not have formalized childcare represented 29.3%, which is considered the reference group for all analyses.

Bivariate Analysis

As shown in Table 2, the hypothesized independent variable (parent involvement) was associated with all the outcome variables. Although the bivariate analyses indicated that parent involvement was related to the child's reading, self-control and school adjustment, according to Cohen (1988), the correlation coefficients were small. The

children who had greater parent involvement had higher reading scores, better self-control, and better school adjustment.

Also, as shown in Table 2, all outcome variables were significantly associated with each other. The correlations indicated that children who had higher reading scores had better self-control as well as better school adjustment; children who had better self-control also had better school adjustment, although the correlation coefficients were small. Using Cohen's (1988) qualitative interpretation of r 's, the effect sizes of the bivariate associations were small.

Several significant relationships were found between the control variables and parent involvement as well as the control variables and the outcome variables in this study. Any negligible or non-significant findings will not be discussed.

The interrelationships among the control variables and parent involvement were as follows: children from higher SES homes had greater parent involvement than children from lower SES homes; males had greater parent involvement than females; children from dual parent homes had greater parent involvement than children from single parent homes; White, non-Hispanic children had greater parent involvement than Black, non-Hispanic or Hispanic children; children who received no formalized childcare had greater parent involvement than children who attended Head Start and center-based care combined; children who attended Head Start but no center based care had greater parent involvement than children who had no formalized childcare; and children who attended center based care and no Head Start had greater parent involvement than children who received no formalized childcare.

The significant interrelationships among the control variables and reading were as follows: children from higher SES homes had higher reading scores than children from lower SES homes; females had higher readings scores than males; children from dual parent homes had higher reading scores than children from single parent homes; White, non-Hispanic children had higher reading scores than Black, non-Hispanic and Hispanic children; children who received no formalized childcare had better reading scores than children who attended Head Start but no center-based care and children who attended center based care but no Head Start; and children who received center-based care but no Head Start had better reading scores than children who had no formalized childcare.

The significant interrelationships among the control variables and self-control were as follows: children from higher SES homes had better self-control than children from lower SES homes; females had better self-control than males; children from dual parent homes had better self-control than children from single parent homes; Black, non-Hispanic children had better self-control than White, non-Hispanic children; children who received no formalized childcare had better self-control than children who attended Head Start but no center-based care; children who attended center-based care but no Head Start had better self-control than children who received no formalized care; children who received no formalized care had better self-control than children who attended center-based care and Head Start combined.

The significant interrelationships among the control variables and school adjustment were as follows: children from higher SES homes had better school adjustment than children from lower SES homes; females had better school adjustment than males; children from dual parent homes had better school adjustment than children

from single parent homes; Hispanic children had better school adjustment than White, non-Hispanic children; children who attended Head Start but no center-based care had better school adjustment than children who received no formalized childcare; children who had center-based care but no Head Start had better school adjustment than children who received no formalized care; children who had no formalized childcare had better school adjustment than children who attended center-based care and Head Start combined.

The significant interrelationships among the control variables were as follows: White, non-Hispanic children had higher SES than Black, non-Hispanic and Hispanic children; dual parent households had higher SES than single parent households; children who received no formalized childcare were from households with higher SES than children who attended Head Start and center-based care combined; children who received no formalized childcare were from households whose parents had higher SES than children who attended Head Start but no center-based care; children who attended center-based care but no Head Start were from households with parents of higher SES than children who received no formalized childcare. Females were more likely than males to attend both Head Start and center-based care or Head Start but not center-based care; males were more likely than females to attend center-based care but not Head Start; children who received no formalized childcare were more likely to be in dual parent homes than children who attended Head Start and center-based care combined; children who received no formalized care were more likely to be in dual parent homes than children who attended Head Start but no center-based care; children who received center-based care but no Head Start were more likely to be in dual parent homes than children

who received no formalized childcare; White, non-Hispanic children were more likely to be in dual parent households than Black, non-Hispanic children; Black, non-Hispanic and Hispanic children were more likely than White, non-Hispanic children to attend Head Start but not center-based care; White, non-Hispanic children were more likely than Black, non-Hispanic and Hispanic children to attend center-based care but not Head Start; Black, non-Hispanic children were more likely than White, non-Hispanic children to attend Head Start and center-based care combined.

Hierarchical Regression Analyses

Parent involvement and reading

The results for the hierarchical regression analyses, using reading as the outcome variable, are found in Table 3. As can be seen in Model 1, 18.6% of the variability in reading was explained by all of the control variables ($R^2 = 18.6$). This model was statistically significant [$F(8, 336,300) = 39.0365, p < .001$]. All of the control variables except for Black, non-Hispanic versus White, non-Hispanic, and Head Start and center-based care combined versus no formalized childcare were significant predictors of student's reading skills. Socioeconomic status had the largest absolute Beta value; thus, it contributed more to the variability in reading than all other variables in the model. The model indicated that: females had higher reading scores than males (Beta = .02, $p < .001$); children from higher SES households had higher reading scores than children from lower SES households (Beta = .05, $p < .001$); children who attended Head Start only had lower reading scores than children who had no formalized childcare (Beta = -.04, $p < .001$); children who attended center-based care only had high reading scores than children

who had no formalized childcare (Beta = .02, $p < .001$). Hispanic children had lower reading scores than White, non-Hispanic children (Beta = -.03, $p < .001$).

It was hypothesized that parent involvement would be a significant positive predictor of a child's reading while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only. As seen in Model 2, parental involvement was a significant predictor of a child's reading scores; however, the size of the beta and the increase in R^2 were negligible (see Table 3).

The interaction between parent involvement and Black, non - Hispanic versus White, non – Hispanic was significant; however, the beta was negligible. Thus, the interaction will not be interpreted. The interaction between parent involvement and Hispanic versus White, non – Hispanic was not significant. Thus, race/ethnicity did not moderate the relationship between parent involvement and reading. This means parent involvement does not have a different effect on reading depending on the child's race/ethnicity.

Parent involvement and self-control

The results for the hierarchical regression analyses, using self-control as the outcome variable, are found in Table 4. As can be seen in Model 1, 3.5% of the variability in self-control was explained by all of the control variables ($R^2 = .035$). This model was statistically significant [$F(8, 359,000) = 8.64972$, $p < .001$]. All of the control variables were significant predictors of student's self-control except gender, Hispanics, Head Start and center based care combined, and center based care, but no Head Start. The Black, non-Hispanic race variable had the largest absolute Beta value;

thus, it contributed more to the variability in self-control than all other variables in the model. The model indicated that: children from higher SES households had better self-control than children from lower SES households (Beta = .10, $p < .001$); Black, non-Hispanic children had better self-control than White, non-Hispanic children (Beta = .13, $p < .001$); children from dual-parent homes had better self-control than children from single-parent homes (Beta = .07, $p < .001$); children who attended Head Start but not center-based care had poorer self-control than children who had no formalized childcare (Beta = -.09, $p < .001$);

It was hypothesized that parent involvement would be a significant positive predictor of a child's self-control while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only. As seen in Model 2, parental involvement was a significant predictor of a child's self-control; however, the size of the beta was small and the increase in R^2 was negligible (Beta = .01, $p < .001$), (see Table 4).

The interaction between parent involvement and Hispanic versus White, non – Hispanic was significant; however, the Beta was small and the increase in R^2 was negligible. Thus, the interaction will not be interpreted. The interaction between parent involvement and Black, non – Hispanic versus White, non – Hispanic was not significant. Thus, race/ethnicity did not moderate the relationship between parent involvement and self-control. This means parent involvement does not have a different effect on self-control depending on the child's race/ethnicity.

Multivariate Binary Logistic Regression

Parent involvement and school adjustment

In model 1, female was a significant predictor of school adjustment. Females had 1.20 times higher odds of being adjusted than males. Children who did not receive any formalized childcare had 32% lower odds of not having any difficulty adjusting than children who attended both Head Start and center based care (OR = .68, SEB = .14). This model was significant as indicated by the Adjusted Wald test, $F(8, 29) = 23.1528$, $p < .001$. The adjusted Wald Test is used for logistic regression models that use survey sample data (Archer & Lemeshow, 2006). The results of the Adjusted Wald test indicated that model 2, which included the control variables and parent involvement, was not significant. Hence, the model is not a good predictor of school adjustment. Based on the results of model 1, which showed that race/ethnicity was not associated with adjustment, there was no need to examine an interaction between parent involvement and race/ethnicity. Moreover, there was not an association between SES and adjustment in model 1. Therefore, no exploratory analysis was conducted to examine the interaction between SES and parent involvement and its relationship to adjustment.

Exploratory Analyses

Based on previous research, as well as the positive relationship between SES and parent involvement supported by the bivariate analyses, it is of interest to explore whether SES may moderate the relationship between parent involvement and the outcome variables. It was expected that there would be an interaction between parent involvement and SES when predicting reading and self-control after controlling for gender, race/ethnicity, family structure, and whether or not the child attended Head Start

and other center-based care facilities combined; Head Start but no center-based care or center - based care but no Head Start. Three models were tested: Model 1 (control variables), Model 2 (main effects), and Model 3 (interactions). Variables in the model were as follows: (1) Model 1 included child's gender, race/ethnicity, family structure, socioeconomic status, and whether or not the child attended Head Start and other center-based care facilities combined; Head Start but no center-based care or center-based care but no Head Start, all compared to no formalized care (2) Model 2 included control variables and parent involvement and; (3) Model 3 included the control variables, parent involvement and the interaction between SES and parent involvement. The interaction variable was constructed by multiplying the centered parent involvement variable by the SES variable. Three separate hierarchical regression analyses were conducted; one for each dependent variable. The results of these analyses indicated that the interaction between parent involvement and SES was not significant in any of the analyses.

CHAPTER SIX: DISCUSSION AND IMPLICATIONS FOR PRACTICE, POLICY AND RESEARCH

The purpose of this section is to summarize, evaluate and interpret the results with respect to the research questions and hypotheses. In addition, the theoretical and practical implications of the results, the validity of the conclusions, the limitations of the study and suggestions for future work will be discussed.

The purpose of this dissertation was to determine if parent involvement, defined as the cognitive stimulation a parent provides for his/her child prior to entering kindergarten, would be a positive influence on the child's reading skills, self-control and school adjustment, while taking into account various background characteristics.

The following hypotheses pertained to the relationship between parent involvement at home and a child's reading achievement, self-control skills and adjustment to school: (1) Parent involvement will be a significant positive predictor of a child's reading achievement while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; (2) Parent involvement will be a significant positive predictor of a child's self control while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; and (3) Parent involvement will be a significant positive predictor of a child's school adjustment while controlling for SES, family structure, race/ethnicity, child's gender, and whether or not a child attended Head Start

and center-based care facilities combined, Head Start only or other center-based care facilities only.

The following hypotheses were tested regarding moderator effects: (1) There will be an interaction between parent involvement and race/ethnicity when predicting reading scores after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; (2) There will be an interaction between parent involvement and race/ethnicity predicting a child's self-control after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only; (3) There will be an interaction between parent involvement and race/ethnicity when predicting a child's school adjustment after controlling for gender, SES, family structure and whether or not a child attended Head Start and center-based care facilities combined, Head Start only or other center-based care facilities only.

Discussion of the Findings

The hypotheses in this study considered the relationship between parent involvement, defined as the cognitive stimulation (parent reading to child as well as telling stories, singing songs, doing arts and crafts, playing games, teaching child about nature, building things, and playing sports) provided by the parent at home, and a child's readiness for school, controlling for various sociodemographic variables. Hierarchical regression analyses revealed that parent involvement had an influence on a child's reading and self-control. The beta associated with the relationship between parent involvement and reading was negligible and, the relationship between parent involvement

and self-control was weak. The logistic regression analysis revealed that parent involvement was not a good predictor of school adjustment. Hence, the focus of this discussion will be on explaining what could have contributed to the above – mentioned findings.

Rationale for a negligible relationship between parent involvement and reading

Consistent with other studies, this study found a significant relationship between parent involvement and reading; however, the Beta was negligible. Several explanations can be given to account for this finding. First, this study used a national representative sample of preschoolers, while other studies have used samples of older children. For example, DeSimone (1999); Ho Sui-Chi (1996); McNeal (1999); and Qian (1999) all used 8th grade samples, and Zellman (1998) used a sample of children from the 2nd to 5th grade. Moreover, most other studies that used preschool samples (Britto & Brooks-Gunn, 2001; Melhuish et al., 2008; Roberts et al., 2005; Saltaris et al., 2004; Senechal, & LeFevre, 2002; Weigel et al., 2006) used small, nonrandom samples that were not nationally representative; thus, the results cannot be applied to the general population. Also, unlike previous studies, this study controlled for the child's participation in a formal preschool program, an early childhood experience important in determining intelligence, development and achievement, with Head Start in particular shown to have enduring effects for disadvantaged Black children through first grade compared to no preschool attendance (Lee et al., 1990). While this study controlled for SES, many other studies did not control for this factor. Therefore, the relationships found in other studies may have been spurious. The above-mentioned factors also could have contributed to the

findings for the relationships between parent involvement and self-control and parent involvement and school adjustment.

The negligible relationship demonstrated between parent involvement and reading may also be due to the way in which parent involvement was operationalized. Other aspects of parent involvement should be assessed to help explain the relationship between parent involvement and reading. Parent's provision of concrete learning experiences such as taking the child to the library, a play, concert, show, museum, the zoo, aquarium, or a sporting event are ways, for example, in which some parents expose their child to learning. This type of learning experience could also prepare a child for the transition into kindergarten. Moreover, the manner in which parental involvement was measured did not allow one to assess the quality of the parent-child interaction. The measure of parent involvement was limited to the frequency with which parents provided cognitive stimulation to their child at home. Parents were only asked how much time they devoted to their child's learning. Taking into account the quality of the parent involvement, however, will help us understand how this aspect of parent involvement affects the child's social, emotional, and cognitive growth. The quality of the cognitive stimulation could be defined as: (1) parents reading with expression and talking to his or her child about what he or she is reading (talking about stories, pictures, how to put words in sentences or how to write their own story); (2) stimulating questioning and discussions during activities that encourage the child to describe what they are doing and what they have accomplished (what are they building, and what are the names of the shapes?); and (3) providing a range of reading materials for the child, especially materials that are

developmentally appropriate (reading alphabet books to help learn letters or books with rhymes to help child learn sounds and how to put letters together to make words).

Some studies (e.g., Britto & Brooks - Gunn, 2001; Roberts et al., 2005; Saltaris et al., 2004) have found that the quality of assistance provided by mothers as opposed to the academic stimulation in the home was more strongly associated with early literacy skills. These studies used the Home Observation for Measurement of the Environment (HOME) to measure the quality of the home environment. This inventory is comprised of 55 items, and items that take into account the quality of the cognitive stimulation include the following: (1) child is encouraged to learn the alphabet; and (2) child is encouraged to learn the colors (Totsika & Silva, 2004). Compared to the ECLS-K, the HOME survey is based on observations and information obtained from parents during the interview rather than a telephone interview (Totsika & Silva, 2004). Telephone interviewing can also decrease the reliability of the data because only households with telephones were sampled (NCES, 2000). Research examining the cognitive stimulation the parent provides at home has conceptualized parent involvement primarily in terms of academic stimulation such as shared book reading (Britto & Brooks-Gunn, 2001); language and verbal interactions (Britto & Brooks – Gunn, 2001); frequency of reading (Bailey, 2006; Roberts et al., 2005; Weigel et al., 2006); how often parent and child engaged in reciting rhymes, telling stories, drawing pictures and playing games (Weigel et al., 2006); and playing with numbers, painting and drawing (Melhuish et al., 2008). Most studies (Bailey, 2006; Britto & Brooks - Gunn, 2001; Melhuish et al., 2008; Senechal, & LeFevre, 2002) have used individual items, while few have used composite variables (Saltaris et al., 2004; Weigel et al., 2006) to examine the influence of cognitive

stimulation on the outcomes. The findings of these studies have been inconsistent. For example, Weigel et al. used a composite variable of 14 items to define cognitive stimulation as the frequency of parent-child literacy and language activities to predict a child's reading interest, emergent writing, expressive language and receptive language and found that the activities the parent provides at home only significantly predicted reading interest. On the other hand, Melhuish and colleagues combined seven academic activities and seven social activities to predict a child's literacy and numeracy skills, which were defined as building blocks, picture similarities, verbal comprehension and naming vocabulary. Melhuish et al. (2008) found that the activities providing academic learning opportunities significantly predicted the outcomes, whereas the social routine activities did not significantly predict the outcomes. Roberts et al. (2005) examined individual items to predict receptive and expressive language and vocabulary. These items included frequency of book reading, child's interest in reading, maternal book reading strategies, maternal sensitivity, and responsiveness of the home environment. Roberts and colleagues found that maternal book reading strategies had a positive association with receptive language only and responsiveness of the home environment had a positive association with all outcomes.

Another reason for the difference in findings between this dissertation and previous studies may be attributable to the outcome measure as well as the measurement tools used. For example, previous outcomes often measure the child's receptive and expressive communication (Britto & Brooks-Gunn, 2001; Roberts et al., 2005; Senechal & LeFevre, 2002; Weigel et al., 2006) and cognitive functioning (Saltaris et al, 2004) using standardized assessments such as the Stanford Binet (Saltaris et al., 2004),

Peabody Picture Vocabulary Test (PPVT) (Roberts et al., 2005), and the Child's Emergent Literacy (CELT) (Senechal & LeFevre, 2002).

Finally, although the bivariate analyses indicated that parent involvement was related to the child outcomes, the regression analyses with the control variables failed to support these findings. The negligible relationship between parent involvement and reading may be due to the small correlation between parent involvement and this outcome. Because this correlation was so small, the relationship between parent involvement and reading disappeared once the control variables were added to the model.

Rationale for a weak association between parent involvement and self-control

A weak association between parent involvement and self-control may be due to the way in which parent involvement was operationalized. Other aspects of parent involvement previously mentioned should be assessed to determine if these dimensions of parent involvement have a stronger association with self-control than found in this study.

Another reason why there was a weak association between parent involvement and self-control in this study may be due to the way in which self control was measured. Most studies have conceptualized self-control using measures of social competence such as delay of gratification (Lee et al., 2008), hyperactivity (low self-control) (Brannigan et al., 2002) and problem behavior (Meier et al., 2006).

Several studies have used delay of gratification to measure self-control. These studies of delay of gratification have varied in terms of procedures for assessing the ability to delay gratification (Funder, Block, & Block, 1983; Houck & Lecuyer-Maus, 2004). For example, Houck and Lecuyer-Maus (2004) offered a more desired amount of

candy (larger amount) to children who waited until the researcher returned to the observation room. If the child was not able to wait for 15 minutes, he or she could ring a bell and receive a smaller amount of candy. Thus, the researchers examined whether the children wanted a smaller, immediate reward or delayed larger reward. On the other hand, Funder et al. (1993) assessed whether or not a child could resist temptation by allowing the child to play with unattractive broken toys while the researcher left the room for a period of 6 minutes. If the child was able to wait for the return of the researcher, he or she was allowed to play with the more attractive toys that were not broken. Studies have demonstrated differences in delay of gratification depending on gender. While Houch and Lecuyer-Maus (2004) found no gender differences in delay of gratification, most of the research has shown that girls are better able than boys to delay gratification (Funder et al., 1983; Silverman, 2003). The measure of self-control in this study did not measure delay of gratification but rather control of behavior.

Rationale for a non-significant relationship between parent involvement and school adjustment

Although most studies have shown a positive association between parent involvement and school adjustment, this study revealed that parent involvement is a non-significant predictor of a child's school adjustment. A non-significant relationship between parent involvement and school adjustment may be due to the way in which parent involvement was operationalized. Other aspects of parent involvement should be assessed to determine if these dimensions of parent involvement have a stronger association with school adjustment than found in this study.

The non-significant relationship between parent involvement and school adjustment may also be due to the limited range of values associated with a dichotomous variable compared to the range of values associated with a continuous variable. The continuous variable would not have been restricted to a few values and would have produced more variability.

In this study, most of the parents reported that their child did not have difficulty adjusting to school. Perhaps the items used were not good measures of school adjustment for this particular sample of children. Other indicators of school adjustment should be considered. Some researchers (e.g., Fantuzzo., Bulotsky., McDermott., Mosca., & Lutz, 2003) have assessed preschool emotional and behavioral adjustment as measured by the following indicators: aggressive, withdrawn/low energy, socially reticent, oppositional, and inattentive/hyperactive. These authors found that preschool children who displayed aggressive and oppositional behavior at the beginning of the year were at risk for establishing negative peer relationships the following year. They also found that the children who were inattentive had difficulty in classroom learning, and children who were socially reticent or withdrawn demonstrated difficulty in connecting and establishing positive relationships with their peers. Overall, their results suggest that social competence is important for successful transition into kindergarten.

Limitations of the Research Study

There are a few limitations to be acknowledged in this study. First, given the cross-sectional design of the study, the findings do not necessarily reflect causal relationships between parent involvement and self-control, a threat to the internal validity. The measure of parent involvement in this study was limited to the frequency

with which parents provide cognitive stimulation to their child at home. Taking into account the quality of the parent involvement, however, may help us understand how this aspect of parent involvement affects the child's social, emotional, and cognitive growth. Some studies (e.g., Britto & Brooks-Gunn, 2001; Roberts et al., 2005; Saltaris et al., 2004) have found that the quality of assistance provided by mothers as opposed to the academic stimulation in the home was more strongly associated with early literacy skills.

Another limitation of this study is that it did not take into account the broader social context that can affect a child's school readiness. As previously mentioned, the concept of school readiness has been defined in the literature as the minimum level of development a child needs to exhibit to respond successfully to the demands of the school curriculum (Duncan et al., 2007). The National Education Goals Panel (1997) further identified readiness taking into account the child's health and physical development, social and emotional development, approaches toward learning, language and communicative skills and cognition and general knowledge, while emphasizing the importance of parent involvement in preparing the child for school. Thus, past definitions of readiness focus on the assessment of the individual child's development or whether the child receives good quality early learning experiences at home. The National Educational Goals Panel (1997) recognized that preparing children to enter school is the shared responsibility of the school and all adults in the community. The Panel noted that schools that are ready for the child promote smooth transitions between home and school, strive for continuity between early care and educational programs and elementary schools, are committed to the success of every child as well as every teacher and every adult that interacts with the child at school, and have strong leadership (National

Education Goals Panel, 1997). According to the National Educational Goals Panel (1995), community supports also contribute to the child's readiness by helping parents become involved. This can be accomplished for example by businesses providing time-off for parents to volunteer in their child's school or by providing needed resources to the school reform (National Educational Goals Panel, 1995).

Response bias may have also been introduced in the responses of teachers regarding the child's self-control. Since the survey was conducted in the fall, the teachers may not have had adequate time to observe the children. Some of the behaviors assessed by the teachers which the teachers may not have had adequate time to observe are as follows: (1) the child's ability to control behavior by respecting the rights of others; (2) the child controlling his or her temper; (3) accepting peers ideas for group activities; and (4) responding appropriately to pressure from peers. The possibility exists that because the teachers may not have had adequate time to rate the student's self-control behaviors, that they underrated the children's behavior.

A final limitation of this study is the reliance of self-report interviews with the parents to assess their level of involvement and report on their child's school adjustment. This method of data collection may not have accurately described what the parents actually do. Thus, the data should be interpreted with caution. In addition, social desirability is a potential source of non-sampling error that could have occurred in this study using this method of data collection. For example, when parents were rating their child's school adjustment, they might have given more positive assessments about their child's school adjustment than their child's teacher did. An alternative method of assessing the child's school adjustment would have been through direct observation

which would improve the validity of the measurement used and diminish concerns about response bias (Tashakkori & Teddlie, 1998). Teachers could have observed the child's behavior, which would encourage more accurate reporting of the behavioral data. Because all of the data were self-report, any of the significant relationships among variables may partly reflect shared method variance. Finally, the parents were interviewed over the telephone and telephone interviewing can also decrease the reliability of the data because only households with telephones were sampled (NCES, 2000).

Despite the above-mentioned limitations, this dissertation has several strengths. This dissertation is based on a nationally representative sample. Thus, the results of this study can be generalized to the U. S population of kindergarten children. Furthermore, this study used a nationally representative sample of preschoolers, while other studies have used samples of older children, and small non-random samples. The sample for this dissertation also consisted of children from different racial/ethnic and socioeconomic backgrounds, and focused on various risk factors that may influence a child's development.

Unlike previous studies, this study controlled for the child's participation in a formal preschool program, an early childhood experience important in determining intelligence, development and achievement. Additionally, this study controlled for SES, many other studies have not controlled for this factor. Therefore, the relationships found in other studies may have been spurious.

In this study, both parent and teacher perspectives of children's school functioning were used with parents reporting on school adjustment and teachers reporting

on self-control to accommodate for different perspectives on the child's school functioning. Finally, this study used multiple measures of school readiness.

Implications for Policy, Practice and Research

Implications for policy

The ultimate goal of educational reform efforts is that all children will start school ready to learn. To prepare children for success in school, policies must provide support for all the contexts that influences child development. Parent involvement is an essential part of this reform. While research has shown that various types of parent involvement are positively associated with student educational achievement, previous policies supporting these findings may be based on erroneous assumptions if based on research that did not consider control variables in the analysis.

Due to the results of this study and its limitations, it is premature to make policy recommendations based on the obtained results. More research needs to be conducted using the variables in this study and the ways in which they were operationalized before appropriate policy recommendations can be made.

Implications for practice

In addition to social workers responding to the need to address the concerns of families for the academic achievement of their children, policymakers' concerns for the education of children have led to the establishment of National Education Goals as well as the Individual with Disabilities Education Act (IDEA) (U.S. Department of Education, 1994), which further shape the involvement of the social worker with the educational institution.

The negligible effects, weak associations and non-significant results found in this study may suggest that parent involvement is a difficult concept to define. On the other hand, the findings may be the result of the limitations of the items used in the ECLS-K survey to measure parent involvement.

Based on the findings of this study, it would be premature to make recommendations to social workers about the most effective ways of helping parents to be involved in the education of their children to help them increase their reading scores learn appropriate self – control behavior, and adjust to the formal school setting. Further research needs to be done using the variables in this study and the ways in which they were operationalized before appropriate recommendations can be made.

Implications for future research

Some limitations of this study can be seen as useful avenues for future research. Parents play a crucial role in the development and socialization of children. In a rapidly changing society, it is important to understand the challenges that parents face in their task of preparing their children for school success.

Critical questions for research concern the impact of parent involvement on a child's educational process in the early years of development. Having discussed the limitations in the current research findings, a few questions remain unanswered: (1) What are the effects of the cognitive stimulation that a parent provides for their child on other readiness outcomes such as physical, language, motor skill, social-emotional development and adaptive behavior skills before he/she enters school?; What factors are most effective in influencing the various types of parent involvement? and (2) What types

of parent involvement are important in predicting academic versus social development readiness outcomes?

To prepare children for success in school, all the contexts (e.g., interactions between the child's home - school environment) that influence child development should be considered. According to Bronfenbrenner (1979), the multiple systems that young people participate in have an ecological relation to each other, so that a student's personal, home, school and community characteristics interact and contribute to student performance. More longitudinal research is needed to address this issue. The following research questions should be raised: (1) Will the interactions among the various social systems and their development over time influence a child's school readiness?; (2) Will the interactions among the various social systems and their development over time influence a child's school readiness controlling for sociodemographic factors?

Longitudinal research can also investigate changes in academic achievement and adjustment across childhood and adolescence, as well as the influence of personal, familial, school, and other environmental factors on children's and adolescents' achievement. Thus, to obtain an accurate picture of the changes in academic achievement, child behavior and adjustment, and to be able to draw conclusions about causal relationships, longitudinal research designs are required. Longitudinal research may answer questions like "If Black and White children attend the same school over a period of time with the same type of parent involvement, will the achievement gap shrink?" This type of research may also help to determine if racial/ethnic gaps persist due to a language barrier. Longitudinal studies would also help determine if programs should focus on interventions during the school year or during the summer.

Other parent involvement at home variables not measured in this study should be assessed to help explain the relationship between parent involvement and school readiness. Parent's provision of concrete learning experiences such as taking the child to the library, a play, concert, show, museum, the zoo, aquarium, or a sporting event are ways, for example, in which some parents expose their child to learning. This type of learning experience could also prepare his/her child for the transition into kindergarten. Thus, further research using other types of parent involvement is warranted.

For a more comprehensive examination of the concept of school readiness, future studies could examine additional indicators of this multidimensional concept as defined by the National Educational Goals Panel, such as physical well-being and motor development, social and emotional development, approaches toward learning, language richness and general knowledge. These skills have been shown to be strong predictors of academic performance in elementary school (Bagdi & Vacca, 2005; Fantuzzo et al., 2007; Hemmeler, Ostrosky, & Fox, 2006). Previous outcomes often measure the child's receptive and expressive communication (Britto & Brooks-Gunn 2001; Roberts et al., 2005; Senechal & LeFevre, 2002; Weigel et al., 2006) and cognitive functioning (Saltaris et al., 2004) using standardized assessments such as the Stanford Binet (Saltaris et al., 2004), Peabody Picture Vocabulary Test (PPVT; Roberts et al., 2005), and the Child's Emergent Literacy (CELT; Senechal & LeFevre, 2002). Future research should examine academic as well as social and behavioral outcomes.

Given the negative impact that some parenting styles can have on a child's educational performance, as well as the negative impact that poor performance has on educational outcomes and future development (Baumrind & Black, 1967; Mauro &

Harris, 2000; Reitman & Gross, 1997), further research is needed. Future studies should examine how parenting styles may affect the likelihood of a child exhibiting poor self-control behaviors as well as poor school adjustment. Understanding the relationship between parenting styles, reading skills, self-control and school adjustment would provide important insights for developing appropriate programs to modify parent's parenting styles. It is especially important to examine parenting style patterns to help promote the development of interventions tailored to meet the needs in diverse populations. There may be conflict in the child-rearing beliefs and practices of home and school as people from different cultural backgrounds may have different attitudes and beliefs regarding their child's behavior and child-rearing practices and discipline methods they use. Testing these potential relationships in future studies could shed light on the effects of parenting styles on a child's self – control and school adjustment. Further ideas may be generated as researchers continue to examine factors that influence parenting styles, particularly for parents of children who are transitioning into kindergarten. Having knowledge about different attitudes and beliefs regarding their child's behavior and child-rearing practices and discipline methods may help facilitate positive interactions and cooperation between home and school. Developing interventions tailored to meet the needs of diverse populations may help address conflicts that may occur. Educating parents about the parenting practices that are most effective in order to avoid poor school performance and educating child care workers about child care practices that parents believe are effective for their child's educational outcomes and future development may reduce this conflict.

As previously mentioned, background characteristics are also related to parenting behaviors, which through direct observational methods, the researcher can observe parent-child interactions and examine the aspects of the interactions that may be related to these characteristics as well as the child educational outcomes. By observing a wider range of parent involvement and child behaviors, observational methods can help us understand why some children perform better in school than others. This may substantially improve the quality of information beyond what would be available through measures collected in the context of the parent interview. Multiple modes of data collection, however, would be the most valuable method of collecting data (Tashakkori & Teddlie, 1998).

A review of the literature suggests that there have been a limited number of studies examining the effects of parent involvement using observational data collection methods. In order to improve the validity of the measurements used in this study, direct observations could be used. Observational methods can diminish concerns about response bias (Tashakkori & Teddlie, 1998). In observing behaviors directly, the researcher cannot only record the frequency of the parent's and the child's behaviors, but the quality of the parent-child interactions can be observed and recorded as well. For example, a researcher can observe certain behaviors that are important for children's development that parents may not be able to report on such as connecting the story to other events, people and objects, which could involve making predictions and providing more in-depth explanations.

The quality of interaction could also be assessed by listening to the parent's intonation while he or she is interacting with the child, or by observing how comfortable

she or he appears to be reading the book to his or her child. In contrast, this study's measure of cognitive stimulation assessed the quantity of stimulating activities. As previously mentioned, taking into account the quality of the parent involvement, however, will help us understand how this aspect of parent involvement affects the child's social, emotional, and cognitive growth. The quality of the cognitive stimulation could be defined as: (1) parents reading with expression and talking to his or her child about what he or she is reading (talking about stories, pictures, how to put words in sentences or how to write their own story); (2) stimulating questioning and discussions during activities that encourage the child to describe what they are doing and what they have accomplished (what are they building, and what are the names of the shapes?); and (3) providing a range of reading materials for the child, especially materials that are developmentally appropriate (reading alphabet books to help learn letters or books with rhymes to help child learn sounds and how to put letters together to make words).

Existing empirical evidence suggests that teachers' expectations affect their ratings of children's behaviors (Lane et al., 2006; McKwon & Weinstein, 2002; Rubie-Davies, Hattie, & Hamilton, 2006). Therefore, future studies should use teacher expectations as a control variable in explaining the effects of parental involvement on children's reading, self-control, and school adjustment.

Researchers could use other theoretical frameworks besides social capital theory and Bronfenbrenner's (1979) ecological perspective to examine the effects of parental involvement on children's outcomes. One particular theory that could be used is Bowlby's (1988) attachment theory. Attachment theory could be used to explain the importance of affectionate bonds or patterns of interaction between the child and parent

on the child's cognitive and emotional development. Attachment theory suggests that quality attachment from a parent to a child provides feelings of security and the capacity to form trusting relationships, which ultimately improves cognitive, emotional and social competence in later years. Thus, the quality of time spent and the quality of communication between parent and child can play an important part in the child's confidence, self-esteem, and ability to adjust well in school and get along well with others.

The use of theory to guide research is critical for advancing knowledge and providing the evidence base for policy. Social learning theory could be another theoretical perspective that could be used to guide future research. Parents often serve as salient models from which children learn. According to Bandura's (1997) observational learning theory, behavior is acquired by witnessing how the actions of others are reinforced. Bandura suggested that children acquire knowledge of skills through observation. Bandura also took this idea a step further, beyond the issue of learning and modifying behavior, and asserts that we engage in self-observations and make self-judgments about our competence and mastery, and we then act on the basis of these judgments. Thus, social learning theory focuses on cognitive factors as well as behavioral factors. These factors include attention, ability to remember, ability to replicate and motivation. An example of a child's behavior learned through modeling would be students watching their parent read. Thus, when children observe their parents' behaviors, they learn through the process of paying attention, remembering what they observed, replicating what was demonstrated by their parent and having the motivation or

wanting to demonstrate what was learned. These types of relationships can and should be empirically tested.

Investing in the learning and development of children, especially disadvantaged ones, and providing information to parents about their possible roles in helping their children succeed academically, may reduce inequalities in their academic, social, and developmental outcomes. This is a critical social issue that needs continued attention from policymakers and researchers alike.

The results suggest that parent involvement, as defined in this study, may not directly influence the adaptive transition to preschool for very young children. Other factors, including more nuanced measures of parent-child interaction and parental expectations, as well as parenting styles, may be more robust indicators, and should be empirically studied in the future.

Appendix A. Summary of Indicators

Variable Name	Description	Value	Scale of Measurement and Dummy Codes	ICR
PI	Cognitive stimulation parent provides at home. A composite variable (renamed = average of responses); made up of 8 items and measures: 1) how often you read to your child, 2) how often you tell child stories, 3) how often you all sing songs, 4) how often you help child do arts and crafts, 5) how often you all play games, 6) how often you teach the child about nature	CTN	Scale 1-4 1 = not at all, 2 = once or twice, 3 = 3-6 times, 4 = everyday	Alpha = .71

Appendix A (continued): Summary of Indicators

Variable Name	Description	Value	Scale of Measurement and Dummy Codes	ICR
PI (continued)	7) how often you all build things, 8) how often you all do sports	CTN	Scale 1-4 1 = not at all, 2 = once or twice, 3 = 3-6 times, 4 = everyday	Alpha = .71
Reading	Language use and literacy	CTN	IRT Scale	.74
Self-control	Child's ability to control behavior by respecting the rights of others, controlling temper, accepting peer ideas for group activities, and responding appropriately to pressure from peers	CTN	Scale 1-4 1 = never, 2 = sometimes, 3 = often, 4 = very often	
School Adjustment	Behaviors indicating adjustment to kindergarten. A composite variable (renamed = average of responses) made up of 3 items and measures:	DCT	0 = difficulty adjusting 1 = no difficulty adjusting	ICR

Appendix A (continued): Summary of Indicators

Variable Name	Description	Value	Scale of Measurement and Dummy Codes	
School Adjustment (continued)	1) child complained about school, 2) child upset to go to school, 3) child claim sick to go to school	DCT	0 = difficulty adjusting 1 = no difficulty adjusting	ICR
SES	SES measure (income, education, occupation)	CTN		
Family Structure	Family type categories using parent information	CAT	0 = single parent household with and without siblings 1 = dual parent household with and without siblings	
Race/Eth	Child composite race/ethnicity	CAT	BL (1 = Black, non-Hispanic, 0 = White, non-Hispanic) and Hispanic (1 = Hispanic , 0 = White, non-Hispanic)	
Gender	Child's gender	CAT	0 = male; 1 = female	
School Type	Child's attendance in Head Start and center- based care. A dummy variable which is made up of 3 categories:	CAT	HS & CBC (1 = Head Start and center based-based care, 0 = no formalized childcare), HS but no CBC (1 = Head Start but no center-based care,	

Appendix A (continued): Summary of Indicators

School type	(1) Has child	CAT	0 = no formalized care), CBC
(continued)	ever attended		but no Head Start (1 = center-
	Head Start		based care but no Head Start,
	and center-		0 = no formalized childcare).
	based care (2)		
	Has child		
	ever attended		
	Head Start		
	but no center-		
	based care		
	(3) Has child		
	ever attended		
	center-based		
	care but no		
	Head Start		

Note: = ICR = internal consistency reliability; CTN = continuous; CAT = categorical; DCT = dichotomous;

PI = parent involvement; SES = socioeconomic status; BL=Black, non-Hispanic; Eth=ethnicity; School adjustment was originally a continuous variable; however, based on examination of the variable distribution, a dichotomous variable was created.

Appendix B. Direct Assessment Approach

The ECLS-K child cognitive assessment was administered using a computer-assisted personal interview (CAPI), administered one-on-one with each child. The assessment included two cognitive domains (reading and mathematics). The assessment used for this dissertation was the reading domain. The ECLS-K battery was a two-stage assessment approach, in which the first stage in each domain contained a routine test that determined a child's approximate skills. According to the child's performance on the routine test, the child was administered the appropriate skill level assessment for that domain (the second stage). The reading assessment had three skill levels. Children were administered the routine stage and appropriate skill level in the fall of kindergarten, and again in the spring of kindergarten (NCES, 2000, p. 32).

Table 1

Demographic characteristics of the sample (Unweighted = 13,111; Weighted N = 3,164,275)

Variables	Population Percentage	N
Child's Gender		
Male	51.0	6,687
Female	49.0	6,424
Child's Race/Ethnicity		
White, non-Hispanic	62.7	8,221
Black, non Hispanic	17.2	2,255
Hispanic	20.1	2,635
Family Structure		
Dual parent (with and without siblings)	75.5	9,899
Single parent (with and without siblings)	24.5	3,212
School Type		
Head Start and center-based care	4.6	603
Head Start but no center-based care	12.1	1,586
Center-based care-but no Head Start	54.0	7,080
No Head Start and No center-based care	29.3	3,842

Note: Weighted sample is analytic sample size.

Table 2 (continued):

Correlations among all variables included in study (Unweighted = 13,111; Weighted N = 3,164,275)

Note: Correlations significant at $^{**}p < .001$; reading high score = greater reading scores; self-control high score = better self-control; adjustment = school adjustment; school adjustment high score = better school adjustment; SES = socioeconomic status; a) Gender = 0 = male, 1 = female; b) 1 = dual parent household (with and without siblings), 0 = single parent household (with and without siblings); HS = Head Start; CBC = center-based care, c) 1 = HS & CBC; d) 2 = HS & no CBC, e) 3 = CBC, no HS, 4 = no formalized childcare (reference group); f) Black = 1 = Black, non = Hispanic; 0 = White, non - Hispanic; g) Hispanic = 1 = Hispanic, 0 = White, non - Hispanic; h) Parent Involvement high score = greater cognitive stimulation in the home ; Weighted sample is analytic sample size.

Table 3

Hierarchical Regression Analyses summary for control variables and parently involvement predicting reading (Unweighted = 13,111; Weighted = 3,164,275)

Reading (DV)

Variables	Beta	SEB	R ²	△R
Model 1			.186	.186
Controls				
Gender (male)	.016**	.005		
Black (White)	-.013	.007		
Hispanic (White)	-.013**	.007		
Dual parent (S)	.014*	.007		
SES	.046**	.006		
HS & CBC (NFC)	-.017	.012		
HS/no CBC (NFC)	-.037**	.009		
CBC/no HS (NFC)	.023**	.005		
Model 2			.187	.001
Controls-plus PI				
Gender (male)	.017**	.005		
Black (White)	-.013	.007		
Hispanic (White)	-.013**	.007		
Dual parent (S)	.014	.007		
SES	.046**	.006		
HS & CBC (NFC)	-.017	.012		

Table 3 (continued):

Hierarchical Regression Analyses summary for control variables and parently involvement predicting reading (Unweighted = 13,111; Weighted = 3,164,275)

Reading (DV)

Variables	Beta	SEB	R ²	△R
Model 3 continued				
HS/no CBC (NFC)	-.039**	.009		
CBC/no HS (NFC)	.022**	.005		
PI	.001*	.001		
Model 3 INT			.189	.002
Gender (male)	.017**	.005		
Black (White)	.048	.03		
Hispanic (White)	-.052	.035		
Dual parent (S)	.014	.007		
SES	.045**	.006		
HS & CBC (NFC)	-.019	.012		
HS/noCBC (NFC)	-.038**	.009		
CBC/no HS (NFC)	.022**	.005		
PI	.002*	.001		
INT (Black x PI)	-.003*	.001		
INT (Hisp. x PI)	.001	.002		

** p < .001; * p < .05; Note: HS = Head Start, CBC = center-based care; PI = parent involvement; INT =

interaction; S = single parent, NFC = no formalized childcare; Black = Black, non-Hispanic; White =

White, non-Hispanic; Parent involvement high score = greater cognitive stimulation in the home; reading

high score = better reading. Weighted sample is analytic sample size. SEB = standard error of the beta.

Table 4

Hierarchical Regression Analyses summary for control variables and parently involvement predicting self-control (Unweighted = 13,111; Weighted = 3,164,275)

Self-Control (DV)

Variables	Beta	SEB	R ²	△R
Model 1			.035	.035
Controls				
Gender (male)	.025	.023		
Black (White)	.135**	.036		
Hispanic (White)	.065	.035		
Dual parent (S)	.074*	.035		
SES	.101**	.017		
HS & CBC (NFC)	-.092	.074		
HS/no CBC (NFC)	-.093*	.046		
HS & CBC (NFC)	-.003	.024		
Model 2			.045	.001
Controls-plus PI				
Gender (male)	.027	.023		
Black (White)	.137**	.036		
Hispanic (White)	.075**	.035		
Dual parent (S)	.070**	.035		
SES	.094**	.017		
HS & CBC (NFC)	-.097	.075		

Table 4 (continued):

Hierarchical Regression Analyses summary for control variables and parently involvement predicting self-control (Unweighted = 13,111; Weighted = 3,164,275)

Self-Control (DV)

Variables	Beta	SEB	R ²	△R
Model 3 continued				
HS/no CBC (NFC)	-.103**	.047		
CBC/no HS (NFC)	-.009	.024		
PI	.013**	.003		
Model 3 INT			.049	.004
Gender (male)	.027	.023		
Black (White)	.049*	.192		
Hispanic (White)	-.48**	.167		
Dual parent (S)	.071*	.034		
SES	.094**	.017		
HS & CBC (NFC)	-.097	.074		
HS/noCBC (NFC)	-.105*	.047		
CBC/no HS (NFC)	.008	.023		
PI	.02**	.004		
INT (Black x PI)	-.016	.009		
INT (Hisp. x PI)	.019*	.008		

** p < .001; * p < .05; Note: HS = Head Start, CBC = center-based care; PI = parent involvement; INT = interaction; S = single parent, NFC = no formalized childcare; Black = Black, non-Hispanic; White = White, non-Hispanic; Parent involvement high score = greater cognitive stimulation in the home; self-control high score = better self-control. Weighted sample is analytic sample size. SEB = standard error of the beta.

Table 5.

Estimated odds ratio from multivariate binary logistic regression predicting school adjustment (Unweighted = 13,111; Weighted N = 3,164,275)

	Model 1	Model 2
	B [SE; OR]	B [SE; OR]
Gender (male)	.18 ** [.06; 1.20]	.19 * [.09; 1.21]
Black (White)	.16 [.13; 1.17]	.17 [.15; 1.19]
Hispanic (White)	.18 [.18; 1.20]	.20 [.13; 1.22]
Dual parent (S)	.17 [.14; 1.19]	.16 [.12; 1.18]
SES	.05 [.04; 1.05]	.04 [.07; 1.04]
HS and CBC (NFC)	-.39 ** [.14; .68]	-.40 ** [.29; .67]
HS/no CBC (NFC)	.25 [.18; 1.29]	.23 [.19; 1.26]
CBC/no HS (NFC)	.05 [.08; 1.05]	.04 [.01; 1.04]
PI		.02 * [.01; 1.02]

** p < .001; * p < .05; Note: HS = Head Start, CBC = center-based care; PI = parent involvement; S = single parent, NFC = no formalized care; Black = Black, non-Hispanic; White = White, non-Hispanic; Parent involvement high score = greater cognitive stimulation in the home; school adjustment high score = better school adjustment. Weighted sample is analytic sample size. The confidence intervals are not reported because the statistical package that was used does not compute the confidence intervals. Therefore, the standard error of the beta (SE) was reported.

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