The Effects of Parental Self-Efficacy on Parental Involvement and on Pre-School Aged Children's Readiness for the Transition to Kindergarten

by

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Abstract

Using data from the Early Childhood Longitudinal Study Kindergarten Class of 1998-99 (ECLS-K), demographic and parental predictors of parental self-efficacy were identified among parents with children transitioning to kindergarten. In addition, the mediating role that parental involvement in the home and/or school context may play in the association between parental self-efficacy and children's readiness for kindergarten was examined. Several findings were noteworthy. First, analyses indicated that numerous demographic and parental characteristics independently predicted parental self-efficacy. When the indicators are examined all together, however, only two remained statistically significant (parent education and marital status). Second, although parental involvement in the home and school were both significantly associated with kindergarten outcomes, only parental involvement at home was found to mediate the effects of parental self-efficacy on kindergarten outcomes. Implications of the aforementioned findings with respect to interventions to increase parental self-efficacy and involvement among parents with children transitioning to kindergarten are discussed.

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I would like to dedicate this thesis to my uncle, Marcus Ryan Laurent, who left us far too soon on December 26, 2011. A wiser man never walked the Earth! Your words of encouragement will remain with me forever. Continue to Rest In Peace, Soul Rebal.

Table of Contents

List of Tables

List of Figures

Introduction

In 1989, the first National Education Summit was held between President Bush and U.S governors leading to the development of the National Education Goals Panel [NEGP] based on a need to improve the quality of education in America (NEGP, 1999). The formation of this panel brought forth eight goals to be met by the year 2000. The first of these goals (the only one discussed in this paper as it is most relevant to the current study) stated that all children in America would start school "ready to learn" (NEGP, 1999). That is, children would arrive in kindergarten able to recognize all letters of the alphabet, be able to count to 20 or higher, write their own name, and read or pretend to read storybooks. They would also be socially skilled. School readiness plays a key role in young children's future academic success (Webster-Stratton, Reid, & Stoolmiller, 2009). Research suggests that children who enter school with a basic knowledge of reading and math are more likely than their peers to experience later academic success (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006). Conversely, lack of school readiness is associated with early academic failure, misbehavior, and strongly predicts criminality and difficulties obtaining employment (Pelletier & Brent, 2002).

Despite evidence demonstrating the importance of parent involvement, teachers report that getting and keeping parents involved is difficult (Eccles & Harold, 1993). Thus, understanding barriers to parental involvement is critical. Parental self-efficacy has been identified as one of those barriers (Hoover-Dempsey & Sandler, 1995). Parents who feel

doubtful about their ability to foster their child's academic development are less likely to take a proactive stance in this domain of development (Bandura et al., 1996). Conversely, when parents believe that they are able to effectively influence their children's academic development, they are more willing to become involved in their child's academic development (Pelletier & Brent, 2002). There is a need to more fully understand the role that parental self-efficacy plays in school readiness. That is, are the effects direct (i.e., parental self-efficacy predicts children's social and academic outcomes) or indirect through parental involvement (i.e., parental self-efficacy predicts parental involvement, which in turn predicts children's social and academic outcomes). Thus, two goals of the proposed project are to investigate demographic and parental characteristics that predict parental self-efficacy among parents of children transitioning to kindergarten as well as to examine the mediating role that parental involvement plays in the association between parental self-efficacy and school readiness.

This study used longitudinal data from the Early Childhood Longitudinal Study-Kindergarten Class of 1998 – 99 to examine seven possible predictors of parental self-efficacy and to determine if parental involvement in the home and school mediated the relationship between parental self-efficacy and school readiness. Research questions were addressed using measurement and regression models to test for significant associations between the constructs of interest.

Literature Review

School Readiness and Academic Achievement

Despite the NEGP goal that all children start school ready to learn, there has been an ongoing debate concerning what it really means to be ready to learn. In most states, age is used to determine when children are ready to enter formal schooling, with five being the average age of entry (Ackerman & Barnett, 2005). Thus, kindergarten would seem to be a logical point at which to assess "school readiness". Interestingly, the NEGP (1999) does not focus on age specifically but instead describes school readiness as consisting of five elements: the child's health and physical well being and motor development (e.g., health status, growth, and disability), emotional and social competence (e.g., turn-taking, cooperation, empathy, and the ability to express one's own emotions), approaches to learning (e.g., enthusiasm, curiosity, temperament, culture, and values), communicative skills (e.g., listening, speaking, vocabulary, and literacy skills), and cognition and general knowledge (e.g., sound-letter association, spatial relations, and number concepts). In the U.S. Census Bureau's statistical abstract (2012), school readiness is broken down into four very specific developmental skills: (1) the ability to recognize all letters of the alphabet, (2) the ability to count to 20 or higher, (3) the ability to write own name, and (4) reading or pretending to read storybooks. It is worth noting that unlike the NEGP, the U.S. Census Bureau did not include social or physical well-being indicators in their definition of school readiness, nor do they note age as an indicator of readiness, providing further evidence that there is no consensus on what it means to be "ready to learn". Although teachers echo the

importance of the skills identified by the U.S. Census Bureau for a successful transition to kindergarten, they also highlight the critical role that social and emotional skills (e.g., ability to interact with peers, ability to regulate emotions, limited behavior problems, etc.) play in early learning. In fact, teachers report that in addition to lack of academic skills, social and behavioral problems are one of the primary reasons children experience difficulty during the transition to kindergarten. Rimm-Kaufman, Pianta, and Cox (2000) conducted a study using a large, national sample of 3,595 teachers in which they examined the teachers' judgments `of common types of problems children present upon entering kindergarten. Thirty-six percent (36%) of the teachers reported that about half of their class or more lacked academic skills. Twenty percent (20%) reported that about half or more of their class had problems with social skills. Thus, while not all definitions of school readiness include social and emotional competencies, their central importance to teachers as well as their inclusion in the NEGP elements led me to conclude they are a critical element of school readiness and will be included in the current study as one index of school readiness at the transition to kindergarten.

Although there is no clear consensus on what constitutes school readiness, there is considerable evidence to support its importance in the early academic development of young children as well as their later school success (Entwisle & Alexander, 1990; La Paro & Pianta, 2000; Pelletier & Brent, 2002; Wright, Diener, & Kay, 2000). Specifically, children with poor academic and attention skills, problem behavior, and difficulty working in groups tend to struggle more as they enter kindergarten than do their peers, supporting the notion that school readiness may not just be a function of age (Rimm-Kaufman et al., 2000). Early cognitive and language development have been noted as key predictors of future grades, test scores, and grade retention (Hair et al., 2006; Snow, Burns, & Griffin, 1998). Research suggests that a lack of

mastery of certain skills or abilities that permit a child to function successfully in a school setting, both academically and socially, is also associated with early academic failure, misbehavior, and strongly predicts criminality and difficulties obtaining employment (Pelletier & Brent, 2002). Reynolds, Temple, Robertson, and Mann (2001) conducted a study in which they examined the long-term effects of participation in an early childhood intervention. The authors used data from the Chicago Longitudinal Study gathered between preschool and adulthood and discovered that early academic development was associated with lower rates of special education and grade retention and higher rates of school completion, particularly for males.

Due to the unique ways in which children develop (Pelletier & Brent, 2002), differences in their pre-kindergarten experiences in the home and in pre-school, and widely varying skills, knowledge, and levels of preparedness for school, researchers argue that readiness ultimately depends on two things: (1) whether or not parents believe their child is mature enough for the demands of a formal school setting and (2) the teachers perception of the child's readiness (Ackerman & Barnett, 2005). Indeed, readiness for school is a developmental milestone that requires not only the child to adapt to a formal school environment but the parent as well (Pelletier & Brent, 2002). Parents who are ready for the transition tend to become more educationally involved and conduct activities at home and in early childhood settings to directly and indirectly support their children's transition to a formal school environment (Kreider, 2002). Parents are the first and most important teacher in children's lives and they have the potential to provide experiences that foster life skills, abilities, and attitudes that set the stage for school readiness and ultimately underlie school success (Pelletier & Brent, 2002). Thus, it is critical that we understand why some parents' are more "prepared" to adapt to the formal school

environment, for example by becoming involved in their child's leaning at home and at school, than others.

Parental Involvement

According to Pelletier and Brent (2002), parents are a child's first and most important teachers, as they are in a position to provide a multitude of experiences that encourage the learning of life skills that will prepare their children for later success. Hyson (1991) refers to parents as "developmental general contractors" who appoint some tasks to others but have the most control over the developmental process of learning. Although the school setting is highly influential on young children's academic development, much of early learning is also dependent on the home environment provided by the parent (Hair et al., 2006; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004). In fact, some teachers believe that they can only be effective if they obtain parental assistance on learning activities at home (Epstein, 1986). Epstein (1986) conducted a study in which she explored teachers' practices of getting parent's involved both in and outside of the classroom. Teachers who had been identified by the school principal as leaders in parent involvement suggest that parents do learning activities at home with the child including reading aloud to the child, listening to the child read, playing games that help the child learn, and using things at home to help the child learn. These activities prove to be very useful for the child's academic achievement. Parental involvement in the school is equally important. Porter-DeCusati and Johnson (2004) conducted a study in which they investigated the effects of parent involvement in the classroom on the literacy performance of 56 kindergarten children over five months. The children were randomly assigned to either the treatment condition (parent input) or the comparison condition (no parent input). The authors discovered that the children in the

treatment group outperformed those in the comparison group on word recognition as evidenced by post test scores. Clearly it is crucial that parents find ways to become involved in both contexts.

As is the case with school readiness, there is no clear or consistent operational definition of parental involvement (Fan, 2001; Fan & Chen, 2001). The term has been used to describe a host of parental behaviors, patterns, and practices such as parent's aspirations for their child's academic achievement, education-related rules in the home, and participation in school activities (Fan & Chen, 2001; Kohl, Lengua, & McMahon, 2000). Hill and Tyson (2009) describe it as parents' interactions with both their child (e.g., engaging in educational activities at home) and the child's school (e.g., volunteering or involvement in school governance) to promote academic success. Similarly, Fishel and Ramirez (2005) define parental involvement as the participation of significant caregivers in the educational process of their children with the intentions of promoting academic and social well-being.

Although these definitions give us some sense of what parental involvement might look like, they are quite broad. Grolnick et al. (1997) provided a more specific definition of parental involvement. They suggested that parental involvement was the dedication of resources by the parent to the academic development of the child within one of three types of domains: (1) *behavior*, or parent participation in parent-teacher meetings and other school activities, (2) *cognitive-intellectual*, or exposing the child to stimulating environments, and (3) *personal*, or the parent's awareness of where the child is pertaining to their academic development. The authors found that children whose mothers had high levels of behavioral and cognitive involvement were more likely to feel competent in school. Epstein (1995) proposed a framework that included six different types of involvement including (1) parenting: supporting, nurturing, and rearing the

child (by providing a secure and loving environment in which a child can focus on learning both at home and at school); (2) school-to-home and home-to-school communication: relating with and reviewing student's progress with school staff; (3) volunteering: providing assistance at child's school (i.e., fundraisers, chaperoning, etc.); (4) learning at home: managing, recognizing, and rewarding the child; (5) decision making: participation in organizations such as PTA/PTO; and (6) collaborating with the community: sharing, giving, and encouraging partnerships with community resources and services. The specificity of Grolnick et al.'s definition and Epstein's framework of parental involvement provide an excellent framework in which to investigate how parental involvement might be related to children's school readiness as they transition to kindergarten. More specifically, for the current study, I identified a set of behavioral (e.g., contact child's school, attend school or class event, acted as volunteer) and cognitive-intellectual (e.g., visited a library, visited a art gallery, museum, or historical site, visited a zoo, aquarium, or petting farm) factors that the literature suggests are particularly salient indicators of parental involvement in the home or school settings and examined their effects on school readiness. These indicators were divided into factors that best reflected involvement in the home or in the school. Please see the measures section for more details.

Parental involvement and child outcomes. Regardless of how parental involvement is defined, there is evidence supporting the positive relationship between active parent involvement in the home and school context and successful cognitive and academic achievement for all grade levels (Barnard, 2004; Eccles & Harold, 1993; Grolnick et al., 1997; McWayne et al., 2004; Pelletier & Brent, 2002;). McWayne et al. (2004) conducted a study in which they investigated the relationship between parental involvement and children's social and academic competencies in a sample of 307 low-income, ethnic minority kindergarteners and their parents. Parental

involvement was measured using a 40 item self-report scale that assessed three reliable parent involvement dimensions: (1) supportive home learning environment characterized by parent activities and behaviors that promote learning at home and reinforces learning that occurs during the child's school day, (2) direct school contact comprised of items that described parents' direct involvement in school-based activities, and (3) inhibited involvement barriers to parent involvement on their children's education such as time constraints and competing responsibilities. The authors discovered that parent's provision of a supportive and stimulating home environment and direct contact with the child's school were significantly related to children's social and academic functioning. The children of involved parents displayed higher levels of academic and social functioning in both the home and school environment in comparison to children whose parents were less involved. Barnard (2004) obtained similar findings when she investigated the relationship between parental involvement, defined broadly as involvement at home and school, and academic success in high school. Her sample consisted of 1,165 children from the Chicago Longitudinal Study (CLS) who were growing up in poverty. Based on teacher and parent ratings of parents' school involvement and parent's ratings of their home involvement, the author concluded that parental involvement in elementary school significantly predicted lower school dropout rates, increased rates of high school completion, and more years of school completed overall. Mendez (2010) conducted a study in which she explored the effects of an intervention designed to increase parental involvement, defined as a variety of behaviors (engagement in intervention program) and attitudes (level of satisfaction with intervention program) that families may exhibit that contribute to a child's school success, on school readiness. Her sample included 288 predominantly African American families. The results showed that school readiness outcomes, including language development, letter-word

identification, and letter knowledge, were significantly predicted by parental involvement such that families with high participation in the program had children with higher levels of school readiness abilities. Children whose parents had high levels of participation in the program and a strong relationship with the child's teacher, displayed stronger literacy and social competence skills in comparison to children who did not participate in the program. Similarly, in an evaluation of the Incredible Years Training Series, a program for teachers designed to promote school readiness and develop positive parent-teacher relationships, Webster-Stratton et al. (2008) discovered that parent involvement (e.g. reading newsletters, assisting with homework activities, etc.) and the ability to work collaboratively with teachers were important predictors of children's school success. In general, the research suggests that parental involvement, defined in many different ways and marked by a wide range of activities, at all grade levels is critical for future academic success.

Although the importance of parental involvement is well-established, teachers report struggling to get parents involved (Eccles & Harold, 1993). Research has been conducted to determine how and why parents participate in their child's academic success. It has been found that level of parent involvement (i.e., how involved a parent becomes in their child's education) can be dependent on parental self-efficacy (Hoover-Dempsey & Sandler, 1995). Parents who feel confident in their ability to provide their child with efficient academic guidance may be more likely to be involved in both the home and school environment. In contrast, parents who do not feel as though their contribution will be beneficial to their child's academic success may not be as involved in the home learning environment and even less likely to be involved in the school environment (Bandura, 1997). According to Waanders et al. (2007) parents often believe that their child's education is the sole responsibility of the teacher and therefore do not become

involved in educational activities because they view the teacher as the "experts" in education. Similarly, Bandura et al. (1996) reported that parents are not very likely to intrude on learning activities within the school context.

Family and demographic differences. Certain family and demographic factors have also been identified as predictors of parent involvement (Kohl, Lengua, & McMahon, 2000). Lower SES parents are generally less involved in their children's schooling in comparison to parents who are middle or high SES (Kohl et al., 2000; Waanders et al., 2007). Research suggests that single parents tend to be less involved in the academic development of their children than married parents (Grolnick et al., 1997; Waanders et al., 2007). In addition, parental education may also affect how involved parents become in their own children's education (Grolnick et al., 1997; Kohl et al., 2000; Machida et al., 2002). Parents who have higher levels of education are more likely to be involved in their children's learning than are parents with low levels of education (Grolnick et al., 1997; Kohl et al., 2000; Machida et al., 2002). Kohl et al. (2000) conducted a study in which they explored the relationship between parental involvement in school and family and demographic risk factors. The authors examined the strengths and weaknesses of parental involvement models used by other researchers and came up with three common dimensions of parental involvement which they used in their own model: parent-teacher contact to help monitor the child's progress, parent involvement in school activities and parent involvement directly with the child at home. They concluded that parental education was significantly related to parental involvement such that parents with a high education level are more aware of the importance of being involved in their child's own academic involvement. Contrastingly, parents who obtained less education did not feel confident that they possessed the

skills to foster their child's academic development and thereby avoided becoming involved in their child's educational development.

Clearly, not all parents feel comfortable being involved in their child's education (Pelletier & Brent, 2002). According to Bandura et al. (1997), a parent's decision to become involved in their child's academic development is partly based on their beliefs of how their efforts may impact their child's outcomes. Thus, understanding why parents might not feel confident in their abilities to effectively foster their young child's academic development is critical. This is especially true for very young children because we know little about parental self-efficacy at the transition to kindergarten.

Parental Self-Efficacy

In general, self-efficacy is defined as a person's belief or perception that he or she can act in ways that will produce intended or desired outcomes (Green, Walker, Hoover-Dempsey, & Sandler, 2007). When applied to the domain of parenting, the definition of self-efficacy focuses on a parent's perception of their ability to positively impact his/her child's overall development. Parental self-efficacy has emerged as a powerful predictor of specific positive parenting practices (Coleman & Karraker, 2000). More specifically, parental self-efficacy has been identified as a key determinant of why parents become involved in their child's academic development in both the home (Waanders et al., 2007) and school (Grolnick et al., 1997) contexts. Jones and Prinz (2005) define it as a parent's belief in his/her ability to influence their child as well as the environment in ways that foster the child's positive development and success. Sanders and Woolley (2005), define it as parents' beliefs in their ability to effectively manage the varied tasks and situations of parenthood. Hoover-Dempsey, Bassler, and Brissie (1992) define parental self-efficacy as a parent's belief about their general ability to influence their child's developmental

and educational outcomes, their specific effectiveness in influencing the child's school learning, and their own influence relative to that of peers and the child's teacher. The latter definition will be used as a guide for this paper as it focuses most on self-efficacy in relation to educational outcomes.

Parents who are confident in their abilities to effectively parent can be described as highly efficacious. Parents with a strong perception of self-efficacy who feel as though they can significantly contribute to their child's educational development will be more likely to become involved in their child's education (Grolnick et al., 1997; Hoover-Dempsey et al., 1992; Waanders, Coleman & Karraker, 2000). Coleman and Karraker (2000) conducted a study in which they used several measures, one of which is most relevant to the current study, to examine parenting self-efficacy among mothers of school-aged children. The authors measured the construct with the Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978), which is comprised of an efficacy subscale and a satisfaction subscale. The efficacy subscale consists of seven items (e.g., "Being a parent is manageable and any problems are easily solved." and "If being a parent of a child were only more interesting, I would be motivated to do a better job as a parent) that measure domain-general parenting self-efficacy. They concluded that high parental self-efficacy is associated with providing an adaptive, stimulating, and nurturing environment for a child. This can include allowing the child opportunities to explore their environment or providing play and learning materials.

Efficacious parents understand the likely effects of their efforts and have great potential in fulfilling the role of their child's primary educator (Seefeldt et al., 1999).When parents perceive themselves as highly efficacious and as being their child's first teacher ("My child has learned to do many things with my help", "The kinds of toys and experiences I provide for my

child will help him/her to be a successful adult"), they are more involved in cognitive activities (Grolnick et al., 1997; Machida et al., 2002). In their study exploring parent-school relations in a sample of 390 students of children in kindergarten through first grade, Hoover-Dempsey et al. (1992) discovered that high parent self-efficacy, defined as parents' belief and knowledge that they can teach their children and that their children can learn what they teach, was related to increased parental involvement in their child's classrooms as well as learning activities outside of the home. The authors concluded that parents who feel that their efforts may pay off are more likely to feel more confident and become involved. Similarly, in their study on parent characteristics that predict parent's involvement in their preschool children's education, Waanders et al. (2007), who defined self-efficacy as a parent's belief in his or her own competence to achieve a desired parenting outcome, found that of the 154 primarily African American parents included in the study, those who reported greater feelings of efficacy regarding their child's education also reported being more involved in the home environment.

Conversely, low parental self-efficacy is associated with feelings of hopelessness in the parenting role (Coleman & Karraker, 2000). Parents who feel doubtful about their ability to foster their child's academic development are less likely to take a proactive stance in their child's development and are easily discouraged when their efforts seem detrimental or when they encounter difficulties (Bandura et al., 1996). Coleman and Karraker (1997) report that parents with low perceptions of self-efficacy experience significant feelings of doubt and anxiety and spend valuable time focusing on failures rather than on successes. This may result in the parent distancing him/herself from the responsibility of preparing their child for school. Jones and Prinz (2005) conducted a study in which they investigated the role that parental self-efficacy, a parent's beliefs in his/her ability to influence their child as well as the environment in ways that

foster the child's positive development and success, plays in parent and child adjustment. The authors concluded that parents with a lower perception of self-efficacy may experience feelings of doubt and frustration in relation to negative perceptions of their performance. These feelings of doubt and frustration may, in turn, have a negative impact on their children's feelings of self-efficacy.

It is possible that low efficacious parents may lack adequate parenting skills and persistence and as a result, might feel a sense of hardship in their role as a parent. Coleman and Karraker (1997) put together a review in which they take a closer look at parental self-efficacy and provide a nice framework with which to explore the construct. Broadly speaking, low self-efficacy beliefs are likely to impact motivation in a variety of domains, including parenting, such that low efficacious individuals show minimal effort in the face of a challenging task (Coleman & Karraker, 1997). More specifically, when parents do not feel motivated in their parenting role, they are not very likely to put forth a tremendous effort towards their child's academic development. In order for parents in particular to feel efficacious, they must first: (a) understand appropriate child care responses (e.g., limits to establish and enforce), (b) possess confidence in their ability to carry out the task, and (c) believe that their children will respond to their efforts and that their efforts will be supported by their family and friends. If parents do not possess these feelings or knowledge, they are more likely to feel burdened by the parenting role (Coleman & Karraker, 1997; Coleman & Karraker, 2000). Thus, in the current study, four indicators of parental hardship were used to measure parental self-efficacy. Although these indicators may not be considered classic measures of parental self-efficacy, they all tap into a sense of hardship in the parenting role and will serve as a proxy for parental-self-efficacy.

Despite evidence linking parental self-efficacy to child outcomes, little is known about what factors predict why some parents feels highly efficacious and why others do not, especially among very young children. Further, we do not have a clear understanding of whether the effects of parental self-efficacy on children's outcomes are direct or whether they act through parental involvement. Because parental involvement has been a focus of many school interventions (e.g., Mattingly, Prislin, McKenzie, Rodriguez, & Kayzar, 2002), understanding barriers to parental involvement, particularly parental self-efficacy, is critical. Knowledge of the mechanisms through which parental self-efficacy affects child outcomes will help us create more effective prevention and intervention programs for parents of young children.

Social Capital

Although Grolnick et al., Epstein, and others (i.e., Green et al., 2007; Hoover-Dempsey et al., 1992; Machida et al., 2002) have provided excellent models for describing parental involvement and parental self-efficacy, these models do not necessarily offer a theoretical framework for why parental involvement and parental self-efficacy might be important for child outcomes. Research suggests that an array of community, school, and family resources affects children's school readiness and educational achievement (Beaulieu & Israel, 2005; Roscigno & Crowley, 2001). One framework that incorporates these multiple factors that may be particularly relevant for the academic development of children is the idea of social capital within the family as discussed by Coleman (1988). His perspective implies that parents play a primary role in promoting educational attainment of their children. The child's academic success relies largely on the relationship between the parent and the child and also the parents and other adults associated with the child (i.e., a spouse, teacher). Coleman (1988) described social capital as

having three components: the obligations and expectations of reciprocity in social relationships, norms and sanctions that promote the common good over self-interest, and information channels. Social capital is built through a cooperative relationship between parents and teachers or schools. This education-related social capital obtained through parental involvement at school will best benefit children's academic achievement if parents are able to continue the support of their children's education at home.

Israel, Beaulieu, and Hartless (2001) define social capital, with respect to the family, as the norms, social networks, and relationships that exist in the family that help to promote educational achievement. The authors explain that children need to be able to have access to this family social capital. Elements of family social capital, as applied to academic achievement, include monitoring and helping children with their homework, having conversations with them about important school activities, limiting television viewing, and holding high educational aspirations for their children. Elements of family social capital, as applied to the family home environment, include a two-parent household and high parental education. Here we can make a link to both parental self-efficacy and parental involvement. As previously discussed, parents with low feelings of self-efficacy tend to distance themselves from becoming involved with their children's academic achievement due to feelings of doubt (Jones & Prinz, 2005). This distancing would undoubtedly limit the access children have to family social capital. Thus, this study is guided by the idea that parents and schools foster social capital among children and thus generate positive developmental outcomes across the lifespan.

The Present Study

Based on the fact that children are continuing to enter kindergarten unprepared despite existing policies, as well as the notion that children's academic success is a function of what happens *both* in the school and at home, there is a need to further explore how and why parents become more confident and proactive in their role as their child's first teacher. It is evident that parental involvement in children's learning in school and at home is a key component of their later academic success. Parent's are in an ideal position to help their children with the developmental hurdles they will face in the school context as a result of their intimate awareness of their child's personal needs (Coleman & Karraker, 2000). Further, when children live in families and attend schools with high social capital, they show higher levels of school readiness and later success (Beaulieu & Israel, 2005; Durham & Smith, 2006). Thus, fostering strong social capital among parents around norms and values as they relate to education is critical. However, teacher's report that getting and keeping parents involved can be very difficult. It is possible that the parents' level of self-efficacy may be a primary factor in their decision to become involved but we know little about the variables that predict parental self-efficacy in early childhood and why some parents feel efficacious while others do not. Importantly, research is needed to understand whether parental self-efficacy directly impacts children's school readiness or whether its effects are mediated by parental involvement. If parental self-efficacy is one of the primary barriers to parental involvement, prevention and intervention programs designed to strengthen parental self-efficacy as well as increase parental involvement may be far more effective than programs that target only parental involvement. That is, programs that help parents feel more confident in their role as their child's first teacher may ultimately increase their involvement in their child's learning. Thus, the goals of the present study are to determine what

factors predict parental self-efficacy during the transition to kindergarten by examining a range of demographic characteristics as well as responses to questions inquiring about their confidence and experiences as a parent. In addition, the possibility of parental involvement as a mediator of the relationship between parental self-efficacy and school readiness will be explored. In other words, I seek to discover whether parental self-efficacy affects school readiness directly or if it is working through parental involvement or some combination of both. The following research questions will be addressed:

1. What demographic and parental characteristics predict parental self-efficacy among parents of children transitioning to kindergarten?
2. Does parental involvement in the home and/or school context mediate the effect of parental self-efficacy on children's readiness for kindergarten?

Method

Sample

In the present study, data from The Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 project will be used. The ECLS-K, which is sponsored by the U.S. Department of Education, National Center for Education Statistics (NCES), is the first longitudinal study that has followed a nationally representative cohort of children from kindergarten through the end of eighth grade. The ECLS-K provides multifaceted and longitudinal data on children's physical, cognitive, and social-emotional development as well as children's home and school environment. The study focuses on the children's early learning experiences such as educational quality in the home environment that may be related to early development and school readiness (NCES, 2002). Using a multi-stage sample design, 1,280 public (85%) and private schools (15%) that offered full-day (55%) and part-day (45%) kindergarten programs were selected from 100 counties. In the fall of 1998, an average of 23 kindergarteners was selected from each of the sampled schools. All kindergarten children in the sampled schools were eligible for the sampling process, including language minority and special education students. The resulting sample was diverse with respect to gender (51% boys, 49% girls) and ethnicity (18% Hispanic, 15% African American, and 6% Asian). Eleven percent (11%) of mothers had not completed high school and 20% of them were single. Seventeen percent (17%) of the families were below the poverty level and 59% were considered to be middle class. For the purpose of the current study, a subsample of children with complete data on the outcomes of interest will comprise the analytic sample.

The current study is based on a sample of 7,748 children who had complete data for the child outcomes of interest (school readiness and social competence). The sample is diverse with respect to gender (51% male), and ethnicity (64% White, 14% African American, 13% Hispanic, and 4% Asian). Ninety-six percent (96%) of the sample were first-time kindergarteners. The dataset also includes the children's primary caregiver and their teachers. Mother's reports were used for all parent variables. Twenty-five percent (25%) of mothers had earned a high school diploma or their GED, 28% had attended college but did not obtain a degree, 18% had earned a bachelor's degree, 6% had their masters, and 2% a doctorate degree. Sixty-nine percent (69%) of mothers were employed and 29% were unemployed (3% reported they were looking for work). Seventy-five percent (75%) of mothers worked between the time the child was born and kindergarten entry. Sixty-five percent (68%) of mothers reported that they were married to or living with the child's biological father, 5% reported that they were married to someone other than the child's biological father, and 3% reported that they were living with someone who was not the child's biological father. The 9,134 children who did not have child outcome data in the Spring did not vary from those who remained in the study. The mothers were just as likely to be employed (67%); were just as likely to have worked between the time the child was born and kindergarten entry (74%); and were just as likely to be married (69%).

Procedure

Data were collected from the children, their guardians, and their teachers as well as school administrators in fall of 1998 and spring of 1999. Data collection methods included direct child assessments, parent interviews, and questionnaires completed by the teachers and school administrators. The children were assessed in language and literacy, mathematical thinking, and general knowledge. Prior to conducting the assessments, a language-screening assessment, the

Oral Language Development Scale (OLDS), was administered to children who had been identified by their school records as coming from a home where the primary language was not English. The purpose of this screening test was to determine if a child was able to understand and respond to assessment items in English. Children who passed the language screener were given the full ECLS-K assessment. Those who did not pass the established cut score received a reduced version of the assessments. Children who failed to pass the language screener but spoke Spanish were administered a Spanish translated form of the OLDS. For those who failed the language screener and whose primary language was not Spanish, data collection was limited to basic demographics and height/weight. Children were included in the current study if they had complete data for the outcomes of interest.

Parent interviews were conducted via telephone or using in-person computer-assisted interviewing (CAI) for those without a telephone in the home. Non-English speaking parents were given the opportunity to complete the interview in their own language. In these interviews, parents provided information about their child such as age, gender, race, social skills, and behavior of the child. They also provided information about household income, the home environment, family structure and characteristics, their level of involvement with the child, and educational activities that take place in the home.

Information from teachers was gathered with the use of self-administered questionnaires, which inquired about the teacher's class, classroom characteristics, and the composition and demographics of the children in the class. In addition, teachers responded to questions about each child's skills in areas of language and literacy, mathematical thinking, and general knowledge.

Measures

Outcome Variable

School readiness. During the Fall and Spring of their kindergarten year, children were administered a series of direct assessments designed to measure their reading and mathematics skills as well as general knowledge. These assessments were created specifically for the ECLS-K study. Children were asked reading questions that measured basic skills such as letter recognition, ability to determine beginning and ending sounds, ability to recognize common sight words, and understand words in context. Children were also asked mathematics questions that measured ability to count, identify numbers and shapes, relative size, patterns and sequences, and addition and subtraction. For the current study, I used the vertically equated Item Response Theory (IRT) scores, which reflect a child's deviation from a criterion score and are thus equitable over time (Rasch, 1960). Higher scores indicate better reading and mathematics skills and reflect children's performance on items with a broad range of difficulty.

In addition, teachers responded to the Academic Rating Scale (ARS; NCES, [n.d]) in the Spring Kindergarten Teacher Questionnaire. The ARS consists of three scales: language and literacy, mathematical thinking, and general knowledge. In the language and literacy section, teachers rated each child's proficiency in speaking, listening, early reading, writing, and computer literacy. In the mathematics section, teachers rated each child on five skills: concept of numbers, solving number problems, use of math strategies, data analysis, and measurement. In the general knowledge section of the ARS, teachers rated each child's proficiency in social studies and science. In all of the aforementioned sections, teachers selected from one of five responses: not yet (1), beginning, in progress, intermediate, or proficient (5).

For the current study, a total of four composites were used as indices of children's school readiness. The children's IRT scores for language and literacy, math, and general knowledge were summed to create a single composite score. The remaining three composites were comprised of teachers' ARS ratings for language and literacy (9 items), math (7 items), and general knowledge (5 items). Reliability of IRT-based scores ranged from .88 - .95. Reliability of ARS scores ranged from .87 - .94.

Social competence. In the Spring of the study child's kindergarten year, parents completed the Social Rating Scale (SRS) which asked a range of questions related to the child's social skills and behaviors in the home environment. The SRS has five scales: (1) approaches to learning (six items that rated child's attentiveness, task persistence, eagerness to learn, learning independence, flexibility and organization); (2) self-control (four items that rates the frequency with which a child fights, argues, throws tantrums, or gets angry); (3) social interaction (three items that address children's ease in joining in play, ability to make and keep friends, and positive interactions with peers); (4) impulsive/overactive (two items that ask about children's impulsivity and activity level); and (5) sad/lonely (four items that ask parents about children's problems with being accepted and liked by others, sadness, loneliness, and low self-esteem. Parents were asked to select one of four responses (never (1), sometimes (2), often (3), and very often (4)) indicating how frequently their child exhibited the behaviors and characteristics described. Sample behaviors were "Show interest in a variety of things?" "Concentrate on a task and ignore distractions?" and "Creative in work or in play?" For the current study, ratings were totaled and a composite variable was created to represent the child's overall level of social competence as rated by their parent across all five scales. Reliability for the parent SRS scores ranged from .46 - .75.

Teachers also rated children's social competence using the teacher version of the SRS. The teachers rated the children on five scales: (1) approaches to learning (six items that rated child's attentiveness, task persistence, eagerness to learn, learning independence, flexibility and organization), (2) self-control (four items that indicated the child's ability to control their temper, respect property rights of others, accepting peer ideas, and responding appropriately to peer pressure), (3) interpersonal skills (five items that rated the child's skill in forming and maintaining friendships, getting along with people who are different, comforting or helping their peers, expressing feelings in a positive way, and showing sensitivity to others feelings), (4) externalizing problem behaviors (five items that measured frequency with which a child argues, fights, gets angry, acts impulsively, and disturbs ongoing activities), and (5) internalizing problem behaviors (Four items that ask about apparent presence of anxiety, loneliness, low self-esteem, and sadness).Teachers were asked to select one of four responses (never (1), sometimes (2), often (3), and very often (4)) to indicate how frequently the child exhibited the behaviors and characteristics described. Sample behaviors were "Keeps belongings organized?" "Works independently?" and "Easily adapts to changes in routine?" For the current study, ratings were totaled and a composite variable was used to represent the child's overall level of social competence as rated by their teacher across all five scales. Reliability for the teacher SRS scores ranged from .79 - .90.

Predictor Variables

Parental involvement in the home environment. In the Fall of the study child's kindergarten year, parents completed the "Home Environment, Activities, and Cognitive Stimulation" (HEQ; NCES, [n.d]) section of the Fall Parent Interview Questionnaire, which asked a range of questions related to parents' involvement in the home environment. For the

current study, six variables were used to represent parental involvement in the home environment. This includes one composite variable, frequency of activities, created by summing seven items. Specifically, parents were asked to select one of four responses indicating how often they participated in activities with the child in a typical week, not at all (1), once or twice (2), 3 to 6 times (3), or every day (4). Sample items included read books to child, tell stories to child, and sing songs with child, reflecting Grolnick's (1997) cognitive-intellectual domain, in which parents expose the child to a stimulating environment, and Epstein's (1995) learning at home factor, in which parents manage the task of teaching their child. Higher scores on this composite indicated more frequent home involvement. Parents also indicated the number of books available to the child in the home and number of children's records, audio-tapes, or CDs in the home. In addition, parents were asked to select one of four responses (never (1), once or twice a week (2), 3 to 6 times a week (3), or every day (4)), regarding how often the child looked at picture books outside of school in the past week and how often the child read or pretended to read to himself/herself or to others outside of school. Finally, parents responded to a single item asking if the child had watched Sesame Street at least once a week for a period of three months or more in the year before they started kindergarten (Yes = 1). There was no reliability information available for this measure.

Parental involvement in the school environment. In the Spring of the study child's kindergarten year, parents completed the "Parent's Involvement with Child's School" (PIQ; NCES, [n.d]) section of the Spring Parent Interview Questionnaire. For the current study, five items reflecting parents' school involvement, including one composite, will be used. Parents were asked if they had ever taken it upon themselves to contact the child's teacher or school (Yes = 1). The composite, frequency of attendance at school events, will be comprised of parents'

responses to seven items inquiring about frequency of involvement in various school activities, which reflects Grolnick's (1997) behavior domain, in which parents participate in school activities, and Epstein's (1995) volunteering factor, in which parents provide assistance at the school. Parents were asked to indicate how many times they (1) attended a school function such as an open house or back to school night, (2) attended a PTA meeting, (3) attended a parent advisory group or policy council meeting, (4) went to a regularly scheduled parent-teacher conference, 5) attended a school or class event, 6) volunteered at the school, and 7) participated in a fundraiser. Responses to these seven items were summed to create a total score with higher scores indicating greater involvement.

Teachers' responded to four items from the Spring Kindergarten Teacher Questionnaire. They were asked to indicate if the child's parent (1) attended regularly-scheduled conferences, (2) attended parent/teacher informal meeting initiated by the teacher to discuss the child's progress, (3) returned the teachers telephone calls, and (4) volunteered to help in the child's classroom or the school (Yes = 1). There was no reliability information available for this measure.

Parental self-efficacy. In the Spring of the study child's kindergarten year, parents completed the "Discipline, Warmth, and Emotional Supportiveness" (DWQ; NCES, [n.d]) section of the Spring Parent Interview Questionnaire, which included a range of questions addressing parents' feelings and perceptions about their efficacy as a parent. Four variables will be used as indices of a single latent construct representing hardship in the role of parenting, which will serve as a proxy for parental self-efficacy. More specifically, parents were asked to indicate whether the statement describing their feelings and perceptions of parenting was completely true (1), mostly true (2), somewhat true (3), or not true at all (4). Sample statements

were “Being a parent is harder than I thought it would be,” and “I feel trapped by my responsibilities as a parent.” These four items were used to create a latent construct, parental self-efficacy, with lower means indicating lower levels of self-efficacy. There was no reliability information available for this measure.

Control Variables

Child sex. Parent reports of child sex were collected in the Fall of the study child’s kindergarten year. Child sex was represented by a dichotomous variable (Male = 1).

Parent education. Information on maternal education level was obtained in the Fall of the study child’s kindergarten year. Parent education was represented by a continuous variable (8^{th} grade or below = 1, 9^{th} - 12^{th} grade = 2, high school diploma/equivalent = 3, voc/tech program = 4, some college = 5, bachelor’s degree = 6, graduate/professional school-no degree = 7, master’s degree = 8, and doctorate or professional degree = 9).

Single versus dual-parent household. Parent report of spouse or partner living in the household was collected in the Fall of the study child’s kindergarten year. This variable was represented dichotomously (Spouse/Partner lives in household = 1).

SES. Data on total income and assets of all persons in the household in the past year were collected in the Spring of 1999. *SES* was represented by a continuous variable ($5,000 or less=1, $5,001 to $10,000=2, $10,001 to $15,000=3, $15,001 to $20,000=4, $20,001 to $25,000=5, $25,001 to $30,000=6, $30,001 to $35,000=7, $35,001 to $40,000=8, $40,001 to $50,000=9, $50,001 to $75,000=10, $75,001 to $100,000=11, $100,001 to $200,000=12, and $200,001 or more=13).

Barriers to school involvement. A total of eight items from the Spring Parent Interview Questionnaire (NCES, [n.d]) were summed to create a composite variable used to measure

barriers to parent involvement in the school environment. Parents were asked to respond "yes" (1) or "no" (2) to reasons that may have made it harder to participate in activities at the child's school. Sample items were "Inconvenient meeting times?", "No child care?", and "School does not make your family feel welcome?" Higher means on the composite variable *barriers* indicated fewer barriers to school involvement.

Schools' attempt to involve parents. A total of four items from the Fall Parent Interview Questionnaire (NCES, [n.d] were summed to create a composite variable used to measure how the school attempts to involve parents. Parents were asked to respond on a scale of one to three (does this very well = 1, just o.k. = 2, or doesn't do this at all = 3), how well their child's school: (a) helps them understand what children their child's age are like, (b) makes them aware of chances to volunteer at the school, (c) provides workshops, materials, or advice about how to help their child learn at home, and (d) provides information on community services to help their family. Higher means on the composite variable *school attempt* indicated that the school did not attempt to get parents involved.

Children's Fall academic IRT scores. Fall IRT-scaled scores for language and literacy, mathematics, and general knowledge were used to account for children's achievement level at entry to kindergarten.

Results

Analytic Strategy

Exploratory analyses. I began by conducting descriptive statistics to obtain the means and standard deviations of the outcome and predictor variables for the total analytic sample. In addition, I examined correlations among the outcome and predictor variables to determine how closely related they were to each other. Variables that are too highly related may result in collinearity and thus could be excluded from subsequent analyses. To test whether the hypothesized indicators of parental self-efficacy (i.e., being a parent is hard, feel trapped by responsibilities, sacrifice life to meet child's needs and parenting is more work than pleasure) adequately measure this construct, a confirmatory factor analysis (CFA) was estimated. The factor loading for "being a parent is hard" was fixed to one to provide the scaling unit. I then tested whether the hypothesized indicators of parent involvement at home (i.e., frequency of home activities, number of books in home, and how often looks at books at home) sufficiently measured this construct. The factor loading for the parent frequency of home involvement activities composite was fixed to one to provide the scaling unit. Next, I tested whether the hypothesized indicators of parent involvement at school (i.e., parent contacted school, teacher composite comprised of parent activity) adequately measured this construct. The factor loading for the parent frequency of school involvement composite was fixed to one to provide the scaling unit. Finally, I tested whether the hypothesized indicators of kindergarten outcomes (i.e., children's Spring IRT scores composite, all three Spring ARS scores, and teachers' Spring SRS

scores) sufficiently measured the construct. The factor loading for the Spring IRT composite was fixed to one to provide the scaling unit.

Predictive Analyses. To address my first research question of what demographic and parental characteristics predict parental self-efficacy among parents with children transitioning to kindergarten, I fit a model in which I regressed the latent construct for parent self-efficacy on a set of demographic factors (e.g., age, race) and parental characteristic variables (e.g., marital status). I also included in this model a common set of control variables: child sex, parent education, single versus dual parent household, SES, barriers to parent school involvement, study children's Fall IRT scores, and schools' attempts to get parents involved.

To address my second research question of whether parental involvement in the home and/or school context mediates the effect of parent's self-efficacy on children's school readiness for kindergarten, I fit a series of nested structural equation models (see Figures 6.1 - 6.4) to test the direct effects of parents' self-efficacy on parent involvement at home and at school, the direct effects of parent involvement at home and at school (separately and then together) on the latent construct representing school readiness, and finally, the direct effects of parents' self-efficacy on the latent construct representing school readiness. As a final step, I tested for mediation by including all constructs in the same model and then conducting a delta chi square test.

All analyses were conducted using MPlus version 5.0. Model fit was assessed by Chi-Square statistic, with smaller and non-significant values considered better, Comparative Fit Indices (CFI) between .90 and 1, and a Root Mean Square Error of Approximation (RMSEA) that was close to zero with a *p*-value less than .10. Missing data on the predictor variables were handled using Full Information Maximum Likelihood (FIML), the default in MPlus.

Preliminary Analyses

Descriptive statistics. Sample means and standard deviations for all of the study variables are presented in Table 1. The children's Spring IRT scores in literacy, mathematics, and general knowledge were all relatively low, evidenced by their average scores of 40 (possible scores ranging from 14 to 124), 33 (possible scores ranging from 7 to 97), and 28 (possible scores ranging from 7 to 48), respectively. In contrast, teacher ratings of children's literacy skills using the ARS were relatively high, as evidenced by their average score of 3.5, with possible scores ranging from 1 to 5. This was also the case for their ARS score in general knowledge, 3.8 with possible scores ranging from 1 to 5, and their ARS score in mathematics, 3.7, with possible scores ranging from 1 to 5. The children also displayed relatively high social competence scores as evidenced by both the average parent (2.6) and teacher (2.5) ratings, with scores ranging from 1.7 to 3.5 and 1.5 to 3.4, respectively.

Parents reported low to moderate levels of self-efficacy (represented by the proxy, hardship in the parenting role). Thirty-five percent (35%) of parents reported that being a parent was harder than expected (average score of 2.4 with possible scores ranging from 1 to 4), 16% reported that they find themselves giving up more of their life to meet the child's needs than they ever expected (average score of 3.1 with possible scores ranging from 1 to 4), 2% reported that they felt trapped by their responsibilities as a parent (average score of 3.8 with possible scores ranging from 1 to 4), and 3% reported that they found taking care of a young child more work than pleasure (average score of 3.8 with scores ranging from 1 to 4).

There was evidence of parental involvement in the home. Specifically, on average, parents reported that there were 78 children's books, and 16 children's records, tapes or CD's in

the home. The children were highly likely to look at picture books at home three to six times a week. Parents also reported that their child pretended to read at home three to six times a week (average score of 3 on a scale of 1 to 4). More than half of the children's parents (59%) indicated that their child had watched Sesame Street prior to their kindergarten year (average score of 1.4 on a scale of 1 to 3). In contrast, there was less evidence of parental involvement in the school. Parents did not attend school functions very often, as evidenced by an average score of 2.9, with possible scores ranging from 1 to 99. There appeared to be no barriers (e.g., inconvenient meeting times, cannot get off from work) that prevented them from being involved in the child's school (average score of 1.8 with possible scores ranging from 1 to 2). According to teacher reports, however, parent involvement was moderate, evidenced by an average score of 1.4 with possible scores ranging from 1 to 3.

Estimated correlations among all of the study variables are presented in Table 2. Parent rated social competence and teacher rated competence, two elements of kindergarten outcomes, were moderately and positively correlated with parent involvement at home. This suggests that, on average, children whose parents were highly involved in the home received higher social competency ratings from both their parents and their teachers. Further, there was a moderate correlation between parent's involvement at home and parent's level of self-efficacy or hardship in their parenting role. More specifically, frequency of activities done at home with the child (i.e., tell stories to child, sing songs with child) was significantly and positively correlated with feeling that being a parent was harder than expected, feeling trapped as a parent, and feeling that being a parent was more work than pleasure. This suggests that, on average, parents who were highly involved with their children at home were more likely to feel highly efficacious. Conversely, parents who are not as involved are likely to feel low feelings of self-efficacy.

There was a correlation between the children's cognitive outcomes and their parents' feelings of self-efficacy. The children's spring IRT scores were significantly and positively correlated with parents feeling that they had to give up more of their life to meet their child's needs and feeling that being a parent was more work than pleasure. In addition, the children's spring ARS scores were significantly and positively correlated with feeling that being a parent was more work than pleasure. Last, the children's spring social competence ratings were significantly and positively correlated with feeling that being a parent was harder than expected and also with feeling trapped by being a parent. These findings suggest that, on average, children have a much better chance at being academically successful when their parents feel efficacious. However, children whose parents do not feel as efficacious and who report struggling in their role as a parent are not as likely to have a strong early academic advantage.

Another correlation worth mentioning was the relationship between mother's level of education and involvement at their child's school. Mother's education level was negatively and statistically correlated with attending conferences, coming to informal meetings with the teacher, returning the teacher's phone calls and volunteering at the school. This suggests that, on average, parents who have lower levels of education are not as likely to be involved in the school environment in comparison to parents who have attained higher levels of education. This is very much in line with previous research that suggests that parents who have higher levels of education are more likely to be involved in their children's learning than are parents with low levels of education (Grolnick et al., 1997; Kohl et al., 2000; Machida et al., 2002).

Measurement Models

School Readiness. Six composite variables were used to represent the latent construct for kindergarten outcomes (see Figure 1): the IRT scores (composite), the ARS language scores (composite), ARS math scores (composite), ARS general knowledge scores (composite), parent rated social competence (composite), and teacher rated social competence (composite). The factor loading for Spring IRT score composite was fixed to one to provide the scaling unit. All six variables loaded significantly onto this construct. The children's spring ARS math scores contributed the most to the construct (standardized factor loading of .94). Their ARS literature scores also contributed strongly to the construct (standardized factor loading of .90). Parent rated social competence contributed the least to the construct (standardized factor loading of .11). Removal of this construct did not improve the fit of the model, however, and thus it was retained in subsequent analyses. Based on several fit indices, the model fits the data well ($\chi^2 = 278.74$, $df = 9$, $p = .00$; RMSEA = .07, $p = .00$; CFI = .99). Thus, a single latent construct was used to represent school readiness at the transition to kindergarten for all subsequent analyses. As described earlier in this paper, definitions of school readiness have included indicators of both cognitive and social skills (Rimm-Kaufman et al., 2000). Results from this measurement model further support this definition and provide additional evidence of the critical role that both cognitive and social outcomes play in early learning (Rimm-Kaufman et al., 2000).

Parental Self-Efficacy. Four observed variables were used to represent the latent construct for parents' self-efficacy or sense of hardship in the parenting role: Being a parent is harder than I thought it would be, I find myself giving up more of my life to meet my child's needs than I ever expected, I feel trapped by my responsibilities as a parent, and I find taking

care of a young child more work than pleasure (see Figure 2). The factor loading for "being a parent is hard" was fixed to one to provide the scaling unit. Each of the variables significantly loaded onto the construct and all moderately contributed to the construct. More specifically, giving up more of ones life to meet the child's needs contributed the most to the construct (standardized factor loading of .58) and taking care of a young child is more work than pleasure contributed the least to the construct (standardized factor loading of .48). Based on several fit indices, the model fits the data reasonably well (χ^2 = 165.7, *df* = 2, *p* = .00; RMSEA = .11, *p* = .00; CFI = .93). Thus, a single latent construct consisting of four observed variables was used to represent parents' self-efficacy.

Parental Involvement at Home. I used six observed variables to represent the latent construct parent involvement in the home environment (see Figure 3): Frequency of activities done with child in a typical week (composite), number of books in the home, number of audio tapes or CDs in the home, how often the child looks at books in the home, how often the child pretends to read in the home, and had the child ever watched Sesame Street prior to attending kindergarten. The factor loading for frequency of activities done with child in a typical week was fixed to one to provide the scaling unit. Each of the variables (with the exception of child watched Sesame Street) significantly loaded onto the latent construct representing parent involvement in the home, however, model fit was poor (χ^2 = 1049.09, *df* = 9, *p* = .00; RMSEA = .13, *p* = .00; CFI = .75) and the contributions of the observed indicators to the construct varied considerably. As a result, two items that contributed very little to the overall latent construct were removed from the model (number of audio tapes or CDs in the home (standardized loading of .35, *p* = .00) and watched Sesame Street prior to kindergarten entry (standardized loading of .02, *p* = .28), and no longer considered which greatly improved model

fit. How often the child looked at picture books outside of school contributed the most to the construct (standardized loading of .68, $p = .00$). The frequency of activities composite and how often the child pretended to read books outside of school also contributed moderately to the construct (standardized loading of .54 and .56 respectively). Examination of the fit statistics indicates that the model fits the data well ($\chi^2 = 102.95$, $df = 2$, $p = .00$; RMSEA = .09, $p = .00$; CFI = .96). Thus, the latent construct representing parent involvement in the home consists of four observed indicators rather than six and was used for all subsequent analyses.

Parent Involvement in School. Five observed variables (one composite and four items) were used to represent the latent construct of parent involvement in the school environment (see Figure 4): frequency of school functions attended as reported by the parent (composite), and teacher responses to whether or not parents attended regularly-scheduled conferences at the school, attended parent/teacher informal meetings that were initiated by the teacher to talk about child's progress, returned the teachers phone calls, and volunteered to help in the school or in the teachers classroom. The factor loading for the frequency of attendance at school events composite was fixed to one to provide the scaling unit. All five variables loaded statistically significantly and contributed greatly and approximately equally (standardized loadings ranging from .95 to .99) to this construct. Based on several fit indices, the model provides moderate fit to the data ($\chi^2 = 979.12$, $df = 5$, $p = .00$; RMSEA = .17, $p = .00$; CFI = .99). Thus, a latent construct consisting of five indicators was retained for all subsequent analyses.

What demographic and parental characteristics predict parental self-efficacy among parents with children transitioning to kindergarten? Parameter estimates and goodness of fit statistics from the models addressing my first research question are presented in

Table 3. When each of the seven possible predictors of parental self-efficacy (represented by the proxy, hardship in the parenting role) was regressed on the construct individually, each was positively and statistically significantly related to the outcome (R^2 statistics ranged from 15% - 22%). More specifically, parents' age, employment status, race, age at the birth of their first child, highest level of education achieved, income, and marital status positively and significantly predicted parental self-efficacy such that higher values on the predictors were associated with greater feelings of efficacy. In other words, an older parent was more likely to feel highly efficacious in comparison to a younger parent. Employed parents were more likely to have high feelings of self-efficacy when compared to parents who are unemployed. If a parent has a higher level of education, they are more likely to have higher feelings of efficacy in comparison to a parent with a lower education. Similarly, mothers who were older when they gave birth to their first child were more likely to feel highly efficacious in comparison to mothers who gave birth to their first child at a younger age. Parent's who had obtained higher levels of education tended to have higher feelings of self-efficacy than those who had not gone as far with their education. Likewise, parents who had higher income were more efficacious than their counterparts with low income. Last, parents who had a significant other present were more like to feel highly efficacious from the extra support that parents who were single and handling the task of parenting on their own. This suggests that on their own each construct plays a role in how efficacious a parent feels.

When the seven predictors of parental self-efficacy were regressed simultaneously on the construct, however, only two predictors remained positive and statistically significant: marital status and highest level of education achieved ($R^2 = .33$). More specifically, being married to the child's biological father positively and significantly predicted parent self-efficacy, suggesting

that parents who live in dual parent households experience higher feelings of parental self-efficacy in comparison to those who are single parents. Not surprisingly, mother's level of education also positively and significantly predicted the construct parent self-efficacy suggesting that parents who have achieved higher levels of education are more likely to feel efficacious as opposed to parents with lower levels of education (χ^2 = .00, *df* = 0, *p* = .00; RMSEA = .00, *p* =.00; CFI = 1). The fact that only two predictors remained significant when all were included in the model suggests that multicollinearity may have been a problem. Indeed, many of the variables were moderately to highly correlated suggesting a need to identify other variables that uniquely explain variation in parental self-efficacy.

Does parental involvement in the home and/or school context mediate the effect of parental self-efficacy on children's readiness for kindergarten? Parameter estimates and goodness of fit statistics from the models addressing my second research question are presented in Table 4. First, the direct effect of parental self-efficacy (represented by the proxy, hardship in the parenting role) on kindergarten outcomes was examined. The two significant predictors of parental self-efficacy, mother education and marital status, were used as controls on the outcome variable. Additionally, child gender was controlled. The path from the latent construct representing parental self-efficacy or hardship to the latent construct representing school readiness was positive and statistically significant (standardized effect of .62, *p* = .05). This suggests that children whose parents feel highly efficacious tend to have better kindergarten outcomes in comparison to children whose parents report low feelings of self-efficacy. Note, however, that model fit was not particularly good (χ^2 = 204.04, *df* = 3, *p* = .00; RMSEA= .10, *p* = .00; CFI = .60). Nevertheless, because the pathway was significant, thereby satisfying one of the criteria for testing mediation (i.e., that the predictor is associated with the outcome), and my

primary interest was in the mediated pathway, I next tested the direct effects of parent involvement at home and school on kindergarten outcomes controlling for child gender. The model fit the data fairly well (χ^2 = 72.90, *df* = 3, *p* = .00; RMSEA= .06, *p* = .07 *CFI* = .87). The path from home involvement to kindergarten outcomes was positive and statistically significant (standardized effect of .24, *p* = .00). Children whose parents are highly involved and provide a stimulating home environment have better kindergarten outcomes than do children whose parents are not as involved. Unexpectedly, the path from school involvement to kindergarten outcomes was negative and statistically significant (standardized effect of -.07, *p* = .07). This suggests that parental involvement in the school has a negative effect on children's school readiness. Although possible, a more likely explanation is that parents may be speaking with their child's teacher and visiting the school for unfavorable reasons such as poor behavior and/or academic struggles.

Again, the statistically significant pathways from parental involvement in both the home and school satisfy the criteria for testing mediation (that the intervening variables are significantly associated with the outcome) and thus I proceeded with the next step – examining the direct effects of parental self-efficacy on parental involvement in the home and at school, controlling for parent education and marital status. Both paths were positive and statistically significant (standardized effect of .04 p = 0 for home and standardized loading of .03, *p* = .05 for school). When parents feel highly efficacious, they are more likely to be involved in both the home and school environment. Conversely, parents who are not as efficacious are not likely to be as involved within both environments. Note, however, that the model fit the data poorly (χ^2 = 474.90, *df* = 6, *p* = .00; RMSEA = .13, *p* = .00; *CFI* = .04). Again, because my interest is in the

mediated pathway and because these associations were statistically significant, I proceeded to my final model.

To test my hypothesis that parental involvement in the home and school mediated the association between parental self-efficacy and school readiness, all of the direct effects described above were examined simultaneously. That is, I fit a model that included the pathways from parental self-efficacy to parental involvement in the home and school, the pathways from parental involvement in the home and school to school readiness, and the pathway from parental self-efficacy to school readiness (see Figure 6.4). Although the pathway from parental self-efficacy became non-significant when all other pathways were included in the model ($\beta = .05$, $p = 0$ in the direct effects model and $\beta = .02$, $p = .02$ in the mediation model), suggesting full mediation, the model did not fit the data well ($\chi^2 = 835.8$, $df = 13$, $p = .00$; RMSEA= .12, $p = .00$; $CFI = .30$). Although parental involvement at home and at school may mediate the effects of parental self-efficacy on kindergarten outcomes controlling for child gender and early cognitive skills as well as maternal education level and marital status ($R^2 = .33$), the poor model fit suggests that mediation may not be the best way explain associations between parental self-efficacy and parental involvement in the home. As in the previous model, parental self-efficacy was positively associated with parental involvement in school and parental involvement in school was negatively associated with kindergarten outcomes suggesting that parents may be in contact with the child's school for misconduct or cognitive struggles. Parental self-efficacy was positively, statistically associated with parental involvement at home and parental involvement at home was positively, statistically associated with kindergarten outcomes. This suggests that parental involvement in the home is salient for the transition to kindergarten. The role of parental self-efficacy in this process remains unclear, however.

Discussion

For young children transitioning to kindergarten, being ill-prepared can make the transition a difficult one (Rimm-Kaufman, et al., 2000) and can lead to a host of problems, including lower academic and social outcomes (Rimm-Kaufman et al., 2000). This is especially true for children from low SES families (Kohl et al., 2000; Waanders et al., 2007), single parent households (Grolnick et al., 1997), and households in which the parent has not obtained a high level of education (Kohl et al., 2000; Machida et al., 2002). Parents of low-income children are also very likely to be uninvolved in the academic development of their children (Kohl et al., 2000) and as a result their children frequently struggle with the transition to kindergarten in comparison to children whose parents are involved in the academic process (McWayne et al., 2004; Mendez, 2010). In addition, the social capital that families often accrue by participating in school-related activities is likely limited in these households and thus the prospects of children from high-risk households may be severely limited (Coleman, 1988). Parental self-efficacy has been shown to play a significant role in parental involvement in the academic development of children (Coleman & Karraker, 1997; Grolnick et al., 1997; Hoover-Dempsey et al., 1992), but we know little about what factors predict why some parents feel highly efficacious and others do not. Importantly, we do not have a clear understanding of whether the effects of parental self-efficacy on children's outcomes are direct or whether they work through parental involvement.

The current study was conducted to better understand why some parents lack the confidence required to effectively prepare their child for the transition to kindergarten whereas

other parents accept the role of their child's first teacher head on. I also explored the possible mediating role of parental involvement in the home and/or school environment in the association between parental self-efficacy and kindergarten outcomes. Many of my findings provide additional support for relations that have been previously identified in the literature but my study also offers numerous contributions to the existing literature of parental self-efficacy and parental involvement.

First, unlike other studies that examined one or two factors that are related to parental self-efficacy, I combined multiple factors and, in doing so, identified key individual and family factors that predict parental self-efficacy. It is vital to understand the factors that predict parental self-efficacy among parents of transitioning kindergarteners if we are to engage families in children's learning and help children successfully transition to school. This knowledge may help to enhance teacher-parent relationships by aiding teachers in identifying parents who might be struggling with how to become involved in their child's academic development and provide these parents with useful and empowering information. Second, I examined parental involvement activities in the home (e.g., reading books, singing songs) and at school (e.g., attending school events, PTA meetings, volunteering in the classroom). Assuming parental involvement is, to some extent, a proxy for parental self-efficacy, including both home and school activities provided some insight into which environment parents feel most efficacious in. Lastly, this study may help facilitate interventions designed to increase parents' confidence in their role as their child's first teacher by targeting not just parental involvement but also parental self-efficacy

In the current study, I examined critical predictors of parental self-efficacy (parent employment status, age of parent, parent's race, parent's age at birth of first child, parent education, parent income and marital status), discussed throughout the paper as hardship in the

parenting role, and discovered that, individually, all of the factors predict how efficacious a parent might feel in their role as a parent. For example, the data suggests that an older parent may be more likely to have higher feelings of self-efficacy in comparison to a younger parent and vice versa. However, this is contrary to findings from Coleman and Karraker (2000) who discovered that age did not significantly correlate with parent self-efficacy. A possible explanation for my varying findings could be my use of a proxy, hardship, to represent the construct of parent self-efficacy due to the lack of a more ideal measure. However, one can speculate that perhaps older parents are more mature or may have gained experience through relatives or friends with children which allows them to feel more confident in their abilities to guide their child academically. Conversely, a younger parent may not have many examples of how to effectively guide their child and therefore do not feel as confident. Further research is necessary to determine if age does indeed play a part in how efficacious a parent feels.

The data also suggest that an employed parent is more likely to feel efficacious than a parent who is unemployed. This finding is also inconsistent with the findings of Coleman and Karraker (2000). Although the difference in findings is most likely due to a different measure of parent self-efficacy, one possible explanation for this is that employed parents may have fewer worries when providing for their family is not a pressing issue. Whereas an unemployed parent may feel hopeless in their ability to guide their child academically because of their inability to provide in other areas, an employed parent's confidence may spread into other domains which may include their ability to impact their child's academic success. According to Duncan et al. (2006), children from struggling families are more likely to enter school with lower mean academic skills and higher rates of problems with attention and externalizing behavior.

Only two factors remained statistically significant, however, when all of the predictors were combined and included in the model: marital status and parent education level. This suggests that parents who live in a dual parent household have higher feelings of self-efficacy in the parenting role in comparison to single parents. This finding aligns with previous research that suggests that parents feel more efficacious when their efforts are supported (Coleman & Karraker, 1997; Coleman & Karraker, 2000). Hoover-Dempsey et al. (1992) used a more ideal measure of self-efficacy and discovered that in their sample of 390 parents of kindergarteners, marital status was not related to parental self-efficacy. Parent self-efficacy was measured using a scale developed by the authors (Parent Perception of Parent Efficacy Scale) which required parents to agree or disagree (5-point Likert scale) with statements such as "I know how to help my child do well in school" and "If I try hard, I can get through to my child when he/she has trouble understanding something."

Similarly, Coleman and Karraker (2000) reported that marital status was not related to self-efficacy for parenting tasks (the most relevant task for the current study was facilitating school achievement) in their sample of 145 mothers of elementary school children ages 5 to 12. The authors utilized the Self-Efficacy for Parenting Tasks Index (SEPTI), which tapped into five categories of parenting tasks: discipline, achievement, recreation, nurturance, and health. Within the achievement category, parents were required to agree or disagree (6-point Likert scale) with statements such as "I do an adequate job helping my child with school work," "I am good at helping my child work through school problems." And "I am not involved in my child's education as I think I should be." It is possible that with a more favorable measure, my findings would be more in sync with the findings of previous research.

Parent education also remained significant, suggesting that parents who obtain higher levels of education are more likely to feel highly efficacious in their parenting role in comparison to parents who have not obtained a high level of education. This finding is consistent with previous research that indicates that level of parent education is highly correlated with the parent's belief in their abilities to positively influence their child's academic development (Coleman & Karraker, 2000; Hoover-Dempsey et al., 1992; Seefeldt et al., 1999). In their study exploring the relationship between parents' sense of efficacy and parent involvement in a sample of 390 parents of children in kindergarten through fourth grade, Hoover-Dempsey et al. (1992) discovered that parents with a grade school education had significantly lower efficacy scores than did parents with all levels of college education. Further, parents with a high school education had significantly lower efficacy scores than parents with some college work beyond the bachelor's degree. Similarly, Coleman and Karraker (2000) discovered that among 145 mothers of school-aged children, those with more years of education generally reported high feelings of self-efficacy in comparison to those with fewer years of education.

The two key predictors identified, marital status and parent education, tie in nicely with Coleman's (1988) idea of social capital within the family. According to Coleman (1988), the presence of two parents in the home is a source of social capital important because it gives children access to both parents' human capital (parent education). Parental education increases social capital within the family and gives parents the tools that are required to provide a cognitively stimulating environment for the child that aids in learning. Using this social capital framework, the findings of the current study suggest that parents with these social capital assets are more likely to feel highly efficacious and thusly, more likely to be involved.

Further, the two indicators, marital status and parent education, are of high importance by societal standards such that a higher level of education is more desirable by employers and being a single mother is generally frowned upon. If a parent has both a high level of education and the support of a spouse, they may possibly feel highly efficacious overall which may have an effect on how confident they are in their ability to positively influence their child's academic development. Further research is needed to explore whether societal status can have an effect on how confident a parent will feel in their abilities to prepare their child for academic success.

Prior research examining the relationship between parental self-efficacy, parental involvement, and child outcomes has suggested that there are direct effects of each construct on academic outcomes (Coleman & Karraker, 2000; Green et al., 2007; Jones & Prinz, 2004; Machida et al., 2002). This was also illustrated in the present study. That is, parental self-efficacy and kindergarten outcomes were positively and significantly related, even after controlling for predictors of parental self-efficacy. This suggests that parents who feel highly efficacious or who are not likely to report feeling hardship in the parenting role will be more likely to have a positive impact on the academic and social outcomes of their children in comparison to parents who have lower feelings of self-efficacy and who report hardship in the parenting role. According to Jones and Prinz (2005), parents who reflect higher feelings of self-efficacy may have a direct impact on their child's academic success through modeling of attitudes and beliefs. In other words, the child will take cues from their parents; if the parent is excited about helping the child learn and believes in their ability to help the child learn, the child will also find pleasure in the experience and may be more successful at learning what it is the parent is teaching.

Parental involvement in the home was also found to be positively and statistically correlated with kindergarten outcomes. This finding supports previous research, which indicates

that parental involvement in the home environment is crucial to positive child academic outcomes (Hair et al., 2006; McWayne et al., 2004). Parents who actively promote a home environment that is conducive to learning are more likely to have children who thrive academically and socially in the early years and beyond in comparison to those who do not provide a stimulating home environment (McWayne et al., 2004). Interestingly, the relationship between parental involvement in the school environment and kindergarten outcomes was negative and statistically significant. This finding suggests that children whose parents' are involved in the school environment are likely to have poor social and academic outcomes. This differs greatly from previous literature that suggests that parents who are in direct contact with the child's school have children who display higher levels of academic and social functioning (McWayne et al., 2004). It is unlikely that parental involvement in the school environment will negatively impact a child's academic outcomes. A more likely explanation for my findings is that parent's may be visiting the school to meet with their child's teacher for unfavorable reasons such as academic struggles or behavioral issues. This is supported by Fantuzzo, McWayne, Perry, and Childs (2004) study in which they examined multiple dimensions of family involvement and their relations to behavioral and learning competencies in a sample of 144 urban, Head Start children. The authors discovered that there was a negative but significant correlation between school-based involvement and conduct problems. They concluded that school-based involvement was associated with decreased behavior problems such that when school-based involvement increases, behavior problems in the classroom decrease. This suggests that parents are being called to the school to discuss teachers' concerns with their child's behavior and their involvement is making a significant impact. However, this negative but significant finding also means that when behavior problems increase, parent school-based

involvement decreases. One possible explanation could be that parents may try to take matters into their own hands and try to correct the problematic behavior at home. Fantuzzo et al. (2004) posits that this can possibly be explained by the quality and reciprocal nature of the exchanges in the teacher-parent relationship. Perhaps the parent feels personally attacked by the teacher for their child's behavior or feels the meetings are pointless. Further research is needed in this area to determine why parent school-based involvement decreases when their input is critical to help resolve behavior issues.

Parental self-efficacy was found to be positively and significantly related to parental involvement in both the home and school environment. These findings support previous research suggesting that parents who are confident in their abilities to guide their child to academic success are more likely to feel as though their efforts are worthwhile and therefore are more likely to become involved (Hoover-Dempsey et al., 1992; Waanders et al., 2007). Conversely, parents who believe that their efforts will be more detrimental to their child's academic development are more likely to shy away from becoming actively involved in either environment. It is clear that we must first address parent's level of confidence in their ability to effectively guide their child if we want to see an increase in both types of involvement.

Many studies (Colman & Karraker, 1997; Coleman & Karraker, 2000; Jones & Prinz, 2004) discuss the direct effects of parental self-efficacy on various outcomes (e.g., parent and child adjustment, parenting quality, and parent satisfaction) among parents of young children but there is no discussion of the possible indirect effects of self-efficacy on children's outcomes through parental involvement. The present study addressed this gap by testing to see whether parental involvement in the home and/or school environment mediates the relationship between parental self-efficacy and kindergarten outcomes. When parental involvement is included in the

model, the direct path between parental self-efficacy and kindergarten outcomes became non-significant. However, due to poor model fit, there is little support that mediation exists. One possible explanation for this finding could be that self-efficacy and parental involvement are highly related constructs and thus the inclusion of both in the model resulted in a poorer fit due to the overlapping of the constructs. Further it is possible that a more favorable measure of the self-efficacy construct could have made this construct look completely different making less related to parental involvement.

Limitations and Future Directions

There were numerous limitations of this study. First, because of the nature of secondary data analysis, there are limits to the measures and variables available to create constructs. For example, it would have been ideal to have a more adequate measure of parental self-efficacy rather than using a set of items that served as a proxy for this construct. A more adequate measure might require parents to agree or disagree to statements that specifically tap into feelings of confidence within the realm of academic learning (e.g., "I am my child's first teacher," "It is easy for me to teach my child something," "I get frustrated when my child does not learn something I am trying to teach"). It may be possible for parents to feel efficacious but still think parenting is hard and thus report a sense of hardship but also a sense of efficacy. Thus, a measure that better reflects parents' feelings of self-efficacy in the academic domain may have provided better insight into the role this construct plays in children's outcomes at the transition to kindergarten. Nevertheless, the fact that I found a significant association between my proxy for self-efficacy and children's outcomes in the expected direction suggests that this construct may reflect at least one dimension of efficacy. Additionally, because maternal reports were used to collect information on most measures, the potential for mono-reporter bias exists. That is,

parents who report high levels of hardship may also report low levels of involvement simply because they do not feel effective. The inclusion of teacher reports of parental involvement helped reduce this bias somewhat but objective reports of parental involvement or observations of parental efficacy would improve this study greatly. Another issue is presented in the potential discord of parent versus teacher reports of parental involvement. Teachers may report that a parent is not very involved within the school environment however, that parent may feel otherwise. Again, this could be due to the reasons that parents are being requested to come to the school. Lastly, it would have been more ideal for assessments to have been completed in the fall of the kindergarten year in order to truly reflect the child's transition.

Future studies should consider including measures that directly represents parental self-efficacy as it has much to do with the level of involvement a parent will put forth. In addition, although the current study had multiple reporters, it would be interesting to see how children in this grade level perceive their parents level of involvement in the home. At this age, children are more than capable of reporting if their parent reads to them or other activities that would imply that home learning is occurring. Also, teacher questionnaires should allow for differentiation of parental involvement. More specifically, the questionnaire should inquire about positive versus negative visits. It is possible that parents may not highly regard parental visits to discuss unfavorable behavior or academic struggles as involvement as much as they would regard chaperoning or PTA attendance.

Implications

It is clear that parental self-efficacy, on its own and also through the mechanism of parental involvement at home, is important for a child's successful transition through kindergarten. The current research suggests that parental involvement is an appropriate target for

prevention and intervention efforts. Teachers could be a valuable resource in identifying parents who are struggling with their confidence level and provide them with ways in which they can help prepare their child. Conversations with the parent prior to kindergarten entry may reveal whether a parent feels they are a critical component in their child's school success. If the parent is confident in their abilities to provide a positive learning environment for their child, the teacher can support the parents' efforts and provide activities that the parent can implement in the home. If the parent lacks confidence, the teacher is then in a position to provide empowerment and encourage the parent to step into their role as their child's first educator by providing simple but stimulating tasks (e.g., sorting or pairing socks, counting uncooked macaroni) that they can do together with their child. Further, teachers could direct struggling parents to intervention programs designed to educate parents about social capital and the importance of being involved in their child's academic development which could ultimately enhance parental self-efficacy, thereby strengthening the home learning environment of the child. The ultimate goal of these interventions should be to empower parents and show them that they can be successful as their child's first teacher. The take home message should be that any effort a parent makes, big or small can be a significant contribution in their child's academic success. Maybe they do not have the skills to teach their child how to read but they are able to teach them a song or prayer from the parents' childhood. This can bring about feelings of efficaciousness when parents' realize that they are capable of teaching their child something. Maybe the parent is not a good reader and was not able to help their child learn lines for their part in the class play, but the parent showed up for the play and the smile on their child's face when they spot mom or dad in the crowd is enough to make the parent want to reach out for help. The parent has just taken a step towards becoming involved. The parenting role can seem less

intimidating if parents are encouraged to take it one step at a time and realize that any little contributions is important and counts.

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Appendix A

Tables

Table 1.

Descriptive Statistics for All Study Variables

Variable	Fall 1998 Mean/% (SD)	Spring 1999 Mean/% (SD)
Outcome Variables		
School Readiness		
Spring IRT Scores (Composite)		34.12 (9.5)
Language ARS Score (Composite)		3.74 (0.94)
Math ARS Score (Composite)		3.83 (0.92)
Gen. Know. ARS Score (Composite)		3.82 (0.95)
Social Competence		
Parent Rated Soc. Comp (Composite)		2.6 (0.21)
Teacher Rated Soc. Comp (Composite)		2.6 (0.25)
Predictor Variables		
Parental Inv. Home		
Frequency of Activities (Composite)	2.8 (0.5)	
Number of books in home	82.03 (59.4)	
Looks at books outside of school	3.4 (0.78)	
Pretends to read outside of school	3 (0.9)	
Parental Inv. School		

Contacted child's school		1.5
		(0.5)
How often attend school functions (composite)		2.9
		(2.6)
Parent attended conferences (teacher)		1.13
		(0.39)
Parent came for informal meetings (teacher)		1.5
		(0.8)
Parent returned phone calls (teacher)		1.5
		(0.84)
Parent volunteered at school or in classroom (teacher)		1.52
		(0.62)
Parent Self-Efficacy		
Being a parent is harder than expected		2.41
		(1.2)
Sacrifice life to meet child's needs		3.1
		(1.1)
Feel trapped by being a parent		3.8
		(0.51)
Parenting is more work than pleasure		3.8
		(0.58)
Control Variables		
Child Sex	1.49	
	(0.5)	
Male	51%	
Female	49%	
Parent Education	4.6	
	(1.75)	
8th Grade or Below	2%	
9th-12th Grade	7%	
H.S. Diploma/Eqiv.	29%	
Voc/Tech Program	5%	
Some College (no degree)	28%	
B.A. Degree	18%	
Grad/Prof School (no degree)	2%	
M.A. Degree	6%	
Doctorate/Prof Degree	2%	
Single vs. Dual Parent	1.04	

	(0.2)	
Spouse	65%	
No Spouse	3%	
Income	59552.0	
	(57195.0)	
Barriers of School Inv.		
Barriers (Composite)		1.84
		(0.14)
Child Fall IRT Scores		
Reading	29	
	(10.8)	
Mathematics	23	
	(9.1)	
General Knowledge	23.5	
	(7.52)	

Table 2.

Correlations for All Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.
1. Spring IRT Scores (Composite)	---																											
2. Language ARS Score (Composite)	.61***	---																										
3. Math ARS Score (Composite)	.56**	.84**	---																									
4. Gen. Know. ARS Score (Composite)	.51**	.79**	.84**	---																								
5. Parent Rated Soc. Comp. (Composite)	.07**	.11**	.10**	.10**	---																							
6. Teacher Rated Soc. Comp (Composite)	.29**	.45**	.45**	.45**	.07**	---																						
7. Frequency of Activities (Composite)	.12**	.09**	.08**	.08**	.19**	.06**	---																					
8. Number of books in home	.30**	.18**	.18**	.19**	.08**	.12**	.23**	---																				
9. Looks at books outside of school	.14**	.10**	.08**	.10**	.09**	.04**	.35**	.24**	---																			
10. Pretends to read outside of school	.11**	.11**	.07**	.07**	.11**	.07**	.31**	.11**	.39**	---																		
11. Contacted child's school	-.03*	.0	.01	-.01	-.05**	.04**	-.07**	-.10**	-.07**	-.03*	---																	
12. How often attend school functions (composite)	.14**	.09**	.08**	.10**	.02	.05**	.12**	.17**	.08**	.04**	-.02	---																
13. Parent attended conferences (teacher)	-.10**	-.10**	-.09**	-.11**	-.01	-.06**	-.04**	-.11**	-.03**	.01	.02	-.06**	---															
14. Parent came for informal meetings (teacher)	-.01	-.04**	-.03*	-.03*	-.03*	-.05**	-.03*	-.04**	-.04**	.01	.08**	-.08**	.10**	---														
15. Parent returned phone calls (teacher)	-.07**	-.04**	-.02	-.03**	-.03*	-.05**	-.04**	-.12**	-.05**	.01	.13**	-.09**	.12**	.38**	---													
16. Parent volunteered at school or in classroom (teacher)	-.26**	-.21**	-.20**	-.20**	-.02	-.16**	-.10**	-.25**	-.09**	.0	.08**	-.27**	.16**	.16**	.26**	---												
17. Being a parent is harder than expected	.0	.01	.0	-.0	.05**	.02	.05**	-.01	.0	.02	.08**	-.0	.03	.05**	.08**	.03**	---											
18. Sacrifice life to meet child's needs	.05**	.02	.03*	.02	-.04**	.02	-.0	.05**	.0	-.02	.05**	.02	-.03*	.02	.0	-.02	0.35	---										
19. Feel trapped by being a parent	.02	.01	.01	.02	.04**	.02	.08**	.05**	.04**	.03*	.02	.02	-.02	-.01	-.02	-.03*	0.22	.28**	---									
20. Parenting is more work than pleasure	.09**	.07**	.07**	.08**	.06**	.06**	.09**	.12**	.06**	.01	.01	.05**	-.05**	-.02	-.05**	-.08**	0.21	.24**	.33**	---								
21. Child Sex	0.02	.13**	.08**	.08**	.05**	.17**	-.0	.03**	.12**	.24**	.05**	-.01	.0	.05**	.04**	-.01	.01	-.0	.01	.01	---							
22. Parent highest education	.39**	.25**	.24**	.24**	.03**	.11**	.16**	.33**	.16**	.04**	-.13**	.15**	-.12**	-.04**	-.13**	-.26**	-.04	.02	.01	.08**	.01	---						
23. Dual Parent Household	-.15**	-.11**	-.13**	-.13**	-.0	-.07**	-.01	-.12**	-.05**	-.01	.03*	-.06**	.03*	.01	.05**	.13**	.01	-.04**	-.03	-.03*	-.02	-.15**	---					
24. Income	.29**	.16**	.17**	.15**	0.009	.08**	0.07**	.28**	.10**	.0	-.01	.15**	-.10**	-.05**	-.11**	-.22**	.02	.07**	.03*	.08**	-.01	.42**	-.12**	---				
25. Barriers (Composite)	.16**	.11**	.11**	.11**	.02	.06**	.07**	.16**	.04**	-.02	.02	.16**	-.11**	-.04**	-.07**	-.20**	.09	.09**	.11**	.11**	.01	.14**	-.09**	.14**	---			
26. Fall IRT Reading Score	.80**	.51**	.45**	.40**	.06**	.22**	.10**	.24**	.14**	.16**	-.03*	.09**	-.07**	-.01	-.05**	-.21**	-.01	.0	-.01	.04**	.07**	.34**	-.11**	.25**	.11**	---		
27. Fall IRT Mathematics Score	.82**	.53**	.50**	.45**	.05**	.26**	.10**	.28**	.10**	.07**	-.03*	.14**	-.10**	-.01	-.06**	-.25**	.0	.04**	.01	.07**	-.02	.37**	-.12**	.29**	.15**	.72**	---	
28. Fall IRT General Knowledge Score	.69**	.42**	.42**	.41**	.06**	.22**	.14**	.37**	.13**	0.001	.06*	.16**	.13**	.03*	.12**	.29**	0.03	.06**	.04**	.13**	.04**	.40**	.16**	.32**	.17**	.50**	.62**	---

Table 3: Regression Model for Predictors of Parental Self-Efficacy

Variables	M1	M2	M3	M4	M5	M6	M7	M8
Parent Employment	.1***							.03
	(.14)							.05
Parent Age		.10***						0
		(.14)						0
Parent Race			.10***					.01
			(.13)					.01
Parent Age Birth of 1st Child				.04***				.01
				(.11)				.01
Parent Education					.13***			.10***
					(.15)			.11
Parent Income						0*		0
						(.03)		0
Partner Status							.03***	.02***
							(.12)	.10
Fit Statistics								
χ^2 (df)	0***	0***	0***	0***	0***	0***	0***	0***
	0	0	0	0	0	0	0	0
$\Delta \chi^2$ (df)								
CFI	1	1	1	1	1	1	1	1
RMSEA	0	0	0	0	0	0	0	0
R^2	.20	.20	.17	.12	.22	1	.15	.33

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

Table 4: Regression Model for Mediation

Variables	M1 SE ON KO	M2 PIH & PIS ON KO	M3 PSE ON PIH & PIS	M4 Full Mediation Model
Parental Self-Efficacy	.62***			353.51
	(.05)			(.02)
Parent Involvement (Home)		1.2***	200.6**	1.1***
		(.24)	(.04)	(.22)
Parent Involvement (School)		-42.1***	1.1*	-38.3***
		(.07)	(.02)	(-.06)
Mother Education	.12***		-.01~	-.01~
	(.13)		(-.03)	(-.03)
Marital Status	.02***		-.09*	-.09*
	(.10)		(-.03)	(-.03)
Child Gender	2213***	1646***		1889***
	(.09)	(.06)		(.07)
Fit Statistics				
χ^2 (df)	204.04***	72.9***	474.9***	835.8***
	3	3	6	13
$\Delta \chi^2$ (df)				
CFI	.60	.87	.04	.30
RMSEA	.10	.06	.13	.12

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

Appendix B

Figures

Figure 1. Fitted Path Diagram Kindergarten Outcomes Measurement Model (Unstandardized results in parenthesis)

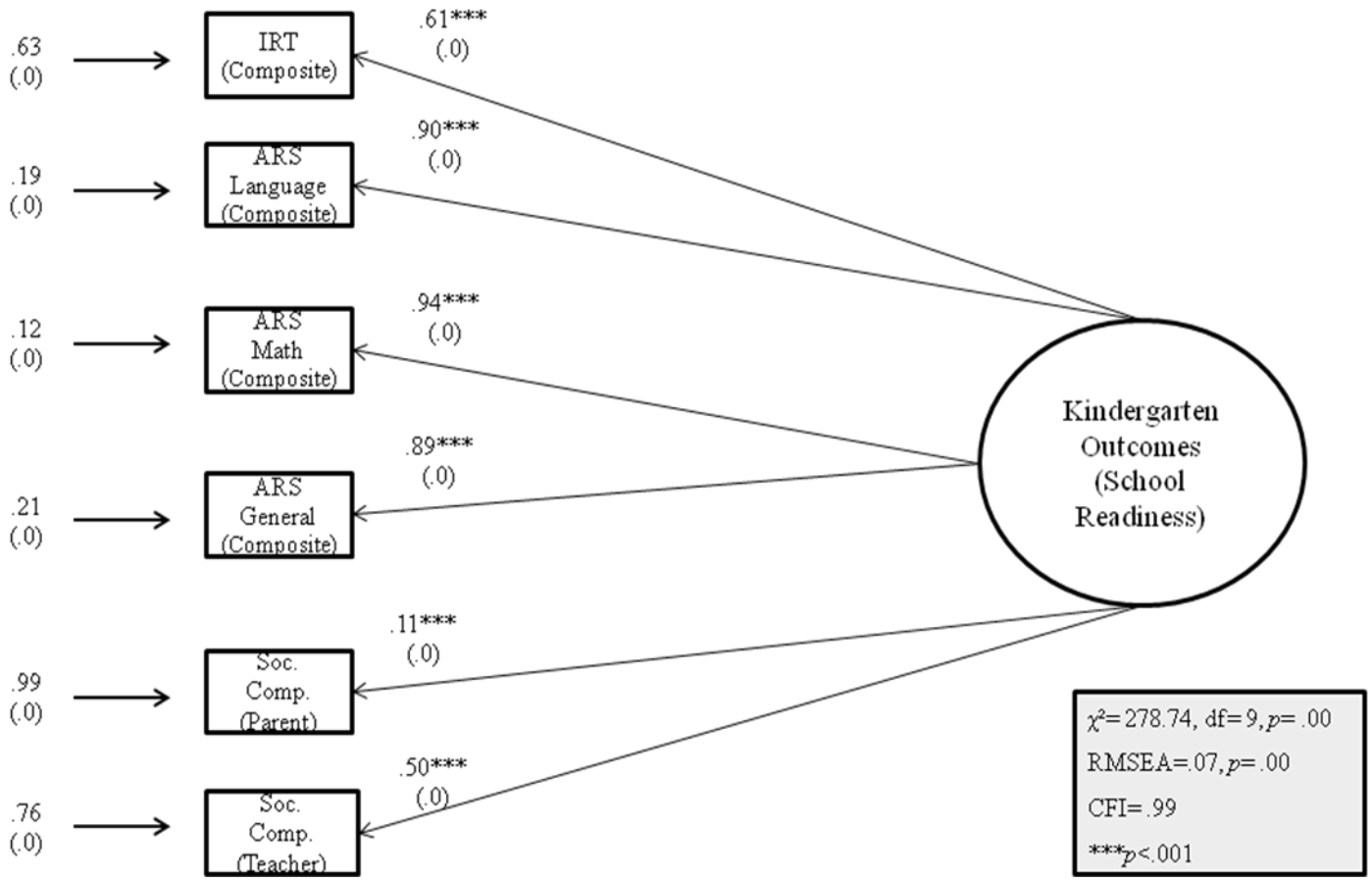

Figure 2. Fitted Path Diagram for Parental Self-Efficacy Measurement Model (Unstandardized results in parentheses)

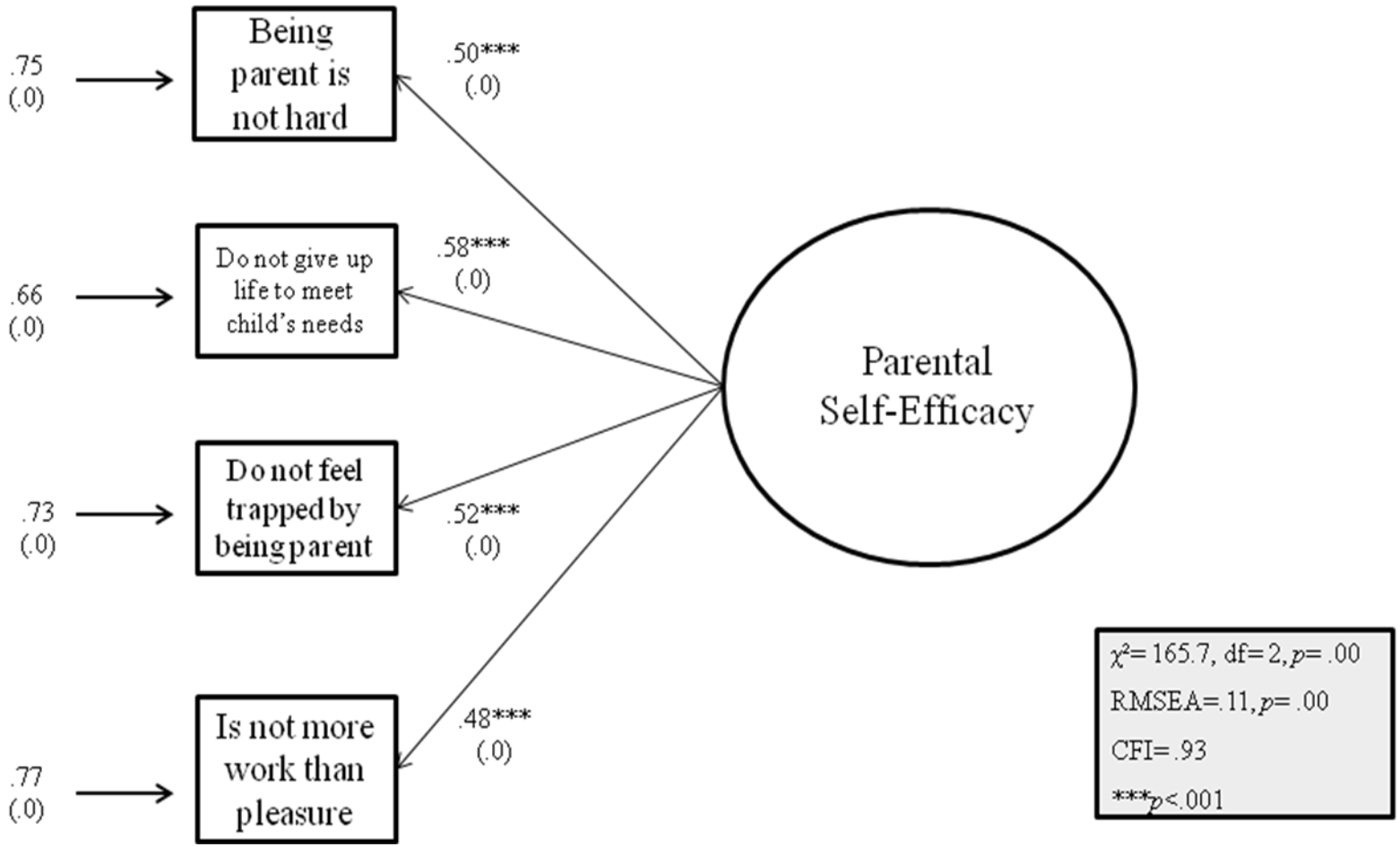

Figure 3. Fitted Path Diagram for Parent Involvement at Home Measurement Model (Unstandardized results in parenthesis)

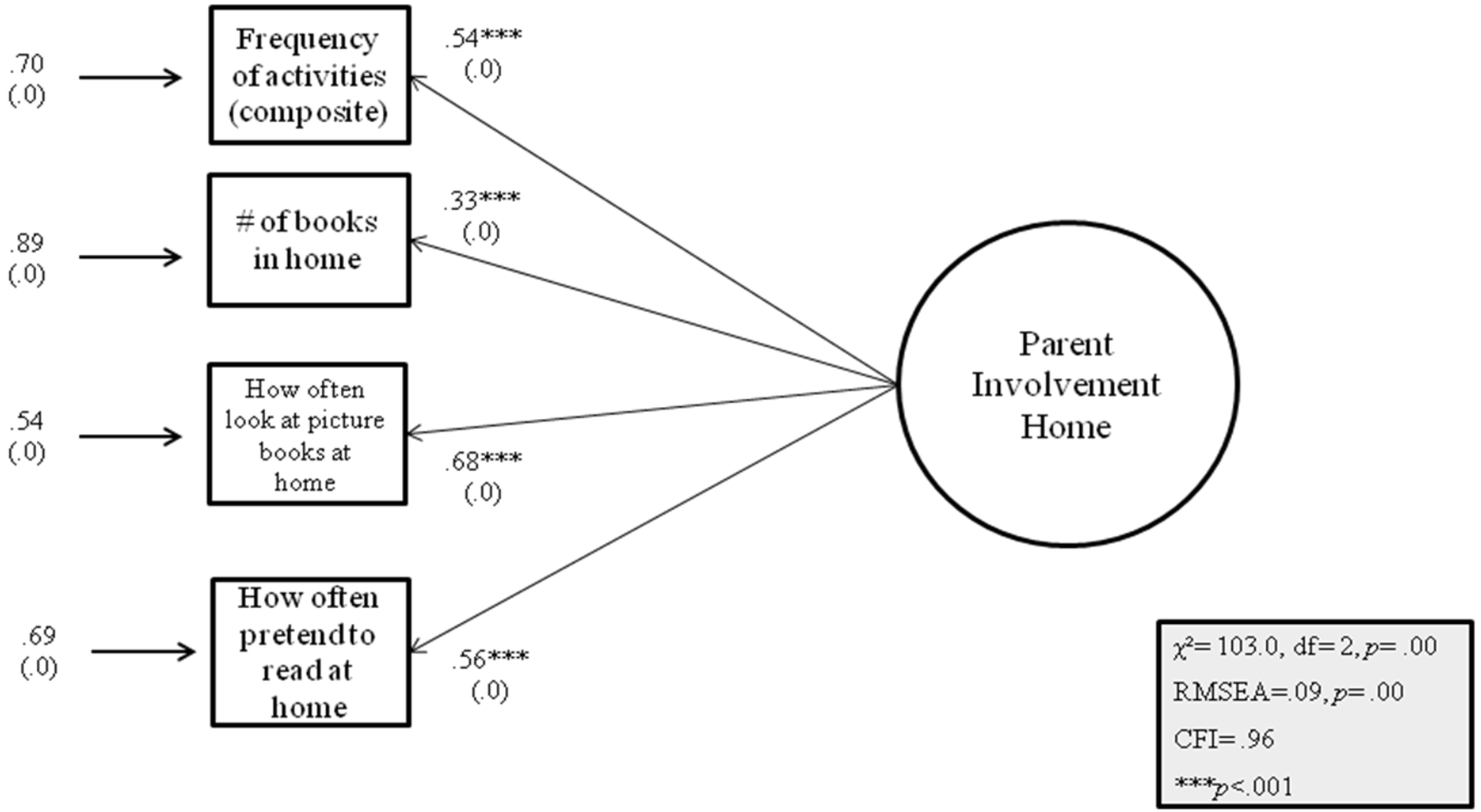

Figure 4. Fitted Path Diagram for Parent Involvement at School Measurement Model (Unstandardized results in parenthesis)

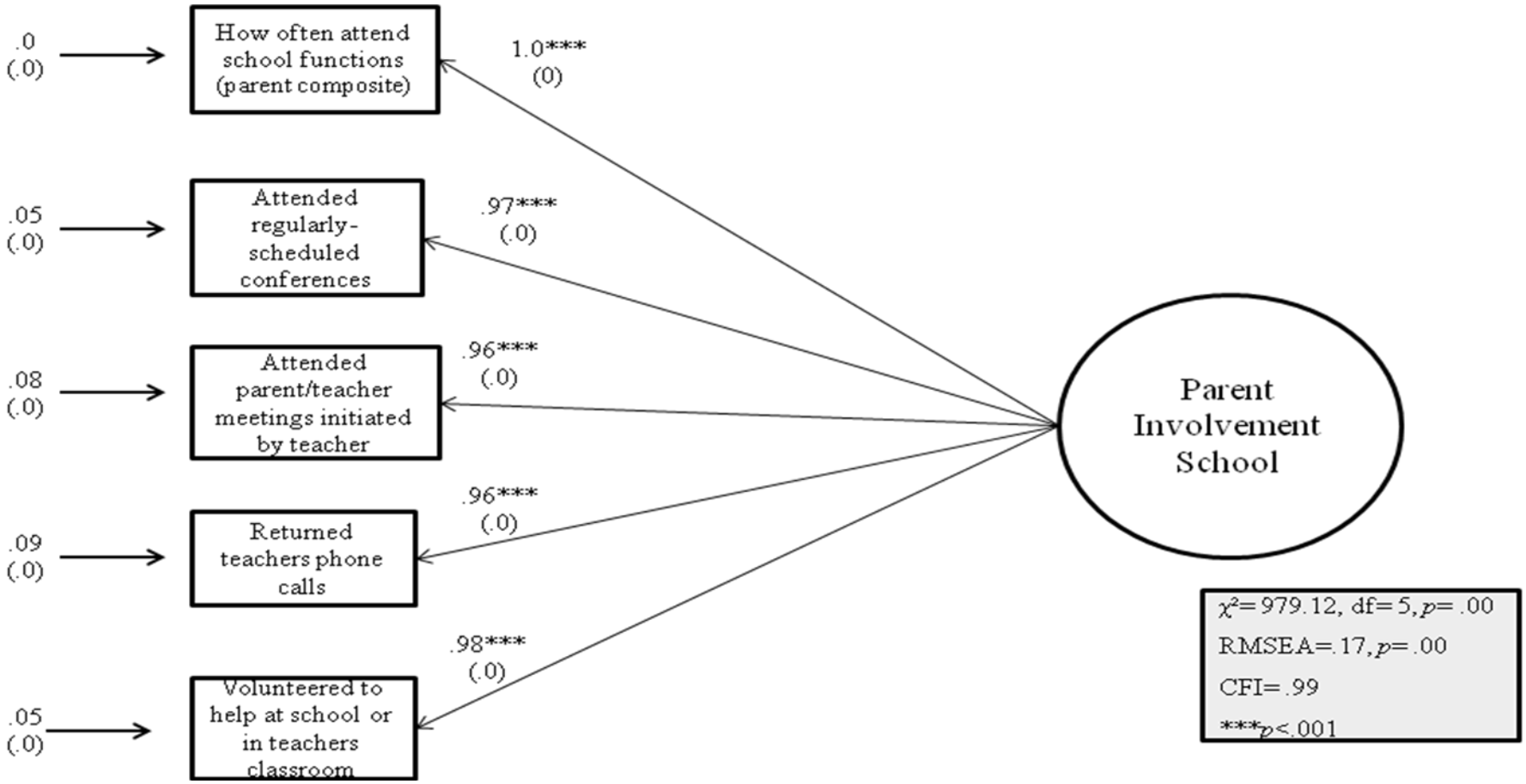

Figure 5. Hypothesized Regression Model for Predictors of Parental Self-Efficacy (Unstandardized results in parenthesis)

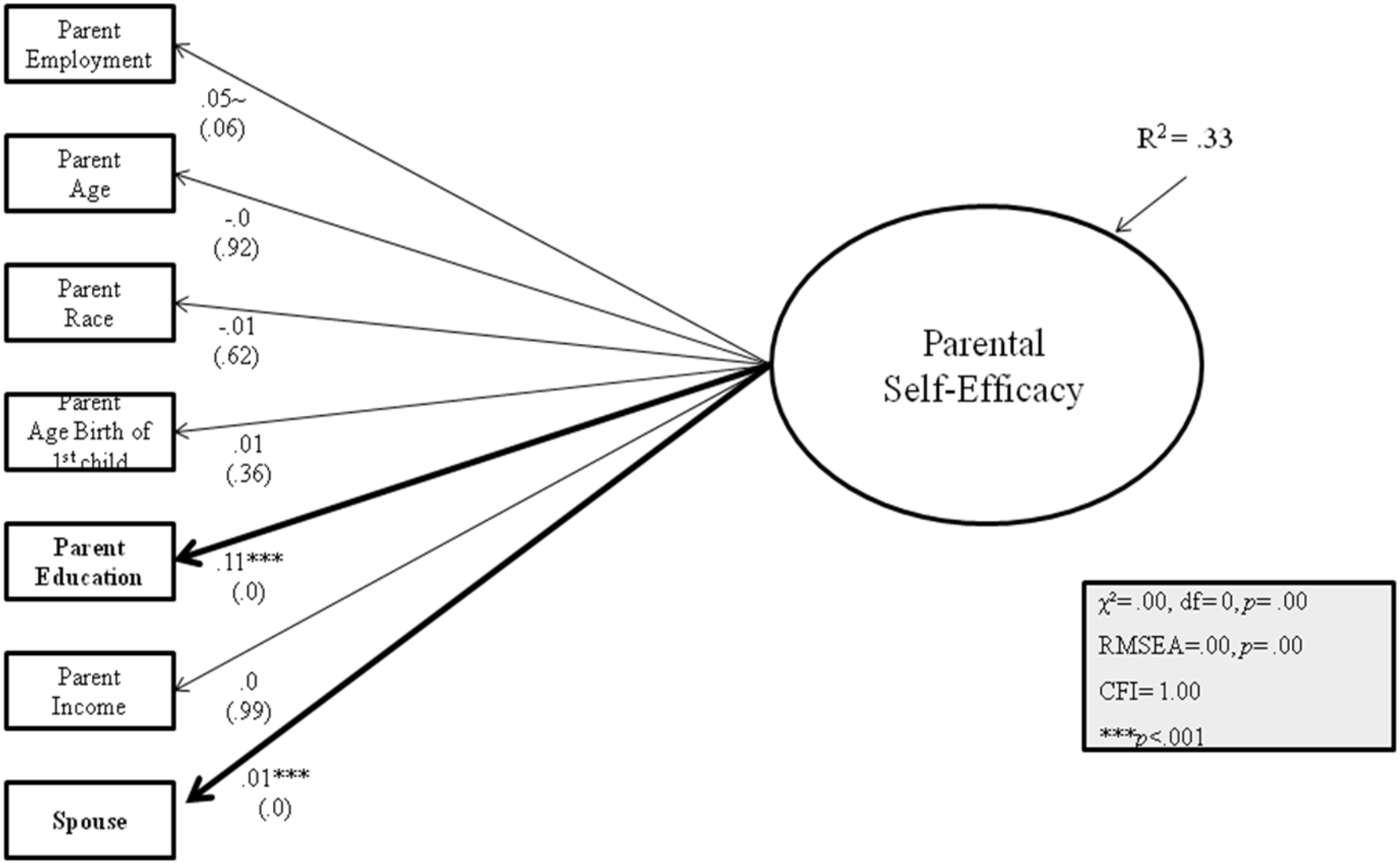

Figure 6.1 Hypothesized Direct Effect Model of Parental Self-Efficacy on Kindergarten Outcomes (Unstandardized results in parenthesis)

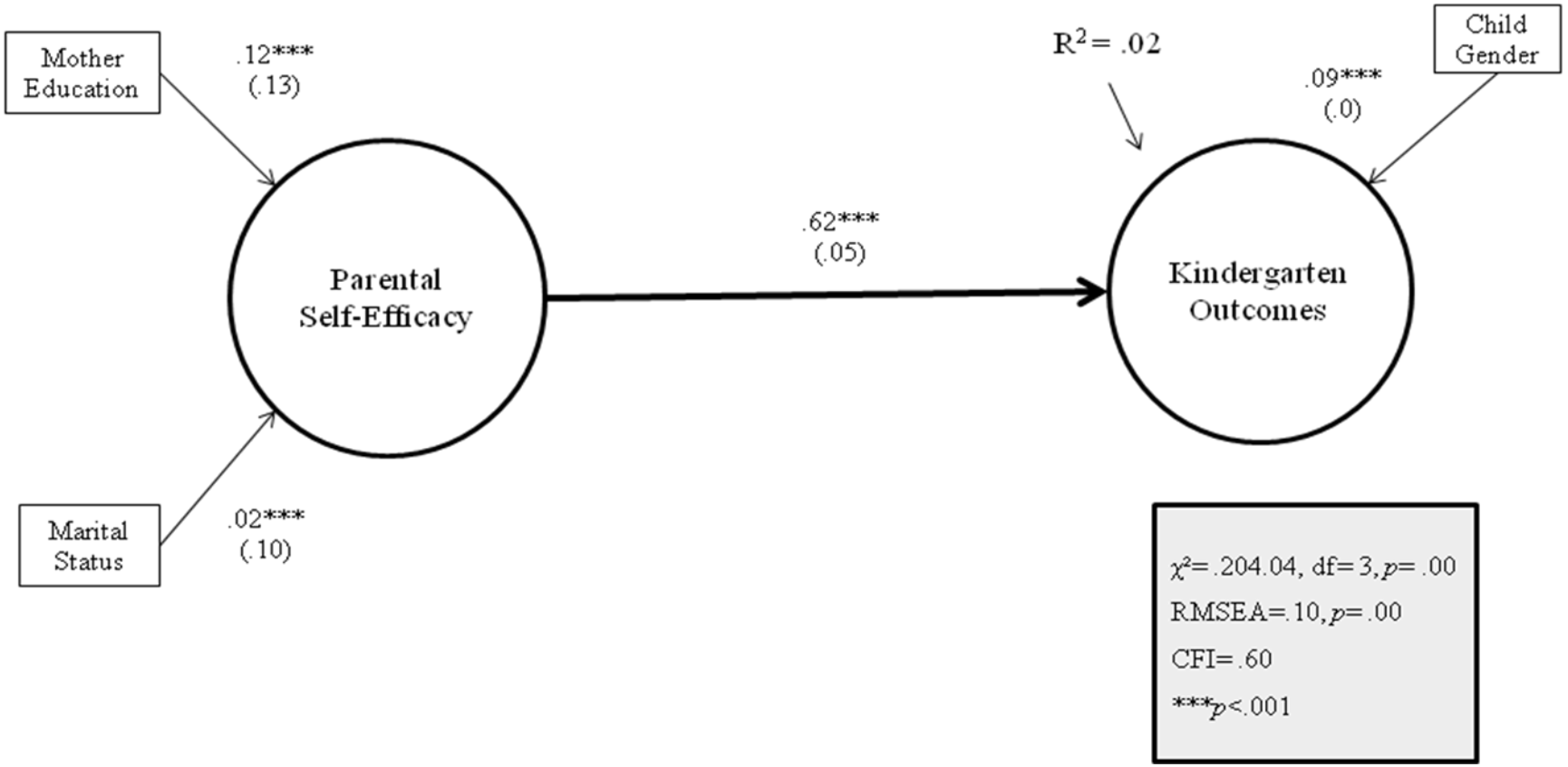

Figure 6.2 Hypothesized Direct Effect Model of Parental Involvement at Home and at School on Kindergarten Outcomes (Unstandardized results in parenthesis)

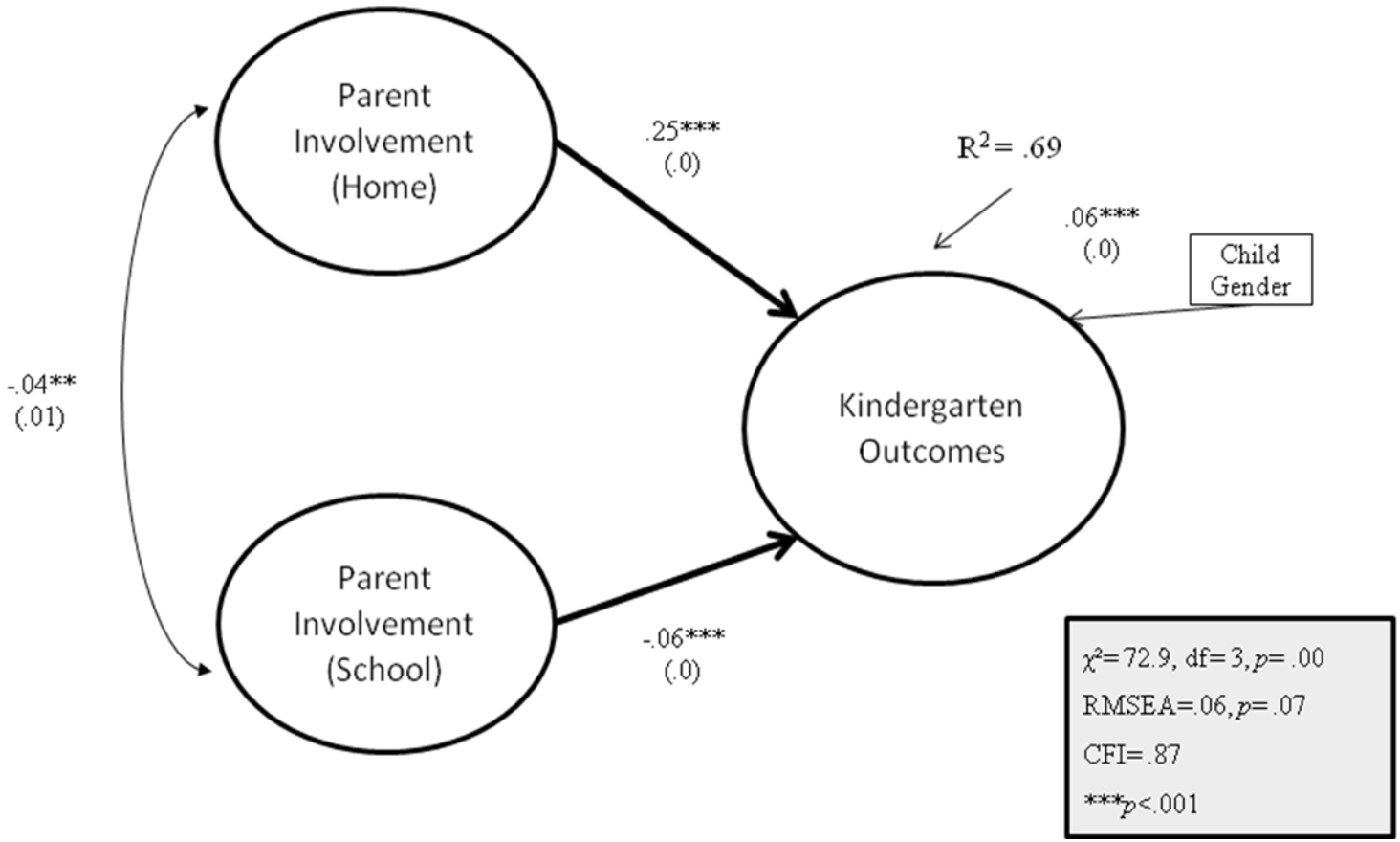

Figure 6.3 Hypothesized Direct Effect Model of Parental Self-Efficacy on Parental Involvement at Home and at School (Standardized results in parenthesis)

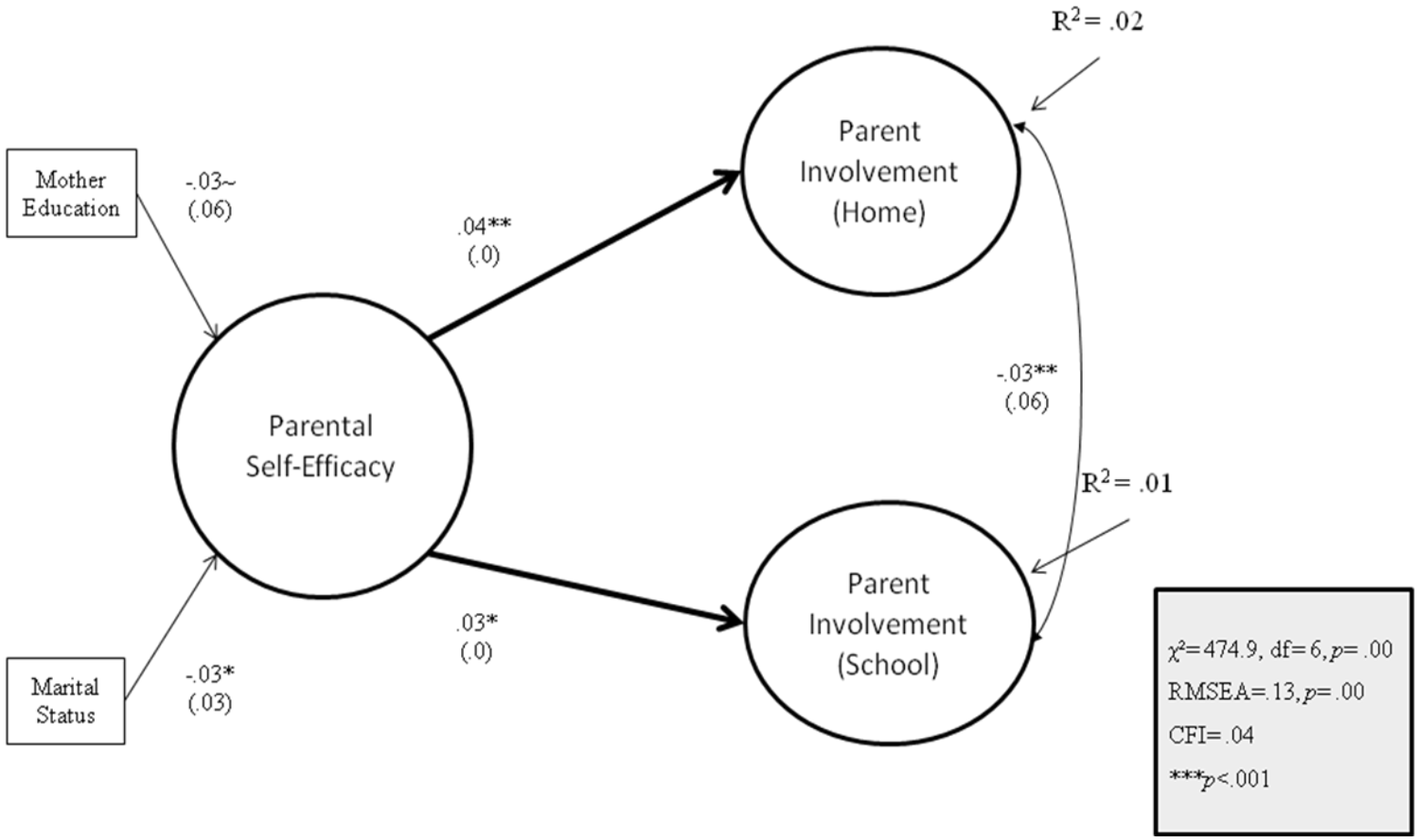

Figure 6.4 Hypothesized Mediation Model (Standardized results in parenthesis)