

School-Based Policies and Practices as Predictors of Parent Involvement in Children's  
Schooling: A Hierarchical Linear Modeling Approach

By

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## Abstract

This study investigated the impact of typical school-based policies and practices on parent involvement in their children's education. This study used a cross-section of data from the Early Childhood Longitudinal Study, Kindergarten Cohort (ECLS-K) to conduct a hierarchical linear modeling analysis of parent interview and school questionnaire data. Parent involvement in education was conceptualized at two separate constructs -parent involvement in schools and parent home educational involvement. A separate analysis was conducted for each of the respective outcome variables.

A diverse sample of 14,620 parents of children from 1,014 schools was selected from the ECLS-K dataset. School policies and practices were not found to be significantly related to increased parent involvement in schools or home educational involvement, even after controlling for parent demographic characteristics. Single parents and parents with limited English language proficiency reported less involvement in schools, but were equally involved in education at home as their counterparts. Several interactions were observed among the Level 1 parent characteristics and Level 2 school characteristics. The results indicate that school-level demographics have a stronger impact on parent involvement than the policies and practices specifically designed for this purpose. These findings imply that schools may need to move beyond the traditional methods of reaching out and providing support for parents. This is especially true in low SES, high minority, and rural schools, where parent SES and single-parenthood was found to have a greater impact on parent involvement. The importance of a multi-level approach to examining parent involvement is also discussed.

## **Chapter I: Introduction**

Parental involvement is one factor that has received substantial attention in the literature, and has been supported as an important avenue to student success (Epstein, 1986). Multiple studies have shown that involvement is positively linked to improvement in grades, test scores, reading and math achievement, attitude toward schoolwork, behavior, self-esteem, completion of homework and academic perseverance (El Nokali, Bachman, & Votruba-Dzral, 2010; Grolnick, Ryan, & Deci, 1991; VanVoorhis, 2011). Other identified benefits for students include fewer placements in special education, increased enrollment in post-secondary education, and higher attendance rates (Epstein & Sheldon, 2002). Furthermore, involvement of the family has demonstrated effectiveness across grade-levels and demographics (Hoover-Dempsey, Bassler & Brissie, 1987).

The benefits of parent involvement are not limited to children. Teachers believe parent involvement is important, and when parents are more involved teachers benefit. When surveyed, teachers generally report strong, positive, attitudes toward parent involvement (Epstein & Dauber, 1991) According to data from the *Metropolitan Life Survey of the American Teacher* (1993), educators have ranked strengthening parent roles in schools as the highest priority issue in education. Significant benefits for teachers include greater satisfaction with their jobs, fewer requests for transfers (Adams & Christenson, 1998), and higher ratings on teaching performance evaluations by school principals (Christenson, 1995). Furthermore, parents in family-school partnerships report increased communication with educators and an increase in learning activities at home (Epstein, 1995). Parent involvement also appears to have a positive impact on overall school climate (Hayes, Comer, & Hamilton-Lee, 1989) and parent satisfaction (Griffith, 1998).

Despite the strong evidence supporting the multiple benefits of parent involvement, observation and investigation suggests that parent involvement remains low (Grolnick, Benjet, Kutowski, & Apostoleris, 1997). Forty percent of parents surveyed across the United States believed they were *not* devoting enough time to their children's education, and both new and experienced teachers reported dissatisfaction with current levels of parent participation (Metropolitan Life, Met-life Survey of the American Teacher, 1998).

There are numerous studies aimed at predicting levels of parent involvement as a function of various characteristics of families and schools. The number and type of predictor variables examined in these studies are wide-ranging. Many researchers have examined the effect of status variables among parents, such as SES (Grolnick, et al., 1998; Griffith, 1998; Lareau, 1987), ethnic/minority status (Chrispeels & Gonzales, 2004; Kim, 2009), and single parenthood (Epstein & Becker, 1982). However, some researchers have expressed concerns about the misleading conclusions that may be generated from these findings (Anderson & Minke, 2010; Kim, 2009). These researchers emphasize that process variables among parents, teachers, and schools are equally important influences, and have been found to moderate the impact of parental status variables on overall levels of involvement. In the classroom, for example, aspects of a teacher's behavior and personal traits have been found to influence the involvement of their student's parents (Anderson & Minke, 2009; Epstein & Dauber, 1991). Although some studies have suggested that administrative support (Hoover-Dempsey, et al., 1987) and school climate (Griffith, 1998) can impact parents' participation, there is a noticeable lack of research regarding the influence of school-wide practices and policies. Prescriptive parent involvement programs have been shown to generate desirable results, but are often implemented in a small number of schools for fixed intervals of time due to funding by government grants or university

partnerships (Comer & Haynes, 1991; Olmstead, 1991). It is important that more studies examine the ways in which most schools typically support and reach-out to families in order to determine their effects on parent involvement.

Although there is some research that examines why parents do or do not become involved in their children's schooling, these studies are limited because they often examine a sub-set of the population in a specific geographical area. Moreover, these studies often focus on family or school effects and rarely take into account the interaction between these contexts. Studies that have examined both family and school-level characteristics often utilize inappropriate statistical analysis procedures which do not account for the nested nature of the data. A study involving a nationally representative sample and a large enough number of schools to allow for multi-level modeling could address this issue. Investigations of this nature may deepen our understanding of why some schools are successful at involving parents, thus aiding in the development of interventions to increase involvement.

### **Present Study**

The purpose of the study is to examine the relationship of school characteristics and practices among different schools across the United States and the impact on levels of parental involvement when controlling for individual family and child characteristics. This study will use a nationally representative dataset of 21,260 children included in The Early Childhood Longitudinal Study, Kindergarten class of 1998-1999 (National Center for Educational Statistics, 2001), to investigate the factors which predict parental involvement at the elementary level.

**Parental involvement in schools.** Literature regarding the involvement of parents in their children's education is extensive. Not surprisingly, this construct is conceptualized and measured in different ways, depending on the focus of the study and the perspective of the

investigator(s). Traditionally, measures of involvement consisted of fairly concrete behaviors which were expected to be observed in the school building (e.g. attending a parent teacher conference, PTA meeting, or sporting event). Further research has broadened the definition of involvement beyond basic behaviors to include parental knowledge of the child's school activities and progress (Grolnick, et al, 1997; Hoover-Dempsey, et al., 1987), helping students at home with homework (Green, Walker, Hoover-Dempsey, & Sandler, 2007; Sanders & Epstein, 2000), and exposing children to cognitively stimulating materials such as books and current events (Grolnick & Slowiaczek, 1994).

For the purpose of this study, parent involvement is defined as a variety of activities that parents use to support, encourage, assist, help, recognize, and contribute to the cognitive development of the children. This study measures parent involvement as using home resources, enrichment activities inside and outside of the home, and parent participation in school related activities.

**Family outreach and parent support.** This study examines the effects of typical school practices of family outreach and parent support. Family outreach includes the frequency with which schools reach-out to parents with information such as, newsletters, report cards, and progress reports. Outreach is also defined as invitations to parents to become involved. Specifically, the frequency of Parent-Teacher-Association (PTA) meetings, parent-teacher conferences, workshops for parents, school-wide events, and classroom programs are included. In this study, parent support means variety of programmatic efforts designed to help parents support their child's development and education (i.e., Parenting education, adult literacy classes, health or social services, and orientations for new families).

### **Research Questions & Hypotheses**

This is a secondary analysis study about the multiple factors which predict parent involvement for young children. The study seeks to determine the degree of variance in parental involvement as predicted by a variety of school- level contextual factors outside of the family. Specifically, this study seeks to address some of the gaps in the current literature on parent involvement by examining the following questions:

1. How does parent involvement in schools vary as a function of the level of family outreach?

Hypothesis 1: Schools with high scores on the measures of family outreach will have more parent involvement in schools.

2. What is the relationship between parent involvement in school levels and the level of parent support?

Hypothesis 2: Schools that implement supportive parent programming will have parents who report a higher level of involvement.

3. How does parent involvement at home vary as a function of the level of family outreach by the school?

Hypothesis 3: Schools with high scores on the measures of family outreach will have more parents who report higher levels of educational involvement in the home.

4. What is the relationship between levels of parent involvement at home and the level of parent support from the school?

Hypothesis 4: Schools with high scores on measures of parent support will have more parents who report higher amounts of educational involvement in the home.

## **Chapter II: Review of the Relevant Literature**

Many of the early studies of parent involvement were applications of ecological theories of child development to educational outcomes. With the understanding that child academic achievement resulted from more than innate ability and could be influenced by environmental contexts, researchers began to investigate the role of family processes in student academic success. These studies examined the effect of parenting styles (Dornbush, Rritterm Leiderman, Roberts, & Fraleigh, 1987), and other home environmental factors on various educational outcomes (Christenson, Rounds, & Gorney, 1992). Eventually, investigators became concerned with identifying the family process variables which were most critical for enhancing student success, such as parental expectations, providing learning opportunities outside of school, and talking with students about school (Peng & Lee, 1992). Overall, the duration and intensity of parent involvement was found to have a direct and positive influence on student achievement (Henderson & Berla, 1994).

With the positive effects of parent involvement on achievement scores and behavioral observations well-established, researchers began to examine differential levels of involvement among groups of parents. Particular focus was given to “status variables,” (Christenson & Sheridan, 2001) the demographic characteristics of families that seemed to have an effect on student achievement. Low income, less educated, (Hoover-Dempsey, et al., 1987; Lareau, 1987) language-minority (Kim, 2009), and single parent status (Grolnick & Solwiczek, 1994; Grolnick, et al., 1997) were typically identified as the demographic characteristics of parents who reported lower levels of involvement in their child’s education (Drummond & Stipek, 2004; Griffin, 1998). These studies were well-aligned with social and cultural capital theories of involvement developed by educators and sociologists. These theorists believed that cultural



factors related to the parents' class or social position shaped the parent's response to requests for parental participation in school (Lareau, 1987).

In recent years, researchers have moved away from descriptive studies highlighting demographic differences between involved and uninvolved families and have become more concerned with variables which may be intervened upon. Leading researchers in the area of parent involvement began to design comprehensive investigations including the contextual and institutional factors affecting levels of parent involvement. Frameworks for understanding the unique interactions between family and school systems were developed, such as Epstein's *overlapping spheres of influence theory* (Epstein, 1987). Epstein also broadened the definition of family involvement by creating and disseminating a new organizational structure for family-school partnership activities. Epstein's six types of family involvement are a variety of activities which could occur in the home and/or school environment. Models for implementation of successful involvement and partnership programs, such as the attitudes, relationships, and actions framework created by Christenson and Sheridan (2001), have grown out of the existing theory and research and are identified as best practices in education (Esler, Godber, & Christenson, 2002).

### **Theoretical Framework**

The following discussion reviews literature on parent involvement in children's schooling. First, the theoretical underpinnings of parent involvement research is presented, followed by an overview of studies supporting the positive impact of parent involvement in education. Finally, predictors of parent involvement at the family and school level are discussed.

This study will use a theoretical framework composed of theories of overlapping spheres of influence embedded in an ecological view. The following sections will present the main

assumptions and concepts of these theories, and the way they can be employed for the purpose of this study.

**Ecological systems theory.** The overarching theoretical model which provides the framework for this study is Bronfenbrenner's ecological systems theory. This model provides a broad approach to research in human development that accounts for the cumulative effects of environmental influences. The ecological model is comprised of a series of systems; the microsystem, the mesosystem, the exosystem, and the macrosystem. These systems interact and exist at various levels of organization and complexity. The term microsystem refers to the relationship between the child and the immediate setting (e.g., home, school) while the mesosystem is composed of the interrelationship among all the child's major settings at a particular point in time. The exosystem is an expansion of the mesosystem in that it includes the institutions which make-up greater social context in which the child lives (e.g., community, social networks, government). Although the child does not interact directly with the individuals which make-up these institutions, they have powerful influence on the development of the child. Finally, the macrosystem is the general prototypes or expectations created by a culture or subculture for how an institution should function (e.g., classrooms in the United States look and function in a similar fashion); (Bronfenbrenner, 1977).

When Bronfenbrenner's ecological theory is applied to school systems, the interacting systems are the child, the family, the school, and the community. The child is considered the center of the model because his or her development is the purpose of the school system and the reason for the interaction between the school and family. The child functions in two microsystems, the school and the family, while interaction between the child's family and the

school represents the mesosystem. The community is but one layer of the exosystem, thought to have the most direct influence on the school.

Given the structure of this approach, ecological systems theory provides a theoretically sound method for studying family-school interactions. It is possible to study family-school interaction purely from an ecological perspective. The ecological model is large, all-encompassing, and can be applied to a great number of situations; however, this model can also appear vague. A theoretical model more specific to the particulars of the school/ family setting might be more appropriate. The overlapping spheres of influence theory represents a more dynamic model which takes into account specific variations in the degree of overlap as a function of time and experience. This model is more specific in terms of the interaction patterns which typically occur in a school setting. The following is a short description of this theory.

### **Overlapping Spheres of Influence**

Joyce L. Epstein, director of the Center on School, Family, and Community Partnerships first began investigating the parent involvement in elementary schools in 1981. She and her colleagues are credited with introducing a theoretical model called the *overlapping spheres of influence* to explain family and school connections. The model consists of an internal and external structure accounting for the history, development, and changing experiences of parents, teachers, and students (Epstein, 2001). The three spheres of the external structure represents the family, school, and community, with the degree of overlap controlled by the external forces of time, experiences of families, and experiences in schools. The model is dynamic, with the degree of overlap among the three spheres changing as a function of the external forces.

The internal structure is comprised of the primary interpersonal relationships which exist within these spheres. There are two types of interaction, those which occur within the

organization and those which occur between organizations. There are also two levels of interactions; those that occur among individuals (student, teacher, and parent) and those that occur between systems (families and schools). At the center of the model is the child, who is constantly influenced by his/her interactions with parents and teachers. In turn, the interactions between the parent and teacher and school and family policies, and the child's interpretations of these connections influence academic learning and social development.

Working within this framework of interaction among families, schools, and communities, Epstein expanded the definition of parent involvement. Moving away from the traditional view of parent involvement as one-directional set of behaviors performed by parents, Epstein described a number of partnership practices involving shared responsibility between educators, parents, and community members (Epstein, 1992). Through years of research, Epstein and colleagues were able to identify six major types of involvement that fall within the areas of overlap in the overlapping spheres of influence model. These six types of involvement are explained briefly in Table 1. Although there are hundreds of different ways that these six types of involvement may be put into practice, the degree of overlap among the school, family, and community spheres will depend upon how many or how few of these practices are implemented.

Table 1

*Epstein's Six Types of Involvement*

Involvement Type	Definition
Type 1: Parenting	Assist families with parenting and child-rearing skills, family support, understanding child and adolescent development, and setting home conditions to support learning at each age and grade level.
Type 2: Communicating	Communicate with families about school programs and student progress with school-to-home and home-to-school communications.
Type 3: Volunteering	Improve recruitment, training, work, and schedules to involve families as volunteers and audiences at the school or in other locations to support students and school programs.
Type 4: Learning at Home	Involve families as with their children in learning activities at home, including homework, and other curricular-linked activities.
Type 5: Decision Making	Include families as participants in school decisions, governance, and advocacy activities through PTA, committees, councils, and other parent organizations.
Type 6: Collaborating with the Community	Coordinate the work and resources of the community businesses agencies, colleges and universities, and other groups to strengthen school programs, family practices, and student learning and development.

The overlapping spheres of influence model of school-family partnerships acknowledges not only the multitude of differences among families, but the differences among teacher personalities, skills, and practices, and the interplay of family and school environments-all of which affect child outcomes. The model also represents a departure from the traditional view of the family and school systems as separate contexts. It serves as the framework for much of the research in this field.

### **Positive Impacts of Parent Involvement**

**Impact on children and families.** The positive impact of parent involvement has been well-established by a robust body of literature, which spans several decades. Careful examinations of literature reviews provide an effective and concise summary of the early investigations of these variables. In 1992, Christenson, Rounds, and Gorney conducted a comprehensive review of the literature examining family influences on student achievement. The goal of the review was to identify family and home environmental factors which could be intervened upon by practitioners working with students and their families. Thus, family status variables such as SES were excluded. Although the reviewers limited the scope of the study to research published after 1980, over 160 articles were identified. The analysis resulted in five common factors that have been consistently identified as important for student learning (a) parent expectations and attributions, (b) structure for learning, (c) home affective environment, (d) discipline, and (e) parent involvement. Reviewers found varied definitions of parent involvement measured through multiple methods (i.e., parent report, teacher report, direct observation). However, gains in student achievement were correlated with a variety of involvement types occurring in the school and home setting, such as parent involvement in the community, involvement in school governance, and involvement in home reading and learning activities (Christenson, et al., 1992). A common opportunity for all parents to become involved in their child's schooling is by assisting with homework.

Homework is a nearly universal activity used by teachers to extend learning and provide further opportunities for practice of skills. Because it is intended to be performed at home, teachers often expect parents to provide assistance and regulate completion. A comprehensive

review of the research on parent involvement in student's homework revealed several positive student outcomes. Specifically, more positive attitudes and mood about homework tasks and school learning, greater academic competence and stronger academic self-concept, and increased time spent and likelihood of completion were revealed in several of the studies included in this review (Hoover-Dempsey et al., 2001).

Undoubtedly, there is ample evidence supporting family involvement as a positive influence on a child's classroom performance. Also demonstrated are several other related positive outcomes, including improvement in behavior, social skills (El Nokali, et al., 2010), attitudes, self-concept, study habits, homework completion rates, engagement in classroom learning activities, attendance rates, rates of suspension, and frequency of discipline problems (Burt, Taylor, Magee, Mullaney & Sheridan, 2010).

The benefit of parent involvement is not only limited to children. Epstein identified several positive effects of parent involvement in a 1986 survey of 82 Maryland classrooms. In the presence of effective family-school partnerships, parents reported a greater understanding of their child's instructional program regardless of race, social class, and grade level. Similarly, parents reported more positive attitudes regarding their child's teacher (Epstein, 1986). In a later survey, parents who reported stronger efforts of the school to involve them also reported a more positive general attitude about the school (Dauber & Epstein, 1993 as cited in Hoover-Dempsey & Sandler, 1997).

**Impact on teachers and schools.** A number of surveys have identified positive effects of parent involvement on teachers and schools. When parent involvement is incorporated into teaching practice, parents report more favorable evaluations of their child's teacher (Epstein & Dauber, 1991). In turn, principals give more favorable evaluations to teachers who are viewed as

leaders in parent involvement and are rated positively by parents (Epstein, 1985). Moreover, when parents and teachers collaborate for student success, teachers describe greater job satisfaction and request fewer transfers (Adams & Christenson, 1998; Christenson & Sheridan, 2001).

A school's climate also appears to be enhanced through increased parent participation. For example, one study which examined the first year of implementation of a parent involvement program in seven schools found significant positive change in child perception of classroom climate, as well as teacher and parent perceptions of school climate. No significant change was documented in the seven control schools who did not participate in the program until a year later (Haynes, et al., 1989). In contrast, studies have demonstrated that the relationship between parental involvement and school climate is reciprocal in nature. Griffith's (1998) survey of parents and students from 122 public elementary schools revealed that parent perceptions of a positive school climate (among other factors) were associated with higher participation in school activities. Griffith's earlier work, which examined the influence of school climate, school-parent communications, parent empowerment, and their effects on parental involvement and satisfaction, revealed a slightly negative relationship between parent involvement and satisfaction. Results of a path analysis indicated that the relationship of parental involvement to satisfaction was moderated by the degree to which parents were informed, empowered, and involved by the school, in addition to their perceptions of a positive school climate (Griffith, 1996). Therefore, while not all parents who are involved in their children's education are necessarily satisfied, the combination of positive school climate and parental involvement can produce higher levels of personal parental satisfaction. When school professionals foster open communication and collaborative partnerships and maintain more positive attitudes toward



parents, levels of parent involvement are higher. (Epstein, 1988; Griffith, 1996; Powers & Bartholomew, 1987). In sum, parent involvement appears to enhance the overall environment of a school by improving the relationships among parents and school professionals.

### **Predictors of Parent's Educational Involvement**

Many years of research and numerous studies support parent involvement as a means of promoting positive student outcomes. In addition, benefits of actively involved parents can be enjoyed by teachers and school administrators alike. Given that nation-wide reports of parent involvement are low, understanding the conditions under which involvement is more likely to occur has become increasingly important.

**Family factors.** Researchers have largely moved away from simplistic predictions of parent involvement based on family status variable such as SES and race/ethnicity. Many have developed multi-dimensional models designed to provide a more comprehensive framework for understanding the underlying motivations for parent involvement. Many of these models include so-called "status" or demographic factors as control and exogenous variables, those which have a global, but not direct, effect on parental involvement (Eccles & Harold, 1993; Green, et al., 2007; Grolnick, et al., 1997). The effect of these demographic variables on involvement outcomes are often mediated by a variety of factors in and outside of the family (i.e., teacher attitudes and parent attributes). Parent's role construction and parent efficacy are two within-family endogenous variables often included in such models.

Socioeconomic status is the variable examined most often in the literature (Hoover-Dempsey, et al., 1987). Several investigations have revealed significant differences in the levels of involvement among parents from different SES groups. Lareau's (1987) ethnographic comparison of classrooms in economically disparate neighborhoods revealed striking differences

in parent knowledge and behaviors. Low income parents were found to be less familiar with the grade-level curriculum, less engaged in learning at home, and less likely to be present at school events. Lareau's work, an application of social capital theory, formed the foundation for future studies of group-related differences in parent involvement. Griffith's (1998) examination of 122 public elementary schools found that lower SES was associated with lesser parent participation in school activities. Similarly, Grolnick et al., (1997) found families with high SES to be strongly associated with greater involvement in school and more instances cognitively stimulating activities in the home. However, many studies which report variations across SES groups do not effectively explain why parents do not become involved. In several articles, Hoover-Dempsey & Sandler (1995, 1997) suggest that differential levels of involvement among SES groups are more likely a product of a variation in resources. These resources include parents' knowledge, skills, time, and energy. Single parents are a group who are particularly taxed for time and energy.

Several studies have identified marital status of the parent as a critical predicting factor for involvement; specifically, two-parent families tend to be more involved than one-parent families, controlling for other demographics (Desimone, 2001; Grolnick et al., 1997; Grolnick & Slowiaczek, 1994). This conclusion is to be expected given that the time, energy, and economic resources of single parents are often more limited than those of two-parent households. A study examining the family-school connections in one versus two parent homes was conducted by Epstein and Becker in 1982. The investigators collected data from teachers, principals, parents, and students in sixteen Maryland school districts in 1980 and 1981. The researchers sought to understand the perceptions of teachers about parent involvement behaviors of single and married parents. Teachers rated students from two-parent households as having greater homework

completion than students from single-parent families. Married parents reported spending significantly more time in the school than single parents. Married parents were more likely to be volunteers, members of the PTA, and classroom helpers. Single parents, on the other hand, reported spending more time assisting their children with homework than their married-parent counterparts. Despite this finding, these single-parents also reported that they did not have the “time and energy” to meet the expectations for the teacher with regard to homework assistance. This study also identified differences in teacher’s perceptions, behaviors, and attitudes toward differently structured families. Teachers who were considered leaders in parent involvement practices were reported to make equal requests of all parents, regardless of education level and marital status. Conversely, teachers described as non-leaders in parent involvement activities were reported to ask more of single and low-educated parents. Overall, single parents, regardless of their level of education were prompted more often to be involved in learning activities at home than married parents. Non-leader teachers reported significantly lower opinions of the quality of homework of children from single-parent homes compared to children from married-parent homes, regardless of parent’s level of education. Had a measure of teacher practices not been included in this study, it would have been easy to conclude that regardless of education, single parents are viewed as being less likely to assist their children at home. Divergent evaluations of single and married parents’ academic assistance can be reduced or eliminated by the number of parent involvement practices employed by the teacher.

Studies which examine parent involvement among different racial and ethnic groups have produced mixed results. Several have described ethnic-minority parents as less involved in their children’s schooling (Chrispeels & Gonzales, 2004; Lareau, 1987). Some researchers argue that these conclusions are misleading because of the diversity within minority groups and that lower

levels of involvement can be better explained by covariates like SES, education, English language proficiency, and immigrant status (Kim, 2009; Turney & Kao, 2009). Studies have also produced conflicting results depending upon child characteristics (i.e., behavioral difficulties and academic achievement) and the way in which parent involvement is defined (Kim, 2009). Furthermore, minority families are more likely to be single-parent households. Still, other studies find minimal differences between racial groups.

Minority parents report strong beliefs in the importance of parent involvement. Drummond and Stipek (2004) interviewed over 200 ethnically diverse parents of second and third grade children regarding their beliefs about the importance of involvement in their children's learning. Overall, no significant differences among groups from different ethnic backgrounds were found, even among respondents with limited or no English proficiency. These results indicate that ethnic/ minority parents value involvement in their child's education as much as their counterparts. Therefore, additional barriers must be preventing these groups from putting their beliefs into practice.

Kim (2009) identified several contextual barriers to minority parent involvement in a recent review of literature. From 69 studies involving minority parents, the following school barriers were identified: (a) teacher's perception of minority parent efficacy, (b) teacher's perception about the capacity of the minority parents (c) teacher's general beliefs about the effectiveness of parental involvement, (d) teacher's self- efficacy, (e) school friendliness and positive communication, (g) school policies, and (h) school leadership. These results provide support for the contradictory findings regarding minority parent involvement, and indicate that the discrepancies can likely be attributed to which variables are included in the respective studies.

Using data from Early Childhood Longitudinal Study- Kindergarten cohort (ECLS-K), Turney and Kao (2009) examined race and immigrant status in relation to parent involvement in schools. Minority immigrant parents reported more barriers to participation in school and were less likely to be involved than their white, native born counterparts. In addition, English language proficiency and time spent in the United States were associated with higher levels of involvement. The strength of these associations differed by race; however, with higher levels of involvement reported among foreign-born Asian and Hispanic parents who had lived in the US longer. Time in the United States was negatively associated with parent involvement for foreign-born Black parents. The investigators concluded that Hispanic and Asian parents tend to become more involved in schools as they assimilate to United States culture. Black parents, on the other hand, may feel more marginalized over time. Overall, these results are indicative of several confounding variables which must be considered when examining the relationship between race and parent involvement.

In addition to the aforementioned demographic characteristics proven to be related to parent involvement levels, several psychological variables have been identified as contributing factors. Several studies have shown that parents who have higher levels of self-efficacy tend to be more involved (Golnick et al., 1997; Hoover-Dempsey et. al, 2005). Self-Efficacy is defined as a belief in one's abilities to act in ways that will produce desired outcomes (Bandura, 1986, 1996). Hoover-Dempsey & Sandler (1997) found that parents who reported high levels of self-efficacy were more-likely to make positive decisions and actively engage in their child's education. Furthermore, these parents were more likely to persevere in the face of challenges, working their way to more successful outcomes. On the other hand, parents who endorsed relatively low levels of efficacy held lower expectations about the outcomes of their efforts to

help the child succeed in school and relatively low persistence rates when faced with obstacles. Similarly, a study of a nationally representative sample of middle and high school students and their parents found that parental efficacy predicted involvement and monitoring of student progress. In turn, parental involvement and monitoring predicted student's academic success as measured by grades and eligibility for remedial, regular, or advanced courses.

Another psychological variable found to relate to parental involvement is *parental role construction*, or beliefs about what they are supposed to do in relation to their children's education, and behaviors which result from these beliefs. In other words, parents who believe that helping their child succeed academically is a part of their role as a parent are more likely to perform various involvement activities at home and in school. Over time, parents construct roles from social experiences with individuals and groups related to schooling (i.e., prior experience with involvement, ongoing experiences with parents and teachers). Because these roles are constructed from social experiences, they are also subject to social influences and therefore, intentional efforts to re-construct parental roles may be successful (Hoover-Dempsey et al., 2005).

Considerable support is available for the importance of role-construction in parent involvement. A survey of 195 mothers collected from one suburban and one urban elementary school demonstrated that role construction predicted parents' home and school-based involvement behaviors (Sheldon, 2002). Similarly, Grolnick and colleagues (1997) found that parents who endorsed the belief that they should take an active role in their child's education were more likely to provide intellectually stimulating activities for their children. Role construction has proven to be instrumental in parent involvement decisions across cultural groups and across varied cultural groups and socio-economic levels. Among Latino parents,

Chrispeels and Gonzalez (2004) specifically reported parental role-construction to be the strongest predictor of involvement behaviors prior to participating in a parent education program. In turn, participating in the program strengthened parents' active role construction, thus increasing involvement activities. A study of 234 low-income parents from diverse ethnic groups and various geographical areas showed that economically disadvantaged parents believe in and strongly value involvement in their children's learning (Drummond & Stipek, 2004).

Although the relationship between parent involvement and positive outcomes for children has been well-established, some researchers question the nature of this relationship. Parent involvement may function as a preventative factor for low achievement, behavior problems, truancy, and low-self esteem; however, parents of high achieving students may also be more involved ensuring that their children continue to maintain a high level of academic success. High achieving students may elicit more involvement from their parents. Therefore, it is possible that the way in which parents are involved in their child's education differs depending upon individual child characteristics. Children with disabilities, for example, who are eligible to receive special education services, require regular meetings for the discussion educational evaluation, progress and for the development of Individualized Education Plans (IEPs). Similarly, children with significant behavioral difficulties elicit more telephone calls and parent teacher conferences, while children who struggle academically, but do not receive special services, may require more assistance with homework outside of school.

Support for parental involvement as a mechanism for a child's school success has been demonstrated in several studies. Grolnick & Slowiaczek (1994) proved that parental involvement produced the strongest relations with school performance through its effect on a child's inner resources. Specifically, child grade, gender, and maternal work status were

unrelated to any of the involvement factors. However, involvement behaviors (i.e., going to school, participating in activities such as open houses) and cognitive/ intellectual involvement practices (i.e., exposing the child to cognitively stimulating materials and experiences outside of school) were indirectly associated with school performance through their influence on children's reported perceptions of control and competence.

In contrast to the aforementioned studies, there is at least one study demonstrating evidence that low child achievement influences parent involvement practices. Watkins' (1997) survey of 303 elementary school parents found that when children displayed low achievement, parents were more likely to be involved. Another study of 525 14-16 year old Canadian students revealed that communications between the home and school were predictive of negative student outcomes (Deslandes, Royer, Potvin, & Leclerc, 1999). Presumably, the teachers and parents involved in this study were in contact when problems occurred. This finding is contrary to the overwhelming support for the positive outcomes most-often predicted by higher levels of parent-teacher communications.

A preponderance of the available research indicates parental involvement declines as students progress through the primary and on to the middle grades (Epstein, 2001; Green, et al., 2007). These findings are consistent with developmental changes which occur as children move from early to middle childhood through adolescence. Young children generally require more parental assistance with learning and completing academic tasks, such as learning to read and count. Adolescents, on the other hand, are more likely to complete homework independently and are often encouraged to do so by their teachers. Many of the more commonly-used involvement practices (i.e., read with child, play learning games, use the home environment to teach) are more often suggested for use with younger children (Epstein, 1982). Teachers in elementary grades



tend to elicit more participation from parents by requesting their assistance as volunteers in the classroom or by through invitations to attend school events. Some studies suggest that the changes in parent behaviors over time may be child-driven, and that older children make fewer requests or invitations for parent participation (Green et al., 2007; Deslandes & Bertrand, 2005). These studies identify “parent perceptions of student invitations for involvement” as the most significant predictors of parent participation. As children enter middle school and move on to high school, they tend to become more autonomous in completing schoolwork and request less assistance. It is important to note, however, that these studies also identified parental self-efficacy as a lesser, but still significant predictor of involvement. Thus, less educated parents may not feel as capable of assisting their older children with homework when the subject matter becomes more difficult. Furthermore, teachers of the latter grade-levels make fewer communications, less attempts to engage parents in their children’s education and fewer invitations are made to be involved in the school as a volunteer or an audience (Becker & Epstein, 1992). On the other hand, teachers of children in the primary grades tend to make more requests or invitations for parents to become involved in home learning activities (Epstein, 1986). In short, a variety of factors contribute to the decline in parent involvement as children age, but the overwhelming majority of findings indicate this relationship to be linear.

Parents who described their children as *difficult* or reported significant behavioral problems were less likely to be involved with school-related activities in the home environment. The researchers speculated that parents of difficult children may avoid engaging in academic activities in the home due to the aversive nature of these experiences (Grolnick et al., 1997).

In addition to low achievement and behavioral characteristics which may elicit different responses from parents, many students are also indentified with various disabling conditions. The

field of special education places much weight on the involvement of parents. Federal Law protects the rights of parents of children with disabilities, enabling them to be involved in eligibility and placement decision, and development of an educational plan. Empirical evidence demonstrating that parents of students with disabilities are not as involved as parent of general education students was discovered in Deslandes and colleges (1999) study of 637 Canadian students. Researchers found that parents of special education students were less involved in supervision of their child in the home, initiated less learning opportunities in the home, participated less frequently in school activities as an audience (concerts, sporting events, etc.) and initiated fewer learning activities in the home than parents of regular education students.

In sum, a variety of family characteristics have been examined with regard to their relation to levels of parent involvement in education. However, understanding the experiences and behaviors of parents is not enough to determine what truly motivates parents to become involved. As outlined in Epstein's overlapping spheres of influence theory, the degree of overlap between the home and school spheres will depend upon the experiences, philosophy, and practices of the schools, families and communities. In addition, the six types of involvement outline a number of practices that schools may initiate to encourage parent involvement. Therefore, it is vital that parent characteristics and behaviors be investigated in combination with the practices of the school.

### **School Factors**

Teachers often represent the primary point of contact between the school and family systems. The relationships between parents and teachers can be influenced not only by what teacher behaviors, but by what teachers believe. Furthermore, it is not only teachers believe about the parents of the children they teach, but what they believe about themselves. Thus, the

relationship between attitudes, beliefs, and behaviors of teachers is complicated, and can have a profound impact on parental involvement.

A variety of teacher characteristics have been found to affect parental involvement. Teachers who have been formally trained in engaging parents and feel competent in these interactions tend to report more success in generating involvement (Hoover-Dempsey et. al., 1992). Despite conflicting findings regarding the contribution of parental socioeconomic-status and the degree of involvement, at least one study recognizes that a disparity in status between educator and parent could be an important determinant. When teachers differ culturally or educationally from their students, they are less likely to know the students' parents on a personal level and therefore are more likely to believe that parents are uninterested or unmotivated in becoming involved (Epstein, 1987). In addition, high levels of trust appear to be related to higher parental involvement; however, teachers tend to trust parents less than parents trust teachers (Adams & Christenson, 1998). Trust appears to be related to levels of communication between parents and teachers. This finding is consistent with evidence that increased teacher communication results in higher levels of involvement. Thus, as communication and involvement declines over time, so does the degree of trust between parents and teachers.

Several investigations have demonstrated that parents are more involved when teachers use any number of practices to encourage partnerships. Teacher practices can not only affect the attitudes and perceptions regarding involvement for parents, but move parents to take action and participate in education-related activities. Perhaps the most basic involvement practice is parent-teacher communication. Greater frequency in communications from teachers has been shown to enhance levels of education-related involvement (Vickers & Minke, 1995; Watkins, 1997). Similarly, parent's perceptions of specific invitations from teachers to be involved have

demonstrated substantial effects (Anderson & Minke, 2007; Deslandes & Bertrand, 2005).

Teacher invitations for parent involvement have also been implicated in boosting student performance and time spent on homework (Epstein & Van Voorhis, 2001).

Teachers who make parent involvement a regular part of their teaching practice report that parents are more interactive with their children at home (Epstein & Dauber, 1991). These findings tend to hold true regardless of the demographic or social characteristics (i.e., SES, ethnic minorities, single parent households) of the family. For example, results of Drummond & Stipek's 2004 study of 234 low-income African American, Caucasian, and Latino families revealed higher ratings regarding the importance of helping children at home after teachers offered suggestions of how to provide such assistance. Moreover, parents appear to welcome these practices. In Epstein's 1986 survey of parent's reactions to teacher practices of parent involvement, 80% of parents reported they would be willing to spend more time helping their children at home if they were shown how to do specific learning activities.

Attitudes and beliefs shape how teachers approach the concept of parental involvement. Negative attitudes can build strained, unproductive relationships, resulting in barriers to effective partnerships. Epstein and Dauber's 1991 study of teachers and parents in inner-city schools revealed a number of patterns and connections among teacher attitudes and practices regarding parent involvement, in addition to school programs. Overall, teachers reported positive attitudes about parent involvement, but a variety of circumstances were found to affect self-reported attitudes. Specifically, teachers in self-contained classrooms (in contrast to departmentalized classrooms) and teachers of English and reading were found to use more practices to involve parents in their children's education. Positive teacher attitudes were associated with more success in reaching at-risk groups, such as working, less-educated, young, and single parents,

parents of older students, and parents new to the school. Teachers who reported their attitude toward parent involvement to be consistent with the levels of colleagues, principals' and student's parents reported more involvement. When discrepancies were reported between teacher's own attitudes and the perceived attitudes of their colleagues, principals', and parents', involvement programs and practices were weak. This finding provides support for the theories regarding the influence of school climate and administrative support for such practices. The results were especially pronounced when examining the patterns between schools and hard-to-reach families, indicating that teachers are not likely to initiate involvement efforts with these populations if they believe that parents will not respond or that administrators will not support these behaviors. Overall, teachers consistently rated themselves as being similar to their principals, having strong support of parental involvement. Compared with colleagues, teachers viewed themselves as being stronger supporters for parental involvement than their colleagues.

Despite the number of studies where teachers report positive attitudes about parent involvement, and ample evidence that teacher initiated involvement practices encourage parents to take action, data indicates a shortage of involvement behaviors in the classroom. Epstein's 1986 survey of parents revealed that 58% of parents rarely received requests from the teacher to initiate learning activities at home. Even the more basic forms of simple teacher-parent communications were somewhat lacking. Of the sample, 16% had received no memos from the teacher, 35% had no parent-teacher conference, and 60% never spoke to the teacher on the phone. A plausible explanation is presented in Barnyak & McNelly's 2009 study of teacher and administrator involvement practices and beliefs. The authors identified a mismatch between participants reported beliefs and their actual behaviors. When surveyed, teachers and administrators endorsed a number of practices as being "beneficial" for parents. A significant

difference was found between educators reported beliefs and the behaviors actually put into practice. Several explanations for the mismatch between beliefs and behaviors are available from the perspectives of both teachers and parents. Both groups face time constraints, and parents and teachers often have different goals for children (Greenwood & Hickman, 1991). Moreover, teachers may sometimes lack commitment to parent involvement, make overly negative communications about students' performance, possess stereotyped beliefs about families, and lack confidence in the abilities of families to address school concerns (Liontos, 1992). Furthermore, teachers often have insufficient education related to parent involvement management. A survey of educators of future teachers conducted in 1980 revealed that only between 5-14% taught a course in family or community partnerships (Chavkin & Williams, 1988), and most educators who reported taking such a course were usually specializing in early childhood or pursuing advanced degrees (Becker & Epstein, 1982). More recent investigations indicate that conditions have improved, with 59% of department leaders reporting a course offering in family or community partnerships. However, these professionals also reported that the majority of their graduates were not prepared to conduct programs and practices of parent involvement (Epstein & Saunders, 2006). Deficiencies in training may leave teachers lacking efficacy, or beliefs that they can be effective when working with parents.

Teacher efficacy is defined as a teacher's belief that they are effective in teaching, the children they teach can learn, and that there are resources and support available to them when needed. Teacher efficacy has been found to significantly contribute to parental involvement at home and in the school (Hoover-Dempsey, et al., 1987). Teachers reporting higher levels of efficacy were found to use five of Epstein's six types in the classroom (Garcia, 2004) suggesting

that when teachers are more confident in their skills and abilities, they are more comfortable reaching out to parents.

Research on school effectiveness has identified principal leadership, support, and expectations as primary contributors (Phi Delta Kappa, 1980). The attitudes, perceptions, and decisions of administrators can have a major impact on the atmosphere of a school and direct and indirect impact on levels of parental involvement. Administrators often have a central role in determining the degree to which parents are involved in school-based decision-making. Parent involvement in decision making and school governance is identified as one of the six types of involvement described in Epstein's overlapping spheres of influence model. By including this aspect in the framework, Epstein asserted that involving parents in school-based management committees and asking for their input when making decisions may result in more feelings of support and higher levels of attachment to the schools (Epstein, 2001). According to the definition of involvement in decision-making, parents should be asked to participate in decisions regarding the hiring and firing of teachers, selection of textbooks, setting curricular guidelines and standards, establishing policies and practices for student grading and evaluation, spending of discretionary funds, and requirements for professional development for school staff. An examination of the degree of parental influence on such decisions was conducted using data from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999 (ECLS-K). Results revealed that parents had relatively low levels of influence on these decisions in schools across the nation (Apodaca-Tucker & Slate, 2002). In one study, parents who participated in school governance by serving on a *School Advisory Committee* (SAC) reported more positive perceptions of the school's climate than the control school who did not form such a committee (Comer, et al., 1989). Given the relationship between climate and parental involvement, it is

likely that such programs would also result in increased levels of overall involvement. An examination of those few schools that do involve parents in these decisions is warranted, as it may prove that this practice results in greater investment in their child's school through higher overall levels of involvement, thus providing support for Epstein's hypothesis.

The survey of family and school partnerships in public schools was conducted by the U.S. Department of Education in 1996. Data was gathered from a nationally representative sample of K-8 public schools on their efforts to involve parents in their children's schooling. This data was combined with survey items from the Family Involvement/Civic Involvement Survey of the National Household Education Survey's Program to examine levels agreement between parents and schools about efforts to involve parents. This study also used Epstein's six types of involvement as a framework for identifying involvement practices. Practices examined include: (1) providing information to parents about child development, (2) providing information to parents about children's school performance, (3) providing information to parents about children's group placement, (4) providing information to parents about school's overall performance on tests, (5) making volunteer activities in school available to parents, (6) providing information to parents about helping children learn at home, (7) including parents in school decision making (8) providing information to parents about community service to help children/families. Overall, major discrepancies were identified between the schools' and parents' reports on whether schools used various practices to involve parents in their children's education. Schools were more likely than parents to report that to indicate that schools used any of the practices examined in the study. This study reported only descriptive statistics, so it is not known if these differences were statistically significant. While discrepancies were present in all types of schools, the size of the difference was larger in higher grades, large schools, and schools



with a high percentage of minority enrollments. For many of these practices, small rural schools demonstrated smaller discrepancies between school and parent report than large urban schools (U.S. Department of Education, 2001). These results led the researchers to conclude that despite the schools reported efforts, some parents were not aware that the schools were trying to encourage their involvement. The variations in the discrepancies among different types of schools indicate that some schools may be more successful in reaching out to parents. Specifically, small schools with low minority enrollment seem to have better success when reaching parents.

Principals' perceptions of teacher efficacy were also found to predict higher levels of parent involvement in home tutoring (Hoover-Dempsey, et al., 1987). This finding suggests that principals who have more confidence in their teachers' skills and abilities may communicate more positive perceptions to *both* parents and teachers; thus, fostering an ideal environment for collaboration. Principals with stronger belief in their teachers' potential effectiveness may also establish more of an expectation that parent-teacher partnerships will occur. Conversely, principals may also view teachers more favorably after witnessing efforts to increase parental participation. Principals have been found to report more favorable evaluations of teachers who were recognized as leaders in parent involvement and who were rated more highly by the parents of their students (Epstein, 1985). Moreover, these teachers were rated favorably by their principals in urban districts, where a majority of students were minority and where many children resided in single-parent households, but were still recognized as leaders in parent involvement. Thus principals were found to be especially sensitive to the challenging conditions many teachers face.

One way to address the need for schools to involve families has been to implement programs specifically designed to create partnerships. Support for specific practices and programs intended to boost parental participation was demonstrated in a study by Dauber & Epstein completed in the early 90's (as cited in Epstein, 2001). This study examined the attitudes and practices of involvement in inner-city, economically disadvantaged elementary and middle schools by surveying the parents and teachers of eight Title I schools in the Baltimore area. When parent education, family size, student ability and child's school level were statistically controlled, involvement programs and practices of schools were found to be the strongest and most consistent predictors of overall parent involvement. If parents perceived that their child's school was making efforts to involve them, they responded by becoming more involved in their child's education at school and at home.

Emphasis on parent involvement in legislation and various educational reform initiatives combined with overwhelming empirical support for the educational benefits of parental involvement has triggered the funding and development of several specific programs. Examples of some specific programs which have been implemented in schools across the U.S. include the federally funded Follow-Through Program, The School Development Program created by the Yale Child Study Center, and the Family Matters Program developed by Cornell University.

Perhaps the most wide-spread and longest running program was the Follow-through (FT) Program. Originally designed to continue some of the gains made by children in Head Start and other early-intervention initiatives, the Follow-Through program was established in 1967. Instructional programming, parent and community involvement, comprehensive services, staff development, and establishment of a Policy Advisory Committee (PAC) were required components. Additional forms of parent involvement included parent participation in the

classroom, in home visits, and in educational/ community activities. Olmstead's 1981 study utilizes over 20 years of data to analyze the effects of the FT program. Time spent in special education was compared for siblings who were enrolled before the program was implemented and during the program. The average number of years spent in special education by older siblings group was more than twice the time of the younger sibling group. Quantitative data suggests that parents were motivated to participate in school governance and decision –making, and 25-50% of parents attended PAC meetings. Over a 10 year period, 85% of families participated in home visits. Most importantly, a positive relationship between parental involvement and reading achievement was found (Olmstead, 1991).

The School Development Program was a nine element program of change implemented and developed over 3-5 years in New Haven, CT (Comer & Haynes, 1991). The program was characterized by several distinct features including three levels of involvement, each level enabling participation as parents are comfortable and permitting different kinds and levels of responsibility. The program permitted parents to play meaningful roles and large percentage of parents involved many parents, even from the most difficult of family circumstances (Comer & Haynes, 1991).

The Family Matters program, designed by researchers at Cornell University was based on the process of empowerment. Empowerment was defined as a process involving the individual's view of themselves, and relations with nearby others, organizations, and institutions. The Family Matters Program included several aspects with the goal of empowering families. Home visits, social networks, and a series of activities for parents designed to build involvement skills and confidence at working with their child's teacher. In addition, the program also educated teachers to empathize with parents and recognize their strengths. Outcome studies of this program

showed children in program families were doing better in the first grade than children from similar backgrounds in the comparison group. Furthermore, differences were greatest with the least educated parents (Cochran & Dean, 1991).

In an effort to further reduce barriers to learning, some schools have moved beyond programmatic efforts and have moved toward the implementation of comprehensive, school-community collaborations. Joy Dryfoos, founder of the Community Schools Coalition, defines community schools as “a school that is open most of the time; houses an array of supportive child and family health and social services provided through partnerships with community agencies; integrates classroom teaching with activities in extended hours; involves parents in a significant way; has a full-time coordinator, and services as the hub of the community. (Dryfoos, 2003, p. 203). Although no two community schools are exactly alike, many share similar characteristics (Dryfoos, 2002). Recent evaluations of schools employing the community schools model indicate significant benefit to students, families, and communities, although this approach is often absent from the school reform literature (Dryfoos, 2003). According to the Community Schools Research Brief, published in 2009, San Mateo County Public Schools showed a 93% rate of attendance at parent teacher conferences. San Mateo parents also reported an increase in educationally supportive behaviors for their children in the home, such as encouragement for their child to complete homework, discussions about school, and teaching in the home environment.

School-based or school-linked services are part of an effort to restructure community health and human services from fragmented, categorical agencies to a more integrated centralized form of service delivery (Dryfoos, 2003). School-based services refer to those actually carried out on a school site while school-linked services refer to activities that take place

off-campus performed by school affiliated agency. Evaluations of community schools found that parents who were involved in school-based or school linked services in community schools were more likely to be involved in engaged in their children's education (Community Schools Research Brief, 2009).

### **Summary and Statement of the Problem**

Literature supporting parental involvement as a vehicle for academic success is well-established. Several of the studies which provide this support have utilized public data containing nationally-representative data sets to ensure generalization of the results. Examinations of the variables that contribute to or predict parent involvement are emerging, but are limited in scope. Many of the studies have been carried out on relatively small samples from a handful of schools across the country. Because of the small sample-sizes and situation specific variables involved in these studies, many conflicting results have been reported. Larger-scale studies with nationally representative participants are warranted to ensure the accuracy of the previously identified factors. Furthermore, examinations of school-wide variables have been limited; many of the current studies focus on demographic variables of parents and the nuances of the teacher-parent relationship. More studies are necessary to examine the characteristics and practices of schools with high levels of parental involvement. Once identified, these successful practices can be replicated in struggling schools.

### **Chapter III: Method and Procedures**

In this section, the methodology and research design is presented. First, a description of the ECLS-K data and sampling design is presented. Second, the participants included in the ECLS-K sample are described. Next, a description of the data collection, including preparation of data collection, teacher questionnaire, administrator questionnaire, and conducting the parent interview is described. This is followed by a description of the content of the measures that will be utilized in the study. Next, the research design with the variable types and lists is given. Finally, a description of data analysis procedures applied to the data is provided. All information pertaining to the ECLS-K dataset in the following section was found in the *ECLS-K User's Manual*.

#### **Database**

The study relies on data collected as part of the Early Childhood Longitudinal Study, Kindergarten Cohort (ECLS-K). Sponsored by the US Department of Education (USDE) National Center for Education Statistics (NECS), the ECLS-K was the first national study to follow a cohort of children from kindergarten through middle school. The focus of this multisource, multi-method study is on the early school experiences of children and includes interviews with parents, data collected from teachers and administrators, and direct child assessments. The base year data were collected from the children enrolled in the kindergarten class of 1998. A total of 21,260 kindergarten students throughout the U.S. participated. Third and fourth and third waves of data were collected in the fall and spring of the 1999-2000 school year when most children had advanced to the first grade. This study will be a cross-sectional analysis of parent data pertaining to educational involvement in the spring of their child's first grade year (Wave Four).

Using a multi-stage probability design, a nationally representative sample of children was selected from the approximately 220,000 kindergarten students enrolled during the 1998-99 school year. Children from private and public schools participated in the study. The Primary Sampling Units (PSUs) were geographic areas made-up of counties and groups of counties. In the second stage, public and private schools containing kindergarten programs were selected. The third and final stage involved selection of kindergarten-age children from each sampled school. About 24 students were sampled in each school.

### **Participants**

Overall, the dataset contains information from 21,260 participants enrolled in 1,289 schools. Although the dataset is child-centered, data were collected from several different sources, including the child's family (typically the child's mother) and school. School data were garnered from school records and teacher and administrator (primarily principals) questionnaires.

Approximately half of the children sampled were boys (51.14%). The racial/ethnic sample distributions were consistent with the general U.S. population distribution, with 56.48% white, 14.68% African American, 16.77% Latin American, and 5.79% Asian children. A composite variable was created by the data collectors to identify children with disabilities. Using this procedure, The ECLS-K base year dataset contains 2,135 subjects with disabilities, 15,933 subjects without disabilities, and 2,192 children with missing data on the disability status variable.

### **Data Collection Procedures**

Six phases of data collection occurred over a span of nine years (fall & spring of kindergarten [1998-1999], fall & spring of first grade [1999-2000], spring of third grade [2002], spring of fifth grade [2004] and spring of eighth grade [2007]). The data were collected from

parents, teachers, children, and school administrators through direct child assessments, parent interviews, teacher and school questionnaires, student record abstracts, and facilities checklists. A computer-assisted personal interviewing method was used to conduct the child assessments. Parent interviews were conducted via telephone and in-person computer assisted interview. Questionnaires were administered in order to gain information from teachers, administrators, and school records. Field staff completed facilities checklists. All staff directly involved in data collection were prepared by in-person training sessions.

Data collection teams were comprised of field supervisors and assessors. Field supervisors were responsible for maintaining contact with the schools, entering collected data into the Field Management System (FMS), and supervising the administration of direct child assessments and parent interviews by assessors. Each field supervisor was required to complete certification exercises in order to ensure that assessments were administered in a standardized manner.

### **Measures**

Data were collected from children, their parents, and their schools. Child data were collected in the fall and spring of the kindergarten and first grade years, and only in the spring of third, fifth, and eighth grade years. Direct child assessments were conducted using instruments from several copyrighted assessment batteries. This study will not use child assessment variables because the focus is on school and parent characteristics. Measures used in parent, teacher, and administrator interview are unique to this study and therefore publicly available. The following three sections describe the instruments used by the ECLS-K authors to collect data from parents, teachers, and school administrators.

**Parent interview.** Parent interviews were conducted using a computer-assisted interview (CAI). Although most interviews were conducted in English, provisions were made



for parents who spoke other languages. The majority of interviews were conducted over the telephone; however, a small number of interviews (about 2.5 %) were conducted in person. The length of interview varied and was dependent upon the number of questions included in each round of data collection. In all rounds, the order of preference for the respondent to the parent interview was (1) respondent from previous round, (2) the child's mother, (3) another parent or guardian, (4) some other adult household member. In the majority of cases (81 %), the respondent was the child's mother. The child's father served as the respondent in 8 % of the cases, and in 11 % of the cases other adults (typically grandparents) completed in the interview (Table 2 provides an overview of the topics covered in each round of data collection).

Table 2

*Parent Interview by Major Content Topics and Round of Data Collection*

Parent Interview	1998-1999		1999-2000		2001-2002	2003-2004
	Fall K	Spring K	Fall 1 <sup>st</sup>	Spring 1 <sup>st</sup>	Spring 3 <sup>rd</sup>	Spring 5 <sup>th</sup>
Family Structure	X	X	X	X	X	X
Demographics	X	X	X	X	X	X
Household roster	X	X	X	X	X	X
Marital Status	X	X	X	X	X	X
Primary Language spoken in home	X	/	/	/	/	/
Parent's Involvement in Child's School		X	X	X	X	X
Child Care	X		X	X	X	X
Child's Health & Well-being	X	X		X	X	X
Social Skills Rating	X	X		/	X	X
Home Environment & Cognitive Stimulation	X	X	X	X	X	X
Parental educational expectations for child	X		X	X	X	X
Neighborhood		X	X	X	X	X
Parent Education	X	/	/	*	*	*
Parent Employment	X			*	*	*
Parent Income		X		X	X	X
Welfare and other public assistance use	X	X		X	X	X
Parent/ Child Interaction		X		X	X	X
Parent Health and Emotional Well-Being		X			X	X
Relationships and Emotional Support	X	X			X	X
Background Data	X	X		X		
Nonresident parent	X	X		X	X	X

*Note.* X = rounds that included the construct; / = content area asked only of new parent respondents in each round, \* = updated if changed from previous round

**School administrator questionnaire.** A self-administered questionnaire designed to gather information about the school, student body, teachers, school policies, and other

characteristics was distributed during each year of the data collection. Typically, a principal completed the questionnaire, although responses could be from other administrators, headmasters, or a designee who was able to provide the appropriate information. (Table 3 is a summary of the requested information in the administrator questionnaire).

Table 3

*School Administrator Questionnaire by Major Content Topics and Data Collection Round*

School Administrator Questionnaire	1998-1999	1999-2000		2001-2002	2003-2004
Topic	Spring Kindergarten	Spring First Grade		Spring Third Grade	Spring- Fifth Grade
		Returning Schools	New Schools		
School characteristics	X	--	X	X	X
Student characteristics	X	X	X	X	X
School facilities and resources	X	--	X	X	X
Community characteristics and school safety	X	X	X	X	X
Teaching and other school staff characteristics	X	X	X	X	X
School policies and programs	X	--	X	X	X
School-family-community connections	X	--	X	X	X
Programs for special populations	X	X	X	X	X
Principal characteristics	X	X	X	X	X
School governance and climate	X	X	X	X	X
School practices related to food consumption					X

**Teacher questionnaire.** Data were collected from the child's regular classroom teacher in grades K-3. Each child's reading teacher and either his or her mathematics or science teacher completed questionnaires in grades 5 and 8. Data from the teacher questionnaires will not be utilized in the present study.

### **Research Design & Preliminary Analysis**

For this investigation, I conducted a two-level hierarchical linear modeling analysis on parent and school ECLS-K data. Hierarchical Linear Modeling (HLM), which is also known as multi-level modeling, is a statistical analysis procedure that appropriately deals with hierarchically nested data structures. HLM 7.0 is a software program designed to perform these operations.

The ECLS-K data is well suited for multi-level analysis due to the nested relationship among the units in the systems (i.e. students nested within classrooms, classrooms nested within schools) (Graves & Frohwerk, 2009). When data is organized in this manner, Ordinary Least Squares (OLS) Regression techniques are inappropriate because the within-class and within-school observations are not independent, thus violating one of the fundamental assumptions of regression analysis (Raudenbush & Bryk, 2002). Moreover, when individual cases or observations are treated as separate, even though they are not, misestimating of standard errors can occur. Empirical studies of parent involvement in education should use statistical procedures that account for the hierarchical structure of a school setting. Parents are nested in schools and therefore affected by a variety of contextual factors associated with the school. Unfortunately, the many of the studies which have formed the foundation of parent involvement research do not use statistical procedures that do not account for nested data structures.

In the case of the present study, data is organized into two levels. Parents are nested within schools. Level 1 is made up of all variables pertaining to parents, and Level 2 contains school variables.

Primary data coding, preparation, and preliminary analyses were conducted using the Statistical Package for the Social Sciences (SPSS), and all Hierarchical Linear Modeling procedures were completed using the HLM version 7.

**Selecting samples and specifying variables.** Not all students included in the data file were selected for this study. Only children whose parents completed the spring interview during the child's first grade year were included in the sample. The cross-section of first grade data was chosen because national surveys indicate that parent involvement is more likely to occur in the early grades (U.S. Department of Education, 2001). The first grade wave of data collection also included the parent involvement variables of interest. Some school administrators did not fully complete the school questionnaire on school practices and policies, resulting in missing data in the school-level file. HLM 7.0 has the means for missing data imputation within the Level 1 units, but cannot accommodate any missing data at the Level 2 unit. Therefore, all schools with missing data at Wave 4, and the parents associated with these schools, were excluded from the sample. This dataset includes 14,620 parents (Level 1 units) and 1014 schools (Level 2 units).

The following variables were chosen based on the previous research on predicting levels of parental involvement based on school characteristics as discussed in literature review.

**Level 1 variables.** Variables derived from the parent interview data, the dependent involvement variables, as well as various background characteristics of parents make up the Level 1 variables. As suggested in the review of literature, parent involvement is best described as a multi-dimensional construct which consists of behaviors performed by parents in

both the home and school settings. The ECLS-K parent interview contained questions pertaining to both of these types of involvement; these items are listed on Table 4. I initially conceptualized parent involvement as a single, multi-dimensional scale.

Table 4

*Measures of Parent Involvement*

Measure	Questions	Response
Parent Involvement in School	Since the beginning of this school year have you or the other adults in your household...	1= NO 2 = YES -7 = REFUSED -8 = DON'T KNOW -9 =NOT ASCERTAINED
	Attended an open house or back-to-school night?	
	Attended a meeting of a PTA, PTO, or Parent-Teach Organization?	
	Gone to regularly-scheduled parent-teacher conference with {CHILD'S} teacher or meeting with {CHILD'S} teacher?	
	Attended a school or class event, such as a play, sports event, or science fair?	
	Volunteered at the school or served on a committee?	
	Participated in fundraising for {CHILD'S} school?	
Home Educational Involvement	In a typical week, how often do you or any other member of your family do the following things with {CHILD}?	1 = NOT AT ALL 2 = ONCE OR TWICE 3 = 3-6 TIMES 4 =EVERYDAY -7 = REFUSED -9 = DON'T KNOW
	Tell stories?	
	Sing songs with {CHILD}?	
	Help {CHILD} do arts and crafts?	
	Involve {CHILD} in household chores, like cooking, cleaning, setting the table, or caring for pets?	
	Play games or do puzzles with {CHILD}?	
	Talk about nature or do science projects with {CHILD}?	
	Build something or play with construction toys with {CHILD}?	
	Play a sport or exercise together?	
	Practice reading, writing, or working with numbers?	
	Read books to {CHILD}?	

Preliminary inspection of the data, through factor and reliability analysis, revealed that these items are best represented on two separate scales. Exploratory factor analysis using a varimax rotation was conducted to investigate the underlying component structure of the parent involvement items. Factor analysis on each respective scale resulted in the extraction of a single factor for parent involvement in schools and a single factor for home educational involvement.

**Parent involvement in schools.** Several of the questions asked during the parent interview pertained to the parent's involvement at the school. Parent involvement in school was measured by asking parents about their participation in different activities (made contact with the school, attended an open house or back-to-school night, attended a PTA/PTO meeting, attended a parent-teacher conference, attended a school or classroom event, acted as a volunteer, and participated in fundraising). These variables were re-coded so that yes responses were equal to 1 and no responses were equal to 0. Refusals and responses of "don't know" were re-coded as missing. The underlying structure of the parent involvement in school questions was examined using an exploratory factor analysis with a varimax rotation. A single factor emerged indicating that these items measure a single construct. This single factor explained 34% of the variance in the data.

Table 5

*Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Parent Involvement in Schools Scale*

Questions	Factor Loading
Attended an open house or back-to-school night?	.640
Attended a meeting of a PTA, PTO, or Parent-Teach Organization?	.478
Gone to regularly-scheduled parent-teacher conference with {CHILD'S} teacher or meeting with {CHILD'S} teacher?	.427
Attended a school or class event, such as a play, sports event, or science fair?	.631
Volunteered at the school or served on a committee?	.685
Participated in fundraising for {CHILD'S} school?	.594

Cronbach's alpha coefficients for this scale indicated a moderate internal consistency ( $\alpha = .604$ ). A "parent involvement in school" score was derived from the mean of these six items. The resulting scores ranged from 0-1, with the respondent score equivalent to the proportion of yes answers to the school involvement questions. Creating the scale by using a mean of the items rather than the sum accounted for any missing data in the sample.

**Home educational involvement.** The Home Environment & Cognitive Stimulation section of the Parent Interview Questionnaire included items that measured the parent's involvement in educationally-relevant activities in the home. Parents were asked how often they (or another family member) performed ten specific activities with their child within a typical week ( *read books, told stories, sang songs, helped with arts and crafts, involved child with chores, played games, talked/learned about nature, built things, and played sports*). Responses ranged from 1 (*never*) to 4 (*everyday*). The responses were re-coded to range from 0-1 (0, .33, .67, 1). I recoded these items so that they would be consistent with parent involvement in schools scale. This recoding also allows for the mean parent involvement scores to be consistent, and therefore more meaningful. Refusals and responses of "don't know" were re-coded as missing. As shown in Table 6, exploratory factor analysis using a varimax rotation determined that the home educational involvement scale items loaded on a single factor which explained 42.3% of the variance in the data.



Table 6

*Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Home Educational Involvement Scale*

Questions	Factor Loading
Tell stories?	.669
Sing songs with {CHILD}?	.596
Help {CHILD} do arts and crafts?	.674
Involve {CHILD} in household chores, like cooking, cleaning, setting the table, or caring for pets?	.597
Play games or do puzzles with {CHILD}?	.692
Talk about nature or do science projects with {CHILD}?	.656
Build something or play with construction toys with {CHILD}?	.644
Play a sport or exercise together?	.631
Practice reading, writing, or working with numbers?	.672
Read books to {CHILD}?	.668

The Cronbach's alpha coefficient indicated that this scale had high internal consistency ( $\alpha = .847$ ). Given these results, the items were made into a scale by taking the mean of the items. Again, using the mean to represent the parent involvement at home score accounted for any missing data.

**Background variables.** Several family background characteristics were used as control variables in this study. Single parenthood, parent race, socioeconomic status (SES), and parent's English language proficiency were chosen as control variables.

Creators of the ECLS-K dataset constructed continuous and categorical SES composite variables from a series of questions from the parent interview. The components used to complete the SES composite were as follows: father's education, mother's education, father's occupation, mother's occupation, and household income. I used the continuous SES composite measure in this analysis.

Single parenthood was measured by recoding the responses to the question: “Do you have a spouse or partner who lives in this household?” into a dummy variable (0 = *yes* and 1 = *no*).

A number of questions included in the parent interview were intended to gain information about parents’ race. In the majority of cases (92%), mothers- as opposed to fathers or other family members- completed the survey. Therefore, I used mother’s race to represent the race of the parents. Although the data set included both categorical measures of mother’s race and dummy coded race variables, I hoped to determine whether the present analysis could be simplified by reducing these categories to a single dummy variable where 0 = minority and 1 = non-minority (white). A one-way Analysis of Variance (ANOVA) confirmed that there were significant effects of the between (race) groups factor on parent involvement in schools,  $F(7, 15166) = 189.84$ ,  $P = .000$ . However, post hoc testing using Tukey’s criterion for significance revealed significant differences between white parents and other minority groups, but no significant differences in parent involvement in schools among Hispanic ( $M = .5749$ ), Asian ( $M = .5497$ ), and Black ( $M = .5864$ ) parents. Similarly, ANOVA confirmed significant effects of the between groups factor on home educational involvement  $F(7, 15166) = 44.96$ ,  $P = .000$ , and post-hoc testing revealed significant differences between white and non-white parents. However, differences in Home Educational Involvement among Hispanic ( $M = .5346$ ), Asian ( $M = .5257$ ), and Black ( $M = .5813$ ) parents were not significant. Thus, I thought it appropriate to create a variable that distinguished between minority and non-minority parents and to control for the effects of minority status as opposed to race.

Finally, responses to a question about English language proficiency “What is the primary language spoken in your home?” were re-coded into a dummy variable where 1= speaks English, and 0= speaks language other than English.

**Level 2 variables.** I originally conceptualized the measures of school policies and practices related to involvement as fitting into the two categories family outreach and parent support. Administrators were asked to identify how often family outreach occurred in their schools by endorsing items on the School-Family-Community Connection section of the School Administrator Questionnaire. Specifically, administrators answered questions indicating how often particular activities (*PTA/PTO meetings, Newsletters and other information sent home, report cards sent home, parent-teacher conferences, home visits for parent education, school performances, classroom programs, fairs or social events, and workshops for teachers with a focus on parent involvement*) had occurred in their schools during the past year. Responses ranged from 1-5, with 1 being equal to *never* and 5 equal to *7 or more times per year*. Similarly, administrators indicated whether certain services or programs were available at their school site in the Community Characteristics and School Safety Questionnaire. As a measure of the school’s level of parent support, administrators were asked to indicate whether five types of programs were offered in their schools (i.e., *parenting education, adult literacy, family literacy, health or social services, and orientations for new families*). The items were recoded so that a “no” response is equal to 0 and a “yes” response is equal to 1.

Table 7

*Measures of Family Outreach and Parent Support*

Measure	Question	Response
Family Outreach	<b>Please indicate how often each other following activities is provided by your school...</b>	1= NEVER 2 = ONCE A YEAR 3 = 2 TO 3 TIMES A YEAR 4 = 4 TO 6 TIMES A YEAR 5 = 7 OR MORE TIMES A YEAR
	PTA, PTO or Parent-Teacher Student organization meetings...	
	Letters, calendars, newsletters, etc. sent home to provide parents, with information about school	
	Written reports (report cards) of child's performance sent home?	
	Teacher-parent conferences?	
	Home visits to do one-on-one education	
	School performances to which parents are invited	
	Classroom programs like class plays, book nights, or family math nights	
	Fairs or social events planned to raise funds for the school	
	Workshops for teachers that focus on parent involvement	
Parent Support	<b>Are any of the following programs or services for parents and families available at your school site? Please include to programs run by the school and those run by outside groups...</b>	1 = YES 2 = NO
	Parenting education programs (e.g., classes on child development, education in being a parent, understanding children with special needs)?	
	Adult literacy program (including Adult Basic Education)?	
	Family literacy program?	
	Heath of social services offered collaboratively by service agencies such as hospitals?	
	Orientation to school setting for new families?	

I excluded the item that measured the frequency of “written reports (report cards) of child’s performance sent home” due to lack of variability in the responses. Similarly, I excluded the measure about offering “fairs or social events planned to raise funds for the school” because I considered it to be too similar to the measure of frequency of “school performances.” Applying an exploratory factor analysis with a varimax rotation to this data revealed 3 underlying components; however, requiring that the scales be reconfigured. The results of the factor analysis are shown in Table 8.

Table 8

*Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Family Outreach and Parent Support*

Scale	Component 1	Component 2	Component 3
PTA/ PTO Meetings	-.098	<b>.387</b>	.264
News sent home	-.059	0.98	<b>.645</b>
Parent Teacher Conference	.138	<b>.453</b>	-.378
Home Visits	.355	<b>.445</b>	-.154
Invited to School Performance	-.058	<b>.770</b>	.160
Workshops for Teachers	.294	<b>.556</b>	-.078
Invited to Class programs	.065	<b>.716</b>	.198
Parent ed. programs	<b>.481</b>	.106	.479
Adult Literacy Program	<b>.759</b>	.033	-.085
Family Literacy	<b>.740</b>	.033	-.085
Health/ Social Services	<b>.662</b>	.0102	.043
Offer Orientation Programs	.110	.039	<b>.583</b>

The first component extracted from the factor analysis consisted of questions about whether the school offered parent education programs, adult literacy classes, family literacy classes and health of social services. This component explains 21.6 % of the variance in the

data. This scale had a Cronbach's alpha of .624 which was not found to be improved by deleting any items.

The second component extracted in the factor analysis included questions about the frequency of PTA meetings, parent-teacher conferences, home visits, invitations to school events, workshops for parents, and invitations to classroom programs. The variance explained by this second component was 12.8 % . The Chronbach's alpha coefficient for this scale was a .588 and improved to a .602 by excluding the question about frequency of PTA meetings. I determined that frequency of PTA meetings would be maintained separately from the Family Outreach scale.

The third and final extracted component consisted of two items; a measure of the frequency of information sent home and an indicator that the school offered orientation programs for new families. This third component explained 10.4 % of the variance in the data. This two-item scale had a very small Chronbach's alpha indicating very little reliability ( $\alpha = .087$ ). I determined that these two items would be maintained separately due to the low reliability. The final measures are represented in Table 9.

Table 9

*School-Level Scales*

Scale	Items	Cronbach's $\alpha$
Parent Support	Offer parent education programs	.624
	Offer adult literacy services	
	Offer family literacy services	
	Offer Health/ social services	
Family Outreach	Frequency of parent –teacher conferences	.602
	Frequency of Invitation to School Program	
	Frequency of home visits for education	
	Frequency of workshops (for teachers) on parent involvement	
	Frequency of class programs for parents	
News Sent Home	Frequency of news sent home	
Orientation	Offer orientations for new families	
PTA/PTO Meetings	Frequency of PTA/PTO meetings	

**Level 2 background variables.** Level 2 examines the combined influence of school characteristics that are positively related to parent involvement while adjusting for parent (Level 1) characteristics. Selected items from the School Characteristics scale of the Administrator Questionnaire were used to measure overall demographics of the schools in the sample.

A measure of school size was derived from administrators responses to a question about total school enrollment. School size is a categorical variable that was coded as follows: 1 (0-149), 2 (150-299), 3 (300-499), 4 (500-749) and 5 (750 and above).

In addition to size, this study also included a number of other school-level variables. Administrators were asked to designate their schools as being part of the (1) *public* sector or (2)

*private* sector. Administrators were also asked to identify the type of community their school was located in from a series of descriptions. Although the original response options resulted in a categorical variable, items were condensed and restructured into a series of dummy codes for easier use (e.g., suburban =1 non-suburban = 0). Schools were identified as suburban, urban, or rural.

Administrators were also asked to identify the percentage of minority students attending their school. The percentage of minority students was a categorical variable that was coded as follows: 1 (<10 % *minority*), 2 (10%-24.9), 3 (25%-49.9), 4 (50%-74.9) and 5 (>75%).

Overall, socioeconomic status (SES) of a school was determined by using the percentage of students eligible for free and reduced lunch. Schools with 50% or more children eligible for free and reduced lunch were considered low SES and schools with less than 50% of children eligible for free and reduced lunch will be high SES. Private schools were missing data about free and reduced lunch eligibility. It was necessary to find a proxy measure of SES for private schools to prevent the loss of a significant number of cases. I determined that all private schools could be categorized as high SES, as only 11.1% of the parents of children in private schools were considered low SES. I further tested this possibility by conducting a one-way between subjects Analysis of Variance (ANOVA) of parent SES on low SES public schools, High SES public schools, and private schools. Results revealed significant differences in mean parent SES for each of the schools ( $F(2, 15958) = 1986.59, p = .000$ ). Employing Tukey's post-hoc testing, significant differences were found between public high SES ( $p = .000$ ), private low SES ( $p = .000$ ), and private schools ( $p = .000$ ). The mean parent SES for private schools (.049) was higher than high SES public schools (.040).



**Sample weights.** The ECLS-K is a complex sample design, and not a simple random sample. Users of this data set must account for oversampling and clustering. Clustering occurred because children were chosen from schools within the Primary Sampling Units, (PSU) and not all schools, teachers, and children had equal probability of selection. Typically, participants in a cluster sample are in closer geographical proximity, and therefore more alike than those in a simple random sample. Thus, weights are required to allow investigators to make conclusions about the U.S. population of children based on the ECLS-K dataset. Weights adjust for oversampling of particular groups and for bias associated with non-response. Moreover, a cluster sampling design will produce inaccurate standard errors, and inaccurate standard errors can lead to misinterpretation of results. It is important that the dataset is weighted appropriately and that the standard errors are adjusted using the design effect found in the ECLS-K user's manual.

Cross-sectional weights are recommended for analysis within one round of data collection. When data is weighted, each case is counted relative to its representation in the population. Thus, each value is multiplied by its respective weight. Specifically, C4PW0 is the weight created for use with the wave four of the parent interview, spring of 1<sup>st</sup> grade data, as specified in the ECLS-K user's manual. The school administrator questionnaire does not affect the choice of weight (Tourangeau et. al., 2004). Hierarchical Linear Modeling (HLM) requires a normalized weight (one that sums to the sample  $n$  rather than the population  $N$ ). The normalized weight can be approximated by dividing the sample  $n$  by the population  $N$  and then multiplying the result by the weight. Once the weight has been normalized, standard errors should be adjusted by dividing the normalized weight by the design effect (DEFF). Dividing the weight by the DEFF corrects for the inaccurate standard errors created by the complex sample design.

**Analysis Procedures:**

At the first level, the analysis is very similar to an OLS regression, where an outcome variable is predicted as a function of a linear combination of one or more variables plus an intercept. At subsequent levels, the level one slopes and intercept become dependent variable being predicted from level two variables. (Level two is also referred to as the *slopes and intercepts as outcomes* model). HLM accounts for the hierarchical structure of the data by deriving the coefficients (betas) from all the group units. Using this process, both the level one and level two effects are accurately modeled on the outcome. In addition, cross-level interactions can also be examined.

The Hierarchical Linear Modeling (HLM) analysis was executed in three steps. A separate analysis was conducted for each of the outcome variables (parent involvement in schools and home educational involvement respectively). During the initial step only the outcome (i.e. parent involvement in school or home educational support) variance was examined with no predictors. This model is also referred to as the *fully unconditional model*. The variance was partitioned into the proportion of variance in the dependent variable that is between schools. The determination of the between school variance is called the *intraclass correlation* (ICC). In this case, a significant ICC is indicative of significant between-school effects for parental involvement, thus justifying the use of HLM analysis.

Level one of the HLM model is an estimation of the within-school effects and is also referred to as the *partially conditional model*. Within-school effects are the characteristics of the individual students and their families that are associated with the dependent variables. Therefore, both types of parent involvement (home & school) were explored as a function of level one characteristics.

The third and final step of this 2-level HLM analysis was to estimate the effect of the school on parent involvement. The second level is also referred to as the *fully conditional model* and is an examination of the dependent variable (already adjusted for the individual school characteristics in the level 1 model) as a function of school-level characteristics. Therefore, the dependent variables were examined as a function of school characteristics.

### Chapter IV: Results

The following chapter provides the results of a two-level hierarchical linear modeling analysis to answer the following questions:

1. How does parent involvement in schools vary as a function of the level of family outreach?

Hypothesis 1: Schools with high scores on the measures of family outreach will have more parent involvement in schools.

2. What is the relationship between parent involvement in school levels and the level of parent support?

Hypothesis 2: Schools that implement supportive parent programming will have parents who report a higher level of involvement.

3. How does parent involvement at home vary as a function of the level of family outreach by the school?

Hypothesis 3: Schools with high scores on the measures of family outreach will have more parents who report higher levels of educational involvement in the home.

4. What is the relationship between levels of parent involvement at home and the level of parent support from the school?

Hypothesis 4: Schools with high scores on measures of parent support will have more parents who report higher amounts of educational involvement in the home.

### Parent Involvement in Schools

**Fully unconditional model.** To determine whether HLM is necessary for this data, I ran a fully unconditional model, also referred to as a one-way ANOVA with random effects, entering only the parent involvement in schools dependent variable, represented by the Equation 1.

$$Y_{ij} = \beta_{0j} + r_{ij} \quad (1)$$

Running the fully unconditional model produces a point estimate and confidence interval for the grand mean, and it allows for the calculation of the interclass correlation (ICC). The ICC

indicates the proportion of variance in the dependent variables that is between schools. The ICC is estimated by substituting the estimated variance components for their respective parameters as shown in Equation 2.

$$\hat{p} = \hat{\tau}_{00}/(\hat{\tau}_{00} + \sigma^2) = 0.01/(0.05+0.01) = 0.17 \quad (2)$$

This result indicates that approximately 17% of the variance in parent involvement in schools is between schools. The results of the fully unconditional model are summarized in Table 10. The weighted least squares estimate for the grand mean parent involvement in schools is .65. This has a standard error of .005 and yields a 95% confidence level.

Table 10

*Results from the Fully Unconditional Model*

<i>Random Effect</i>	<i>Variance Component</i>	<i>d.f.</i>	<i>X<sup>2</sup></i>	<i>P Value</i>
School mean, $\mathbf{u}_{0j}$	0.010	969	4402	<0.001
Level 1 effect, $\mathbf{r}_{ij}$	0.050			

**Partially conditional model.** The Level 1 or partially conditional model includes parents' socioeconomic status (SES), minority status, English language proficiency, and single parent status as predictors of parent involvement in schools. Presented in structural format, the Level 1 model is shown in equation 3:

$$SCHOOLINV_{ij} = \beta_{0j} + \beta_{1j}(SES_{ij}) + \beta_{2j}(LANG_{ij}) + \beta_{3j}(SINGLE_{ij}) + \beta_{4j}(RACE_{ij}) + r_{ij} \quad (3)$$

Results of the parent-level model indicate that SES, family type, race, and English language proficiency are significant predictors of parent involvement in schools. Results of the partially conditional model are shown in Table 11.

Table 11

*Level 1: Predictors of Parent Involvement in Schools*

Variable	Coefficient	SE	P Value
Intercept	0.580	0.015	<0.001
SES	0.101	0.004	<0.001
English Language Proficiency	0.059	0.015	<0.001
Single Parenthood	-0.041	0.007	<0.001
Minority Status	0.058	0.007	<0.001

On average, parent involvement in schools is significantly and positively related to parent SES ( $\gamma = .101$   $p = <0.001$ ). One unit increase in SES is associated with a .101 gain on the parent involvement in schools measure. Similarly, the estimated effects of English language proficiency ( $\gamma = 0.059$ ,  $p = <0.001$ ) and minority status ( $\gamma = 0.058$ ,  $p = <0.001$ ) were both significant at the .001 level. These results indicate that on average, parents proficient in the English language reported 0.059 higher scores on involvement in schools measures, and non-minority parents reported 0.058 higher scores on involvement in schools measures. Single parent status was negatively related to parent involvement in schools ( $\gamma = -0.041$ ,  $p = <0.001$ ). This result indicates that single parents reported .041 lower scores on measures of parent involvement in schools. Taken as a whole, these findings indicate that parent-level variables accounted for approximately 16% of the within-school variance in parent involvement in schools. This was determined by calculating the  $\Delta r^2$  using equation 4.

$$\frac{\sigma_{FUM}^2 - \sigma_{PCM}^2}{\sigma_{FUM}^2} = \frac{0.47 - 0.39}{0.47} = .162 \quad (4)$$

**Fully conditional model.** When running the Level 2 or fully conditional model, I entered all of the school policies and practices aimed at increasing parent involvement and the school background variables (i.e., school size, percent minority, school sector, school SES, and

urban, suburban, or rural school). The results of this analysis indicate that after controlling for parent-level variables, family outreach and parent support practices were not significantly related to parent involvement in schools. School policies and practices designed to encourage parent involvement, such as orientations ( $\gamma = -0.009$ ,  $p = 0.774$ ), frequency of PTA/PTO meetings ( $\gamma = -0.010$ ,  $p = 0.854$ ), frequency of news sent home ( $\gamma = -0.203$ ,  $p = .348$ ), parent support ( $\gamma = 0.028$ ,  $p = 0.854$ ) and family outreach ( $\gamma = -0.070$ ,  $p = 0.555$ ) were not found to be significant predictors of parent involvement in schools. The results of the full model are presented in table 12.

Table 12

*Level 2: Predictors of Parent Involvement in School*

Fixed Effect	Coefficient	Standard Error	p-value
Mean Parent Involvement in Schools			
School Size	-0.033	0.018	0.066
Percent Minority	-0.001	0.013	0.456
School Sector	0.028	0.062	0.654
Orientations	-0.009	0.031	0.774
PTA/PTO Meetings	-0.010	0.057	0.854
News Sent Home	-0.203	0.217	0.348
Parent Support	0.028	0.050	0.567
Family Outreach	-0.070	0.118	0.555
Urban School	-0.035	0.039	0.369
Suburban School	-0.021	0.048	0.665
Rural School	0.007	0.047	0.877
School SES	0.053	0.037	0.156

Table 12 Continued

*Level 2: Predictors of Parent Involvement in School*

Parent SES slope			
School Size	0.005	0.004	0.137
Percent Minority	0.008	0.003	0.013*
School Sector	-0.027	0.010	0.009*
Orientations	0.001	0.009	0.936
PTA/PTO Meetings	-0.013	0.013	0.300
News Sent Home	0.046	0.047	0.321
Parent Support	0.026	0.015	0.090
Family Outreach	0.0004	0.026	0.989
Urban School	-0.005	0.014	0.722
Suburban School	0.001	0.012	0.912
Rural School	0.032	0.012	0.009*
School SES	0.025	0.012	0.033*
Parent English Language Proficiency slope			
School Size	0.011	0.0176	0.518
Percent Minority	0.009	0.012	0.454
School Sector	0.033	0.060	0.572
Orientations	0.013	0.028	0.637
PTA/PTO Meetings	0.050	0.053	0.353
News Sent Home	0.282	0.228	0.217
Parent Support	-0.033	0.046	0.473
Family Outreach	0.087	0.110	0.429
Urban School	0.019	0.035	0.600
Suburban School	0.019	0.045	0.672
Rural School	-0.050	0.045	0.259
School SES	-0.028	0.034	0.414
For Single Parenthood slope			
School Size	0.002	0.007	0.763
Percent Minority	0.007	0.005	0.176
School Sector	-0.01	0.018	0.559
Orientations	-0.009	0.014	0.518
PTA/PTO Meetings	-0.057	0.024	0.017
News Sent Home	0.048	0.070	0.493
Parent Support	0.031	0.023	0.188
Family Outreach	-0.001	0.041	0.974
Urban School	-0.019	0.024	0.423
Suburban School	-0.0003	0.023	0.990
Rural School	0.024	0.022	0.288



Table 12 Continued

*Level 2: Predictors of Parent Involvement in School*

For Minority Status Slope			
School Size	0.013	0.007	0.073
Percent Minority	-0.003	0.006	0.564
School Sector	-0.016	0.021	0.443
Orientations	0.0003	0.0150	0.983
PTA/PTO Meetings	0.007	0.024	0.778
News Sent Home	0.0190	0.067	0.777
Parent Support	0.012	0.024	0.631
Family Outreach	0.050	0.050	0.316
Urban School	0.018	0.021	0.396
Suburban School	0.004	0.021	0.864
Rural School	0.009	0.020	0.651
School SES	-0.063	0.018	<0.001***

Although no significant main effects were found, several significant interactions were observed between the Level 1 and Level 2 units. Specifically, parents' SES slope was found to have a significant relationship with the slope of the schools' minority percentage ( $\gamma = 0.008$ ,  $p = 0.01$ ). This result indicates that in schools with higher percentages of minorities, SES has a greater impact on parent involvement in schools. Parents' SES slope was also found to be negatively related to school sector ( $\gamma = -0.027$ ,  $p = 0.009$ ). This relationship indicates that parent SES has a stronger relationship with parent involvement in public schools. Parents' SES slope was also found to be positively related to rural schools ( $\gamma = 0.032$ ,  $p = 0.007$ ), meaning that a parent SES has a greater impact on involvement in rural schools. Similarly, parents' SES slope had a significant and positive relationship with school SES ( $\gamma = 0.025$ ,  $p = 0.015$ ). For schools with greater variation in overall school SES, individual parent SES had a greater impact on parent involvement in schools. Finally, parent minority status was found to have a significant

negative relationship with school SES ( $\gamma = -0.06, p = <0.001$ ). This result indicates that for minority parents, school SES had a greater impact on parent involvement in schools.

In this model, there was a substantial reduction in the school means once Level 2 variables were entered. Calculating the  $\Delta r^2$  reveals that 49% of the between school variance in parent involvement in schools is explained by Level 2 variables.

$$\frac{\tau_{PCM} - \tau_{FCM}}{\tau_{PCM}} = \frac{0.39 - 0.19}{0.39} = .49 \quad (5)$$

### Home Educational Involvement

**Fully unconditional model.** To determine whether HLM is necessary for this data, I ran a fully unconditional model, also referred to as a one-way ANOVA with random effects, entering only the Home Educational Involvement dependent variable, represented by the Equation 1.

Running the fully unconditional model produces a point estimate and confidence interval for the grand mean, and allows for the calculation of the interclass correlation (ICC). The ICC is the variance to be partitioned into the proportion of variance in the dependent variables that is between schools. The ICC is estimated by substituting the estimated variance components for their respective parameters as shown in Equation 6.

$$\hat{p} = \hat{\tau}_{00} / (\hat{\tau}_{00} + \sigma^2) = .001 / (.02 + .001) = .047 \quad (6)$$

This result indicates that approximately 5% of the variance in home educational involvement is between schools. The weighted least squares estimate for the grand mean parent involvement in schools is .58. This has a standard error of .002 and yields a 95% confidence level.

Table 13

*Results from the Fully Unconditional Model*

<i>Random Effect</i>	<i>Variance Component</i>	<i>d.f.</i>	<b><math>\chi^2</math></b>	<i>P Value</i>
School mean, $u_{0j}$	0.001	969	2104	<0.001
Level 1 effect, $r_{ij}$	0.23			

**Partially conditional model.** The Level 1 or partially conditional model includes parents' socioeconomic status (SES), minority status, English language proficiency, and single parent status as predictors of parent home educational involvement. Presented in structural format, the Level 1 model is shown in equation 7:

$$HOMEINV_{ij} = \beta_{0j} + \beta_{1j}(SES_{ij}) + \beta_{2j}(LANG_{ij}) + \beta_{3j}(SINGLE_{ij}) + \beta_{4j}(RACE_{ij}) + r_{ij} \quad (7)$$

Results of the parent-level model indicate that SES and minority status are significant predictors of parent involvement in schools. Results of the partially conditional model are shown in table 14.

Table 14

*Level 1: Predictors of Home Educational Involvement*

<b>Variable</b>	<b>Coefficient</b>	<b>SE</b>	<b>P Value</b>
Intercept	0.566	0.016	<0.001
SES	0.012	0.003	<0.001
English Language	0.001	0.016	0.994
Single Parenthood	0.001	0.004	0.743
Minority Status	0.015	0.005	0.001

On average, parent home educational involvement is significantly and positively related to parent SES ( $\gamma = .012$ ,  $p = <0.001$ ). One unit increase in SES is associated with a .012 gain on the home educational involvement measure. Similarly, the estimated effects of minority status

was significant at the .001 level ( $\gamma = 0.015$ ,  $p = 0.001$ ). These results indicate that on average ‘non-minority parents reported 0.01 higher scores on home educational involvement measures. Parents’ English language proficiency and single parent status were not significantly related to home educational involvement. Taken together, these findings indicate that parent-level variables accounted for 6% of the within-school variance in parent home educational involvement. This was determined by calculating the change  $r^2$  using equation 8.

$$\frac{\sigma_{FUM}^2 - \sigma_{PCM}^2}{\sigma_{FUM}^2} = \frac{.023 - .022}{.023} = 0.056$$

(8)

**Fully conditional model.** When running the Level 2 or fully conditional model, I entered all of the school policies and practices aimed at increasing parent involvement and the school background variables (i.e., school size, percent minority, school sector, school SES, and urban, suburban, or rural school). The results of this analysis indicate that after controlling for parent-level variables, no school-level variables were significantly related to home educational involvement. School policies and practices designed to encourage parent involvement, such as orientations ( $\gamma = -0.012$ ,  $p = 0.033$ ), frequency of PTA/PTO meetings ( $\gamma = -0.059$ ,  $p = 0.307$ ), frequency of news sent home ( $\gamma = 0.558$ ,  $p = 0.85$ ), parent support ( $\gamma = 0.026$ ,  $p = 0.606$ ) and family outreach ( $\gamma = -0.066$ ,  $p = 0.465$ ) were not found to be significant predictors of parents’ home educational involvement. The results of the full model are presented in table 15.

Table 15

*Level 2: Predictors of Home Educational Involvement*

Fixed Effect	Coefficient	Standard Error	p-value
Mean Home Educational Involvement			
School Size	-0.020	0.017	0.235
Percent Minority	-0.022	0.013	0.099
School Sector	-0.024	0.064	0.704
Orientations	-0.012	0.033	0.709
PTA/PTO Meetings	-0.059	0.058	0.307
News Sent Home	0.558	0.324	0.085
Parent Support	0.026	0.050	0.606
Family Outreach	-0.066	0.090	0.465
Urban School	-0.042	0.042	0.315
Suburban School	-0.034	0.048	0.473
Rural School	-0.003	0.055	0.956
School SES	0.014	0.035	0.686
For Parent SES			
School Size	0.003	0.003	0.319
Percent Minority	0.006	0.002	0.012*
School Sector	0.015	0.008	0.054*
Orientations	0.001	0.006	0.841
PTA/PTO Meetings	0.004	0.012	0.774
News Sent Home	0.003	0.031	0.922
Parent Support	-0.0002	0.010	0.985
Family Outreach	0.011	0.018	0.532
Urban School	-0.002	0.009	0.840
Suburban School	0.002	0.008	0.833
Rural School	0.011	0.008	0.213
School SES	0.002	0.008	0.774
For Parent English Language Proficiency			
School Size	0.017	0.018	0.319
Percent Minority	0.016	0.014	0.230
School Sector	0.010	0.064	0.876
Orientations	0.024	0.034	0.469
PTA/PTO Meetings	0.063	0.058	0.280
News Sent Home	-0.56	0.324	0.084
Parent Support	-0.037	0.051	0.466
Family Outreach	0.010	0.095	0.294
Urban School	0.044	0.044	0.309
Suburban School	0.027	0.050	0.581
Rural School	-0.009	0.056	0.874
School SES	0.010	0.036	0.783

Table 15 Continued

*Level 2: Predictors of Home Educational Involvement*

For Single parenthood			
School Size	0.004	0.004	0.399
Percent Minority	0.008	0.003	0.025*
School Sector	-0.007	0.012	0.568
Orientations	0.001	0.009	0.902
PTA/PTO Meetings	0.006	0.017	0.735
News Sent Home	0.016	0.047	0.736
Parent Support	-0.018	0.016	0.250
Family Outreach	-0.030	0.028	0.284
Urban School	-0.004	0.016	0.790
Suburban School	0.002	0.017	0.864
Rural School	0.002	0.015	0.897
School SES	-0.003	0.0109	0.798
For Minority Status			
School Size	-0.001	0.005	0.821
Percent Minority	0.002	0.004	0.710
School Sector	0.006	0.015	0.661
Orientations	-0.007	0.011	0.537
PTA/PTO Meetings	-0.006	0.019	0.740
News Sent Home	0.057	0.052	0.267
Parent Support	0.010	0.017	0.563
Family Outreach	-0.018	0.030	0.531
Urban School	-0.025	0.015	0.086
Suburban School	-0.013	0.014	0.353
Rural School	0.005	0.015	0.726
School SES	-0.004	0.011	0.727

Although no significant main effects were found, several significant interactions were found among the Level 1 and Level 2 units. Specifically, parents' SES slope was found to have a significant and positive relationship with a schools' minority percentage ( $\gamma = 0.005, p = 0.012$ ). This result indicates that in schools with higher percentages of minorities, SES has a greater impact on parents' home educational involvement. Similarly, parents' SES slope was also found to be positively related to school sector ( $\gamma = 0.01, p = 0.054$ ). This relationship indicates that parent SES had a stronger relationship with parent home educational involvement in private

schools. Finally, single parent slope was positively related to school percentage of minority ( $\gamma = 0.007, p = 0.025$ ) indicating that in schools with high percentages of minorities, being a single parent resulted in greater differences in educational involvement at home. In this model, a small reduction in the school means occurred once Level 2 variables were entered. Calculating the  $\Delta r^2$  reveals that .2% of the between school variance in parent involvement in schools is explained by Level 2 variables.

$$\frac{\tau_{PCM} - \tau_{FCM}}{\tau_{PCM}} = \frac{0.02 - 0.02}{0.022} = .001 \quad (9)$$

## **Chapter V: Discussion**

The following chapter is a discussion and interpretation of the results of the present study. First, the potential explanations for each of the findings are offered, followed by an integration of the results with the supporting literature. Next, implications for schools are reviewed, followed by a discussion of the current study's limitations. Finally, I will identify directions for future research.

### **Summary and Integration of Results**

The purpose of this study was to examine the influence of school policies and practices on parent involvement in their children's schooling in schools across the United States. This study was a secondary analysis using the Early Childhood Longitudinal Study, Kindergarten class (ECLS-K) of 1998-1999 (National Center for Educational Statistics, 2001) to investigate the factors which predict parental involvement at the elementary level. Use of a large, nationally representative, dataset allowed for a multi-level analysis of the impact of these policies and practices, as well as an examination of the impact on levels of parental involvement when controlling for individual family and child characteristics.

**Parent involvement in schools.** The analysis did not provide support for the first hypothesis, which stated that schools with high scores on the measures of family outreach will have more parent involvement in schools. The relationship between parent involvement in schools and the amount of family outreach, frequency of news sent home, and frequency of PTA/PTO meetings was not significant, even after controlling for individual family characteristics at the Level 1, and school demographic characteristics at the Level 2. This result is not well-aligned with the results of Epstein's early studies of parents, teachers, and students that showed when schools reached out with responsive activities, more parents became involved



(Epstein, 1987). The measures of family outreach in the current study only addressed the frequency of these efforts. More detailed information about how these outreach efforts were executed could have been helpful in understanding why the relationship with parent involvement was not significant. Literature on Epstein's six types of family involvement emphasizes the importance of creating partnership opportunities for all parents, not only those who are easy to involve. In practice, this may mean that information and news should be sent home to parents, not merely posted in the school building for parents to read. The information should be made available in a parent's primary language and should be written in a way that parents with a variety of educational backgrounds can understand. Meetings should be scheduled at a variety of times, so that working and single parents may also have the opportunity to attend, and volunteer programs should offer a variety of opportunities that can make use of a wide range of parents' talents and skills (Epstein, 2001). Although many schools make outreach efforts like those examined in this study, many do so in a way that may hinder the participation of some parents.

The second hypothesis, schools that implement supportive parent programming will have parents who report a higher level of involvement was also not supported in this particular study. The relationship between the measure of parent involvement in schools and the measure of parent support and offering parent orientation programs was not significant, even after controlling for Level 1 parent background characteristics and school demographics at the Level 2. This result is inconsistent with research on community schools (Dryfoos, 2003), which found that schools with more integrated and coordinated services experienced an increase in parent attendance at parent teacher conferences. The definition of community schools is far more comprehensive than what is measured in the present study. Perhaps other elements in the community school model are responsible for the significant increase in involvement behaviors.

**Home educational involvement.** There were no significant results related to the third hypothesis which stated, schools with high scores on the measures of family outreach will have more parents who report higher levels of educational involvement in the home. The relationship between the parents' home educational involvement and family outreach, frequency of news sent home, and frequency of PTA/PTO meetings was not significant, even after controlling for individual family characteristics at the Level 1 and school demographic characteristics at the Level 2.

The fourth and final hypothesis was also not supported in the present study. Measures of a school's parent support efforts were not found to significantly affect parents' report of the amounts of educational involvement in the home. The relationship between the measure of parents' home educational involvement and the measure of parent support and offering parent orientation programs was not significant, even after controlling for Level 1 parent background characteristics and school demographics at the Level 2. This result is also inconsistent with studies of community schools, where community services are linked and coordinated with the school district. At least one study of community schools found that following implementation of this model, parents reported an increase in educationally supportive behaviors for their children in the home, such as monitoring of homework, initiating discussions about school, and teaching skills in the home environment (Community Schools Research Brief, 2009).

**Influence of parent background characteristics on parent involvement.** Significant relationships were found between parent background characteristics and both types of parent involvement. Specifically, parent SES was found to be associated with parent involvement in schools and home educational involvement. This result is consistent with Griffith's (1998) study which found that high family SES was strongly associated with greater involvement in school.

Also, a similar relationship was confirmed by Grolnick and colleague's 1998 investigation, which found that high SES parents initiated more cognitively stimulating activities in the home with their children.

Parents' minority status was positively associated with parent involvement in schools and home educational involvement, meaning that non-minority (white) parents reported more involvement in schools and in their child's schooling at home. These findings are supportive of Kim's (2009) conceptualization of the barriers experienced by minority parents when attempting to involve themselves in their child's education.

This study produced some notable findings with regard to single parents. The relationship between parent involvement in schools and single parent status was negative, meaning that single parents demonstrated significantly less involvement in schools than married parents. On the other hand, the relationship between single parent status and home educational involvement was non-significant, indicating that single parents and married parents demonstrated no differences in their support for learning and education in the home. These findings are supported by various investigations, which have determined two-parent families to be more involved in schools than one-parent families. Single parents, especially single working parents, may experience more difficulties or barriers to implementing involvement in school due to their limited time and energy resources. This finding is important given that educators have been found to rate parents as being less involved in supporting their child's education, and single parents report experiencing more pressure from teachers to be involved in learning activities at home (Epstein & Becker, 1982). Perhaps because single parents are less visible in the school building, educators develop misconceptions about their willingness to be involved in their children's schooling.

A similar pattern emerged for parents who were not fluent speakers of the English language. Parents' English language proficiency was negatively associated with parent involvement in the schools. However, there were no differences in the home educational involvement of English and non-English speakers. This finding is consistent with Turney and Kao's (2009) examination of the barriers to school involvement among immigrant parents where time spent in the U.S. and English language ability were positively associated with involvement in schools. Their study, which also used data from the ECLS-K found that minority immigrant parents, compared with native-born parents, reported more barriers to participation in school functions and activities. The present study extends these findings; however, to conclude that parent's with low English language abilities are equally involved in their child's education at home as their English speaking counterparts.

**Interactions of school variables with parent variables.** This study provided a unique perspective on parent involvement in schools and home through its examination of the interactions among parent-level and school-level variables.

SES has the greatest impact on parent involvement in schools and home educational involvement in schools with a higher percentage of minorities. The presence of such an interaction means that the magnitude of the SES effect on parents was dependent upon the percentage of minorities within the school. According to data from the U.S. Department of Education, 2001, schools, regardless of minority enrollment reported having school events, but parents whose children attended schools with high minority enrollment were less likely to report knowing of these events. It is possible that low SES parents in schools with high minority enrollment are even more removed from communications and are not always aware of the school's efforts garner their participation.

Parent SES has a greater impact on involvement in rural schools. Parents of children in rural schools were less likely to report involvement in schools. It may be that rural schools engage in different involvement practices than urban and suburban schools. Rural schools have reported providing more home visits than schools from other geographic areas (Epstein, 1982). These results may be due to the distances that some parents are required to travel in order to reach school buildings in rural areas. Unreliable forms of transportation may be a greater barrier for low SES parents in rural areas.

Parent SES had a stronger relationship with parent home educational involvement in private schools. However, parent SES has a stronger relationship with parent involvement public schools. For public schools, high SES parents may feel more of an obligation to attend school events and meetings, while low SES parents may feel intimidated by these invitations. For private schools, high SES parents appear to initiate more educationally related activities at home, while low SES families did not engage in as many of these activities.

For schools with greater variation in overall school SES, individual parent SES had a greater impact on parent involvement in schools. The presence of these interactions means that the magnitude of the SES effect on parents was dependent upon the overall SES of the school.

At first glance, the results of this study appear to be in direct conflict with the preponderance of the evidence in the parent involvement field, as well as the theoretical frameworks and philosophies of its leading researchers. It was expected that school policies and practices would have an impact on parent's involvement in schools and in education at home, but this was not the case. Moreover, individual characteristics of parents and school demographics had a greater impact on involvement than the schools efforts to outreach and support parents. While it may be tempting to dismiss the results of this study on basis of its limitations, the

contrast between the present findings and previous research is worthy of discussion and may have important implications for practice and further research.

The majority of researchers have presented findings from one of two perspectives. Either school involvement is more affected by parent demographic characteristics or by some contextual factor associated with the school environment. This study is valuable because it is one of the few that allows for the examination of the combined influence of these factors. Hierarchical linear modeling analysis is arguably a more appropriate and useful approach for the examination of contextual effects, especially in school environments (Lee, 2000). Researchers may have overemphasized findings about power of school practices to transcend the barriers experienced by parents from marginalized groups, especially in schools where these parents represent the majority. Because this study included fairly standard policies and practices intended to engage parents, it provides evidence that school personnel may need to think more creatively in order to achieve the desired outcomes. The results of this study not only warrant further research, but have several practical and methodological implications.

### **Implications**

The findings of the current study have important implications for education policy and efforts to improve parent involvement levels in schools. The school policies and practices examined in this particular study were not found to increase parent involvement levels in the school and home environments. The practices examined in this study are largely used in schools across the US; however, they were not found to have a significant effect on parent involvement in schools or home educational involvement. These findings imply that schools should consider moving beyond the traditional methods and means of involving families. This idea is supported by the fact that significant changes in parent involvement has occurred in schools with

comprehensive parent involvement programs and community schools. The parent involvement programs which produced favorable results often employed very specific and on-going practices to engage parents. The Follow Through program, for instance, included parent involvement on parent advisory committees for school-based decision making (Olmstead, 1991). The Family Matters program included a focus on creating social networks among low income parents, perhaps decreasing isolation from school networks. Moreover, this program required home visits with parents to build skills and confidence in working with their child's teacher and concurrently educated teachers to empathize with parents and recognize their strengths (Cochran & Dean, 1991). The specific components of these programs may have increased parent efficacy and reduced teacher's stereotyped judgments of low-income families. Community schools, which were also associated with more favorable outcomes for parents, also included an array of comprehensive services. The definition of a community school also emphasized the extended hours of the school building, allowing a larger range of parents to be involved around work schedules (Dryfoos, 2003).

This study provided more evidence of lower involvement levels among minority, low SES, single, and non-English speaking parents. However, the contrast between involvement in schools and home educational involvement provided more information about what these parents may be experiencing. Single and non-English speaking parents were found to be just as involved in the home environment as their counterparts, but were less involved in schools. Thus, these parents may be encountering barriers to becoming involved in school events, meetings, and volunteer opportunities. Schools should focus on reducing these barriers by offering parent events and meetings at times that are accessible to working parents, communicating in a parent's

native language, and providing information which is easily understood by diverse groups of parents with a range of educational backgrounds.

As recent educational reform initiatives at the state and federal level have required schools to raise academic expectations, the field of educational research has experienced a surge of investigations in school effectiveness. Educational researchers are interested in identifying the characteristics of schools which lead to favorable outcomes, especially for disadvantaged populations. This study used hierarchical linear modeling procedures, which has been argued to be the most appropriate approach for studies of this nature (Lee, 2000). Therefore, the fact that the findings differed from prior research on this topic raises concerns about the validity of many past studies of parent involvement. These findings illustrate the importance of using appropriate methodologies to analyze multi-level data.

### **Limitations**

It is important to note the limitations of this study. This study used correlation data, not randomized design. The strongest test of school policies and practices related to parent involvement would come from a randomized intervention design in which students and their parents were assigned to various combinations of parent involvement interventions or a control group. Such a design would allow researchers to determine whether school-level involvement practices truly have an impact on parents, and whether the same practices are equally effective for families from diverse socioeconomic or cultural backgrounds.

Secondary data analysis using a public dataset is both a strength and limitation of this study. The ECLS-K data is nationally representative, easily accessible, and utilizes multiple informants; however, users are unable to design measures, choose questions, or control the way in which questions are asked of participants. For example, the parent involvement in schools



questions asked parents to endorse *no* or *yes* to indicate whether they had participated in any of the activities (i.e., attended a school event, attended a PTA meeting or parent-teacher conference) within the last school year. However, information about the frequency in which parents participated in these activities would have been more useful and may have resulted in more variation in the parent involvement in schools scores. In addition, it would have been useful if the parent involvement in schools questions more closely reflected the parent support and family outreach measures from the school administrator's questionnaire. Knowing if parents took advantage of the opportunities offered by the schools could have provided useful information with many practical implications.

The questions about school policies and practices regarding parent involvement in the ECLS-K are well-aligned with the six types of involvement identified in Epstein's overlapping spheres of influence model, which is the theoretical framework for this study. In presenting this framework, Epstein explained "each type of involvement may be operationalized by hundreds of practices that schools may choose to develop their programs" (Epstein, 2001, p 43). The ECLS-K measures tap a very small number of these practices, leaving many possibilities for many unmeasured school-level policies and programs that could have a significant effect on parent involvement. For example, Type 3-volunteering, calls for the improvement of recruitment, training, and times to involve families as volunteers, whereas the questions in the ECLS-K only measure if the opportunity to volunteer was made available. Similarly, Type 5-decision making, demands that schools allow parents to take an active role in decision-making and school governance, whereas the ECLS-K questions ask only about the frequency of PTA meetings. From this perspective, the school policy and practice measures included in this study are certainly not exhaustive.

Many variables that were identified in literature as predictors of parent involvement were not included in these models. It is possible that several unmeasured variables would have resulted in significant results at the school level. Hoover-Dempsey's theoretical model, for example, includes the importance of efficacy on the part of the parent and the teacher as a predictor of parent involvement in home and school settings. Several have demonstrated that role construction predicted parents' home and school-based involvement behaviors (Chrispeels & Gonzalez, 2004; Grolnick, 1997; Sheldon, 2002). Since measures of school climate and teacher efficacy are included in the ECLS-K dataset, there are many opportunities for future research to address these limitations.

### **Future Directions**

It is necessary to continue to examine the effects of school-level characteristics on parent involvement in schools and home educational involvement. Future work should further explore variations in parent involvement by parent demographic characteristics and how these differences are moderated by school contextual factors. Given the significant findings with regard to parent involvement as a function of school-level demographic characteristics, future research should also focus on mediating variables at the school-level. Given the wealth of data available in the ECLS-K dataset, there are many available options for the expansion of the present study.

Adding additional school-level variables to this model might explain a greater amount of the variance. Given that parent involvement has been found to be related to school climate through its effect on parent satisfaction (Griffith, 1996), measures of school climate might be added the present model. The ECLS-K contains measures of school climate from the perspective of teachers, parents, and administrators.

The ECLS-K Parent Interview also contains a number of questions pertaining to the barriers to becoming involved that parents may experience (i.e., *inconvenient meeting times, lack of child care, school does not make your family feel welcome, problems because meetings are only conducted in English*). Understanding the barriers to becoming involved experienced by parents may also explain the relationship between involvement and demographic characteristics. Knowing if schools offer events at a variety of times to fit working parents' schedules, and/or offer child care for events, such as parent education classes, could mean the difference between working parents being able to participate. Similarly, parents who are not proficient in the English language may find significant barriers to becoming involved in schools if information is not provided in their native language. Understanding these barriers could effectively explain why single parents and parents with limited English language proficiency were less involved in schools, but were found to be equally involved as their counterparts in home education.

Adding a third level to this model could explain a greater amount of the variance in parent involvement in schools and home educational involvement. Given that the ECLS-K contains information from teachers, and that the behaviors, attitudes, and personal characteristics of teachers have been shown to have a strong influence on parent involvement, a third classroom level could easily add valuable information to the present study. Teacher characteristics, such as race and level of education could be added, further testing the finding that teachers who differ culturally from their students are less likely to know their parents, causing teachers to make more stereotyped judgments (Epstein, 1987).

Although there is limited information included in the ECLS-K dataset about the specific strategies teachers use to encourage parent involvement, there is reason to believe that this information may be included in future versions of this study. Data collection for the ECLS-

K:2011 began in the fall of 2010, and according to their website, the commissioners of this study hope to gather more information about levels of parent involvement nationwide (U.S. Department of Education, National Center for Education Statistics, 2011). One of the major research questions listed on the ECLS-K 2011 website reads: Do teacher practices to involve parents relate to higher levels of parent involvement? Using this new data in conjunction with the design of the present study, researchers could examine the Hoover-Dempsey model (1995, 1997) of parent involvement in education, more variance could be explained by examining specific teacher invitations aimed at involving parents (Anderson & Minke, 2007). In addition, a number of studies suggest that parent involvement is teacher communications increase many forms of parent involvement (Epstein, 1990; Watkins, 2001). Should the ECLS-K 2011 include measures of the frequency and type of teacher communications, this variable could be added at the classroom level.

**Conclusion:**

The results of this study show the importance of conceptualizing parent involvement in their children's schooling as a multi-dimensional construct. It seems that parents exhibit different patterns of behavior with regard to involvement with education at home and parent involvement in schools. Moreover, the study demonstrated the benefit of applying a multi-level analysis to study how the characteristics of the structure and organization of a schools influence the behaviors of parents. Understanding these school effects may help educators design and more effective interventions for their unique school environment.

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