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Impact of Participation in a Community Based, Even Start Literacy Program on School Achievement and Parent Involvement for English Language Learners (ELL)

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Philadelphia College of Osteopathic Medicine

Department of Psychology

IMPACT OF PARTICIPATION IN A COMMUNITY BASED, EVEN START
LITERACY PROGRAM ON SCHOOL ACHIEVEMENT AND PARENT
INVOLVEMENT FOR ENGLISH LANGUAGE LEARNERS (ELL)

By Elvira Isabel Zuazo-Legido

Submitted in Partial Fulfillment of the Requirements of the Degree of

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DEPARTMENT OF PSYCHOLOGY**

Dissertation Approval

This is to certify that the thesis presented to us by *Eliana I. Zurro-Leside*
on the 15th day of *February*, 2008, in partial fulfillment of the
requirements for the degree of Doctor of Psychology, has been examined and is
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ABSTRACT

The family literacy model underlying the national Even Start Family Literacy Program has not fared well in large-scale evaluation studies, with outcomes showing minimal or no positive impact on later school achievement. However, the results of these studies have not been replicated in smaller studies, which hold the possibility of yielding richer and possibly more valid data using appropriate research design, methods, and techniques. The aim of this study was to investigate the effect of an Even Start Family Literacy Program on the academic progress of a homogeneous group of ELL (English Language Learners) Hispanic immigrant elementary school-age children. Twenty-nine students were included in the study group (ACLAMO) and 33 in a control group that did not attend the program. The research was quasi-experimental, retrospective, and longitudinal. Demographic variables were surveyed. Parent literacy and involvement data were collected. Comprehensive language, reading, mathematics, and social emotional performance results were gathered from school records from kindergarten to fourth grade. Statistical analysis for group differences used Fisher's exact test for comparison of frequency distribution of categorical variables and independent t test for means comparison of numerical variables. Also, the Pearson correlation coefficient between parent literacy or involvement variables and academic performance data was calculated. Significance was set at $p < .05$ (two-tailed). The results of the study showed that students enrolled in the Even Start Family Literacy Program performed statistically significantly better in mathematics and language across grades, whereas the effect on

reading was less significant. Overall, parent literacy and involvement variables correlated positively with selected language, reading, and mathematics performance variables, and negatively with social emotional behaviors. In summary, the current study showed that in a population of at risk Hispanic elementary school-age children, involvement in an Even Start Family Literacy Program, like ACLAMO, improves academic achievement.

Educational and social interaction between parents and children and dual exposure to English and Spanish seem to be two important causal factors. The results support the hypothesis that educational interventions could induce positive changes in neuronal networks related to cognition.

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“Yo no les puedo dejar a mis hijos ni riquezas ni propiedades, pero sí les puedo dar una buena educación...”

“I can't leave my kids riches or property, but I can give them a good education...”

An ACLAMO Mother

CHAPTER 1

Introduction

At the turn of the millennium, the United States had the largest number of immigrants in history. More than 13 million immigrants entered the United States during the 1990s, which is an increase from 10 million in the 1980s and 7 million in the 1970s. Data from 2000 through 2003 suggest that 14 million more immigrants will enter the country in the decade from 2000 to 2009. In addition, the foreign-born share of the total U.S. population has risen dramatically, from 5% in 1970 to more than 12% in 2003. By the year 2000, the “foreign-stock” (foreign born plus the U.S. born second generation) population of the United States reached nearly 55 million people (Portes & Rumbaut, 2001). Two central features characterize the most recent post-1965 wave of immigration: (1) its intensity---the immigrant population grew by over 30 percent in the 1990s and (2) the radical shift in the sources of new immigration---prior to 1965, the vast majority of immigrants were Europeans or Canadians, while today over 50% of all immigrants are from Latin America and over 25 percent are from Asia (Suárez-Orozco, 2001a).

Today, immigrants are a highly heterogeneous population that defies easy generalizations. The immigrant population is similar to the U.S. population in that it includes people with varying degrees of education, from those with less than 8 years of formal education to those with postdoctoral degrees (Suárez-Orozco, 2001). According to Carmona (1996), the educational level of immigrants today is higher than those of the past and this continues to improve. These immigrants come with a goal to survive and succeed. Immigrants now, especially those from Asia, are among the best educated and

most skilled in the United States, and they are overrepresented in the category of people with doctoral level education. Despite the increase in the education of immigrants, there remain large numbers of poorly schooled, semiskilled, or unskilled workers, many of whom are living in the United States without proper documentation. In 2000, over 22% of all new immigrants in the United States had less than a ninth-grade education (Collins & Ribeiro, 2004).

As a result of rapid recent immigration, children of immigrant parents represent a large and rising share of youth. According to the U.S. Bureau of Census, roughly one in five young children in the United States is the child of an immigrant, with one in four low-income children (children living in families with incomes below 200% of the federal poverty level) is the child of an immigrant. Children of immigrants are the fastest growing segment of the nation's youth population (Hernández, 1999) and by the year 2020, it is estimated that almost 30% of all children in the United States will have at least one foreign-born parent.

The number of children of immigrants under 6 years of age grew by 60% nationally, from 3 million to 4.7 million between 1980 and 2000. Children of immigrants under the age of 6 years are becoming a larger share of the child population (22%) when compared to the population of children ages 6 to 17 (20%). Ninety-three percent of young children of immigrants are second-generation immigrant-children, born in the United States to foreign-born parents. Consequently, nearly all young children of immigrants are U.S. citizens. The majority of young children of immigrants live in mixed-status families (at least one sibling or parent is not a U.S. citizen), with 81%

having a noncitizen parent and 26% having an undocumented parent (Matthews & Ewen, 2006).

Hispanics are the largest and fastest growing racial/ethnic minority in the United States. From July 2000 to July 2003, the number of Hispanics increased by 4.6 million to 39.9 million, exceeding African Americans (who numbered 38.7 million) as the largest minority community (U.S. Census Bureau, 2004). Hispanics accounted for about one half of the net population growth of 9.4 million over such period of time and represented more than one out of eight of the 290.8 million people in the nation. These trends are accounted for by immigration and by the large proportion of Hispanics of childbearing age.

The educational gap between Hispanics and non-Hispanic Whites is evident in many key areas, such as family literacy, reading, grade retention, suspensions and expulsions, dropout rates, and higher education (Collins & Ribeiro, 2004). There is ample evidence concerning the educational gap between Hispanics and non-Hispanic Whites; similarly, in many key areas Hispanics continue to perform behind African Americans (Child Care Bureau, 2004). In a recent comprehensive study, the National Center for Education Statistics (NCES) examined the trends in the education of Hispanics. They noted disparities in education, spanning early childhood, elementary, and secondary levels, as well as in higher education. Hispanic children rank lowest in reading achievement and continue to have the highest dropout rates of any minority group (National Assessment of Educational Progress NAEP, 2000).

A crucial step toward the successful educational adaptation of immigrant children and children of immigrants is the attainment of school knowledge and skills, which future

labor markets may capitalize on. In the United States, public education is readily available and it serves as a key component in immigrant aspirations (Ogbu, 1982). The importance of education to future success is a concept that is well within the awareness of immigrant parents and their children (Suárez-Orozco & Suárez-Orozco, 2001).

One aspect of education is parent involvement in school and at home in school-related activities, which has been identified as one of several factors with the potential to promote students' academic success (Moreno, 1999). However, Hispanic immigrant parents confront many barriers in dealing with schools, such as language barriers, low levels of literacy, and the need to shift their understanding of their role in the school. This shift is often challenging when placed in the context of what is culturally acceptable and appropriate and what is logistically feasible given the parents' resources.

While the aforementioned factors are of importance in the education of immigrant children, current research on educational aspects of immigrant children and children of immigrants is scant, as most research has focused on immigrant adults (Fuligni & Yoshikawa, 2003). Clearly, there is a need for further investigation in this field.

In response, this study offers an analysis of factors to understand this population better and to identify those that may contribute to academic success with the help from their parents. Specific aims are the answers to the following questions:

1. Do low income, ELL (English Language Learners) Hispanic immigrant children in elementary school who participated in a family literacy program do better in school achievement (e.g., reading, language, math, and behavior) than matched control group elementary school children?

2. Does being in a family literacy program contribute to current academic gains above and beyond whatever risk or protective factors families have experienced?
3. Does the amount of participation in a family literacy program itself (i.e., instructional services received) affect the amount of gains in current children's outcomes?

Literature Review

Although Hispanics are widely dispersed throughout the nation, the vast majority live in a few states. The 2000 Census results show that 82% of Hispanics reside in 10 states: Arizona, California, Colorado, Florida, Georgia, Illinois, New Jersey, New Mexico, New York, and Texas (U.S. Census Bureau, 2000). Subsequently, immigrant youth are distributed across the nation and they receive their education in diverse school systems. For instance, today nearly 40% of all school children enrolled in Dodge City, Kansas, come from immigrant backgrounds (Suárez-Orozco & Suárez-Orozco, 2001). This represents one of the greatest challenges faced by educators today--the preparation of immigrant children for school. The national educational goal is that all children will enter school ready to learn. This represents a particular challenge, given that more young children than ever before, approximately one in four, live in poverty (U.S. Census, 2000).

Collins and Ribeiro (2004) identified four primary factors that may influence early care and educational needs of Hispanic children and families. First, workforce issues and the ensuing demand for childcare to support working parents, including those moving off welfare, may have a considerable impact. Hispanic families are confronted with the same challenges in finding high-quality childcare as non-Hispanic families with comparable socioeconomic characteristics (e.g., high incidence of poverty, low wage

jobs, and jobs with inflexible work schedules and nontraditional hours, including nights and weekends) and family composition (e.g., large number of children, especially between the ages of birth to 5). In addition, these families struggle to find child care that is linguistically and culturally compatible. Consequently, Hispanics tend to prefer informal childcare arrangements (including family, friend, and neighbor care) in contrast to organized care, such as child care centers, nurseries or preschools, federal Head Start programs, and kindergarten or other schools. Yet the apparent reluctance for Hispanic parents to place their children in center-based care may also be based on the available choices of child care arrangements in their neighborhoods.

The second factor grows out of the convergence of immigration, workforce status, and the economic hardships faced by immigrant families and their children (Collins & Ribiero, 2004). The National Center for Children in Poverty found that one in four poor children has at least one foreign-born parent, and approximately two thirds of first-generation poor children are Hispanics who live in poverty (nearly 45%). This poses a major challenge for the overwhelming majority of Hispanic immigrants. Hispanics represent a major component of the labor force of the future at a time when the baby boom generation is reaching retirement. However, they are underserved by child care and other early education programs, with a definite need for services stemming from high levels of workforce participation, prevalence of poverty, educational deprivation, and a prevalence of English language learners.

The third factor is related to the educational challenges that have faced Hispanics throughout their life, as well as those that currently confront them, specifically in areas of family literacy, reading, grade retention, suspensions and expulsions, dropout rate, and

higher education (Collins & Ribeiro, 2004). Trends in the education of Hispanics spell out the disparities spanning early childhood, elementary education, and higher education. Each of these is explained in more detail under the Educational Challenges section, below.

The fourth factor involves the difficulties that occur for English language learners whose native or dominant language is other than English (Collins and Ribeiro, 2004). Those children not able to speak in English entering kindergarten will be more at risk for academic failure and school dropout. English language fluency serves as a strong predictor of later school performance. However, a growing body of evidence suggests that preschool Hispanic children are more likely to become fluent and to acquire literacy skills in English if they have a strong foundation in their home language (Espinosa, 2003).

Socioeconomic Status

Research has identified specific socioeconomic factors that are related to lower levels of school readiness prior to kindergarten, as well as to lower academic achievement from kindergarten through grade 12 (Mathews & Ewen, 2006). These factors include living in poverty, having a mother with less than a high school education, living in single-parent families, and not having English as the primary language spoken in the home. Overall, children in families below 200% of poverty are less likely to participate in early educational programs compared to children in higher-income families. Similarly, parents with fewer years of formal education are less likely to enroll their children in early education programs.

One of the most powerful predictors of educational attainment is family socioeconomic status (SES), which contributes directly and indirectly through its effects on intervening variables like hours spent on homework and children's aspirations (Eccles, 1993). Davis-Kean's (2005) study examined the process of how socioeconomic status, especially parents' education and income, indirectly relates to children's academic achievement through parents' beliefs and behaviors. The study demonstrated that parents' educational expectations predicted the amount of parent-child involvement in play activities, yet actual play activities were not related to achievement. A possible reason for this is that the children in the study ranged from 8 to 12 years old and at this age, play tends to be more closely related to the relationship between parent and child compared to achievement related activities.

Coleman and his colleagues (1966), in a historical study, found that parental socioeconomic status has a greater effect on a child's school achievement than any other variable. In addition, poverty has been consistently identified as a variable having a notable influence on school performance (Hanson & Lynch, 1992). Similarly, Huang and Gibbs (1992) demonstrated that social class has a significant influence on variables that influence physical and psychological growth and development, including educational attainment, occupational aspirations, lifestyles, selection of friends, activities, and social roles.

Sirin's (2005) meta-analysis reviewed the literature on socioeconomic status (SES) and academic achievement in journal articles published between 1990 and 2000. Socioeconomic status was found not only directly linked to academic achievement but also indirectly linked to it through multiple interacting systems, including students' racial

and ethnic background, grade level, and school/neighborhood location (Lerner, 1991). For example, the location of a child's neighborhood and school is based upon the family's SES, which is directly related to the types of home resources and supportive relations, such as parent-school collaborations, that promote the sharing of societal norms and values that are necessary for success in school (Coleman, 1988).

Similarly, the effect of social and economic circumstances on academic achievement may also vary by student's grade level (Lerner, 1991). However, prior studies are mixed about the effect of grade or age on the relation between SES and academic achievement. White's (1982) review revealed that as students become older, the correlation between SES and school achievement diminishes. One possible explanation for the diminishing SES effect on academic achievement is that schools provide equalizing experiences, so that the longer the kids stay in the schooling process, the less the impact of family SES on academic achievement. A possible second explanation is that more students from lower SES backgrounds drop out of school, therefore reducing the magnitude of the correlation. However, results from longitudinal studies have contradicted White's results by demonstrating that the gap between low and high SES students is most likely to remain the same as students become older (Duncan et al., 1998).

Research indicates three main factors which account for the reason why minority students lag behind White peers in terms of academic achievement. Minorities are more likely to live in low-income households or in single-parent families, their parents are likely to have less education, and they often attend underfunded schools. Each of these

factors is components of SES and linked to academic achievement (National Commission on Children, 1991).

Lastly, the location of schools is closely related to the social and economic conditions of students. The U.S. Department of Education (1996) did a narrative review of research on school location and demonstrated that even after accounting for family SES, there appears to be a number of significant differences between urban, rural, and suburban schools. The achievement of children in affluent suburban schools was significantly and consistently higher than that of children in “disadvantaged” urban schools (U.S. Department of Education, 2000).

Parent Literacy and Involvement

Additional research has identified parental participation as a more important factor in children’s school progress than parents’ level of education, their occupation, or SES (Snodgrass, 1991). Parents can be either helpful or counterproductive to the development of the skills and attitudes that facilitate children’s academic experiences. *La familia* (the family) is a fundamental aspect of Hispanic life, as Hispanics benefit from high levels of family support, networking, and cohesion. This aspect has an important influence, as research has found that “familialism” may improve physical and mental health as well as educational outcomes, which potentially offsets the risk contributed by poverty (Garcia & Gonzalez, 2006).

Given the complexity of educating children, educators cannot prepare children for school without the help of the parents and families. Parental involvement is cited in a number of educational policies and research studies as being fundamental to academic

success (see NAEP, 2004; No Child Left Behind, 2002). While research has shown that parents can make a difference in their children's education, this is dependent on the parents' background and their experiences and familiarity with the school system. Some parents may feel welcomed while others may feel threatened by the school system (Hanson, 1992). For example, many families from Hispanic backgrounds typically view the school system as entirely capable of handling any and all situations with their children, and they generally do not interfere with schooling even for positive or innocuous reasons (Ortiz & Flannagan, 2002). Schools and teachers are seen as having absolute authority, and in many Latin American cultures, it is considered rude for a parent to intrude into the life of the school. Parents believe it is the school's job to educate and the parents' job to nurture and that the two jobs do not mix (Espinosa, 1995).

For some immigrant parents, second-guessing a teacher's decisions and behaviors may feel presumptuous. Furthermore, these beliefs tend to be compounded by the fact that immigrants see themselves as social outsiders, which results in feeling less secure about questioning the judgment of school authorities (Suárez-Orozco & Suárez-Orozco, 2001). However, there is evidence that low-income minority parents are quite willing to be involved in their children's education, though they lack the knowledge of ways to be involved at home and at school (Chaukin, 1989).

The dimensions of parental involvement in child education for immigrant parents with limited English proficiency prove highly challenging when focusing on expectations normally set by schools in the United States. The countries of origin often are markedly different from the United States in terms of education, social, and political systems. Parents' lack of knowledge about American society and its customs add to their

reservation and confusion regarding their children's education. They are unfamiliar with how the schools work in the United States and, consequently, critical discrepancies between home and school cultures are likely to develop. Many immigrant parents may hold several part-time jobs, which leads to limited time to be able to participate in school activities. When they attempt to do so, there are issues of affordable child care or transportation that must be overcome. In addition, overcoming the language barrier generally remains one of the biggest obstacles. It is not surprising to understand why the development of increased parent involvement for this specific group of parents may require extra attention and resources (Yao, 1988).

Findings from educational reform research in recent years have made parent involvement a more widely accepted recognition as one of the various essential factors that contribute to the improvement of the quality of schools (Rioux & Berla, 1993). The concept of parent involvement in schools is not new and has existed in the American school system since the early 1800s in different forms, parameters, and foci.

In spite of its intuitive meaning, the operational definitions of parental involvement have not been clear and consistent. Parental involvement has been operationally defined as parental aspirations for their children's academic achievement (Castellanos, 1985), parents' communication with their children about education and school matters (Carmona, 1996), parent's participation in school activities (Stevenson & Baker, 1987), parents' communication with teachers about their children (Epstein, 1991), and parental supervision at home. Consequently, these inconsistencies in defining the construct make it difficult to synthesize the research studies and may have contributed to differing findings in this area.

Parent involvement cannot be conceived as a unitary phenomenon (Epstein, 1990), and therefore, a broad and multidimensional perspective is needed to include emotional and personal aspects in addition to school-like activities. Thus, Grolnick and Slowiaczek (1994) defined parental involvement as the dedication of resources by the parent to a child in a given domain. They described three types of involvement in children's schooling: behavior, cognitive-intellectual, and personal. The parent's behavior entails participation in activities at school (e.g., attending teacher-parent conferences and school activities) and at home (e.g. helping with homework, asking about school). Cognitive-intellectual involvement includes exposing the child to intellectually stimulating activities, such as going to the library and talking about current events. The third category, personal involvement, is knowing about and keeping abreast of what is going on with the child in school.

In a study of sixth and eighth graders, Grolnick and Slowiaczek (1994) found that the three dimensions were relatively independent and were associated with children's motivational resources and school performance. They found that mothers who were high in behavioral and cognitive involvement had children who felt more competent in school and more in control of school outcomes than those who were less involved. In turn, these motivational resources predicted school grades.

Women have been identified as an important target group for literacy because their education is seen as important for the well-being of the family, especially the children (Puchner, 1995). Women are generally the ones that help their children in their educational tasks and to include them in programs would be an effective step towards their success.

Anzieu (1976) suggests that the mother's voice provides a "sonorous wrapping" which surrounds the child from the beginning of life just like skin and keeps his insides intact.

Escobar (2004) implemented a study to determine the outcome of parental involvement on oral language development. Parental training was implemented prior to the treatment. Parents were to provide their children with oral language intervention for 15 to 20 minutes, three times a week. Children's oral language development was determined using the Language Accomplishment Profile-Diagnostic (LAP-D) assessment. Results from the LAP-D were taken into account for the purpose of comparison and indicate that parental involvement affected oral language development positively in the subjects who received the treatment.

In a study conducted in low-income neighborhoods in Chicago, Illinois, 93 mothers who were first-generation immigrants from Mexico were interviewed regarding social support, parental self-efficacy, parenting practices, and children's socioemotional adjustment. All the mothers were enrolled in FLAME, a program designed to help parents' promote their children's literacy. The results suggested that, for Mexican immigrant families, social support relates to parenting practices, partially because those with greater social support feel more efficacious as parents. Findings also demonstrated that parents who showed warmth or control were associated with greater socioemotional adjustment among children. Interestingly, this research supports the idea that, for programs designed to influence parenting practices, simply providing social support may be less important than taking steps to enhance parental self-efficacy (Izzo, Weiss, Shanahan, & Rodriguez-Brown, 2000).

Bruce and Fox (1990) suggested that involvement exists at two levels, accessibility and engagement. Accessibility refers to parents' available time with children. Specifically, this refers to time parents spend in the home, whether that time is doing separate or shared activities. Engagement involves those activities that include direct interaction between parents and children, such as recreational (e.g., playing games, going on outings, etc.), domestic (e.g., performing chores, doing home projects, etc.), or personal, (e.g., talks about school or personal matters).

There is considerable evidence that parent involvement leads to improved student achievement, better school attendance, and reduced dropout rates. Moreover, these improvements occur regardless of the economic, racial, or cultural factors (Flaxman & Inger, 1991). As summarized by Epstein (1992, p.505), "Students at all grade levels do better academic work and have more positive school attitudes, higher aspirations, and other positive behaviors, if they have parents who are aware, knowledgeable, encouraging and involved."

Teachers' Perception

Teachers tend to hold higher expectations of students whose parents they see involved at school, and these same children achieve higher grades and test scores. This is especially true for students from low-income and minority families (Henderson & Berla, 2001). This is observed more in the elementary school years, when parents most frequently attend open houses, school programs, parent-teacher conferences, and Parent Teacher Association (PTA) meetings. Teachers share that parents communicate more

frequently with them and are more likely to examine their children's schoolwork and question them about school activities (Snodgrass, 1991).

As children progress in the school system, teachers witness a decline in parental involvement, with less parent-teacher communication and a smaller number of parents joining PTA or open-house sessions. Educators report that parents are beginning to neglect their responsibility to encourage and aid their children in academic success during their secondary school grades.

Yet the reality is that teachers and parents' perception of parental involvement differ. Teachers in Mexico, for instance, share a belief in separation of school and home. As one teacher commented, "The parent feeds the pupil, he develops his sense of responsibility, teaches him respect. The teacher's role is to train and instruct him" (Farrand, 1988, p. 112). Many immigrant children bring with them the attitude that they must render respect and obedience to the teacher in the same way they respect their parents. Teachers then become not only an ally but also a person whose voice is respected and observed (Igoa, 1995).

Rockwell, Andre, and Hawley (1996) revealed that parents face several elements or barriers to their contribution to school, including the parents' perception that children of lower economic class were treated differently, communication with school was mostly negative, educators seemed to imply that families were at fault and deficient in the rearing and management of their children, and parental level of education inhibited their involvement in their children.

Educational Challenges

As mentioned earlier, Hispanic populations have a number of educational gaps as compared to non-Hispanic populations. These educational gaps are evident in a number of key areas, including family literacy, reading, grade retention, suspensions and expulsions, dropout rates, and higher education (Collins & Ribeiro, 2004).

Family Literacy. Traditionally, literacy has been considered an autonomous skill which, once imparted on individuals, would enable them to carry out a variety of important functions in society. There has been an increasing interest among American educators in the connection between families and literacy. It is also of particular interest to understand how language-minority children merge to literacy in a second language (Fitzgerald, 1995). Literacy for Hispanic families is one area that has been addressed in the literature. It has been noted that 67% of children from Hispanic backgrounds were reading below basic levels by fourth grade (National Center for Educational Statistics, 1996). Hispanic children are less likely to be read to or to visit a library (Collins & Ribeiro, 2004). In 1999, 61% of Hispanic children had been read to three or more times in the past week, 40% were told a story by a family member in the past week, and 25% had visited a library within the past month (Collins & Ribeiro, 2004).

Reading. Scores on the National Assessment of Educational Progress (NAEP) revealed Hispanic 9-year-old scores were 13% behind scores of non-Hispanic Whites (a gap of 28 points), and the gap did not decrease over the testing periods between 1975 and 1999. Reading scores of Hispanics and Blacks were statistically the same; however, the

gap in scores between non-Hispanic Whites and Blacks had decreased over time (Collins & Ribeiro, 2004).

Grade retention, suspensions, and expulsions. Hispanic students have higher retention and suspension/expulsion rates than non-Hispanic Whites. In 1999, 20% of Hispanic students in grades 7 through 12 had been suspended or expelled (non-Hispanic Whites, 15%; Blacks, 35%; Collins & Ribeiro, 2004).

Dropout rates. Hispanic students have the highest high school dropout rates (28%), more than double those of Black students and four times the dropout rate of non-Hispanic White students in 2000.

Higher education. Hispanics fell even further behind at the higher education level between 1980 and 2000. Only 22% of Hispanics 18- 24-year-olds were enrolled in college and universities (including 2-year degree-granting postsecondary institutions) in 2000 compared with 39% of White non-Hispanics and 31% of Blacks. Comparable figures for 1980 were 16%, 27%, and 19%, respectively. However, it looks much better for those who completed high school: 36% of Hispanics enrolled in colleges and universities in 2000, compared with 44% of White non-Hispanics and 39% of Blacks. However, one should keep in mind that the high school dropout rate for Hispanics is four times that of non-Hispanic Whites and more than double that of Black students, which greatly constricts the pool of Hispanics who potentially may attend college(Collins & Ribeiro, 2004).

School Readiness

Children from economically poor and undereducated families are at elevated risk and demonstrate a significant achievement gap when it comes to lack of school readiness due to less knowledge and skill. Thus, the question arises of whether early intervention can make a difference in the lives of these children. Ramey and Ramey (2004) found many redundant and poorly coordinated family and early childhood programs that did not have adequate planning, professional expertise, or resources to deliver preschool programming to effect major and substantial cognitive and linguistic gains for children.

Preschool Programming and its Impact

Ramey and Ramey (2004) reviewed factors that contributed to some preschool programs' failing to close the achievement gap with Hispanic students. One conclusion from the study was that many of the programs did not provide the preservice and in-service training needed for teachers. This factor is thought to increase the likelihood that the children receive a consistently high quality learning and language environment. Staff in-service training has proved beneficial in Even Start Programs. In 2000-2001, more than 90% of the projects had in-service training on early childhood education, parenting education curriculum/services, and program development and improvement. Between 80% and 90% of the projects provided training in adult education curriculum/services, adult or child assessment, conducting home visits, interagency collaboration, team building, recruitment/retention, and local evaluation (St. Pierre, Ricciuit, Tao, Creps, Swartz, Wang, Parsad, ABT Associates, 2003).

A second factor discussed in the study by Ramey and Ramey (2004) was that many of the programs reviewed were considered not intensive. For instance, some of the programs were not available to children until they were 4 years of age, some were only offered for 3 or 4 hours per day, and others only operated for 7 to 9 months of the year. There are several dimensions to program duration: hours per day, days per week, days per year, and number of years. The duration requirements vary depending on each individual state. For example, seven states reported no statewide minimum duration requirements, leaving program duration decisions solely to individual programs (Maine, Minnesota, New York, Ohio, Oregon, Vermont, and West Virginia). Of the remaining programs, 16 required between 2½ to 4 hours per day, and five required a full school day (6 to 6½ hours). In addition, all states that had calendar year guidelines indicated that they roughly approximated the standard school year (between 160 and 189 days per year) (Ripple et al. 1999).

Evidence from an empirical outcome study (Reynolds, 1995) suggests that 2 years of preschool intervention are better in terms of beginning and ending kindergarten more academically competent compared to 1-year participants. Although upon examining their progress through the elementary grades, these children did not significantly or meaningfully differ from one another in reading comprehension, mathematics achievement, teacher ratings of social adjustment, rates of grade retention and special education placement, and teacher-rated parental school involvement.

A third factor addressed by Ramey and Ramey (2004) was that many programs were remedial in nature rather than prevention focused. This approach seemed to make it more difficult to overcome the cumulative toll of limited learning.

Many of the prevention programs focus on the children that are considered “at risk” for school failure. One such prevention program provided systematic, high quality, early childhood education to high-risk children to assess if the cumulative developmental toll could be reduced. This study is known as the Abecedarian Project and is one of the longest running and most carefully controlled and respected studies on early education in America. It began in the 1970s and targeted 111 healthy, full-term, normal birth weight children in North Carolina who were extremely challenged in terms of very low income (below 50% of the federal poverty line), very low levels of maternal education (about 10 years of education), and low maternal intellectual attainment (with an average IQ near 80); most were single (about 75%) and unemployed. The Abecedarian Project is a randomized, controlled trial that tests the efficacy of early childhood education for high-risk children and their families. The children in both the treatment and control group were given adequate nutrition, provided with social services for the family and referrals as needed (such as housing, job training, and mental health and substance abuse problems), and given free or reduced cost medical care throughout the first 5 years of life (consistent with the highest levels of professionally recommended pediatric care). The treatment group children were assigned to a high-quality child care setting, although some of them also attended child care centers. Educational activities that emphasized language while focusing on social, emotional, and cognitive development addressed each child’s needs and were incorporated into their day (Ramey & Ramey, 2004). Results demonstrated that the treatment group children scored significantly higher on tests of reading and math from the primary grades through middle adolescence. At the age of 21, 104 of the original 111 infants in the Abecedarian Project were measured for cognitive

functioning, academic skills, educational attainment, employment, parenthood, and social adjustment. The researchers found that participants had significantly higher mental test scores as toddlers through age 21 than the control group. Their reading and math achievement scores were also consistently higher. Participants were twice as likely to attend a higher education program (40% in the intervention group; 20% in the control group). More than twice as many of the participants (35%) had graduated from or were attending a 4-year college at the age of 21. Only about 14% in the control group had done so. Young adults in the intervention group were also more likely to postpone parenthood until they were more mature. On average, they were more than 1 year older (19.1 years) when their first child was born compared with those in the control group (17.7 years).

Another landmark, long-term study of the effects of high-quality early care and education on low-income 3- and 4-year-olds was the Perry Preschool Study. This project was conducted over four decades ago by the late David P. Weikart. The program consisted of well-qualified teachers, no more than eight children from low-income families were served at a time, families were visited to discuss their child's development, and the classes operated daily for 3- and 4- year-old children (Schweinhart et al; 2005).

This study was unique in that the children were randomly assigned either to receive the Perry Preschool Program or to receive no comparable program and were tracked to the age of 40. The study's major findings in the educational area suggested that most of the children who received high-quality early education graduated from high school (65% program group vs. 45 %, nonprogram group), particularly females (84% vs. 32%). Fewer females (8% vs. 36%) required treatment for mental impairment or had to repeat a grade (21% vs. 41%). The Perry Preschool Program on average outperformed the

nonprogram group on various intellectual and language tests during their early childhood years, on school achievement tests between ages 9 and 14, and on literacy tests at ages 19 and 27.

The study, which began in 1962, identified 123 young African American children living in poverty and assessed to be at high risk of school failure in Ypsilanti, Michigan. The researchers randomly assigned 58 of the children to a high-quality early care and education setting; the rest received no preschool program. The study's major findings revealed the following: (1) more individuals of the group who received high-quality early education than the nonprogram group were employed at age 40 (76% vs. 62%); (2) the people in the group who received high-quality early education had median annual earnings more than \$5,000 higher than the nonprogram group (\$20,800 vs. \$15,300); (3) more persons of the group who received high-quality early education owned their own home and more also had a savings account than the individuals in the nonprogram group (76% vs. 50%).

Many of the well-intended programs had primarily supported families and only indirectly worked with children. This offered little or no direct teaching of important cognitive and language concepts to the children themselves. Studies have often emphasized the significance of family and community networks and the role of social capital in children's adaptation to school. Coleman (1988), for example, found that cohesive communities facilitate the role of parenting because adults reinforce others' normative control of their children. The "closure" of such communities represents a form of social capital because it helps parents instill work discipline and achievement values in their young.

Research has also stressed the connection between family and achievement, and a great deal of the literature focuses on parental involvement (Snodgrass, 1991). Schools encourage parents to participate as key members of the educational team. It is widely believed that early intervention programs that involve parents are more effective than those who do not.

Characteristics of Immigrant Children and Families

With the large influx of immigrants to the U.S., the question arises; How will immigrant youth and their parents adapt to the new school environment? Nearly half of the nation's school districts enroll second language learners who overall speak more than 100 languages. By the year 2026, second language learners from a multitude of different cultures and ethnic groups in our global society are expected to make up nearly a quarter of our student body (Garcia, 1999). These students are referred to as second language learners.

Second Language Learners. Second language learners are students from linguistically and culturally diverse backgrounds whose native language is not English and who have limited English proficiency (LEP). According to the Office of Bilingual Education and Minority Language Affairs, U.S. Department of Education, 3.2 million public school students were identified as LEP in 1998, and this number has almost doubled in less than a decade (U.S. Department of Education, 1998). These students cut across all grades in public education and enter the American educational system with different levels of academic achievement in their native language, as well as in English.

Experiences prior to School Entrance. Schools are typically the point of entry for immigrants with children into American society. They serve as the “primary institution for assimilating immigrants into the dominant culture...” (Pryor, 1992, p. 153).

However, very little is known about the educational progress and adaptation patterns of the immigrant population, specifically the children in early intervention.

What we do know is that many young children of immigrants live in families with low incomes, have parents with low education levels and limited English proficiency, and interact less often with their parents. These factors in general are associated with low performance in school. Children of immigrants tend to be more often in parental care than center-based care, as children under 6 years are more likely to receive child care from parents (53% versus 34% for children of natives) and less likely to be in center-based care (17 % versus 26%). Parents of immigrant children tend to have little education and use center-based care less often. These differences in use can be partially explained by family structure, low incomes, patterns of work participation, and, perhaps, by differing tendency for care (Capizzano & Adams, 2003).

While the data demonstrate lower participation in center-based care among children of immigrants, little is known about the reasons for these patterns (Takanishi, 2004). Possible explanations associated with lower use of center-based care may be access issues such as cost, lack of subsidies, language barriers, and availability of nearby care. However, when only families with two working parents are considered, the gap between children of immigrants and natives narrows somewhat.

Child care, especially in center-based settings, may benefit a child's early development and socialization and ease the transition from home to school (NICHD Early Child Care Research Network, 2000). Child care may also help children of immigrants adapt to a new culture and language and overcome linguistic isolation and other barriers (Brandon 2004). At the same time, child care centers can benefit parents by providing adult education, improving parenting skills, increasing family access to health care and other benefits, and linking parents to the communities in which they live.

Ryan (2005) studied the effectiveness of the Manchester Even Start Program in improving literacy outcomes for preschool Hispanic students. A group of 12 Hispanic 4-year-old preschool students enrolled in the Manchester Even Start Program was compared to a group consisting of 25 low-income, ethnically diverse 4-year-old students in Manchester's Title 1 preschool program. The measure used for comparison was the PALS-Pre-K assessment. The findings suggested evidence of short-term effectiveness in the area of language for the children who participated in the Manchester Even Start.

Interaction with Parents. Researchers know that the verbal interaction between parents and their young children, especially interaction around books and toys that inspire children to initiate conversations, is essential to cognitive development. There is one program, the Parent-Child Home Program (PCHP; Levenstin & Levenstin, 2008) that specifically focuses on engaging parents and toddlers in their home. PCHP has been shown to be very effective, and has been considered the most effective intervention of its kind (Allen & Sethi, 2004). PCHP provides a home visitor to work with low-income families on a biweekly basis and to engage the families in reading a book or playing with

an educational toy as the parent participates or observes. Results revealed that parents quickly began to interact with their young children in similar ways, and by the beginning of kindergarten, the children look very similar to their middle-class peers on both cognitive and behavioral factors (Allen & Sethi, 2004).

Acculturation. Acculturation is a process of change experienced by individuals from immigrant groups toward adaptation to the majority group's culture. According to Salvia and Ysseldyke (1991, p.18), "acculturation is a matter of experiential background rather than of gender, skin color, race, or ethnic background." Recent immigrant families, including Mexicans, experience a great deal of acculturative stress and problems of generational conflict related to acculturation, yet these experiences can be various and different in degrees, depending on the influence of the native culture, socioeconomic status, length of stay in the United States, and age at time of immigration.

Although acculturation may be assessed at the macro or group level, the field of acculturation has mainly focused on the micro or individual level. At the individual level, acculturation may involve a variety of personality changes as reflected in behavior, language, values, and identity (Dinh, Roosa, Tein, & López, 2002).

Atkinson, Morten, and Sue (1989) outlined five levels of acculturation that describe the manner in which diverse individuals or groups react to the dominant culture. *Conformity* is the first level, which they characterized by behavior that devalues cultural differences while at the same time praising the dominant culture. *Dissonance* is the second level, and they defined it primarily as a time of intrapsychic conflict where personal views regarding cultural differences shift between degrees of acceptance and

rejection. The third level is formed by *resistance and immersion*, which is evident in patterns of general behavior that begin to show appreciation for cultural differences coupled with a certain degree of disdain for the majority culture. The fourth level is *introspection*, described as a process whereby individuals attempt to explore the basis of their attitudes, in particular those that represent a liking of themselves and their inherent cultural differences. The final level is *synergetic articulation and awareness* where individuals come to appreciate both the cultural differences that exist, as well as particular aspects of the majority culture.

The assessment of individual acculturation has mostly been based on the linear model from low to high, assuming that the level of acculturation (or immersion) is a function of the degree of exposure to a new culture. Dinh, Roosa, Tein, and López (2002) investigated the roles of acculturation, parent involvement, and self-esteem in the prediction of problem behavior proneness among 330 Hispanic children and adolescents. The main finding revealed that parent involvement, not self-esteem, played a significant mediational role in the relationship between acculturation and trial 2 (survey) of problem behavior proneness after accounting for gender, grade level and trial 1 (survey) of problem behavior proneness.

Resilience

In spite of difficult, challenging, and even dangerous situations, some children clearly overcome the odds and become “caring, competent, and confident adults.” These children are described as resilient because they exceed expectations, cope with stress well, and/or bounce back effectively from traumatic experiences. Children’s

development can be put at risk by different stress factors or traumatic experiences. The emotional well-being, health, and overall growth of children may be jeopardized by various factors, such as poor nutrition, inconsistent medical care, parental unemployment, financial instability, parental mental illness or substance abuse, domestic violence or family separation, and dangerous neighborhoods.

In spite of these risks to healthy development, some children are resilient, and in order to understand this process, many studies of risks and resilience focus on the special characteristics of child and environment that promote competence.

When a child is described as “resilient,” we infer that a judgment has been rendered on the basis of a pattern of characteristics. This is similar to making a diagnosis by review criteria, though for resilience, the criteria are less symptom based and more based on experience of the child. Resilience factors may include items such as (a) the child is doing reasonably well on the major developmental tasks important for children of that age and culture and (b) the child has experienced extraordinary adversity. There is not a widely accepted standard for identifying resilience (Kaufman, Cook, Army, Jones, & Pittinsky, 1994) nor is there a particular formula. Instead, we can look to research to identify those factors that we should monitor or be aware of with students.

One of the pioneers of recent resiliency research is Michael Rutter. In 1987, he developed four techniques for promoting resiliency. No one is free from risk, but if these four techniques are used, the children we serve are more likely to cope positively and avoid problems that are more serious. Rutter (1987) outlined the following four techniques: reduction of risk impact, reduction of negative chain reactions, establishment of self-esteem and self-efficacy, and opening up opportunities. The first two interventions

(reducing risk impact and reducing negative chain reactions) require us to change the child's environment. However, changing environment is not always possible. Therefore, the last two interventions focus on what kind of personality traits will help a child survive serious adversity (Rutter, 1987).

Reducing risk impact, may be the easiest intervention to envision yet, the hardest to accomplish. There are two ways to reduce risk. We can alter the risk itself, for example by providing an abusive parent with alternative means of discipline. On the other hand, we can alter the child's exposure to the risk, for example by working with families to improve supervision of children who are beginning to engage in antisocial behaviors like stealing or fighting.

Rutter (1987) believes that an indirect approach is best. For example, if one parent is overburdened and often yells at the children, the other parent can be encouraged to share more of the parental duties. One risk factor that seems simple to remedy is poor nutrition. However, families often eat poorly due to financial restrictions and may find any criticism of their diet to be extremely offensive.

Researchers generally agree about the existence of negative chain reactions, which occur when one event (e.g., suspension from school) causes negative effects in other, seemingly unconnected areas of life (e.g., arguments at home after the suspension lead the child to run away). Rutter (1987) points out that they play a crucial role in any long-term effects of exposure to risk factors. For example, the death of a parent is a tragic event in a small child's life, but it is not usually enough to cause serious psychological problems in the end. However, if a child is institutionalized or not provided with a safe or affectionate caregiver, resilience is less likely.

Two important traits that promote resilience are self-esteem (a sense of self-worth) and self-efficacy (a belief that one can ‘cope successfully with life's challenges’). Research points to intimate relationships and the accomplishment of tasks as essential factors in promoting self-esteem and self-efficacy.

Rutter’s work (1987) tells us that, even in the face of massive obstacles such as poverty, poor education, and nutrition, and mental illness, a secure relationship with a parent can enable a child to grow into a healthy adult. He also observes that succeeding at tasks (whether academic, artistic, athletic, occupational, or otherwise) helps to build a positive self-concept and thus protects children from risk factors.

The fourth and final technique for promoting resiliency is providing opportunities, such as academic tutoring, employment training, and positive social experiences. This serves two purposes: first, they give the child a skill, such as better reading, appropriate social interaction, or technical training. Second, they give the child a sense of hope for the future and a sense that there is some meaning in life. Unless a child has a chance to grow and learn, he will have little incentive and is less likely to be resilient.

One of the first and most influential resiliency studies conducted by Emmy Werner found that all resilient children had at least one person who unconditionally accepted them for who they were. The Kauai Longitudinal Study (Werner, 1992) monitored the impact of a wide array of biological, psychological, and social risk factors on the lives of a multiracial cohort of 698 individuals who were born in Kauai, Hawaii in 1955. They examined characteristics at various points, including the prenatal period, as well as ages 1, 2, 10, 18, 31/32, and 40. Of the 698 children, 55% grew up in chronic poverty. In general, overall rearing conditions were more powerful determinants of

outcome than perinatal trauma. They found that prenatal and perinatal complications were related to impairment in physical and psychological development only when they were combined with chronic poverty, parental psychopathology, or persistently poor rearing conditions, except when serious damage to the central nervous system occurred.

A recent follow-up to the Kauai Longitudinal Study (Werner, 2004) addressed two fundamental questions of interest to pediatricians and health care professionals: (1) What are the long-term effects of adverse prenatal and early child rearing conditions on individuals' physical, cognitive, and psychosocial development at midlife? (2) Which protective factors allow most individuals exposed to multiple childhood risk factors to make a successful adaptation in adulthood? The study demonstrates the need for early attention to the health status of our nation's children (Werner, 2004).

Werner's study (2004) revealed that most of the high-risk youths who had developed serious coping problems in adolescence (learning disabilities, mental health problems, teenage pregnancies, and/or a record of delinquencies) had staged a recovery by the time they reached the fourth decade of life. Overall, even though these "troubled" youths had a higher mortality rate by age 40, the majority of the survivors were in stable marriages and jobs, were satisfied with their relationships with their spouses and children, and tended to be responsible citizens in their community.

The poorest outcomes at age 40 were related to prolonged exposure to parental alcoholism and/or mental illness, particularly for men. Those individuals who were born small for gestational age and those who received a diagnosis of mental retardation in childhood had a higher incidence of serious health problems in adulthood, including severe depression. These individuals also had higher mortality rates than was the norm

for men and women of their age. Those men and women who had experienced more stressful life events in childhood reported more health problems at age 40 than those who encountered fewer losses and less disruption in their family during the first decade of life.

Masten and colleagues (1999) studied a sample from an urban community over 10 years in order to investigate the phenomenon of resilience. Multiple methods and informants were used to assess three major domains of competence from childhood through adolescence: academic achievement, conduct (rule abiding versus antisocial behavior), peer social competence (including both acceptance and friendship), multiple aspects of adversity, and major psychosocial resources. Results suggested that IQ and parenting scores are markers of fundamental adaptational systems that protect child development in the context of severe adversity. Good intellectual functioning and well-functioning parent-child relationships may signify that fundamental human adaptational systems, presumably the legacy of evolution, are operational and sufficient to sustain normal development under unfavorable conditions (Masten & Coatsworth, 1998).

According to Doll & Lyon (1998), risk and resilience have been conceptualized as opposite poles in a person's response to stress and adversity, with risk representing the negative pole and resilience representing the positive pole. Risk factors such as poverty, ineffective parenting, child maltreatment, and family dysfunction might be viewed as creating 'hazardous niches', that is, interconnected, chronic life conditions beyond the control of the child. The accumulation of such risks is predictive of adult maladjustment, for example, physical or mental health problems, criminality, and unemployment. Resilience to adversity is a function of both child and contextual factors, which are most likely transactional. Characteristics of resilient children and youth include good

intellectual and language ability, easygoing disposition, positive social orientation, high self-efficacy, and engagement in productive activities and close peer relationships. Furthermore, the family and school or community contexts of resilient children are characterized by warm relationships and supportive and positive role models, suggesting the importance of adult caretaking.

Preparing Schools

Huang and Gibbs (1992) noted several points of consideration for school personnel with respect to immigrants. First, the cultural expectations may differ based on the educational traditions of the family's native country, and this may range from noninvolvement to total parental involvement. Second, for some immigrants, cultural expectations of teachers may differ, as parents view the teacher as the "ultimate authority" for educating children and may have learned not to interfere with the child's education, while others may have a more collaborative view. These parents who see educators as being authority may have a difficult time understanding their role in the collaborative problem-solving process. Third, those immigrants who have come from war-torn countries or from rural and underdeveloped countries might have had minimal, if any, experience with schools. Fourth, linguistic barriers often exist for immigrant families, and as a result, they can work against the collaboration process. They may be able to comprehend the English language, yet they are often hesitant to speak the language. Similar factors were described by Sosa (1997); however, he delineated the barriers into two categories, the first being logistical (e.g., time, money, safety, and

childcare) and the second being attitudinal behaviors (e.g., parents feeling uncertain as to what their role should be in the schools and what is expected of them).

Documentation Status

According to the 1982 Supreme Court decision in *Plyler v. Doe*, citizenship status is not a permissible basis for denying access to public education (García & González, 2006). Nonetheless, undocumented immigrants may not feel comfortable being involved with mainstream institutions due to their immigration status. Family functioning under tensions resulting from undocumented status, such as fear of deportation, uncertainty about access to health care, social, and civic services, and legal representation obviously differentiate these families from those in the dominant culture of mainstream of American society. The ever-present fear of being caught by the Internal Naturalization Service (INS) is sometimes generalized to all authorities, including school personnel (Súarez-Orozco & Suárez-Orozco, 2001).

Moreover, the traditional parental involvement activities at school, such as PTA (Parent-Teacher Association) or parenting workshops might be unfamiliar to immigrant parents. Many parents may not understand that their involvement is both sought after and appropriate. Parents' reluctance to question educational institutions, coupled with their unfamiliarity of the American school system, diminish their involvement in their children's school activities.

Home-School Collaboration

Whether called home-school collaboration, parent/family involvement, or family-school partnerships, the goal of promoting strong bonds between families and educators is to enhance learning for all students (Esler, Godber, & Christenson, 2002). Title 1, Elementary and Secondary Education Act of 1965, as amended by Improving America's School's Act of 1994 (P.L. 1038-382), requires states and school districts to include parental input at the local school level. Parent Participation Goal 8 of the National Education Goals Panel (1998) states, "By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children."

The goal of best practices in home-school collaboration is to support children's learning with a positive connection and relationship with families. This involves attitudes, relationships, and actions that specifically facilitate home-school collaboration. These attitudes need to reflect shared responsibility, recognizing and asking for parents' expertise, and a solution-based orientation. As a result, relationships develop from these interactions where the parent feels welcome and motivated to work in partnership with educators and in addressing the needs of the children. Lastly, this home-school collaboration prevents and solves problems by enhancing children's learning across home and school (Esler, Godber, & Christenson, 2002).

Reyes, Scribner, and Paredes-Scribner (1999), in their book *Lessons from High Performing Hispanic Schools*, examine building collaborative relationship with parents. One important aspect discussed was the degree of formality or informality of parent involvement and how it can vary immensely from one activity to another. However, for

school staff and parents, descriptions fell more often into one of the two extremes. The majority of professional school staff interviewed said that parent involvement meant participating in activities, such as school events, meetings, workshops, and governance activities, and working as teacher aides, tutors, and school advocates within the larger school community. In contrast, parents viewed informal activities at home, as the most important parent contributions to children's success in school. Activities such as checking homework assignments, reading and listening to children read, obtaining tutorial assistance, providing nurturance, instilling cultural values, talking with children, and sending them to school well fed, clean, and rested were among the informal activities parents saw as involvement with the educational process.

Similarly, the concept of parent involvement was expanded by López (2001), who illustrated an immigrant family's involvement in their children's educational development outside of traditional school-related models. In this case study, the family exposed their children to their hard work in the fields to teach them three important lessons: (1) to become acquainted with the work they did, (2) to recognize that their work is difficult, and (3) to realize that without an education, they may end up in a similar field. The transmission of sociocultural values has rarely been documented in the literature as a type of parent involvement.

Another way to understand parental engagement in urban elementary schools is the Ecologies of Parental Engagement framework (EPE) (Barton, Drake, Perez, St. Louis, & George, 2004). The EPE framework marks a fundamental shift in how we understand parent involvement in children's education, a shift from focusing primarily on what parents do to engage with their children's schools, and with other actors within those

schools to also considering how parents understand the how and why of their engagement and how this engagement relates more broadly to parents' experiences and actions both inside and out of the school community.

Within this framework, parental involvement frames parents as both authors and agents in schools. Parental involvement is presented as a dynamic, interactive process in which parents draw on multiple experiences and resources to define their interactions with schools and among school actors. This is referred to as parental engagement.

The Children

Just as immigrants are a rising share of the total population, the children of immigrants, both foreign and U.S. born, are a rising share of the nation's K-12 student population. The share of children who are children of immigrants tripled from 6% to 20% between 1970 and 2000. The share of the overall student population that the children of immigrants represent will continue to expand, driven primarily by increases in the second-generation population. By 2015, children of immigrants will constitute 30% of the nation's school population (U.S. Census Bureau, 2000).

Yet, despite their demographic and policy significance, children of immigrants and their well-being are rarely studied on a national level. A study by the National Survey of America's Families (NASF, 2000) explored the health and well-being of children in immigrant families. The NASF is a nationally representative survey of households with persons under the age of 65 that includes data on 11 million children of immigrants. It is one of the few national surveys with a large number of immigrant families compared to native families that includes broad, detailed measures of child and

family well-being. The most striking finding of the NASF study was that the children of immigrants living in two-parent families are substantially more likely to be low income than their native counterparts.

NASF data also revealed that children of immigrants tend to be more frequently in poorer health than children of natives, even when controlling for the greater likelihood of family poverty. Results also indicate that the health of children of immigrants declines more rapidly as they age than does the health of children of natives.

On the brighter side, children of immigrants fare as well as or better than their native counterparts in areas of behavioral problems, parental aggravation, social engagement, lessons taken after school, and discipline at school. These positive indicators may be a reflection of the family values and other resources that immigrant families contribute to the U.S. communities.

Yet the results also reveal that, with a few exceptions, the families of immigrant children appear less able to draw on community resources than natives. Children of immigrants participate in fewer extracurricular activities and they are less likely to work after school. Their parents are less involved in community activities, and their families are less able to draw on food, health, mental health, and housing assistance in times of need.

Risk Factors

Family factors that have a relationship with children's early literacy ability include variables such as family history of reading difficulties, few opportunities for verbal instruction, speaking a home language other than English, using a nonstandard

dialect at home, socioeconomic status, and minimal support for literacy development in the home environment. Hammer, Miccio, and Wagstaff (2003) studied the relationship between home literacy experiences and bilingual preschoolers' early literacy outcomes. They reported clinical implications suggesting that although the children experienced literacy activities at home and in Head Start, children's development would benefit from increased exposure to literacy materials and events during the preschool years.

Many immigrant children are faced with different learning methods and other emotional stressors related to difficulties of living in a bicultural world. These children often struggle to catch up to their peers, and as a result, they are often erroneously placed in "specialized" classes and mistakenly diagnosed (e.g., behavior disorders, emotional disorders, or learning disorders). According to the U.S. Census (2000), Hispanics made up the largest population of school dropouts (34%), followed by Blacks (16%), and White non-Hispanics (8%).

In schools, the most essential aspect for immigrant children is teach them English as a second language the most expedient way. When it comes to language, an important factor for teachers when considering how to best work with second language learners is to understand what happens when the child is first exposed to English. These children initially develop conversational skills in the new language where communication is largely mediated by the environmental context in which they find themselves. When they are proficient at this level, they appear to be more linguistically competent than they really are because of the context-embedded nature of communicative interactions (Scribner, 2002). Cummins (1984) has refined the concept of language proficiency by making a distinction between "surface level proficiency" and "conceptual-linguistic

proficiency.” This distinction was operationalized by describing the communicative skills first acquired when learning a new language as basic interpersonal communication skills (BICS), and the more involved cognitive/academic language proficiency skills (CALP) as the ability to manipulate language in decontextualized academic situations. Shuny (1978) also analyzed this distinction when he contrasted the quantifiable aspects of formal language (e.g., pronunciation, basic vocabulary, grammar) with more pragmatic aspects of language proficiency (e.g., semantic and functional aspects of language).

The requirement for stronger literacy abilities, both reading and writing, is increasing in all societal settings, creating more challenges for immigrants than in years past. Research suggests that first language literacy promotes second language acquisition and that literacy skills in the native language are likely to transfer to the second language (Rivera, 1990). Rivera addresses the Interdependence Hypothesis which states, “to the extent that the instruction through a minority language is effective in developing academic proficiency in the minority language, transfer of this proficiency to the majority language will occur given adequate exposure and motivation to learn the majority language” (Cummins, 1986).

A variety of factors influence the way their English literacy develops. Primary to the process is the level of literacy in the first language. “The more academically sophisticated the student’s native language knowledge and abilities, the easier it will be for the student to learn a second language” (Walqui, 2000, p. 343).

It is important to keep in mind that acquiring a first or second language is a developmental process. There is a natural progression from simple to complex language functions as children learn to communicate orally. Depending on age, second language

learners may have acquired language functions in their native language, which will consequently facilitate second language acquisition. According to Cummins (1984), it takes 2 years to acquire BICS and those skills required to function in context-embedded communicative interactions. Under the best of circumstances, it may take 5 to 7 years to develop full CALP in the second language. CALP skills are considered skills fundamental to thinking and learning that the instructional program must foster.

Researchers agree that there is a pressing need to understand how language-minority children emerge to literacy in a second language (Fitzgerald, 1995). However, emergent literacy investigations have dealt primarily with native speakers of English emerging to literacy in a White-middle-class environment and with children learning to read and write in Spanish (Teale & Sulzby, 1986).

Similarly, there has been insufficient research relating to the process of second language acquisition in to the classroom settings for learning English, such as the nature of instruction provided and the use of written versus oral modes of English input (August & Hakuta, 1997). Araujo (2002) explored how a literature-based curriculum supported the literacy growth of ESL kindergartners participating in a full-day Portuguese-English bilingual program. The investigation indicated that ESL children are capable of attaining high levels of literacy development in the context of a balanced literacy program; however, the study did not address how this might negatively affect the development of their native language.

Through the mid-1900s, the nation's literacy problems were addressed by a dual system of public and private sector efforts that included remediation programs for adults in the form of adult education or workplace literacy programs and prevention programs

for children in the form of early childhood education efforts such as Head Start. The seeds of a new approach were sown in the late 1970s and early 1980s when many of the family literacy programs were planned and implemented (Smith, 1995). These programs came about based on the growing concern in the U.S. about adult literacy, global competitiveness, social success for children and teenagers, and the social disintegration of the family.

Early Education

Children born to immigrant parents often face multiple risk factors that would make their participation in quality early education programs particularly beneficial, yet these children are less likely to participate in such programs (Mathews & Ewen, 2006). Research has shown that high-quality early education programs can particularly benefit low-income children and those more at risk of school failure by supporting their healthy development across a range of measures. For children of immigrants, early education has the potential to address issues related to school readiness and language acquisition, as well as ease integration for them and their families into American society and its educational system. Children of immigrants who participate in early education programs can enter elementary schools with more advanced English skills, making them more prepared to learn and succeed.

However, census data on preschool enrollment, which may include the full range of public and private programs, suggest that children of immigrants are underenrolled in preschool, as these children comprise only 16% of children attending preschool, compared to 22% of all children under the age of 6 and 21% of all children attending

kindergarten (Capps, Fix, Murray, Ost, Jeffrey & Herwanto, 2005). Further census data reveal that participation in preschool or kindergarten varies by age. At age 3 years, 30% of children of immigrants attend preschool, compared to 38% of children of U.S. born citizens. At age four years, 55 % of children of immigrants attend either preschool or kindergarten compared to 63 % of children of U.S.-born citizens. At age four and five years, a larger share of children of immigrants attend kindergarten, compared to U.S.born citizens, as the latter attend preschool at higher rates at both ages. By age 5, children of immigrants and children of U.S.-born citizens are equally likely to participate in some early education program. Eighty-five percent of both groups of children attend either a preschool program or kindergarten.

Family Literacy Programs

Family literacy programs draw from the experiences of existing early intervention and adult literacy programs. These programs are based on the belief that children's early learning is greatly influenced by their parents and that parents must develop their own literacy skills in order to support their children's educational success. Family literacy programs seek to improve the literacy development of young children in two ways, first, by providing early childhood education services directly to young children and second, by helping parents become more literate themselves, by helping parents understand more about how children learn, and by inculcating good teaching habits in parents. In the 1980s, this new approach emerged in full force, and the movement attained national status in 1989 when the federal government instituted its family literacy centerpiece, the Even Start Literacy Program. From a small demonstration program in which \$14.8

million was used to fund 76 projects in 1989-1990, Even Start has grown to 17 times its original size. In 2001-2002, \$250 million in funding was distributed to more than 1,000 projects serving over 40,000 families in all 50 states (St. Pierre, Ricciuti, & Rimdzius, 2005).

The Even Start program is geared to help families in low-income areas by integrating early childhood education, adult education, and parenting education into family literacy programs. However, three separate national evaluations of the program reached the same conclusion; that is, children and adults participating in Even Start generally made gains in literacy skills, but these gains were not significantly greater than those of nonparticipants (St. Pierre et al., 2003).

The evaluation of 18 Even Start projects followed 463 families for 2 years and found no statistically significant educational impacts on Even Start families when compared with control families on child literacy outcomes, parent literacy outcomes, or parent-child interactions. Even though the Even Start projects were properly able to implement family literacy programs, a combination of two factors affected its effectiveness. These were a lack of full participation on the part of the families and instructional services, which may have been ineffective because of the curriculum content of the instructional approach (St. Pierre, et al., 2005).

Recent studies suggest that one critical form of education, early childhood development (ECD), is grossly underfunded. However, if properly funded and managed, investments in ECD yields an extraordinary return, far exceeding the return on most investments, private or public. Any proposed economic development list should have early child development at the top (Rolnick & Grunewald, 2005).

LaCelle-Peterson and Rivera (1994) contended that unless educational reformers reflect seriously on the implications of assessment reform for specific groups of students, among them students whose first language is not English, little meaningful change would occur. They note that the native language of English Language learners should not be viewed as “problems to be overcome” or “excess baggage to be shed.” Instead, they propose that the individual has the right to (1) participate fully in the best available academic programs offered through local schools, (2) receive the best possible educational program to help them acquire proficiency in English, and (3) participate, if possible, in an academic program that enables them to develop literacy in their native language.

Early Educational Intervention and Brain Networks

As child morbidity and mortality declined during the 20th century, a corresponding increase occurred in the relevance of child psychological well-being to public health. Evidence of this trend is the proliferation of programs intended to ameliorate conditions that place children in jeopardy of poor developmental outcome (DiPietro, 2000). Clinical and neuropsychological studies support the premise that infants and children at risk for developmental and cognitive delay, particularly low birth weight and premature infants, may improve their outcome when exposed to early intervention programs. These facilitate exposure to early challenging experiences and nurturing and highly stimulating home environments (Weisglas-Kuperus et al., 1993; Blair et al., 1995; Spittle et al., 2007).

In a publication relating information about early brain development to child care, The American Academy of Pediatrics (1999) advocates the following for young children: (1) nurturing, supportive, secure, predictable relationships, (2) individualized and responsive care and attention, (3) a stimulating learning environment that includes exposure to good language models. By directing such efforts toward promoting optimal development, the long-term negative consequences of factors that have their greatest influences during early development and which set the stage for future development can be minimized or avoided entirely (Dawson et., al 2000).

There is ample scientific evidence indicating that early postnatal years represent a sensitive time with respect to the effects of stress on the developing nervous system and behavioral outcome and with respect to the long-term beneficial effects of early interventions on brain and behavioral development (Dawson et al., 2000). Most recently, neurobiologic information on brain function and structure has been used to promote strategies for optimizing child development (DiPietro, 2000).

A recent study by Als et al. (2004) investigated the effects of early experience on brain function and structure. A randomized clinical trial tested the neurodevelopmental effectiveness of the Newborn Individualized Developmental Care and Assessment Program (NIDCAP). Thirty preterm infants, 28 to 33 weeks' gestational age (GA) at birth and free of known developmental risk factors, participated in the trial. NIDCAP was initiated within 72 hours of intensive care unit admission and continued to the age of 2 weeks, corrected for prematurity. The NIDCAP group, compared to the control group, showed significantly better neurobehavioral functioning, increased coherence between frontal and a broad spectrum of mainly occipital brain regions, and higher relative

anisotropy in left internal capsule, with a trend for right internal capsule and frontal white matter. Behavioral function was improved also at 9 months' corrected age. The results indicated consistently better function and more mature fiber structure for experimental infants compared with their controls. The study demonstrated that quality of experience before term may influence brain development significantly.

Early educational intervention programs, like Acción Comunal Latino Americana de Montgomery County (ACLAMO), should also be considered from a neuropsychological point of view, within the context of early brain stimulating programs. Indeed, there is growing interest in the possibility that brain research can have implications for the education of children, and many commercial packages have been designed to improve aspects of education for children with and without special difficulties. The goal of research should be to understand as fully as possible the neural systems underlying subjects taught in schools, how these networks differ among people, and the role of genes and experiences in shaping the networks (Poster & Rothbart, 2005).

Thanks to pioneering studies using primates, it is now widely understood that even primary sensory systems can be altered by experiences that include training. Evidence of brain plasticity in learning is basic to applications of brain studies to education. In addition, imaging studies have shown that specific anatomical areas differ between tasks such as reading, listening, music, numbers, and emotions such as fear and empathy (Poster & Rothbart, 2005).

Early social environment is also very important in mediating establishment of neuronal networks that regulate a child's response to stress and capacity for self-control (DiPietro, 2000). Social environment (family) is clearly emphasized in the ACLAMO

program. The concept of attachment is a central tenet of early child development. Healthy relationships with parents provide children a secure affective base, allowing them freedom to explore their environment, which in turn fosters development. For example, the positive effect that early exposure to reading may have on later outcomes may in part be mediated by promoting parent-child interaction, which provides a period of joint focused attention, investment, and nurturance (DiPietro, 2000).

All these findings encourage efforts to influence the development of brain networks underlying cognition and emotion through educational interventions (Poster & Rothbart, 2005).

CHAPTER 2

Methods

ACLAMO: Even Start Family Literacy Program

The subjects for this investigation were recruited from an agency that works with Spanish speaking immigrants, Acción Comunal Latino Americana de Montgomery County (ACLAMO). ACLAMO is a bilingual nonprofit agency, serving children, families, and seniors, which was founded in 1976. Their mission is dedicated to promoting access to economic, educational, social, and cultural opportunities for low-income individuals and families in Montgomery County, especially those of Spanish speaking heritage.

Permission was requested from the Executive Director of ACLAMO and the researcher worked directly with the Associate Director of Education. The researcher also consulted an assistant professor at Arizona State University and developmental psychologist who has worked closely with ACLAMO in conducting program evaluations. ACLAMO granted approval to obtain information on students who attended the Even Start Family Literacy Program.

Even Start is an education program for the nation's low-income families that is designed to improve the literacy skills of young children and their parents. Even Start combines four core components that make up family literacy: (1) early childhood education, (2) adult literacy (adult basic and secondary level education and/or instruction

for English language learners), (3) parenting education, and (4) interactive literacy activities between parents and their children.

This particular Even Start program targets parents who have limited English proficiency and their children, birth through age 7 years, but prioritizes 3- and 4- year-old youth, especially “rising kindergartners” who will soon enter the public school system. Most families recently arrived from Mexico. The program has three related goals: (1) to help parents improve their literacy or basic education skills, (2) to help parents become full partners in educating their children, and (3) to assist children in reaching their full potential as learners.

The Even Start Family Literacy Program Title I, Part B, Subpart 3 of the Elementary and Secondary Education Act of 1965 (ESEA) was first authorized in 1988 with an appropriation of \$14.8 million. The program became state administered in 1992, when the appropriation exceeded \$50 million. Most recently, the program reauthorization occurred through the Literacy Involves Families Together (LIFT) Act of 2000 and the No Child Left Behind Act of 2001.

Subjects

This study retrospectively examined a sample of 62 English as Second Language Learner (ESL) student charts from a 6-year period (July 1, 2001 to July 30, 2007). The subjects were classified into two groups. Group 1 (ACLAMO group) consisted of students who attended ACLAMO for at least 1 year, with a minimum of 100 hours, with one of their parents also participating in the parental component of the program. Group 2 (control group), were also ESL students, though these students did not receive their

preschool experiences through ACLAMO. Ten of them either attended Head Start or a more traditional preschool program, which did not have the adult literacy or the structured interactive literacy activities between parents and children. The remainder of the children in the control group had no preschool experiences. Students in both groups now attend a Norristown School District elementary school between the grades of kindergarten and fourth grade. All the parents who participated willingly completed an interview.

Inclusion Criteria

All of the subjects were ESL learners living in this country for at least 1 year. ESL speakers are defined as those individuals whose first language is Spanish and are in the process of learning English.

Exclusion Criteria

An exclusionary criterion for the control group was whether they attended the ACLAMO program prior to starting in the Norristown School District. If so, students were either placed in the ACLAMO group or eliminated from this study. Those students who had special education needs, with the exception of speech and language therapy, occupational therapy, and/or physical therapy services, were excluded from both groups. Four students were excluded from this research after the interview process identified their special education involvement.

Design

The current study is a quasi-experimental, retrospective, longitudinal control study (one experimental and control group was used to highlight differences between attending a literacy program and not).

Informed Consent

Because the subjects were minors, informed consent to obtain and review educational records was requested from the parents prior to the students' inclusion in the study. No individual contact with the children was necessary; however, many of them were present in the home when interviews for the study occurred. The informed consent document was given to the parents in Spanish, and it was also read and explained to them to adjust for educational levels (See Appendix C for the English version and Appendix D for the Spanish translation). On the bottom of the consent, a space was included for the participant's address and phone number so they could be reached for further clarification, if necessary. It was explained to parents that their children's names would not be used once the data was collected, and their child's anonymity would be maintained throughout the investigation. As part of the study, parents were also asked to complete an interview about demographic information, as well as their experience with their child's education. A copy of the brief introduction of the study provided to the parents can be viewed in Appendix A and B; Appendix E and F provide the structured interview used.

Once the informed consent was signed by the parents, a list was developed of the various schools that students attended in order to obtain their cumulative records (e.g.,

report cards, discipline and attendance records, etc.). The superintendent informed all of the principals about the study in an e-mail communication sent prior to the researcher making contact. The researcher contacted the principal at each school and explained the purpose of the study. A list of the students for whom consent was obtained was offered in order to obtain student records needed. The primary researcher entered the data from these records into a personal laptop computer. A spreadsheet was developed with an identifying code for each child. The researcher was able to view the Performance Tracker in order to input their testing grades into the spreadsheet. The Performance Tracker is a database that stores all testing information for the students of Norristown School District. The computers that the Performance Tracker database are stored in were available to the researcher at the Norristown School District Office in the Technology Department.

Procedure

The purpose of the study was to provide a descriptive analysis of the students who attended the Even Start Family Literacy Program including demographic, developmental, and psychosocial variables. All data reviewed and analyzed during this study was archival. The information from the ACLAMO program was gathered by the ACLAMO teachers as part of their enrollment process to the Even Start program, and the teachers who gathered the information had a minimum of a bachelor's degree and were bilingual.

The superintendent of the Norristown School District was contacted by letter describing the details of the research and asking permission to obtain records and contact parents that have been associated with ACLAMO and a separate group of ESL parents.

The district granted approval of this research and access to educational records of students for who consent was obtained. In addition, the ESL coordinator also assisted in obtaining the ESL information. She was also able to provide the researcher with the list of names of ESL parents and break down the list to match the grade levels and ESL levels of the ACLAMO group.

Two separate lists were obtained to identify potential subjects, one from ACLAMO and the other from Norristown School District, ESL department. Initially, a list of 70 names of preschool children who had attended the Even Start Program since July 2001 was generated by ACLAMO's Executive Director of Education. The second list included 70 ESL students between kindergarten and fourth grade, which was provided by both the ESL Coordinator from the Norristown School District and by the reading coach who also worked with ESL students. Given that all of the children in the study were considered to be ESL, the two groups in this study were closely matched on most characteristics, including socioeconomic status, race, and developmental history.

After both lists from ACLAMO and Norristown School District were prepared, the parents of students in the ACLAMO group were contacted by phone. Families of students for the control group had initial contact made from the ESL teachers at the student's individual schools. Parents were informed that there would be a \$15.00 Wal-Mart certificate given to all parents who participated in the study.

The majority of the data collected for this study was shelved data gathered by respective sources (the school district or ACLAMO) prior to this study. The data were quantitative and descriptive in nature. Additionally, some qualitative information was obtained from parents through the interviews conducted by the researcher. This

information included parents' level of education, socioeconomic variables, health status of the child, stability of housing, literacy practices in the home, and parental involvement in education.

Both groups were identified with a letter and a number in order to ensure confidentiality. At no time were there any names or telephone numbers linked back to any subject. The study group was assigned the number 1 (for ACLAMO) and the control group was assigned the number 2 (for control). In addition, each student from the groups was assigned a number beginning with 1 and continuing until the last subject.

Setting and Apparatus

The researcher was able to use an office at ACLAMO when reviewing information and interviewing parents. A second setting was the parents' homes. A third setting was individual schools. The fourth setting was the Norristown District Office, where the researcher was able to access records from the computer in the Technology Department. The principals of six elementary schools, Cole Manor, Gotwals, Hancock, Marshall, Paul Fly, and Whitehall, were contacted in order to be able to communicate with the ESL teachers at the school for identification of the parents.

Data for the present study were based on the testing of all the students, which were obtained by looking at the Performance Tracker. Report cards, discipline records, and attendance records were obtained from the individual school and a state database. Data were entered into Microsoft Excel and then transferred to Statistical Package for the Social Sciences, Version 15.0 (SPSS). Data was crosschecked to ensure accuracy. At no

time after collection were any names, phone numbers, or chart numbers recorded or associated with any subject.

The parents of all the students in the study were interviewed by the Spanish-speaking researcher after they signed the informed consent. The form (translated into Spanish) consisted of a statement of purpose for the study and the names and other identifying information of the investigators and others within the college who were responsible for the research. Additionally, the form included telephone numbers, a description of the procedures, potential benefits to participants and others, a statement about confidentiality, and information concerning the rights and choices of each participant, including the right to not participate in the study. At the time of the introduction of the informed consent document, the researcher instructed each participant to verbalize any questions or concerns. For most of the cases in the study, the mothers answered the questionnaires. In a few cases, both parents were present at the time of the interview. Only in one case in the ACLAMO group, the father was the main caregiver of the child and responded to the questionnaire. These interviews were conducted in Spanish and lasted 20-30 minutes. The survey questions are included in Appendix E (English) and F (Spanish). These interviews were conducted in various locations, including the ACLAMO office, student's home, or student's individual school.

Measures of Language

Woodcock Muñoz Language Survey (WMLS). This instrument is designed to measure cognitive academic language proficiency (CALP) from 2 years old to adulthood. It is considered a norm referenced measure of reading, writing, listening, and

comprehension. This test meets the requirement for English language proficiency under No Child Left Behind (NCLB). This measure is also used as part of the exit criteria for the students. It was administered in English to all ESL children. The test includes three categories:

- (1) *Broad English Ability*: overall measure of language proficiency in English, which is a combined measure of oral language, prereading, and writing abilities in English.
- (2) *Oral Language Ability*: a measure of receptive and expressive vocabulary in English
- (3) *Reading/Writing Ability*: a measure of prereading and writing English skills.

WMLS results, representing CALP levels, are presented for kindergarten children only, for whom enough data were available for statistical analysis.

English as a Second Language (ESL) Report Card. The scores of the individual variables of the report cards, 16-24 depending on CALP level (1 to 5), were added up to a total score for each child. However, the CALP level varied among students. Therefore, the total score of the report card was standardized into a percentage relative to the 100% value corresponding to each CALP level, so that report card results could be compared between both studied groups. In order to confirm that this comparison was valid, we analyzed the frequency distribution of grade and CALP levels between groups 1 and 2 (Fisher's Exact test), which was not statistically significantly different.

Measures of Reading

Dynamic Indication of Basic Early Literacy Skills (DIBELS). This is a test administered to students from kindergarten to third grade. Each grade level had three assessments per year (beginning, middle, and end). Variables measured included Initial Sound Fluency, Letter Naming Fluency, Phoneme Segmentation Fluency, Nonsense Word Fluency, and Oral Reading Fluency. Some of them varied from year to year, depending upon the skill level they were measuring. The raw scores of each DIBELS variable were recorded for the beginning and the end of each academic year. However, the middle performance score was used to substitute when there was no beginning or end of the year evaluation given.

Guided Reading Score (GRS). This represents the grade level at which students are reading. It was derived from the Diagnostic Reading Assessment performance reflected in the report cards. The GRS were recorded for the beginning and the end of each academic year. In addition, the final GRS attained by each child was compared to their current grade level and classified as 0 (below grade level), 1 (at grade level), or 2 (above grade level).

Measures of Mathematics

Mathematics report card grades. This included several variables that were divided into three category groups: (1) numbers, identification of numbers, simple addition and subtraction problems; (2) measurements, concrete objects into equal sets,

estimations, identifying days of the week, spatial concepts, and identifying different attributes of objects; and (3) geometry and algebra, which encompassed problems in these areas. The three category scores were added up to a total math score, which was also expressed as a percentage of the maximum possible attainable score. These data were recorded for the beginning and the end of each academic year.

Measures of Social and Emotional Behaviors

Behaviors on the report card. These were divided into two groups, Social and Self. The Social category included those behaviors or variables that have to do with others: “participates in class, seeks help when needed, completes task in reasonable time, follows oral directions, contributes to discussions, and stays on task.” Self encompassed those behaviors or variables that have to do with oneself, such as “interacts positively with others, demonstrates self-control, shows respect for authority, and accepts guidance and discipline.” For statistical analysis purposes, the median score of each variable in the two categories (Self or Social) was considered the representative value. These data were recorded for the beginning and the end for kindergarten children only, for whom enough data was available for statistical analysis.

Statistical Analysis

Categorical variables were described as percentages of the total number of subjects included in each group or subgroup of specific variables. Numerical variables were presented as mean \pm standard error ($M \pm SE$).

Comparison of the frequency distribution of non-numerical variables among defined variable groups was performed using the Fisher's Exact test because in some cases, the total number of subjects was less than 20 or any expected value was less than 5 (Motulsky, 1995). Numerical variables were assumed to have a normal distribution. Therefore, comparison of means was performed using the independent sample Student's *t* test.

The Pearson correlation coefficient *r* was calculated between selected parents' literacy or involvement variables and children's academic performance variables. Selection of parents' variables depended on the type of data presentation, making the calculation of *r* possible. The correlations were calculated in the whole group of children (ACLAMO and control groups).

In all the tests, significance was set at a level of $p < .05$ (2-tailed). All the statistical analyses were performed using the SPSS (Statistical Package for the Social Sciences) Version 15.0 for Windows.

CHAPTER 3

Results

*Demographics**Child Demographics*

Tables 1a and 1b offer a summary of the demographic information collected on the children in this study. A total of 62 children were included in the study, 37 boys (60%) and 25 girls (40%), ranging in age from 5 to 12 years. The students were attending school in kindergarten to grade 4. All of the subjects were Hispanic, with the majority of Mexican origin. However, 29 (48.3%) children in group 1 (ACLAMO) and 33 (60.6%) children in group 2 (Control) were born in the United States. ACLAMO group included 29 students, consisting of 19 (65.6%) boys and 10 (34.4%) girls. The Control group had 33 students, including 18 (54.6%) boys and 15 (45.5%) girls.

Using Fisher's exact test, the gender distribution between groups was not statistically significantly different.

Similarly, the distribution of the children's demographic data between both groups did not differ by school grade, birth place, and birth order. Only the different distribution of Children in the Families was statistically significant, four (13.8%) of them in the ACLAMO group having only one child vs. 0 (0%) the control group, and 12 (41.4%) of them having three or more children (vs. 18 (54.5%) in the control group) ($p < .05$, Fisher's exact test).

Table 1a
Demographic Characteristics of ACLAMO^a and Control^b Group Children

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Child's gender					.77	<i>ns</i>
Female	10	34.4	15	45.5		
Male	19	65.5	18	54.6		
School grade					2.27	<i>ns</i>
Kindergarten	9	31.0	7	21.2		
First grade	7	24.1	10	30.3		
Second grade	4	13.8	4	12.1		
Third grade	6	20.7	5	15.2		
Fourth grade	3	10.3	7	21.2		
Child's birth place					2.17	<i>ns</i>
United States	14	48.3	20	60.6		
Mexico	13	44.8	9	27.3		
Other country	2	6.9	4	12.1		
Children in family					11.19	< .05
Only child	4	13.8	0	0.0		
Two children	13	44.8	15	45.5		
Three children	4	13.8	14	42.4		
Four or more children	8	27.6	4	12.1		

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's Exact test; *p*: significance; *ns*: not significant

Table 1b
Demographic Characteristics of ACLAMO^a and Control^b Group Children

Variable	ACLAMO		Control		F	p
	n	%	n	%		
Birth order					6.71	ns
Oldest	13	48.1	21	63.6		
Middle	3	11.1	5	15.2		
Youngest	7	25.9	6	18.2		
Second out of four	1	3.7	1	3.0		
Third out of four	3	11.1	0	0.0		

Note: ^an = 29, ^bn = 33; n: sample size; F: Fisher's Exact test; p: significance; ns: not significant

Parent Demographics

All demographic information regarding the parents is offered in Tables 2a to 2d. All the parents were Hispanic (100%). The mother's birthplace for the ACLAMO group was either a big city in Mexico (n=10, 34.4%) or a town (n=19, 65.5%). The mothers in the control group were also born in Mexico, either in a big city (n=13, 39.4%) or in a town (n=16, 48.5%). Information on one mother was missing. Using a Fisher's exact test, the mother's birthplace between groups was not statistically significantly different.

Information on all the fathers was not readily available; however, similar to the mothers, the ACLAMO fathers were born in either a big Mexican city (n = 7, 25%) or in a town (n = 11, 39.3%). The fathers in the control group were also born in Mexico, either in a big city (n = 7, 26.9%) or in a town (n = 14, 53.8%). Some of the parents in the

control group were born in other countries including Guatemala, Puerto Rico, and El Salvador.

The majority of parents emigrated from Mexico and had been living in the United States for 4 years or more (ACLAMO group: $n = 27$, 93.1%; Control group: $n = 26$, 78.8%). Overall, variables such as level of education completed, working hours, housing, number of people living in the home, and means of transportation indicated that families in both groups were of low socioeconomic status.

The following demographic variables did not reveal any statistically significant differences between both studied groups: parents' birth place, years living in the U.S., school grade level mother or father completed, hours mothers or fathers worked, housing type, or means of transportation used. The number of people living in the home revealed a statistically significant difference, as 25 (86.2%) of the ACLAMO group and 17 (51.5%) of the control group lived in homes with four to six people and zero (0%) of the ACLAMO group and seven (21.2%) of the control group lived in homes with more than nine people ($p = .01$, Fisher's Exact test). Based on the definition of the ACLAMO group, it is not surprising that the variable of day care used in past was statistically significantly different from the control group ($p = .001$, Fisher's Exact test).

Another variable that showed statistically significant difference between groups was the Language in daycare. English was more frequently taught in the ACLAMO group (26, 89.7%) than in the control group (12, 36.4%), whereas it was Spanish in the control group (21, 63.6%) vs. in the ACLAMO group (1, 3.4%) ($p = .001$, Fisher's Exact test).

Table 2a
Demographic Characteristics of ACLAMO^a and Control^b Group Parents

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Mother's birth place					4.91	<i>ns</i>
Big city in Mexico	10	34.4	13	39.4		
Town in Mexico	19	65.5	16	48.5		
United States	0	0.0	0	0.0		
Other country	0	0.0	4	12.1		
Father's birth place					6.61	<i>ns</i>
Big city in Mexico	7	25.0	7	26.9		
Town in Mexico	11	39.3	14	53.8		
United States	0	0.0	0	0.0		
Other country	0	0.0	5	19.2		
Years living in the U.S.					4.83	<i>ns</i>
Less than 1 year	0	0.0	1	3.0		
1-3 years	2	6.9	6	18.2		
4-8 years	18	62.1	12	36.4		
More than 9 years	9	31.0	14	42.4		
Mother schooling					3.84	<i>ns</i>
No school	6	20.7	5	15.2		
Some elementary	7	24.1	8	24.2		
All elementary	3	10.3	3	9.1		

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Table 2b
 Demographic Characteristics of ACLAMO^a and Control^b Group Parents

Variable	ACLAMO		Control		F	p
	n	%	n	%		
Some high school	7	24.1	13	39.4		
Graduate high school	4	13.8	2	6.1		
Some college	1	3.4	2	6.1		
Graduate college	1	3.4	0	0.0		
Father schooling					12.46	ns
No school	3	10.3	3	10.7		
Some elementary	7	24.1	3	10.7		
All elementary	3	10.3	12	42.9		
Some high school	3	10.3	3	10.7		
Graduate high school	10	34.5	6	21.4		
Some college	2	6.8	0	0.0		
Graduate college	1	3.4	1	3.6		
Hours mother works					9.51	ns
No hours	11	37.9	12	36.3		
1-20 hours	4	13.8	0	0.0		
21-40 hours	6	20.7	10	30.3		
41-50 hours	7	24.1	11	33.3		
More than 50 hours	1	3.4	0	0.0		

Note: ^an = 29, ^bn = 33; n: sample size; F: Fisher's exact test; p: significance; ns: not significant

Table 2c
 Demographic Characteristics of ACLAMO^a and Control^b Group Parents

Variable	ACLAMO		Control		F	p
	n	%	n	%		
Hours father works					6.17	ns
No hours	1	3.4	4	12.1		
1-20 hours	1	3.4	0	0.0		
21-40 hours	1	3.4	0	0.0		
41-50 hours	24	82.8	23	69.7		
More than 50 hours	2	6.9	6	18.2		
Housing						
Apartment	18	62.1	13	39.4	3.17	ns
House	11	37.9	20	60.6		
Rent	26	89.7	29	87.9	.04	ns
Own	3	10.3	4	12.1		
Number of people at home						
4-6	25	86.2	17	51.5	14.29	< .01
7-9	4	13.8	9	27.3		
More than 9	0	0.0	7	21.2		

Note: ^an = 29, ^bn = 33; n: sample size; F: Fisher's exact test; p: significance; ns: not significant

Table 2d
Demographic Characteristics of ACLAMO^a and Control^b Group Parents

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Means of transportation						
Own car	22	75.9	6	26.1	5.14	<i>ns</i>
Friends or relatives car	0	0.0	1	4.3		
Bus	2	6.9	6	26.1		
Walk	5	17.2	10	43.5		
Day care used in past						
Daycare	0	0.0	1	3.0	72.65	< .001
ACLAMO	29	100.0	0	0.0		
Head Start	0	0.0	10	30.3		
Family Daycare	0	0.0	1	3.0		
Neighbor	0	0.0	12	36.4		
Family Member	0	0.0	9	27.3		
Language in daycare						
Spanish	1	3.4	21	63.6	16.20	< .001
English	26	89.7	12	36.4		
Both Languages	2	6.9	0	0.0		

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Parent Literacy

Tables 3a to 3c display a summary of the parents literacy data. The majority of parents in both groups were involved in some type of literacy skills with their children. Parents reported having read to their children in the past week more frequently between 5 and 7 days: ACLAMO group ($n = 15$, 51.7%; control group: $n = 18$, 54.5%). Parents in the ACLAMO group ($n = 12$, 41.4%) reported reading a session 21 and 30 minutes in length more often than the control group ($n = 5$, 16.1%). However, these differences were not statistically significant. The language read to child was found to be statistically significant, where the ACLAMO parents tended to read to their children in both languages ($n = 14$, 48.3%) vs. the control ($n = 4$, 12.1%). In comparison, 17 (51.5%) of the control parents read to their children in Spanish, whereas 8 (27.6%) of the ACLAMO parents read in Spanish ($p = .05$, Fisher's exact test). More parents in the ACLAMO group indicated that they had time to read ($n = 27$, 93.1%), compared to the Control group ($n = 28$, 84.5%). Similarly, more parents in the ACLAMO group reported reading more than 1 day per week ($n = 25$, 86.2%), whereas fewer in the control group ($n = 18$, 54.6 %) reported doing the same. This variable was found to be significantly significant ($p = .01$, Fisher's exact test). Reading material included newspapers, magazines, and books, and their use was similar in both studied groups. Internet use was available in the ACLAMO group homes ($n = 13$, 44.8%) and in the control group homes ($n = 11$, 33.3%).

Parents in both groups were consistent in the manner in which they supported the children in the home, including information such as setting time and place to do homework, checking the homework, and setting a bedtime. In addition, 7 (24.1%) of the parents in the ACLAMO group made two or more visits to the library in the past month,

compared to only 4 (12.1%) of the control group. This difference showed a tendency towards statistical significance ($p = .09$, Fisher's exact test).

Table 3a
Parent Literacy Scale Item of ACLAMO^a and Control^b Groups

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Read to child past week					7.41	<i>ns</i>
0-1 days	5	17.2	4	12.1		
2-4 days	9	31.0	11	33.3		
5-7 days	15	51.7	18	54.5		
Minutes read					7.80	<i>ns</i>
5-10 minutes	7	24.1	7	22.6		
11-20 minutes	9	31.0	14	45.2		
21-30 minutes	12	41.4	5	16.1		
31-60 minutes	1	3.4	5	16.1		
Language read to child					9.88	< .05
Spanish	8	27.6	17	51.5		
English	5	17.2	9	27.3		
Both	14	48.3	4	12.1		
Do not read	2	6.9	3	9.1		
Parents time to read					1.05	<i>ns</i>
Yes	27	93.1	28	84.5		
No	2	6.9	5	15.2		

Note: ^a $n = 29$, ^b $n = 33$; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Table 3b
 Parent Literacy Scale Item of ACLAMO^a and Control^b Groups

Variable	ACLAMO		Control		F	p
	n	%	n	%		
How often parents read					13.48	<.01
Do not read	2	6.9	7	21.2		
1 day /week	2	6.9	8	24.2		
More than 1 day/week	21	72.4	9	27.3		
Everyday	2	6.9	7	21.2		
Several times/day	2	6.9	2	6.1		
Type of reading						
Newspapers	12	41.4	12	36.4	.16	ns
Magazines	11	37.9	15	45.5	1.15	ns
Books	15	51.7	14	42.4	.54	ns
Children's books	6	20.7	4	12.1	.84	ns
Internet at home					.86	ns
Yes	13	44.8	11	33.3		
No	16	55.2	22	66.7		
Internet User						
Father	3	15.0	7	22.6	1.35	ns
Mother	6	30.0	7	22.6	.03	ns
Child	4	20.0	8	25.8	1.08	ns
Other siblings	7	35.0	9	29.0	.08	ns

Note: ^an = 29, ^bn = 33; n: sample size; F: Fisher's exact test; p: significance; ns: not significant

Table 3c
Parent Literacy Scale Item of ACLAMO^a and Control^b Groups

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Support at home						
Time/place homework	23	79.3	25	75.8	.11	<i>ns</i>
Check homework	28	96.6	33	100.0	1.16	<i>ns</i>
Limit TV/video games	22	75.9	31	93.9	4.07	<i>ns</i>
Time to go to sleep	25	86.2	31	93.9	1.07	<i>ns</i>
Library visits past month					8.11	.09
0 days	18	62.1	21	63.6		
1 day	4	13.8	8	24.2		
2 days	4	13.8	1	3.0		
3 days	3	10.3	0	0.0		
4 or more days	0	0.0	3	9.1		

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Parent Involvement

Tables 4a and 4b provide a summary of parent involvement data. The majority of parents in both groups showed a great concern for their children's education, and they understood its value for their future. A total of 10 (34.5%) of the ACLAMO parents and 13 (39.4%) of the control group parents went on field trips or helped in classrooms this past year. The most frequent visit was for a conference with the teacher regarding report

card grades. This was noted in 29 (100%) of the ACLAMO group and with 31 (93.9%) of the control group. Other reasons included child health or nutritional concerns, in 7 (24.1%) of the ACLAMO group and 7 (21.2%) of the control group and behavioral issues 3 (10.3%) of the ACLAMO group and 9 (27.3%) of the control group. The majority of parents spoke with teachers at least once per month, with 22 (75.9%) in the ACLAMO group and 27 (81.8 %) in the control group. Yet the frequency distribution of all these variables in the ACLAMO and the control groups was not statistically significantly different.

The survey also investigated the reasons why the parents did not participate in school activities. Among the variables included, only the English Barrier was statistically significantly different with 10 (34.5%) in the ACLAMO group compared to 2 (6.1%) in the Control group ($p = .01$, Fisher's exact test). Other barriers noted, the distribution of which was not found to be significantly different, were the following: transportation problems, child care problems, mom working, did not know how to participate, wasn't invited, and doesn't feel comfortable in the school.

Parent involvement was also assessed using several questions about parents' value of education and what the child's success meant to the parents. The majority of parents in both groups responded that it was very important that their children succeed (28, 96.6%) of parents in the ACLAMO group and 33 (100%) in the control group) and that they graduate from college (24 (82.8%) in the ACLAMO group and 28 (84.8%) in the control group).

Table 4a
Parent Involvement in ACLAMO^a and Control^b Groups

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Parents helped at school					.16	<i>ns</i>
Yes	10	34.5	13	39.4		
No	19	65.5	20	60.6		
Why talked to teacher						
Report card grades	29	100.0	31	93.9	1.81	<i>ns</i>
Health/nutrition concerns	7	24.1	7	21.2	.08	<i>ns</i>
Developmental problems	0	0.0	3	9.1	2.77	<i>ns</i>
Behavioral issues	3	10.3	9	27.3	2.83	<i>ns</i>
Attendance/tardiness	1	3.4	1	3.0	.01	<i>ns</i>
How often talked to teacher					1.08	<i>ns</i>
One time per month	22	75.9	27	81.8		
One time per week	6	20.7	4	12.1		
Everyday	1	3.4	2	6.1		

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Table 4b
Parent Involvement in ACLAMO^a and Control^b Groups

Variable	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Why did not participate						
Transportation problems	3	10.3	3	9.1	.03	<i>ns</i>
Child care difficulties	12	41.4	9	27.3	1.37	<i>ns</i>
Work schedule	4	13.8	8	24.2	1.08	<i>ns</i>
English barrier	10	34.5	2	6.1	7.99	< .01
Did not know how	1	3.4	2	6.1	.23	<i>ns</i>
Was not invited	7	24.1	3	9.1	2.58	<i>ns</i>
Importance child success					1.57	<i>ns</i>
Very important	28	96.6	33	100.0		
Important	1	3.4	0	0.0		
What success means						
Finish high school	1	3.4	2	6.1	.23	<i>ns</i>
Finish college/university	28	96.6	32	97.0	.01	<i>ns</i>
Obtain a good job	6	20.7	5	15.2	.32	<i>ns</i>
What goals for child						
High school graduation	3	10.3	2	6.1	.38	<i>ns</i>
College/Tech. school grad.	24	82.8	28	84.8	.05	<i>ns</i>
Whatever they choose	13	44.8	14	42.4	.04	<i>ns</i>

Note: ^a*n* = 29, ^b*n* = 33; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

For the great majority of parents, their children's success meant graduating from a college or university (28 (96.6%) in the ACLAMO group and 32 (97%), in the control group). However, they also felt that their children should have a choice (13 (44.8%) in the ACLAMO group and 14 (42.4%), in the control group). The different frequency distribution of these data between the studied groups was not statistically significant.

Children's Academic Performance Data

Language

Woodcock Muñoz Language Survey.

Tables 5a and 5b, and Figure 1 show a summary of the results of the Woodcock Muñoz Language Survey, offering basic language information on a subgroup of kindergarten students. The student's performance is translated into CALP (cognitive academic language proficiency) levels ranging from 1 to 5 (1 = no English to 5 = advanced English). Please refer to the Methods section for further information.

The performance between the studied groups in the Broad English Ability subtest was very close to statistical significance: 5 (83.3%) of the ACLAMO group had higher CALP levels (4 (fluent English) and 4.5 (fluent to advanced english)) compared to the control group (1 (10%)) ($p = .06$, Fisher's exact test). The varied performance in the Oral Language Ability showed a tendency towards statistical significance ($p = .05$, Fisher's exact test). Five (83.3%) of the ACLAMO group compared to 3 (30%) of the control group students performed at 3.5 or 4 CALP levels. Reading and Writing Ability performance was also statistically significantly better in the ACLAMO group, with 6

(100%) students demonstrating an ability at CALP levels 4.5 and 5 (advanced English) vs. 0 (0%) in the control group ($p = .001$, Fisher's exact test).

Table 5a

Woodcock Muñoz Language Survey Results in Kindergarten (K) Children of ACLAMO^a and Control^b Groups

Subtest Performance	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
<i>Broad English ability</i>						
<i>CALP levels (end of K)</i>					7.73	.06
2	0	0.0	2	20.0		
3	0	0.0	3	30.0		
3.5	1	16.7	4	40.0		
4	3	50.0	1	10.0		
4.5	2	33.3	0	0.0		
<i>Oral language ability</i>						
<i>CALP levels (end of K)</i>					6.59	.05
2	1	16.7	1	10.0		
3	0	0.0	6	60.0		
3.5	3	50.0	1	10.0		
4	2	33.3	2	20.0		

Note: ^a*n* = 6, ^b*n* = 10; *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

Table 5b

Woodcock Muñoz Language Survey Results in Kindergarten (K) Children of ACLAMO^a and Control^b Groups

Subtest Performance	ACLAMO		Control		F	p
	n	%	n	%		
<i>Reading and writing ability</i>						
CALP levels (end of K)					13.4	.001
2	0	0.0	3	30.0		
3	0	0.0	2	20.0		
3.5	0	0.0	1	10.0		
4	0	0.0	4	40.0		
4.5	3	50.0	0	0.0		
5	3	50.0	0	0.0		

Note: ^an = 6, ^bn = 10; n: sample size; F: Fisher's exact test; p: significance; ns: not significant

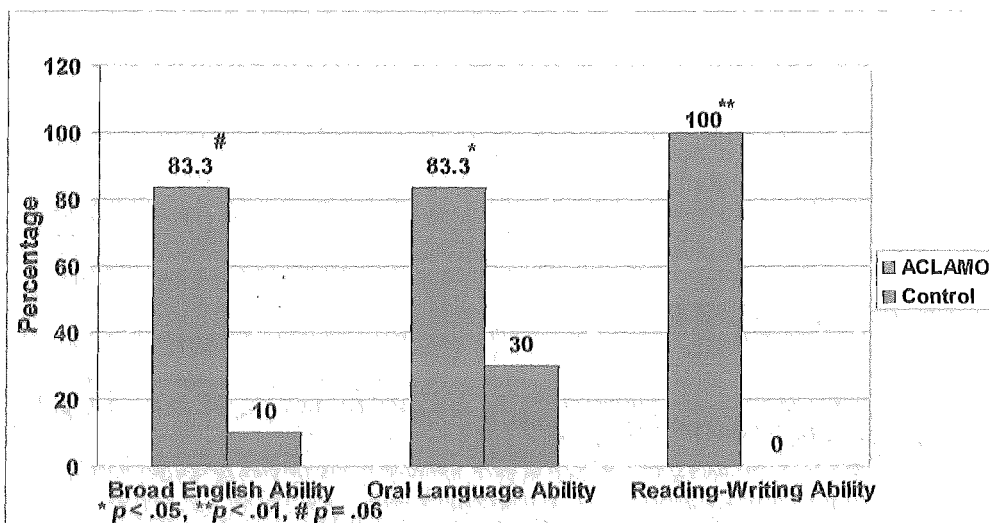


Figure 1. Woodcock Muñoz language survey results (%) for kindergarten

English as a Second Language (ESL)

The results of the ESL report cards among all grade levels are shown in Tables 6a and 6b.

The performance of the ACLAMO and control groups was similar, as the analysis of frequency distribution of grade or CALP levels between them showed no significance. Ten (76.9%) ACLAMO students were at grade level kindergarten (0) or first grade, vs. 16 (69.5%) of the control students. The distribution of grades 3 and 4 were 3 (23.1%) and 6 (25.2%), respectively. Similarly, 5 (38.5%) of ACLAMO students were at CALP level 1 or 2, as were 7 (29.2%) of those in the control group. The distribution of CALP levels 3 and 4 were 8 (61.5%) and 17 (70.8%), respectively.

Table 6a

English as a Second Language (ESL) Report Card Grades of ACLAMO^a and Control^b Group

ESL Performance	ACLAMO		Control		F	p
	n	%	n	%		
Grade level					.60	ns
0	9	69.2	7	30.4		
1	1	7.7	9	39.1		
2	0	0.0	1	4.3		
3	2	15.4	5	21.7		
4	1	7.7	1	4.3		

Note: ^an = 13, ^bn = 24; n: sample size; F: Fisher's exact test; p: significance; ns: not significant

Table 6b

English as a Second Language (ESL) Report Card Grades of ACLAMO^a and Control^b Group

ESL Performance	ACLAMO		Control		F	p
	n	%	n	%		
CALP level					6.74	ns
1	2	15.4	3	12.5		
2	3	23.1	4	16.7		
3	8	61.5	17	70.8		
4	0	0.0	0	0.0		

Note: $n = 13$, $^b n = 24$; n : sample size; F : Fisher's exact test; p : significance; ns : not significant

However, when the mean standardized ESL percentage performance level was compared between both studied groups with a t test, the value in the ACLAMO group was higher ($M = 87.7$, $SE = 3.73$) compared to the control group ($M = 76.8$, $SE = 3.62$) nearing statistical significance, $t(35) = 1.93$, $p = .06$ (Figure 2).

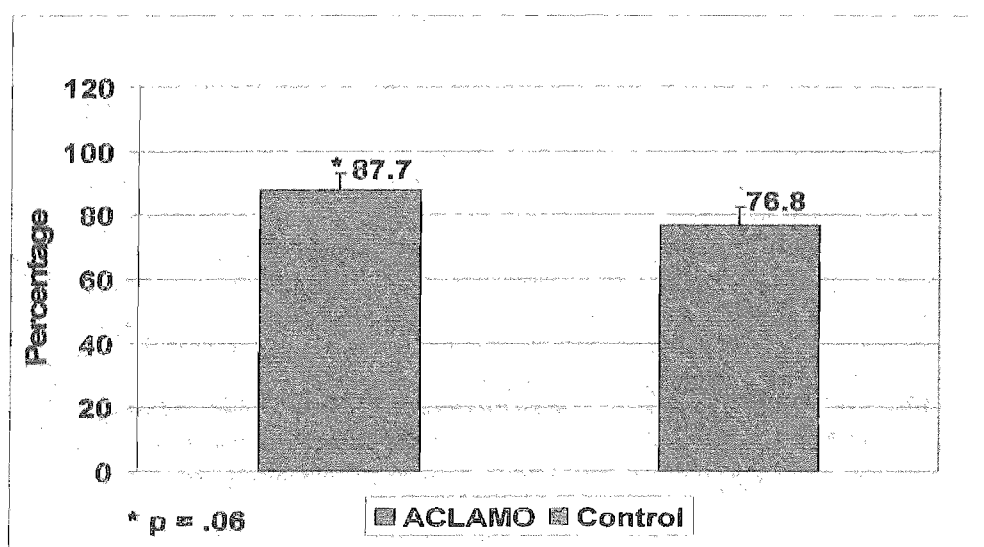


Figure 2. Mean standardized ESL percentage

Reading

DIBELS. A summary of the results from the *DIBELS* performance across grades are highlighted in Tables 7a and 7b. Using the *t* test for comparison of means, the performance of both groups was similar for almost all of the variables. There was only a difference between groups for letter name fluency” in the beginning of first grade: $M = 40.3$, $SE = 3.9$ in the ACLAMO group vs. $M = 26.6$, $SE = 4.1$ in the Control group, $t(32) = 2.41$, $p < .05$.

Table 7a
DIBELS Scores of ACLAMO and Control Groups

DIBELS Performance	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
Kindergarten								
Initial sound fluency—B	3.8	5.3	.8	1.2	20	18	-1.06	ns
Initial sound fluency—M	16.4	7.9	1.8	2.4	19	18	-.55	ns
Letter name fluency—B	11.6	6.4	.7	2.0	21	18	1.54	ns
Letter name fluency—E	42.3	35.6	2.4	4.4	23	20	1.34	ns
Phoneme sound fluency—M	15.0	17.2	2.6	4.4	20	17	-.44	ns
Phoneme sound fluency—E	34.8	32.0	3.9	4.7	23	20	.46	ns
Nonsense word fluency—M	11.7	13.7	2.4	4.6	17	17	-.36	ns
Nonsense word fluency—E	28.1	24.6	3.5	4.6	21	19	.61	ns

Note: *M*: mean; *SE*: standard error; *n*: sample size; A: ACLAMO; C: Control; *t*: *t* test value; *p*: significance; *ns*: not significant; B: beginning; M: middle; E: end of academic year

Table 7b
DIBELS Scores of ACLAMO and Control Groups

DIBELS Performance	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
First grade								
Letter name fluency—B	40.3	26.6	3.9	4.1	18	16	2.41	< .05
Letter name fluency—B	27.5	26.3	4.1	3.8	19	16	.22	ns
Phoneme sound fluenc—E	54.3	51.4	2.3	4.2	19	21	.59	ns
Nonsense word fluency—B	25.6	18.5	5.8	6.8	18	15	.79	ns
Nonsense word fluency—E	51.6	43.7	5.8	6.9	20	21	.87	ns
Oral reading fluency—M	26.1	16.6	5.8	8.3	16	17	.93	ns
Oral reading fluency—E	38.1	30.1	5.5	9.6	18	21	.68	ns
Second grade								
Nonsense word fluency—B	44.4	45.1	5.0	8.7	12	14	-.07	ns
Oral reading fluency—B	31.8	34.9	4.7	14.1	12	14	-.21	ns
Oral reading fluency—E	69.5	61.3	6.9	13.8	12	16	.54	ns
Third grade								
Oral reading fluency—B	59.8	63.8	8.9	14.8	8	9	-.23	ns
Oral reading fluency—E	80.9	90.2	9.3	16.3	7	10	-.49	ns

Note: *M*: mean; *SE*: standard error; *n*: sample size; *A*: ACLAMO; *C*: control; *t*: *t* test value; *p*: significance; *ns*: not significant; B: beginning; E: end of academic year

Guided Reading. The frequency distribution of the Guided Reading Score (GRS) from report cards among all grade levels is shown in Table 8. The statistical analysis of the GRS (comparison of group means with t test) did not demonstrate any significant differences.

Table 8
Guided Reading Scores from Report Cards of ACLAMO and Control Groups

Guided Reading Score	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
Kindergarten—B	1.0	1.4	.0	.2	3	5	-1.63	ns
Kindergarten—E	2.4	1.4	.3	.6	9	7	-1.41	ns
First grade—B	3.6	2.7	.5	1.1	5	15	.61	ns
First grade—E	7.4	6.5	.7	1.0	20	11	.72	ns
Second grade—B	8.9	7.1	.9	1.5	8	11	.99	ns
Second grade—E	12.3	10.8	.6	1.4	11	12	1.01	ns
Third grade—B	13.8	11.9	.8	1.4	4	8	.89	ns
Third grade—E	15.0	12.9	.5	1.8	5	10	.81	ns
Fourth grade—B	15.5	13.7	.5	1.7	2	6	.58	ns
Fourth grade—E	17.5	17.1	.5	1.2	2	7	.28	ns

Note: *M*: mean; *SE*: standard error; *n*: sample size; *A*: Aclamo; *C*: Control; *t*: *t* test value; *p*: significance *ns*: not significant; B: beginning; E: end of academic year

However, as indicated in Methods, when performing further analysis of the frequency distribution of the GRS score grade-equivalent, using Fisher's exact test, the results revealed a statistically significant difference between the studied groups (Table 9,

Figure 3). A total of 25 (89.3%) students in the ACLAMO group were reading at or above grade level, compared to 14 (66.6%) in the control group ($p < .05$, Fisher's exact test).

Table 9

Guided Reading Score Compared to Grade Level of ACLAMO and Control Groups

Guided Reading Score	ACLAMO		Control		F	p
	n	%	n	%		
Compared to grade level					7.22	< .05
Below grade level	3	10.7	7	33.3		
At grade level	20	71.4	7	33.3		
Above grade level	5	17.9	7	33.3		

n: sample size; F: Fisher's exact test; p: significance

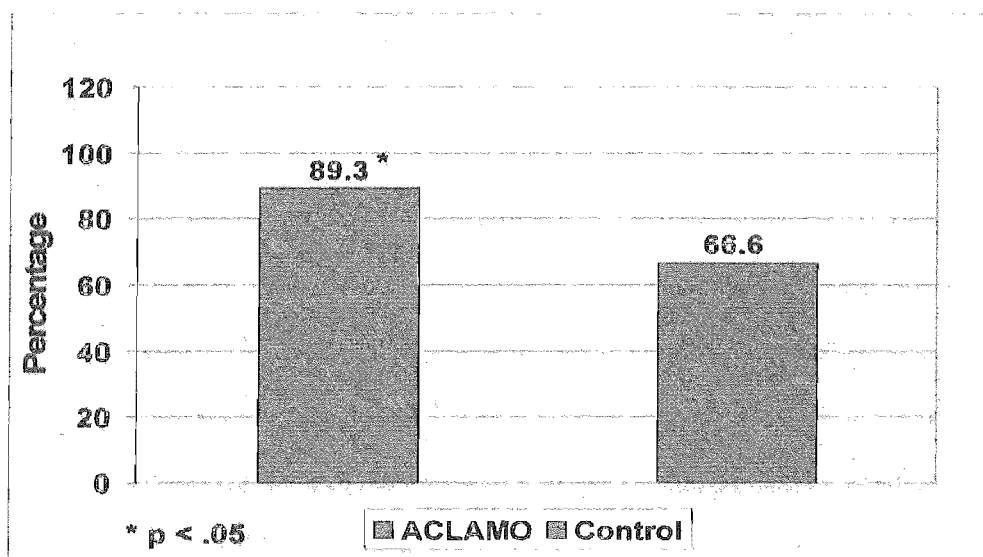


Figure 3. Guided reading score (%) at or above grade level

Mathematics

Mathematics Report Card. The results of the mathematics total grade scores of the report cards among all grade levels are shown in Table 10a and Figures 4 and 5. The data revealed statistically significant differences between the two studied groups at different grade levels. In the beginning of first grade (Figure 4) ACLAMO scores were $M = 26.9, SE = 1.8$ vs. $M = 21.1, SE = 1.7$ in the Control group, $t(20) = 2.38, p < .05$. In the end of third grade (Figure 5), ACLAMO total math scores were $M = 40.1, SE = 4.2$ vs. $M = 23.6, SE = 2.6$ in the Control group, $t(10) = 3.02, p < .05$.

Table 10a

Mathematics Report Card Grades of ACLAMO and Control Groups

Global total score	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
Kindergarten—B	19.4	17.8	1.3	3.9	21	18	.43	<i>ns</i>
Kindergarten—E	40.4	37.5	2.4	2.2	22	15	.84	<i>ns</i>
First grade—B	26.9	21.1	1.8	1.7	11	11	2.38	< .05
First grade—E	60.0	48.4	5.0	8.5	14	13	1.18	<i>ns</i>
Second grade—B	31.4	26.3	5.6	4.4	5	9	0.69	<i>ns</i>
Second grade—E	48.0	50.1	5.4	5.4	8	8	-.28	<i>ns</i>
Third grade—B	24.0	23.0	1.5	4.9	5	4	.19	<i>ns</i>
Third grade—E	40.1	23.6	4.2	2.6	7	5	3.02	< .05
Fourth grade—B	32.5	26.6	.5	3.7	2	5	.96	<i>ns</i>
Fourth grade—E	55.0	54.3	2.0	7.3	2	4	.07	<i>ns</i>

Note: *M*: mean; *SE*: standard error; *n*: sample size; A: Aclamo; C: control; *t*: *t* test value; *p*: significance; *ns*: not significant; B: beginning; E: end of academic year

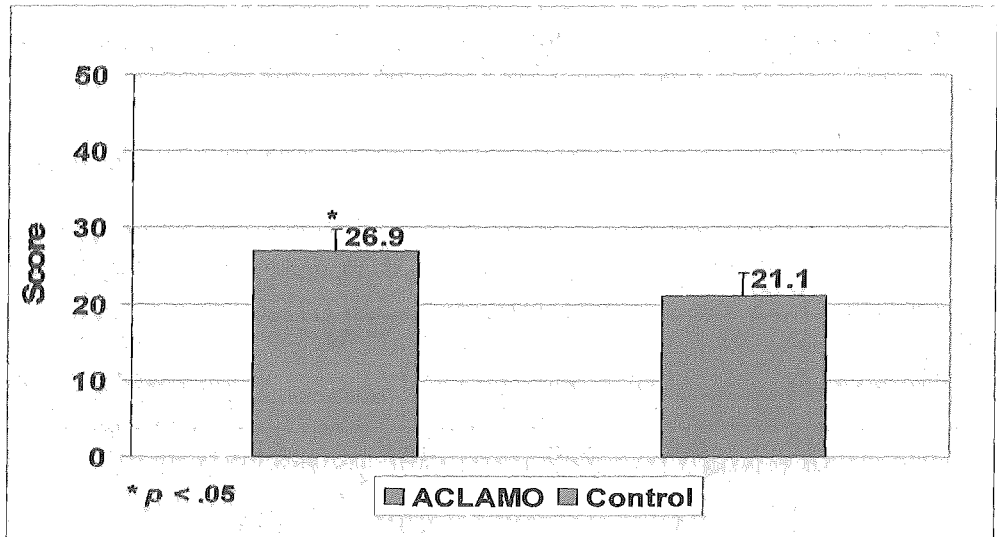


Figure 4. Math global total score: Beginning of first grade (Mean \pm SE)

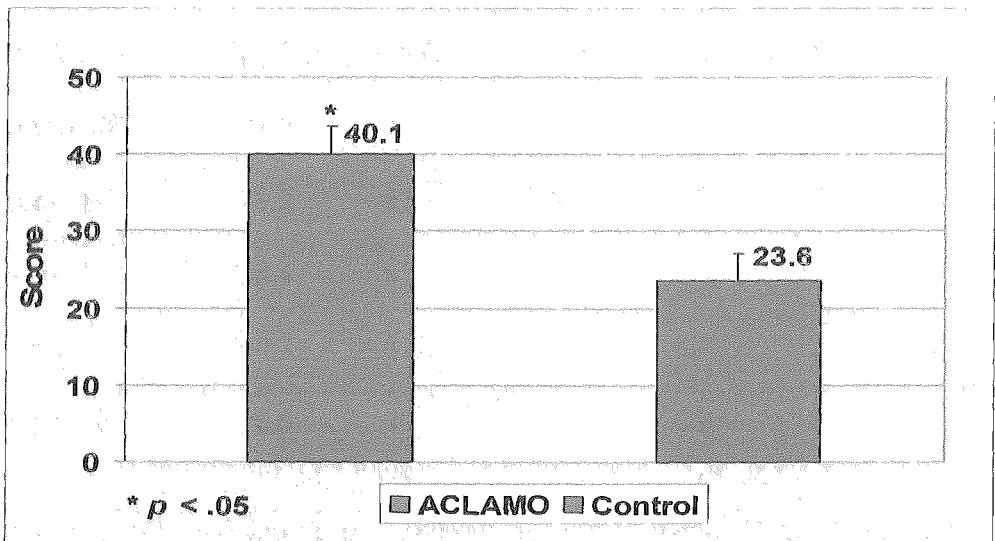


Figure 5. Math global total score: End of third grade (Mean \pm SE)

Table 10b and Figures 6 to 8 also display the math data as percentage of the global total math grade scores. Similarly, they were statistically significantly higher in the ACLAMO group vs. the control group at the beginning of kindergarten (Figure 6): $M = 53.8, SE = 6.4$ vs. $M = 33.2, SE = 5.9, t(50) = 2.36, p < .05$; at the beginning of first grade

(Figure 7): $M = 79.3$, $SE = 4.4$ vs. $M = 63.8$, $SE = 2.6$, $t(7) = 3.01$, $p < .01$; and at the end of third grade: $M = 88.4$, $SE = 5.7$ vs. $M = 67.9$, $SE = 2.7$, $t(10) = 3.23$, $p < .05$ (Figure 8)

Table 10b
Mathematics Report Card Grades of ACLAMO and Control Groups

Global total score %	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
Kindergarten—B	53.8	33.2	6.4	5.9	21	31	2.36	< .05
Kindergarten—E	74.9	71.5	3.3	4.7	22	14	.62	<i>ns</i>
First grade—B	79.3	63.8	4.4	2.6	11	11	3.01	< .01
First grade—E	83.1	75.3	4.4	6.8	14	12	.98	<i>ns</i>
Second grade—B	80.2	68.0	5.5	6.4	5	9	1.45	<i>ns</i>
Second grade—E	77.4	76.3	4.4	4.1	8	8	.19	<i>ns</i>
Third grade—B	83.2	62.1	7.2	10.2	5	4	1.74	<i>ns</i>
Third grade—E	88.4	67.9	5.7	2.7	7	5	3.23	< .05
Fourth grade—B	90.3	81.1	1.4	8.4	2	5	.65	<i>ns</i>
Fourth grade—E	96.5	90.9	3.5	6.8	2	5	.49	<i>ns</i>

Note: *M*: mean; *SE*: standard error; *n*: sample size; A: Aclamo; C: Control; *t*: *t* test value; *p*: significance; *ns*: not significant; B: beginning; E: end of academic year

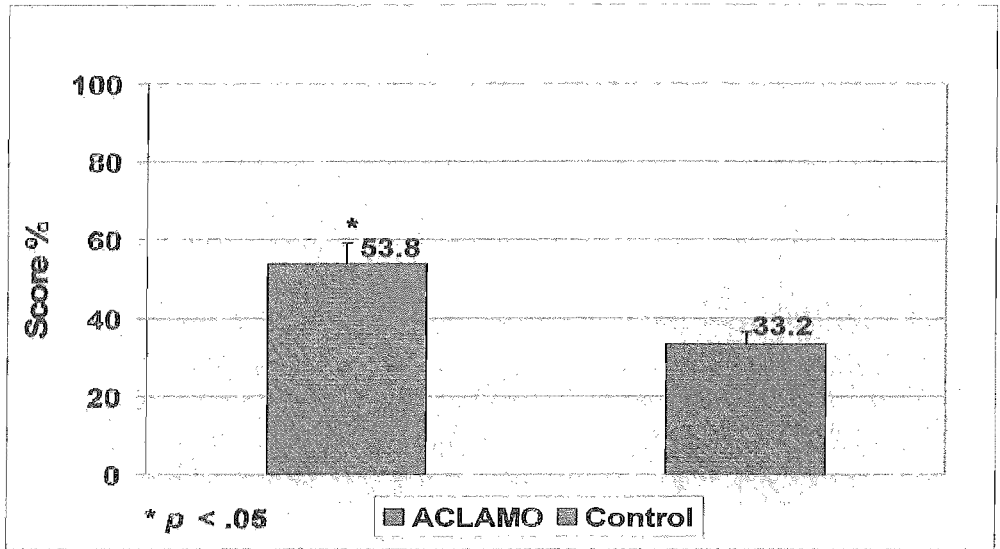


Figure 6. Math global total score %: Beginning of kindergarten (Mean \pm SE)

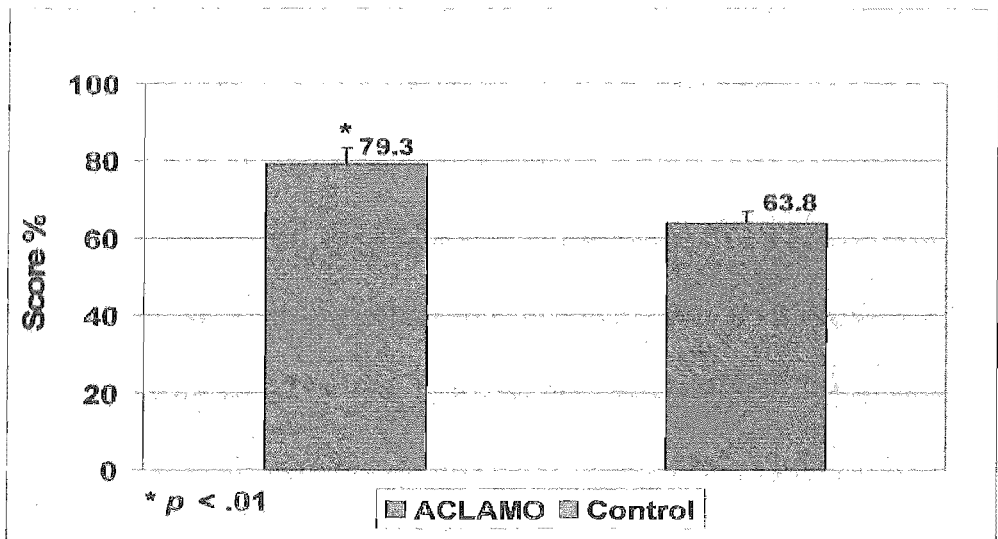


Figure 7. Math global total score %: Beginning first grade (Mean \pm SE)

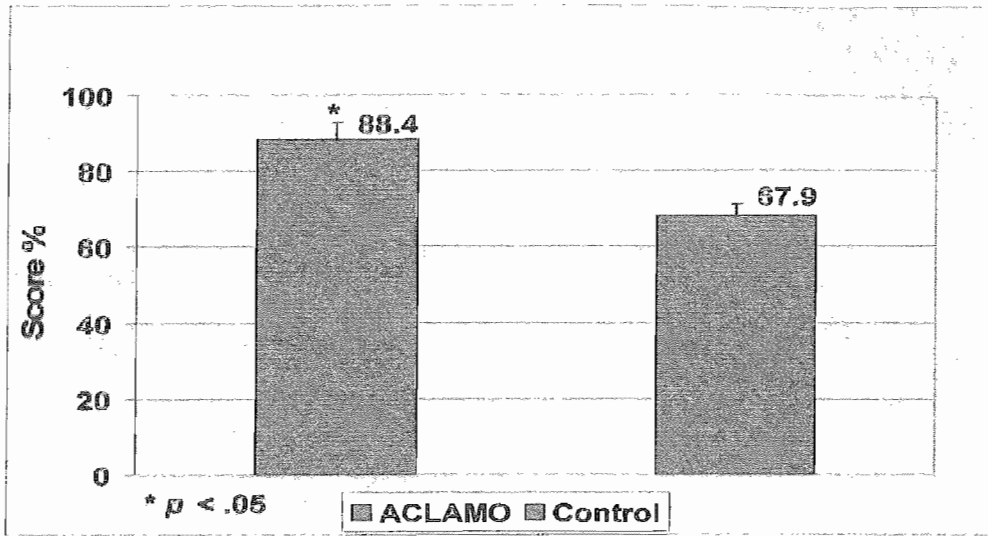


Figure 8. Math global total score %: End of third grade (Mean \pm SE)

Finally, Table 10c also displays total math grade scores differences in the specific subtest of numbers. They were statistically significantly higher in the ACLAMO group vs. the control group at the beginning of kindergarten: $M = 11.7$, $SE = 1.2$ vs. $M = 7.8$, $SE = .8$, $t(35)=2.67$ $p < .01$, at the beginning of third grade: $M = 12.2$, $SE = 1.3$ vs. $M = 8.3$, $SE = .9$, $t(7)=2.36$, $p < .05$, and at the end of third grade: $M = 17.0$, $SE = .4$ vs. $M = 13.4$, $SE = 1.0$, $t(10)=3.28$, $p < .05$. ACLAMO children's also had a significantly higher subtest "geometry/ algebra" at the end of third grade: $M = 11.4$, $SE = 1.9$ vs. $M = 5.4$, $SE = .9$, $t(10)=2.81$, $p < .05$

Table 10c
Mathematics Report Card Grades of ACLAMO and Control Groups

Specific total grade	<i>M</i>		<i>SE</i>		<i>n</i>		<i>t</i>	<i>p</i>
	A	C	A	C	A	C		
Numbers kindergarten—B	11.7	7.8	1.2	.8	20	17	2.67	.01
Numbers third grade—B	12.2	8.3	1.3	.9	5	4	2.36	.05
Numbers third grade—E	17.0	13.4	.4	1.0	7	5	3.28	< .05
Geometry/Algebra Third grade—E	11.4	5.4	1.9	.9	7	5	2.81	< .05

Note: *M*: mean; *SE*: standard error; *n*: sample size; A: Aclamo; C: control; *t*: *t* test value; *p*: significance; *ns*: not significant; B: beginning; E: end of academic year

Social Emotional

The results of the social emotional behavior scores, based on report card grades, in a subgroup of kindergarten children are shown in Tables 11 and 12 and Figures 9 and 10.

There was an overall tendency for more kindergarten children from the ACLAMO group to have higher scores in social behaviors, indicating better interaction with peers (Table 11, Figure 9). Thus, at the beginning of kindergarten, 9 (81.8%) of children in the ACLAMO group had scores of 2 or 3 vs. 7 (43.8%) in the control group ($p < .05$, Fisher's exact test). At the end of kindergarten, scores of 2 or 3 were attained by 10 (83.3%) children in the ACLAMO group vs. 9 (56.3%) in the control group, although this difference was not statistically significant.

Table 11

Social Emotional Behaviors Report Card Grades in Kindergarten Children of ACLAMO and Control Groups

Social Behaviors	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Beginning of kindergarten					7.36	.05
0	0	0.0	2	12.5		
1	2	18.2	7	43.8		
2	2	18.2	5	31.3		
3	7	63.6	2	12.5		
End of kindergarten					2.81	<i>ns</i>
1	2	16.7	7	43.8		
2	1	8.3	2	12.5		
3	9	75.0	7	43.8		

Note: *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

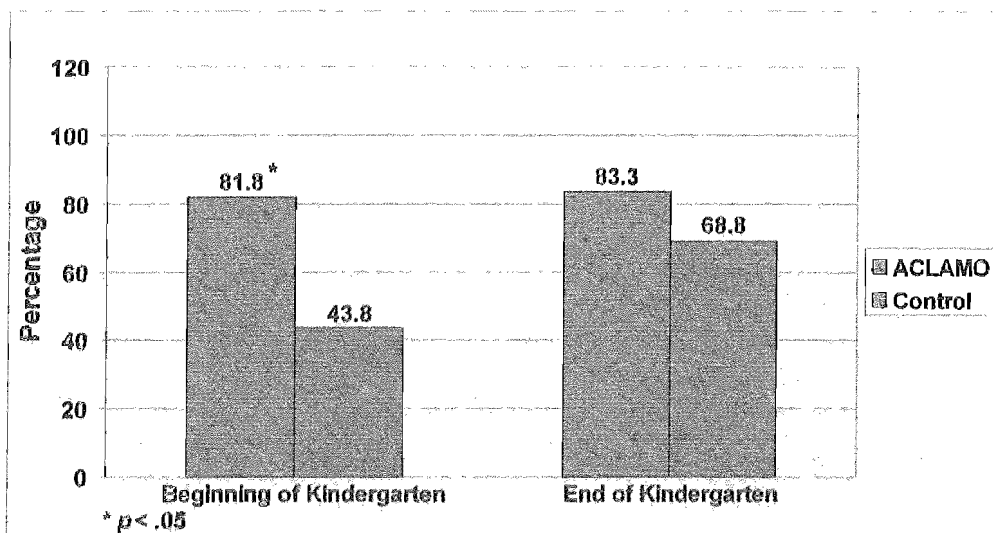


Figure 9. Social behaviors report card grades (%) in kindergarten

There was also an overall tendency for more kindergarten children from the ACLAMO group to have higher scores in self - behaviors, indicating better self-control (Table 12, Figure 10). Thus, at the beginning of kindergarten, 10 (90.9%) of children in the ACLAMO group had scores of 2 or 3 vs. 11 (68.8%) in the control group. At the end of kindergarten, scores of 2 or 3 were attained by 10 (83.3%) children in the ACLAMO group vs. 10 (62.6%) in the control group. However, these differences did not reach statistical significance.

Table 12
Social Emotional Behaviors Report Card Grades in Kindergarten (K) Children of ACLAMO^a and CONTROL^b Groups

Self Behaviors	ACLAMO		Control		<i>F</i>	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Beginning of kindergarten					4.73	<i>ns</i>
1	1	9.1	5	31.3		
2	1	9.1	5	31.3		
3	9	81.8	6	37.5		
End of kindergarten					2.64	<i>ns</i>
1	2	16.7	6	37.5		
2	0	0.0	1	6.3		
2.5	1	8.3	1	6.3		
3	9	75.0	8	50.0		

Note: *n*: sample size; *F*: Fisher's exact test; *p*: significance; *ns*: not significant

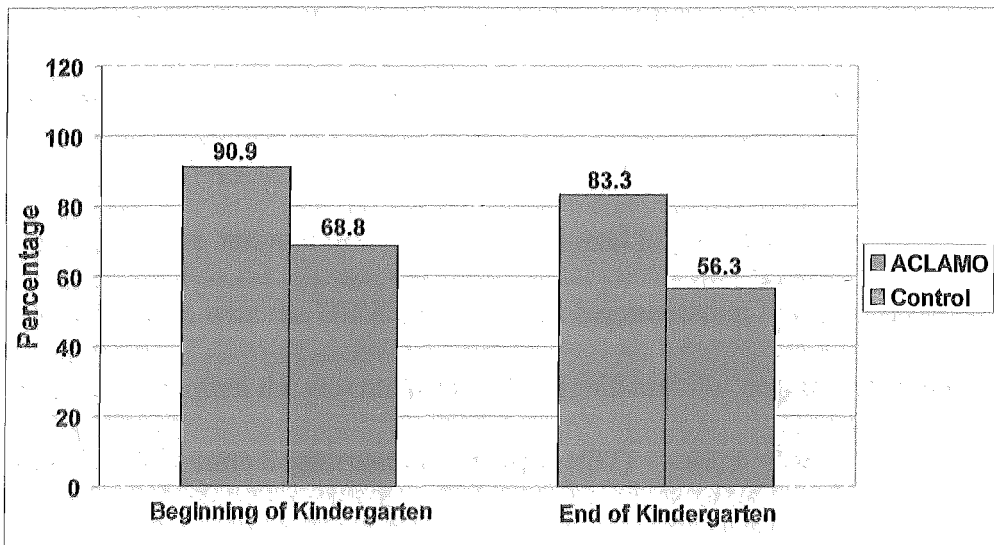


Figure 10. Self behaviors report card grades (%) in kindergarten

Correlation Data

Correlations Between Parents' Literacy and Children's Academic Performance

The correlations between parent literacy variables and academic performance variables in children of both ACLAMO and control groups were analyzed (Tables 13a and 13b).

The number of days per week the parents read to the child showed significant positive correlations in different grades with language performance, including several variables of the Woodcock Muñoz Language Survey, $r(16 \text{ to } 20) = .46$ and $.47, p < .05$, and the DIBELS, $r(24 \text{ to } 37) = .33$ to $.41, p < .05$. In addition, there was a positive significant correlation with the mathematics grade percentage in kindergarten, $r(57) = .26, p < .05$.

The number of minutes the parents read to the child was strongly correlated with language performance, including several variables of the Woodcock Muñoz Language Survey, $r(20) = .43$ to $.47$, $p < .05$, and the DIBELS, $r(24$ to $38) = .45$ to $.59$, $p < .01$.

Interestingly, the amount of time the parents read to the child had a significant but negative correlation with the DIBELS Phonemic Segmentation Fluency, $r(38) = -.48$, $p < .01$. Similarly, how often the parents read had a significant but negative correlation with the DIBELS Phonemic Segmentation Fluency, $r(37) = -.43$, $p < .01$.

Table 13a

Statistically Significant Correlations Between Selected Parent Literacy Variables and Academic Performance Variables in All Children (ACLAMO and Control Groups)

Literacy Variables	<i>n</i>	<i>r</i>	<i>p</i>
Read to child past week vs.			
WM—K—B—Broad English Ability	18	.47	< .05
WM—K—B—Reading Writing	22	.46	< .05
DIBELS—K—B—Letter Name Fluency	39	.33	< .05
DIBELS—1 st G—M—Oral Reading Fluency	33	.35	< .05
DIBELS—1 st G—E—Oral Reading Fluency	39	.38	< .05
DIBELS—2 nd G—B—Nonsense Word Fluency	26	.39	< .05
DIBELS—2 nd G—B—Oral Reading Fluency	26	.41	< .05
Mathematics Grade Percentage—K—B	59	.26	< .05

Note: *n*: sample size; *r*: Pearson correlation coefficient; *p*: significance; WM: Woodcock Muñoz; K: kindergarten; B: beginning, M: middle, E: end of academic year; G: grade

Table 13b
Statistically Significant Correlations Between Selected Parent Literacy Variables and Academic Performance Variables in All Children (ACLAMO and Control Groups)

Literacy Variables	<i>n</i>	<i>r</i>	<i>p</i>
Minutes read vs.			
WM—K—B—Oral Language Ability	22	.43	< .05
WM—K—B— Reading Writing	22	.47	< .05
DIBELS—1 st G—M—Oral Reading Fluency	33	.56	.001
DIBELS—1 st G—E—Oral Reading Fluency	39	.55	.000
DIBELS—1 st G—E—Phonemic Segment. Fluency	40	-.48	< .01
DIBELS 2 nd - GB—Nonsense Word Fluency	26	.51	< .01
DIBELS—2 nd - G—B—Oral Reading Fluency	26	.59	.001
DIBELS—2 nd - G—E—Oral Reading Fluency	28	.45	< .05
Social Behaviors—K—E	27	-.40	< .05
Self-Behaviors—K—E	27	.45	< .05
How often parents read vs.			
DIBELS—1 st G—E—Phonemic Segment. Fluency	39	-.43	< .01
Library visits past month vs.			
Social Behaviors—K—E	28	-.39	< .05
Self Behaviors—K—E	28	-.44	< .05

Note: *n*: sample size; *r*: Pearson correlation coefficient; *p*: significance; WM: Woodcock Muñoz; K: kindergarten; B: beginning, M: middle, E: end of academic year; G: grade
 Segment.: segmentation

The number of library visits in the past month had a significant negative correlation with social behaviors at the end of kindergarten, $r(26) = -.39, p < .05$, as well as with self behaviors at the end of kindergarten, $r(26) = -.44, p < .05$

Correlations between Parents' Involvement and Children's Academic Performance

Table 14 provides a summary of statistically significant correlations found between parent involvement variables and academic performance variables in children of both ACLAMO and control groups.

Table 14

Statistically Significant Correlations Between Selected Parent Involvement Variables and Academic Performance Variables in All Children (ACLAMO and Control Groups)

Involvement Variables	<i>n</i>	<i>r</i>	<i>p</i>
How Often Talked to Teacher vs.			
WM—K—B—Oral Language Ability	62	.60	< .01
DIBELS—K—M—Initial Sound Fluency	37	.45	< .01
DIBELS—1 st G—M—Oral Reading Fluency	33	.63	.000
DIBELS—1 st G—E—Oral reading Fluency	39	.72	.000
DIBELS—2 nd G—B—Nonsense Word Fluency	26	.63	.001
DIBELS—2 nd G—B—Oral Reading Fluency	26	.79	.000
DIBELS—2 nd G—E—Oral Reading Fluency	28	.66	.000
DIBELS 3 rd G—E—Oral Reading Fluency	17	.56	< .05
Mathematics Total Grade 4 th G—E	7	.87	< .05

Note: *n*: sample size; *r*: Pearson correlation coefficient, *p*: significance; WM: Woodcock Muñoz; K: kindergarten; B: beginning, M: middle, E: end of academic year; G: grade

Positive significant correlations were found between frequency parent talked to teacher in the past month and language performance, including several variables of the Woodcock Muñoz Language Survey, $r(60) = .60, p < .01$, and the DIBELS, $r(15 \text{ to } 37) = .45 \text{ to } .73, p < .01$ - $p = .000$. There was also a significant positive correlation with the total mathematics grade $r(5) = .87, p < .05$.

CHAPTER 4

Discussion

To my knowledge, this is one of the few studies in the literature that investigates the role of an Even Start Family Literacy Program in the academic progress of a group of immigrant children of Hispanic/Latino origin. This is also the first one with a comprehensive, longitudinal design.

Overall, the results of the study demonstrate that exposure to the ACLAMO Even Start Family Literacy Program Program has a positive impact in mathematics and language performance across grades, whereas the effect on reading is not as strong. Exposure to the program also shows a tendency to positively affect social emotional behaviors at the beginning of kindergarten.

Moreover, parents' literacy and involvement in activities have a positive, stimulating effect on their children's performance, mostly in language across grades and in mathematics in kindergarten. In addition, parents' literacy and involvement seem to have a beneficial effect in improving their children's behaviors in kindergarten.

This section discusses the significance of the above summarized findings in the context of the information available on the topic in the literature.

*Demographics, Parent Literacy, and Parent Involvement**Demographics*

Data of both children and parents involved in the study showed that ACLAMO and control groups were comparable in relation to their ethnic/cultural and educational background, experience living in the U.S., and socioeconomic status, with none of the variables related to these aspects having statistically significant differences. This is important in order to assess the statistical differences found in the children's academic performance, thus understanding that these variables can not account for such findings. Family size, day care used in the past, and language taught at day care were the only three variables with significant differences in the statistical analysis of the data.

Socioeconomic Status (SES)

As indicated in the Results, the level of education completed by parents, the number of working hours, the type of housing, the number of people living at home (more in the control group), and the means of transportation used are indicators that families in both studied groups were of a low SES.

Therefore, the children included in this study are at high risk for educational failure, as has been demonstrated by a variety of researchers analyzing the relationship between SES and academic achievement (see Literature Review, page 7). According to Mathews and Ewen (2006), living in poverty, having a mother with less than a high school education, and not having English as the primary language spoken in the home (three circumstances frequently present in the families included in the study) are related to lower levels of school readiness prior to kindergarten, as well as to lower academic

achievement from kindergarten through grade 12. In addition, poverty is associated with less likelihood of participation in early educational programs (Mathews & Ewen, 2006) and has been consistently identified as a variable having a notable influence on school performance (Hanson & Lynch, 1992). Eccles et al. (1993) also stated that one of the most powerful predictors of educational attainment is family SES, which contributes directly and indirectly through its effects on intervening variables like hours spent on homework and children's aspirations. Similarly, Coleman and his colleagues (1966), in a historical study, found that parental SES has a greater effect on a child's school achievement than any other variable.

Sirin's (2005) meta-analysis reviewed the literature on SES and academic achievement in journal articles published between 1990 and 2000. SES was found not only to be directly linked to academic achievement but also indirectly linked to it through multiple interacting systems, including students' racial and ethnic background, grade level, and school/neighborhood location (Lerner, 1991). The effect of social and economic circumstances on academic achievement may also vary by student's grade level (Lerner, 1991). White's (1982) review revealed that as students become older, the correlation between SES and school achievement diminishes.

Research indicates three main factors that account for the reason why minority students lag behind White peers in terms of academic achievement. Minorities (as seen in this study) are more likely to live in low-income households or in single-parent families, their parents are likely to have less education, and they often attend underfunded schools. Each of these factors is components of SES and linked to academic achievement (National Commission on Children, 1991).

Lastly, the location of schools is closely related to the social and economic conditions of students (U.S. Department of Education, 2000). This is directly related to the types of home resources and supportive relations, such as parent-school collaborations, that promote the sharing of societal norms and values, which are necessary for success in school (Coleman, 1988).

Type of Day Care

From research studies, it is known that children of immigrants tend to be more often in parental care than center-based care; for example children under 6 years are more likely to receive child care from parents (53 % versus 34 % for children of natives) and less likely to be in center-based care (17 % versus 26 %). Parents of immigrant children tend to have little education and use center-based care less often. These differences in use can be partially explained by family structure, low incomes, patterns of work participation, and perhaps by differing tendency for care (Capizzano & Adams, 2003). The control group included in this study, exposed to the same circumstances, followed this pattern of day care use as well, as it can be seen that only 33% used center-based care.

While the data demonstrates lower participation in center-based care among children of immigrants, little is known about the reasons for these patterns (Takanishi, 2004). The results of this study were consistent with some of the primary factors identified by Collins and Ribeiro (2004) that may influence early care and educational needs of Hispanic children and families. First, workforce issues and the ensuing demand for child care to support working parents, including those moving off welfare, may have a

considerable impact. Hispanic families are confronted with the same challenges in finding high-quality child care as non-Hispanic families with comparable socioeconomic characteristics (e.g., high incidence of poverty, low wage jobs, and jobs with inflexible work schedules and nontraditional hours, including nights and weekends) and family composition (e.g., large number of children, especially between the ages of birth and 5). In addition, these families struggle to find child care that is linguistically and culturally compatible. Consequently, Hispanics tend to prefer informal child care arrangements (including family, friend, and neighbor care) in contrast to organized care, such as child care centers, nurseries or preschools, federal Head Start programs, and kindergarten and other schools. Yet the apparent reluctance for Hispanic parents to place their children in center-based care may also be related to the available choices of child care arrangements in their neighborhoods.

However, when only families with two working parents are considered, the gap between children of immigrants and natives narrows somewhat. Also, it should be noted that the data of this research shows that the above-enumerated barriers were equally distributed among both studied groups, but 100% of families of the ACLAMO group chose this type of center-based care, changing by choice a cultural/ethnic-based behavior.

The type of child care may have significant implications in school performance and achievement. Child care, especially in center-based settings, may benefit a child's early development and socialization and ease the transition from home to school (NICHD Early Child Care Research Network, 2000). Child care may also help children of immigrants adapt to a new culture and language and overcome linguistic isolation and other barriers (Brandon, 2004). Indeed, in this study English was taught significantly

more frequently in the ACLAMO group, which definitely may help a better adaptation to English and American culture. At the same time, child care centers can benefit parents by providing adult education, improving parenting skills, increasing family access to health care and other benefits, and linking parents to the communities in which they live (Brandon, 2004).

Parent Literacy

As mentioned in Results, the majority of parents in both studied groups were involved in some type of literacy activity with their children. However, it should be emphasized that there was a clear tendency for the ACLAMO group parents to be more involved with literacy than the control group parents, as they read to their children more frequently for more time, had more time to read, and had a higher availability of the Internet at home, even though the differences were not statistically significantly different. Moreover, statistically significant differences indicated that parents in the ACLAMO group read more frequently to their children in Spanish and English ($p < .05$), read more frequently themselves ($p < .01$), and visited the library more frequently ($p = .09$).

Traditionally, literacy has been considered an autonomous skill, which once imparted on individuals would enable them to carry out a variety of important functions in society. There has been an increasing interest among American educators in the connection between families and literacy (Fitzgerald, 1995). The findings of this current study are important to further interpret the academic achievement results, as there is evidence in the literature that this is closely related to parents' literacy (see Literature Review, page 10). Thus, family factors that have a relationship with children's early

literacy ability include variables such as family history of reading difficulties, few opportunities for verbal instruction, speaking a home language other than English, using a nonstandard dialect at home, SES, and minimal support for literacy development in the home environment. Hammer, Miccio, and Wagstaff (2003) studied the relationship between home literacy experiences and bilingual preschoolers' early literacy outcomes. Their findings suggested that although the children experienced literacy activities at home and in Head Start, children's development of this ability could benefit from increased exposure to reading materials and events during the preschool years.

Research has shown that 67% of children from Hispanic backgrounds read below basic levels by fourth grade (National Center for Educational Statistics, 1998). Hispanic children are less likely to be read to or to visit a library (Collins & Ribeiro, 2004). In 1999, 61% of Hispanic children had been read to three or more times in the past week, 40% were told a story by a family member in the past week, and 25 % had visited a library within the past month (Collins & Ribeiro, 2004). These figures are very similar to the ones provided by the parents of the children included in this study, with a tendency to better involvement of those in the ACLAMO group, as mentioned above.

Similarly, Escobar (2004) studied the effects of a family literacy parental involvement intervention on oral language development in 36 Hispanic 4- and 5-year-old children who attended Head Start Programs. Parents were to provide their children with oral language intervention for 15 to 20 minutes three times a week. Parental involvement positively affected oral language development (evaluated with the LAP-D) in the subjects who received the treatment.

Thus, programs, like the ACLAMO Even Start Family Literacy Program Program that facilitate parents' involvement in literacy activity are paramount. One such program, the Parent-Child Home Program (PCHP; Levenstin, 2004), focused on engaging parents and toddlers in their home and has been considered to be the most effective intervention of its kind (Allen & Sethi, 2004). PCHP provides a home visitor to work with low-income families on a biweekly basis and to engage the families in reading a book or playing with an educational toy as the parent participates or observes. Results revealed that parents quickly began to interact with their young children in similar ways, and by the beginning of kindergarten, the children look very similar to their middle-class peers on both cognitive and behavioral factors (Allen & Sethi, 2004).

Parent Involvement

The data of the current study demonstrated that the majority of parents in both studied groups showed a great concern for their children's education, they understood its value for their future, and had high expectations for their children. They were interested in knowing the academic progress of their children and maintaining communication with the teachers to discuss it or to address other problems, more frequently health- or behavior-related. The degree of parents' involvement in both groups was not significantly different, according to the statistical analysis of frequency distribution.

In spite of its intuitive meaning, the operational definitions of parental involvement have not been clear and consistent. Parental involvement has been operationally defined as parental aspirations for their children's academic achievement (Castellanos, 1985), parents' communication with their children about education and

school matters (Carmona, 1996), parents' participation in school activities (Stevenson & Baker, 1987), parents' communication with teachers about their children (Epstein, 1991), and parental supervision at home. The survey used in this study has been comprehensive, including questions that offer information about most of these aspects.

Research has identified parental participation as a more important factor in children's school progress than parents' level of education, their occupation, or socioeconomic status (Snodgrass, 1991). *La familia* is a fundamental aspect of Latino life, as Hispanics benefit from high levels of family support, networking, and cohesion. However, dimensions of parental involvement in child education for immigrant parents with limited English proficiency prove highly challenging when focusing on expectations normally set by schools in the United States (Yao, 1988).

In support of the results of the current study, there is evidence that low-income minority parents are quite willing to be involved in their children's education, though they lack the knowledge of ways to be involved at home and at school (Chaukin, 1989).

There is also considerable information demonstrating that parent involvement leads to improved student achievement, better school attendance, and reduced dropout rates. Moreover, these improvements occur regardless of the economic, racial, or cultural factors (Flaxman & Inger, 1991). Epstein (1992), also emphasizes the important role of parents' involvement: "Students at all grade levels do better academic work and have more positive school attitudes, higher aspirations, and other positive behaviors, if they have parents who are aware, knowledgeable, encouraging and involved."

In a study of sixth and eighth graders, Grolnick and Slowiaczek (1994) found that mothers who were high in behavioral and cognitive involvement had children who felt

more competent in school and more in control of school outcomes than those who were less involved. In turn, these motivational resources predicted school grades.

Eccles et al. (1993), as mentioned before, emphasized the indirect role that SES has in improving students' academic achievement through its effects on intervening variables of parent's involvement (i.e., hours spent on homework and children's aspirations).

Similarly, the study of Davis-Kean (2005) examined the process of how SES, especially parents' education and income, indirectly relates to children's academic achievement through parents' beliefs and behaviors. The study demonstrated that parents' educational expectations predicted the amount of parent-child involvement in play activities.

Rockwell, Andre, and Hawley (1996) revealed that parents face several elements or barriers to their contribution to school, including the parents' perception that children of lower economic class were treated differently, communication with school was mostly negative, educators seemed to imply that families were at fault and deficient in the rearing and management of their children, and parental level of education inhibited their involvement in their children.

In this study, we also investigated certain reasons for not participating, including transportation or child care problems, time constraints due to work or study, not knowing how to participate, feeling not invited or that school does not promote participation, and English Barrier may be related to the parents' perceptions indicated by Rockwell, Andre, and Hawley (1996). English barrier was particularly important in the ACLAMO group. These findings are consistent with the work of Yao (1988), who stated that "overcoming

the language barrier generally remains one of the biggest obstacles. It is not surprising to understand why the development of increased parent involvement for this specific group of parents may require extra attention and resources.”

Children's Academic Performance

Language

According to the Results presented previously, the ACLAMO group had a better performance in language, as indicated by a statistically significantly better ability level in the Woodcock Muñoz Language Survey, Oral Language Ability ($p < .05$) and Reading and Writing Ability ($p < .001$) subtests and a tendency to statistical significance in the Broad English Ability subtest ($p = .06$).

Also, a better language ability in the ACLAMO group was supported by an 11 point higher mean standardized ESL percentage performance level across grades, which was almost statistically significant ($p = .06$).

These findings are comparable to the results of the research by Ryan (2005), who investigated the effect of the Manchester New Hampshire Even Start Program in language performance in a group of Hispanic students. Language was evaluated with the PALS (Phonological Awareness Literacy Screening)-pre-K Assessment. Those children who followed the Even Start Program scored 14.5 points higher in the posttest assessment, compared to a non-Hispanic control group. This difference was statistically significant, demonstrating a positive effect of the program in language development.

The positive effect of Even Start programs on language development is very important. According to Espinosa (2003), those children not able to speak English

entering kindergarten will be more at risk for academic failure and school dropout. He also states that preschool Hispanic children are more likely to become fluent and to acquire literacy skills in English if they have a strong foundation in their home language. As mentioned above, ACLAMO group parents were more involved with literacy than the control group parents. One could speculate that this would also improve children's foundation in Spanish, supporting Espinosa's (2003) opinion.

How language-minority children emerge to literacy in a second language is poorly understood (Fitzgerald, 1995). Research suggests that first language literacy promotes second language acquisition, and that literacy skills in the native language are likely to transfer to the second language (Rivera, 1990). Rivera addresses the Interdependence Hypothesis, which states, "to the extent that the instruction through a minority language is effective in developing academic proficiency in the minority language, transfer of this proficiency to the majority language will occur given adequate exposure and motivation to learn the majority language" (Rivera, 1986). This is where the Even Start Programs may exert a productive effect.

Basically, acquiring a first or second language is a developmental process. There is a natural progression from simple to complex language functions as children learn to communicate orally. Depending on age, second language learners may have acquired language functions in their native language, which will consequently facilitate second language acquisition. According to Cummins (1984), it takes 2 years to acquire BICS (Basic Interpersonal Communication Skills) and those skills required to function in context-embedded communicative interactions. Under the best of circumstances, it may take 5 to 7 years to develop full CALP (Cognitive-Academic Language Proficiency) in

the second language. CALP skills are considered skills fundamental to thinking and learning that the instructional program must foster. It is possible to hypothesize that exposure to Even Start Programs may accelerate the process of CALP acquisition (see Guided Reading Score under Reading).

There has been insufficient research relating the process of second language acquisition to the classroom settings for learning English, such as the nature of instruction provided and the use of written versus oral modes of English input (August & Hakuta, 1997). In the specific case of the ACLAMO Even Start Program, from which our study population was drawn, instruction is provided primarily in English, but with Spanish language support and encouragement for family literacy activity in Spanish at home. In this program also, the teacher imparts early literacy skills by combining scientifically-based reading instruction (National Reading Panel, 2000) with other developmentally appropriate activities. In the adult education component, parents learn practical English vocabulary in order to be able to read to their children at home and fulfill other parental responsibilities, such as accessing health care. Classes for the parents are conducted in a computer lab, where ESL and parent education are supplemented with training for parents in basic computer skills. In addition, there are regularly scheduled opportunities for parents to work with children through take-home activities with a thematically related story line. It is interesting to note that ACLAMO parents read significantly more frequently to their children in both languages (48.3%) compared to the control group (12.1%).

Araujo (2002) explored how a literature-based curriculum supported the literacy growth of ESL kindergartners participating in a full-day Portuguese-English bilingual

program. The investigation indicated that ESL children are capable of attaining high levels of literacy development in the context of a balanced literacy program.

Reading

The pertinent data presented in Results showed no differences in reading performance of both studied groups, according to the DIBELS. Only Letter Name Fluency was significantly higher in the control group at the beginning of kindergarten. It is not clear that this isolated finding has a meaningful explanation. However, more children in the study group had a statistically significantly higher reading level, evaluated with the Guided Reading Score at the time of the last testing ($p < .05$), suggesting that the Even Start program may have accelerated the acquisition of reading abilities.

Exposure to both English and Spanish, as was true for children in the study group, may be an advantage for development of reading skills, as suggested by Egan (2007). This author studied academic performance in a group of elementary students enrolled in a Spanish language immersion program, and found that students in such a program performed equal or better in reading.

Literacy for Hispanic children and parents is one area that has been addressed in the literature. It was noted that 67% of children from Hispanic backgrounds were reading below basic levels by fourth grade (National Center for Educational Statistics, 1998). Scores on the National Assessment of Educational Progress (NAEP) revealed that Hispanic 9-year-olds' scores were 13% behind scores of non-Hispanic Whites (a gap of 28 points), and the gap did not decrease over the testing periods between 1975 and 1999. Reading scores of Hispanics and Blacks were statistically the same. However, the gap in

scores between non-Hispanic Whites and Blacks had decreased over time (Collins & Ribeiro, 2004).

These data emphasize the need for intervention with programs that may enhance the reading ability of minority at-risk groups, including Hispanics. There is some evidence that such intervention is effective. For example, the Abecedarian Project is a randomized, controlled trial that tests the efficacy of early childhood education for high risk children and their families (see Literature Review, page 21). The children involved in the project were provided with physical, mental, and social health support and followed an educational program that emphasized language while focusing on social, emotional, and cognitive development, as well. The treatment group children scored significantly higher on tests of reading from the primary grades through middle adolescence (Ramey & Ramey, 2004).

According to De La Sierra (2001), reading performance seems to be influenced by the relationship between family and school. This author studied Latino parents' and children's perception about the *mesosystem*, or interconnected relationship between the *family microsystem* and the *school microsystem*. He found that students who perceived a positive family-school mesosystem had higher reading scores. The current study did not assess children's perception of such relationship.

Overall, the results of the current study support the need for early educational intervention programs to improve reading skills, as well. Indeed, the Guided Reading Score outcomes found in study population children support its effectiveness, as 14% more of children in the study group were reading at or above grade level at the last time of testing.

Mathematics

As previously mentioned in Results, children in the study group showed statistically significantly better performance in mathematics across grades, including kindergarten, first grade, and third grade ($p < .05$ to $p < .01$). This indicates a positive impact of program participation in the development of this skill.

These findings are also in agreement with those of the Abecedarian Project (see Literature Review, page 21). The children in the treatment group scored significantly higher also in mathematics tests from the primary grades through middle adolescence (Ramey & Ramey, 2004).

The fact that children in the ACLAMO group performed better in the area of mathematics could be explained in several ways:

First, math is a subject that is universal and easy to grasp, especially for the younger grades where there is not much language demands. Indeed, Bernardo's (2005) work focused on a group of Filipino-English bilingual problem solvers and found that linguistic factors do not affect the more mathematically abstract components of word problem solving, although they may affect the other components related to reading comprehension and understanding.

Second, even though the ACLAMO program focused more on literacy compared to math skills, it did address basic numeracy and math readiness skills.

Third, most of the math homework assigned in the Norristown Area School District (attended by all the children in the study) is sent home with a Spanish explanation, and students are exposed to teaching in both languages. Thus, Hofstetter (2003) showed that English language learners perform best when the language of

mathematics assessment matches the students' language of mathematic instruction.

Similarly, Egan (2007) found that students taught in dual language classrooms, Spanish and English, had significantly higher math scores than students out of the program at the same school on state-adopted standardized tests.

Fourth, considering the high level of literacy involvement of study population parents, one could infer that they were more likely to sit down and do homework with their children because this is one of the skills they learned as part of the parent education component. One could hypothesize that this created a positive relationship between family and school, this being an important factor also influencing better math performance (better math scores and effort grades), according to De La Sierra's (2001) study (see above under Reading).

The neuropsychological processes involved in the developmental sequence of math concept acquisition are complex. The general foundation for basic math uses concrete objects first, then semi-abstract symbols (i.e., slashes), and finally abstract numbers to represent quantity. Math skills are typically developed in a sequential fashion, in order of addition, subtraction, multiplication, division, and fractions. At more advanced stages of mathematics education, topics such as geometry and algebra are taught. As the complexity of math word problems increases, so do the demands placed on prior knowledge, linguistic skills, visual-spatial integration, and sequential processing of computational steps (Hale et al., 2005).

How an Even Start program can influence such a complex process is unclear. In this respect, Assel et al.'s paper (2003) is relevant. They investigated the precursors of mathematical skills in a large group of full-term and preterm children from 2 to 8 years of

age. They found that visual-spatial and executive processing skills were related to later math competence. Interestingly, mother's directiveness, a form of interactive behavior with the child, played an important role in the development of those skills. Thus, mothers who were less directive with their 2-year-old child had a direct positive influence in their 8-year-old's math skills by supporting the child's ability to learn to problem-solving on their own. The current study did not specifically evaluate directive behavior in the mothers. However, one could hypothesize that ACLAMO mothers were less directive.

The factors involved in the process of mathematical learning continue to be the focus of attention of researchers in education. Recently, Boatright (2007) explored the attitudes and perceptions that influence math achievement for Hispanic-American students. This study sought to examine the association and relationships among students' academic self-concept, motivation orientation, and perceptions of classroom autonomy within a sample of urban Hispanic-American students. Data analysis was conducted in an attempt to determine whether Hispanic-American students identified as falling far below, approaching, meeting, and exceeding the Arizona state math standards, and whether they differ with regard to the target variables (academic self-concept, motivation orientation, and perception of classroom climate). Math self-concept was the only dependent variable selected as a significant predictor of math achievement. Although math self-concept was not assessed in the current study, it is possible that children in the study population group could have had more confidence in their math ability.

Social Emotional

According to the Results, children in the study population group had a tendency to have better behaviors, which resulted statistically significant for social behaviors ($p < .05$) at the beginning of kindergarten.

Interaction of children with their mothers is an important factor predicting children's social and emotional behaviors. Thus, in their study, Grolnick and Slowiaczek (1994) found that mothers who were high in behavioral and cognitive involvement had children who felt more competent in school and more in control of school outcomes than those who were less involved.

Similarly, a study performed in a low SES population followed 93 Mexican mothers enrolled in FLAME (see Literature Review, page 14), a program designed to help parents promote their children's literacy. The results demonstrated that parents who showed warmth or control were associated with greater socioemotional adjustment among children (Izzo, Weiss, Shanahan & Rodriguez-Brown, 2000).

The current study did not specifically evaluate this type of mothers' behavior. However, the findings described above suggest the possibility that the ACLAMO group mothers had a higher behavioral and cognitive involvement, were warm, and manifested control.

The previously mentioned study by Grolnick and Slowiaczek (1994) found that mothers who were high in behavioral and cognitive involvement had children who felt more in control of school outcomes, which is definitely a factor that may prevent social and emotional behavior disturbances.

*Relationship of Parents' Literacy and Involvement Activity
with Children's Academic Performance*

Correlation studies were performed including all the children, but were not calculated in the subgroups (ACLAMO and control) because the low numbers in many cases did not allow a meaningful interpretation of the results.

Although correlation analysis in the subgroups would have been useful to determine whether some parent variables were differentially related to academic achievement, the global results provide very useful information. The fact that most of the variables implicated in the positive correlations did not show statistically significant differences, when compared among groups, suggests that the correlation effect is similar in each group.

As reported in the Results, parents' literacy activity was positively correlated to overall language performance across kindergarten to second grade ($p < .05$ to $p = .000$) and to mathematics performance in kindergarten ($p < .05$) and negatively correlated to phonemic segmentary fluency in first grade ($p < .01$) and social and self-behaviors in kindergarten ($p < .05$). Also, parent involvement was positively correlated with language performance across kindergarten to third grade ($p < .05$ to $p = .000$) and with mathematics performance in fourth grade ($p < .05$).

These findings emphasize the importance of parent-children and parent-school interaction in helping to promote academic development. Researchers know that the verbal interaction between parents and their young children, especially interaction around books and toys, inspires children to initiate conversations, and this is essential to cognitive development (Allen & Sethi, 2004). Flaxman and Inger (1991) also concluded

that parent involvement leads to improved student achievement, better school attendance, and reduced dropout rates.

Similarly, Epstein (1992) stated that “students at all grade levels do better academic work and have more positive school attitudes, higher aspirations, and other positive behaviors, if they have parents who are aware, knowledgeable, encouraging and involved.”

The findings of positive correlations of parent literacy and involvement with language performance support the work of Hammer-Scheffner (2003), Escobar (2004), and Espinosa (2003), previously discussed (see above), which underlines the positive effect of family literacy involvement and home language foundation in children’s language performance.

The negative correlation of parent literacy with phonemic segmentary fluency is interesting. Although it may initially seem a contradiction, further interpretation makes it reasonable. Learning to read in English entails recognizing phonemes and reading Spanish is phonetic, so what one sees is how one pronounces it. Because English has so many exceptions, it may be difficult for Latino parents to help their children in this area. If they are helping them, then the impact may be negative because they are not pronouncing the sounds as they should and are thus negatively impacting child fluency. On the other hand, it should be noted that this negative relationship was not consistently present across grades.

The positive correlation of parent literacy and involvement with mathematics performance in kindergarten and fourth grade highlights the role of parents, and particularly mothers (Assel, 2003), in attaining math readiness in elementary school.

The negative correlation of parent literacy with social and self-behaviors is in agreement with Grolnick and Slowiaczek's (1994) previously discussed data (see above). Warmth and control support socioemotional school adjustment (Izzo, Weiss, Shanahan, & Rodriguez-Brown, (2000).

Conclusions

The current research has demonstrated that in a population of at-risk Hispanic immigrant elementary school-age children, involvement in an Even Start Family Literacy Program like ACLAMO improves academic achievement in language, mathematics, and to a lesser extent in reading.

Although the primary cause/s of such a positive effect are not fully understood, several factors seem to play an important role, including educational and social interaction between parents and children and dual exposure to English and Spanish, both of which are promoted by the ACLAMO program.

The results of the study support the hypothesis that educational interventions could induce positive changes in neuronal networks related to cognition.

The findings and conclusions of the current research allow answering the initial questions enumerated in the Introduction as specific aims:

1. Do low-income ELL (English Language Learners) Hispanic immigrant children in elementary school who participated in a family literacy program do better in school achievement (e.g., reading, language, math, and behavior) than matched control group elementary school children?

The answer is yes, which is supported by the statistically significantly better academic performance by children in the ACLAMO group in all disciplines.

2. Does being in a family literacy program contribute to current academic gains above and beyond whatever risk or protective factors families have experienced?

The answer is “Yes,” which it is supported by two facts: (a) both the ACLAMO and the control group included Hispanic children at risk because of their low SES; the fact that the former performs better indicates that the program likely protects from the risks created by family demographic characteristics and SES, and (b) as previously mentioned, educational and social interaction between parents and children is not only an important protective factor, but also a stimulating one for cognitive gains.

3. Does the amount of participation in a family literacy program itself (i.e., instructional services received) affect the amount of gains in current children’s outcomes?

The answer is yes, which is supported by two facts: (a) there was a clear tendency for the ACLAMO group parents to be more involved with literacy than the control group parents, and (b) there were significant positive correlations between amount of parent literacy or involvement activity and language, math, or reading performance results.

Limitations of the Study

The main limitations of the study depended on its design and the lack of information in this field of research, which could have helped to better select the methods and techniques used in the evaluation of academic performance.

Retrospective Study

This investigation used archival data and therefore, the investigator had limited control over the completeness or reliability of the educational material collected. Some information was irretrievable due to the high mobility rate of this specific population. Some students moved to nearby school districts and were able to be contacted. However, the school district did not permit the researcher to obtain the records, even with signed consent forms. Another study group student attended a nearby parochial school, but minimal test information was supplied to the investigator. Thus, from a list of 5 years of students who were also prospective study group subjects, only 29 individuals' records were available to be included in the study group and 33 in the control group. In some cases, the information was incomplete. The researcher reviewed individual academic performance for consistency and presence of outliers, in order to assure data reliability.

Longitudinal, Comprehensive Study Design

The design of the study evaluated comprehensive educational assessment (language, reading, mathematics, social emotional) from kindergarten to fourth grade. This created a large amount of data, the analysis of which required multiple statistical calculations. The repetition of statistical tests can increase the risk of Type I error: finding that a result is statistically significant and rejecting the null hypothesis (H_0), when in fact H_0 is true (Motulsky, 1995). In considering this possibility, it is important to review the concept of historical significance: What is the practical significance of rejecting H_0 ? The aim is to find statistically significant results that are relevant from a historical perspective (Studer, 2008). In other words, significant results that make sense.

In this respect, the interpretation of the significant results of the current study, as commented upon in the Discussion, was in keeping with similar results from different authors interested in this field of research.

Sample Size

In relation to the previous limitations, some of the variables, when separated by grade level, had low numbers. This was not anticipated during the study planning and hypothesis development phases, and unfortunately prevented the chance to obtain statistically powerful results. Limited statistical power due to small population samples could itself serve to explain the absence of larger differences between the two groups. When statistical power is weak, it decreases the likelihood that the researcher will find significant differences between groups (Kazdin, 1998). This is what is called Type II error: finding that a result is not statistically significant and failing to reject the null hypothesis (H_0), when in fact H_0 is false (Motulsky, 1995).

To increase statistical power and effect size, the two groups should have been larger and included assessments that were more complete. The use of Fisher's Exact test accounted for this limitation when comparing between-groups frequency distribution of categorical variables, as explained in Methods. On the other hand, even weak statistical findings can be of value if the research is considered a pilot study whose goals also include clarifying research questions by helping to sort out independent, constraining, and bridging variables as a basis for more in-depth research. It is in this clarification of research parameters that the greatest value of the current study is to be found.

Selection of Tests to Measure Academic Achievement

Another limitation was the appropriateness of using the tests described in Methods and whether they were the best choice to measure changes in the areas we were measuring. For example, it was interesting to observe that the DIBELS scores did not detect any significant differences, but the Guided Reading Scores did. The lack of published research, similar to the current study, limits the knowledge about the reliability of academic performance tests to answer the specific questions of such research.

Future Directions

As indicated in the Introduction, Hispanics are the largest and fastest-growing racial/ethnic minority in the United States. Hispanic children rank lowest in reading achievement and continue to have the highest dropout rates of any minority group (National Assessment of Educational Progress (NAEP, 2000). A crucial step toward the successful educational adaptation of immigrant children and children of immigrants is the attainment of school knowledge and skills, which future labor markets may capitalize on (Suarez-Orozco & Suarez-Orozco, 2001).

In order to break the cycle of illiteracy, programs such as Even Start Family Literacy Programs need to continue. Young children of immigrants stand to benefit greatly from early education programs, especially if direct support and education to the families is included.

In the future, efforts should be directed to developing more research in this field and to being more efficient in the implementation of measures known to be effective in fulfilling the needs of Hispanic children.

Research

This current study is one of the few available in trying to answer the question of whether or not Even Start Family Literacy Programs can help to diminish the educational consequences of social risk and improve academic achievement in Hispanic children. The positive answer offered by the results is very encouraging, and raises the need to answer further questions:

First, the study needs to be replicated, with a design that avoids the limitations discussed above. Involvement of multiple school districts with a high population of Hispanic children, participation of leader educators, and collaboration of politicians are needed to make such a study possible.

Second, an important question is whether or not the improved academic achievement in elementary school by Hispanic children is predictive of better future school performance. As indicated in the Literature Review, the Abecedarian Project (Ramey & Ramey, 2004) and the Perry Preschool Study (Schweinhart et al., 2005) found that those individuals participating in their Programs fare better as adults in terms of academic or professional achievement. Similarly, Espinosa (2003) reported that English language fluency in elementary school serves as a strong predictor of later school performance.

Third, more research is needed to enable communities to efficiently serve the growing numbers of immigrant families and to develop diverse strategies to meet the needs of immigrants from every country of origin. Additional research could help to identify effective practices and policies for insuring that immigrant families are able to

access culturally appropriate, quality programs that fit the needs of families and their children.

Fourth, although the topic is out of the scope of the current study, it is important to emphasize that the results of the current study support the hypothesis that educational interventions can induce positive changes in neuronal networks related to cognition (Dawson, Ashman, & Carver, 2000; DiPietro, 2000; Posner & Rothbart, 2005). This opens up the possibility for research to study aspects of developing cerebral networks underlying many school subjects. People believe that in the near future there will be creative exchanges between educators and brain researchers, and that they will provide a unique opportunity to turn experimental findings into curricular improvement (Posner & Rothbart, 2005).

Practical Implications

As a nation, we need to prepare teachers to address immigrant students' distinctive needs. Teacher education programs and school districts need to develop curriculum and professional development programs that distinguish the needs of this population and the challenges teachers confront in instructing these diverse students. Yet these particular challenges are unlikely to be addressed in a 1 day training session. Mentoring programs to support teachers new to this population with seasoned teachers would be beneficial. Further, in order to reflect the populations being served and enhance their learning experience, recruitment efforts should focus on diversifying the teaching force.

The encouraging results of this study should stimulate a reflection upon the actions that have been recommended to address the needs of immigrant children in order to diminish their demographic risk and improve their social outcome. These recommendations, summarized by Matthews & Ewen (2006), remain for the most part, a project for the future.

First, it is important to work cooperatively with community organizations serving immigrants to be able to link family and early education programs.

Second, it would be helpful to create a demographic profile of young children in the community, and this information should be updated often, as the composition of many communities is changing rapidly.

Third, conducting a community needs assessment in cooperation with local immigrant organizations may help administrators identify the early care and education needs of immigrant families in their communities and the gaps in service provision and participation.

Fourth, in order to be prepared to serve immigrant families, it is important to recruit bilingual staff and increase training for staff working with young children of immigrants.

Fifth, programs need to consider their requirements for enrollment. Immigrant families will be discouraged if they are asked to provide social security numbers, proof of employment, or documentation of U.S. citizenship.

Sixth, administrators of early childhood initiatives should provide guidance to local programs on how immigration status affects eligibility for early childhood programs, such as Head Start, public preschool, and child care subsidies.

Seventh, to disseminate program information within local immigrant communities in multiple languages and multimedia approaches to help those families which may not be literate in their home language.

Eighth, to create strategies that reach families in all settings in early education initiatives.

Lastly, in agreement with our conclusions, early education programs need to promote parental involvement. This includes ongoing communication between school and home, and materials sent home should be translated into their language. These programs need to prepare parents to be able to help their children succeed.

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Appendix A

Dear Parent or Guardian:

We would like to ask for your permission for your child to participate in a project that will be exploring the educational achievement of immigrant children. Your children's records will be reviewed and inputted in a computer. There will be no need to contact your children during this research. However, as parent you will be asked basic demographic questions and other questions related to school, which you can decide to answer or not. Your participation in this study is completely voluntary. There will be no negative outcomes if you do not wish to participate. You will be able to withdraw at any time throughout the project and refuse to answer any questions. All information will be held as confidential. Only the researcher will be inputting your son or daughter's information and they will be assigned a number, rather than identified by name to insure confidentiality.

Sincerely,

Elvira I. Zuazo-Legido

Doctoral Candidate

267-253-8034

Ray W. Christner, PsyD

Assistant Professor

215-871-6442

Appendix B

Estimado Padre o Guardián:

Quisiéramos pedirle ayuda en nuestro proyecto donde vamos a ver cómo los niños que hablan Español están funcionando en la escuela. Vamos a revisar los datos escolares de su hijo/hija y los vamos a poner en la computadora. No es necesario hablar con su hijo/hija para este estudio. Pero sí les pedimos que como madre/padre, nos conteste unas preguntas sobre Usted, su hijo/hija y otras preguntas que están relacionadas con la escuela, las cuales puede decidir contestarlas o no. Su participación en el estudio es completamente voluntaria. Nada le va a pasar a Usted o a su hijo/hija si decide no participar. Usted puede dejar de participar en el proyecto en cualquier momento. Toda la información va a ser privada. Su hijo/hija va a estar identificado/a con un número, en vez de por su nombre para estar seguros de su privacidad.

Gracias por ser parte de nuestro proyecto. Si tiene cualquier pregunta llámenos a los teléfonos al final de esta carta.

Atentamente,

Elvira I. Zuazo-Legido

Doctoral Candidate

267-253-8034

Ray W. Christner, PsyD

Assistant Professor

215-871-6442

Appendix C

INFORMED CONSENT

TITLE OF STUDY: Do Immigrant students perform better academically in Family Literacy Early Intervention Programs?

TITLE OF STUDY IN LAY TERMS (same as above)

PURPOSE: The purpose of this study is to find out if ELL (English Language Learners) students who participate with their parents in a family literacy program perform better academically compared to ELL students who do not.

You are being asked to be in this research study because your input is very valuable and results may help us assess what your kids may need to be successful in school.

Investigator(s)

Principal Investigator: Ray Christner, Psy.D Co-Investigator: Dr. Rosemary Mennuti
Philadelphia College of Osteopathic Medicine

Department: Psychology

Address: 4170 City Avenue

Philadelphia Pa. 19131

Phone: 215-871-6442

Responsible (Student) Investigator: Elvira Zuazo-Legido

The survey you are being asked to volunteer for is part of a research project.

If you have any questions about this research, you can call Dr. Ray Christner at (215) 871-6442.

If you have any questions or problems during the study, you can ask Dr. Christner, who will be available during the entire study. If you want to know more about Dr. Christner's background, or the rights of research subjects, you can call the Research Compliance Specialist at (215) 871-6782.

DESCRIPTION OF THE PROCEDURES

If you decide to be in this study, you will be asked to answer some survey questions. The study will take about 20-30 minutes. You will also give us permission to obtain academic records on your child.

POTENTIAL BENEFITS

You may not benefit from being in this study. Other people in the future may benefit from what the researchers from the study.

RISKS AND DISCOMFORTS

None.

ALTERNATIVES

The other choice is not to be in the study and to decline.

PAYMENT

Parents will be given a \$15.00 Wal-Mart Gift Certificate.

CONFIDENTIALITY

All information and records relating to your participation will be kept in a locked file. Only the researchers, members of the Instructional Review Board, and the U.S. Food and Drug Administration will be able to look at those records. If the results of this study are published, no names or other identifying information will be used.

REASONS YOU MAY BE TAKEN OUT OF THE STUDY WITHOUT YOUR CONSENT

If health conditions occur that would make staying in the study possibly dangerous to you, or if other conditions occur that would damage you or your health, the researcher may take you out of this study.

In addition, the entire study may be stopped if dangerous risks or side effects occur in other people.

NEW FINDINGS

If any new information develops that may affect your willingness to stay in this study, you will be told about it.

INJURY

If you are injured as a result of this research study, you will be provided with immediate necessary care.

However, you will not be reimbursed for care or receive other payment. PCOM will not be responsible for any of your bills, including any routine care under this program or reimbursement for any side effects that may occur as a result of this program.

If you believe that you have suffered injury or illness in the course of this research, you should notify the PCOM Research Compliance Specialist at (215) 871-6782. A review by a committee will be arranged to determine if your injury or illness is a result of you being in this research. You should also contact the PCOM Research Compliance

Specialist if you think that you have not been told enough about the risks, benefits, or other options, or that you are being pressured to stay in the study against your wishes.

VOLUNTARY PARTICIPATION

You may refuse to be in this study. You voluntarily consent to be in this study with the understanding of the known possible effects or hazards that might occur while you are in this study. Not all the possible effects of the study are known.

You may leave this study at any time.

If you decide to leave the study, there are steps you will need to take for your health and safety.

If you drop out of the study, there will be no penalty or loss of benefits to which you are entitled.

I have had adequate time to read this form and I understand its contents. I have been given a copy for my personal records.

I agree to be in this research study.

Signature of Subject: _____

Date: ____ / ____ / ____ Time: ____ AM/PM

Signature of Witness: _____

Date: ____ / ____ / ____

Signature of Investigator or Designee _____

(circle one)

Date: ____ / ____ / ____ Time: ____ AM/PM

Appendix D

INFORME DE CONSENTIMIENTO

TITULO DEL ESTUDIO:

Impacto de participación en un programa de comunidad, Even Start Family Literacy Program, en relación con la función académica de los niños que están aprendiendo inglés y la participación de los padres.

TITULO DEL ESTUDIO EN OTRAS PALABRAS:

Niños que están aprendiendo inglés y éxito académico.

PROPOSITO:

El propósito de este estudio es investigar si los niños que están aprendiendo inglés los cuales han participado en un programa con sus padres de preparación escolar demuestran la misma función académica comparado con niños que están aprendiendo inglés que no han participado en el programa.

Como madre/padre de un niño que está aprendiendo inglés, le estamos pidiendo que usted participe en este estudio. Su participación es muy valiosa y los resultados nos puede ayudar a saber qué necesita su hijo o hija para tener éxito en la escuela.

Investigador(es)

Investigador Principal: Ray W. Christner, Psy.D.
Philadelphia College of Osteopathic Medicine
Department of Psychology
Dirección: 4170 City Avenue
Philadelphia, PA 19131
Teléfono: 215-871-6386

Investigadora Responsable (Estudiante): Elvira Zuazo-Legido
267-253-8034

Le estamos pidiendo que sea voluntario/a como parte de este proyecto de investigación. Si tiene alguna pregunta sobre este estudio, puede llamar al Dr. Ray Christner al número (215) 871-6386.

Si tiene alguna pregunta o preocupación durante el estudio, usted le puede preguntar al Dr. Christner, el cual va estar disponible durante toda la duración del estudio. Si quiere saber más sobre el Dr. Christner y sus credenciales, o los derechos de los participantes, puede llamar al Research Compliance Specialist al (215) 871-6782.

DESCRIPCIÓN DE LOS PROCEDIMIENTOS:

Si usted decide participar en el estudio, le vamos a pedir que conteste unas preguntas sobre el apoyo de su familia al estudio de su hijo/hija durante una entrevista. La entrevista va a durar de 20 a 40 minutos. También le vamos a pedir permiso para obtener datos académicos de su hijo / hija.

BENEFICIOS POTENCIALES:

Quizás usted no se beneficie por participar en el estudio. Pero otras personas en el futuro se pueden beneficiar de los resultados del estudio.

RIESGOS E INCOMODIDADES:

Algunos participantes pueden experimentar ansiedad durante la entrevista.

ALTERNATIVAS:

La otra opción es no participar en el estudio.

PAGO:

Los padres que participen en el estudio van a recibir un certificado de \$15.00 para la tienda Walmart.

CONFIDENCIALIDAD:

Toda información y datos relacionados con su participación se van a guardar bajo llave en un gabinete. Solamente los investigadores, miembros del Institutional Review Board, y la Administración de los Estados Unidos de Comida y Drogas (U.S. Food and Drug Administration) van a poder ver los datos. Si los resultados del estudio se publican, no se va a usar ningún nombre u otra información que pueda identificar a los participantes o sea que usted y su hijo/hija van a estar completamente anónimo.

RAZONES POR LAS CUALES USTED NO PUEDA PARTICIPAR:

Si condiciones de salud u otras condiciones se desarrollan que pudieran ocasionarle daño a su salud, los investigadores le pueden retirar del estudio.

También, el estudio completo se puede parar si se presentan riesgos peligrosos a otras personas.

NUEVA INFORMACIÓN:

Si se descubre nueva información la cual pueda afectar su deseo a permanecer en el estudio, se le comunicará.

INCOMODIDAD:

Si sufre cualquier daño o lesión como resultado de este estudio, se le dará el tratamiento inmediato necesario.

Sin embargo no le vamos a reembolsar o pagarle por este cuidado o no va recibir otro pago. PCOM no va a ser responsable de sus cuentas, incluyendo el cuidado bajo este programa o reembolsarle si se encuentra con efectos secundarios como resultado de este programa.

Si usted piensa que ha sufrido daño o incomodidad durante el estudio, usted debe notificarlo a la Research Compliance Specialist al número (215) 871-6782. Un comité determinará si su daño o incomodidad es resultado del estudio. Usted también debe contactar al PCOM Research Compliance Specialist si piensa que no le han dado suficiente información de los riesgos, beneficios u otras opciones, o si le están presionando a quedarse en el estudio en contra de sus deseos.

PARTICIPACIÓN VOLUNTARIA:

Usted puede rehusar a participar en este estudio. Usted participa voluntariamente en este estudio con el entendimiento de los efectos posibles que puedan ocurrir mientras participe en el estudio. Todos los efectos posibles no se conocen.

Usted puede salir del estudio en cualquier momento.

Si decide abandonar el estudio, hay pasos que tiene que tomar. Debes llamar al Dr. Ray Christner al número (215)871-6442 o Elvira Zuazo-Legido al número (267) 253-8034 y dejarle saber que no quiere participar.

Si usted abandona el estudio, no habrá penalidad o pérdida de los beneficios a los cuales usted tenga derecho.

Yo he tenido suficiente tiempo para leer este formulario y entiendo su contenido. Me dieron una copia para mis documentos personales. Estoy de acuerdo en participar en este estudio.

Firma del participante _____

Fecha: ____ / ____ / ____ Hora: _____ AM/PM

Firma del Testigo: _____

Fecha: ____ / ____ / ____ Hora: _____ AM/PM

Firma del investigador o delegado _____

(Indique uno)

Fecha: ____ / ____ / ____ Hora: _____ AM/PM

Appendix E

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

What is your relation to child? _____

Are you the main caregiver? Yes No

Who other than you cares for the child? _____

1. Has your daughter/son attended the ACLAMO program? Yes/No
2. Where was your child born? United States
 Mexico
 Other
3. How many children in your family? _____.
4. Is your child the oldest? In the middle? Or the youngest? _____
5. Where were you born? _____ Was this a large city or farmland? _____.
6. What kind of job did your family have living in their country? _____
7. How long have you been living in the United States? _____.
8. What grade did you finish in school? _____
9. What grade did your husband finish in school? _____.
10. What kind of work do you currently have?
 - a. Wife:
 - What type of jobs do you hold? _____
 - How many hours a week do you work? _____
 - b. Husband:
 - What type of jobs do you hold? _____
 - How many hours a week do you work? _____
11. Does your child have any medical concerns? _____

12. Do any family members in the household have any illnesses or present medical concerns that may interfere with your ability to help your child? _____

13. Do you currently rent? Yes No

Is it a house or apartment? _____

- How many people live in the household? _____
- How long have you lived in this residence? _____
- How many times have you moved since living in the United States?
_____.

14. Which is your most common means of transportation?

- Own a car.
- Friend or relative owns a car.
- Bus
- Walk

15. If you own a car, who drives it most of the time?

- Husband
- Wife
- Both

16. Which child-care options do you tend to use with your children?

- Daycare/Pre-school
- ACLAMO
- Head Start
- Family/Group Day Care
- Neighbor
- Relative
- Husband or Wife

17. Which language was your child instructed in at the child care option (number #16) that your child participated in? _____. Was there anyone who spoke Spanish? _____. If yes, was it a teacher? _____.

Reading Activities:

18. How many days last week did you read to or look at books with your child?

- 0 days
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days

19. If you have looked at or read books with your child, think about how many minutes you looked at or read those books on those days?

Number of minutes each day: _____.

20. If you read to your children, do you read in Spanish, English or both languages?

21. Do you do any reading? _____. If yes, what do you like to read? _____.
(Newspaper, magazine, books?) In what language do you read? _____. How often do you read?

- Once a week
- More than once a week.
- Everyday
- Several times a day.

22. Which ways do you support your child for school? Check all that apply.

- Consistent time and place to do homework everyday.
- Monitor homework.
- Limit TV viewing/video games
- Consistent bedtime.
- Other _____

23. In which language does your family more often tend to watch television at home?

24. Do you have Internet access in your home computer?

- Yes
- No

If you do have it, who uses it?

- Wife
- Husband
- Child:
- Other: _____

25. During the past 30 days, how many days did you take your child to the library, book mobile, or other places where there are a large number of books? Record a number between “0” and “30.” Record “0” if you did not take your child to such a place during the past 30 days. Record “30” if you took your child every day during the past 30 days.

Number of days _____.

School Involvement:

26. How have you been involved in your child’s school? This can include helping in your child’s classroom or helping with other activities, such as field trips, or craft activities.

27. If you did not get involved in your child’s school (question # 26), please check all the reasons that explain why you did not get involved in your child’s school?

- Transportation problems.
- Caring for other children.
- Employment (both seeking employment and working)
- Enrolled in school.
- Involved in community activities.
- Health problems.
- Language Barrier (do not speak or understand English)
- Did not know how to get involved.
- Was not asked to get involved.
- Child’s school does not allow parents to get involved.
- Do not feel welcome in the school.
- Other (specify)

28. Think about the times you spoke to your child’s teacher. Why did you speak to your child’s teacher? Please check all that apply.

- General information (i.e., how the child’s day was; how he/she is adjusting)
- Parent-teacher conference.
- School program or services.
- Special needs assessment and/or support services (Title 1, ESL,ISP)
- Child’s health or nutrition.
- Developmental issues and/or school readiness
- Progress reports and/or report cards
- Child’s grades
- Child’s school behavior
- Attendance or tardiness
- Other (specify) _____
- I did not speak to my child’s teacher.

29. If you spoke at all with your child's teacher in the past month, how frequent was it?
- Once a month.
 - Once a week.
 - More than once a week.
 - Every day.
30. How important is it for you that your child be successful in school?
- Extremely Important
 - Important
 - Less Important
 - Not Important
31. What does successful mean to you?
- My child finishing high school.
 - My child finishing college.
 - My child getting a good job.
 - My child getting married.
32. What educational goals do you want your child achieving?
- Graduate High School
 - Graduate College/Technical school
 - Whatever they choose.
 - It does not matter.

Thank you Very Much! Your input is valuable to our study!

Appendix F

CUESTIONARIO PARA LOS PADRES

(SPANISH VERSION)

¿Qué relación tiene usted con este estudiante? _____

¿ Es Usted la persona principal que cuida al estudiante? Sí No

¿ Quien más cuida a su hijo/hija? _____

1. ¿Han asistido su hijo/hija al programa de ACLAMO?

2. ¿Dónde nació su hijo/hija? Estados Unidos _____ México _____ Otro _____

3. ¿Cuántos niños hay en su familia? _____

4. ¿Es su hijo/hija es el/la mayor? , ¿el/la menor?, ¿el/la del medio? _____

5. ¿Donde nació usted?, ¿Era una ciudad grande o era en el campo? _____

6. ¿Qué clase de trabajo tenían sus padres en su país? _____

7. ¿Cuanto tiempo ha vivido en los Estados Unidos? _____

8. ¿Qué grado terminó en la escuela? _____

9. ¿Qué grado terminó su esposo/a en la escuela? _____

10. Trabajo

a. Esposa:

- ¿Qué tipos de trabajos tiene? _____
- ¿Cuántas horas trabaja a la semana? _____

b. Marido:

- ¿Qué tipos de trabajos tiene? _____
- ¿Cuántas horas trabaja a la semana? _____

11. ¿Tiene su hijo/hija algún problema médico?, ¿Cuál es? _____

12. ¿Hay otros miembros de su familia que viven en su casa y tienen alguna enfermedad que puede impedir que usted ayude a su(s) hijo(s)? _____

13. ¿Viven en casa o apartamento? _____ ¿alquilan o son dueños? _____

- ¿Cuántas personas viven en su casa? _____
- ¿Cuántos años ha vivido en esa dirección? _____
- ¿Cuántas veces se han mudado desde que están viviendo en los Estados Unidos? _____

14. ¿Qué tipo de transporte usa más?

- Su carro propio
- Su amigo u otro pariente tiene un coche.
- Autobús (guagua)
- Camina

15. ¿Si tienen su propio coche, quién lo maneja más?

- Marido
- Esposa
- Los dos

16. ¿Qué clase de servicio ha usado para el cuidado de su hijo/hija?

- Guardería/Escuelita
- ACLAMO
- Head Start
- Guardería en una casa/grupo
- Vecina
- Familia
- Marido/Esposa

17. En referencia a la pregunta número 16,

- ¿En qué idioma le enseñaron? _____
- ¿Había alguien que hablaba español? _____
- ¿Fue un/a maestro/a? _____

Actividades de Lectura:

18. ¿Cuántos días de la semana pasada leyó o miró libros con su hijo/a?

- 0 días
- 1 día
- 2 días
- 3 días
- 4 días
- 5 días
- 6 días
- 7 días

19. Si miró o leyó libros con su hijo/a, ¿durante cuántos minutos lo hizo cada día? _____.

20. ¿Lee a su hijo/hija en Español, en Inglés, o en los dos idiomas? _____

21. Como padre/madre,

- ¿Usted tiene tiempo para leer? _____
- Si lo tiene, ¿Qué tipo de lectura lee? (periódico, revistas, libros) _____
- ¿En qué idioma lee? _____
- ¿Cuántas veces a la semana lee?
- Una vez a la semana.
- Más de una vez a la semana.
- Todos los días.
- Varias veces al día.

22. ¿En qué manera apoya a su hijo/hija en la escuela? Indique todas que aplican.

- Un horario fijo y sitio para hacer la tarea cada día.
- Monitorizar la tarea.
- Limita el tiempo de televisor y juego de video
- Una hora fija de dormir.
- Otro _____

23. ¿En qué idioma ve su familia los programas de televisor en casa? _____

24. ¿Tienen Internet en su computadora?

- Si
- No

Si la tienen, ¿quién la usa?

- Marido
- Esposa
- Hijo: _____
- Otro: _____

25. Durante los últimos 30 días,
 ¿Cuántos días ha llevado a su hijo/hija a la biblioteca o a cualquier lugar donde hay muchos libros? Indíquelo con un número de 0 a 30. Indique "0" si no ha llevado a su hijo/hija a ese sitio durante los últimos 30 días. Indique "30" si ha llevado su hijo/hija a un lugar así todos los días durante los últimos 30 días.
 Número de días _____.

Participación en la Escuela:

26. ¿Ha ayudado en el salón de su hijo/hija o ha asistido en actividades, como viajes con la clase o actividades de arte? _____.

27. Si no asistió o ayudó en la escuela, (pregunta #26) por favor indique por qué no

- Problemas con transporte
- Cuidando a otros niños
- Estaba trabajando o buscando trabajo
- Estaba estudiando en la escuela
- Estaba participando en actividades en la comunidad
- Tenía problemas de salud
- No puedo entender o hablar inglés
- No sabía como participar
- No me invitaron
- La escuela no permita que los padres participen
- No me siento cómoda en la escuela
- Otra razón (específica) _____.

28. Piense en las razones por las que ha tenido que hablar con el/la maestro/a. Indique todas las que aplican:

- Información general (por ejemplo, cómo fue el día del /de la niño/a, cómo se está adaptando)
- Conferencia con el/la maestro/a
- Programa o servicios de la escuela
- Servicios para ayuda específica (Title 1. ESL, #ISP)
- La salud o nutrición del/de la niño/a.
- Temas de desarrollo y si está preparado/a para la escuela
- Grados del/de la niño/a ("report card")
- Comportamiento del niño/a.
- Falta de asistencia o de llegar tarde
- Otra: _____
- Yo no he hablado con el/la maestro/a

29. Si ha hablado con el/la maestro/a de su hijo/a en el último mes, cuántas veces fueron:
- Una vez al mes
 - Una vez a la semana
 - Más de una vez a la semana
 - Todos los días
30. ¿Cómo de importante es que su hijo/a tenga éxito en la escuela?
- Muy importante
 - Importante
 - No tan importante
 - No es importante
31. ¿Que significa “éxito” para usted?
- Mi hijo/hija terminando la escuela secundaria
 - Mi hijo/hija terminando la universidad
 - Mi hijo/hija consiguiendo un buen trabajo
 - Mi hijo/hija casándose.
32. ¿Qué metas educativas quiere para su hijo/hija?
- Que se gradúe de escuela secundaria.
 - Que se gradúe de una Universidad/ Escuela Técnica
 - Lo que decida el/ella
 - No me importa.

!Muchísimas Gracias!

Sus repuestas son muy importantes para nuestro estudio!