
Hispanic Kindergarten Students: The Relationship Between Educational, Social, and Cultural Factors and Reading Readiness in English

Eirini Gouleta
Arlington Public Schools

Abstract

This study examined the relationship between educational, social, and cultural factors and reading readiness in English in Hispanic kindergarten students, and in particular the relationship between their reading readiness scores and (1) parents' level of education, (2) gender, (3) program of kindergarten instruction, (4) country of origin, (5) years in the U.S., (6) parents' occupation, (7) family configuration, and (8) preschool experience. Demographic data were collected from a sample of 332 students in Northern Virginia along with the students' reading readiness Fall and Spring scores on the Phonological Awareness Literacy Screening for Kindergarten (PALS-K). Significant group differences in reading readiness scores were found with regard to the father's level of education, length of residence in the U.S., and preschool experience. The results did not indicate significant group differences with regard to the other independent variables.

Hispanic Kindergarten Students: The Relationship Between Educational, Social, and Cultural Factors and Reading Readiness in English

Today, learning to read and write in a competent way is necessary for the educational and professional success of the individual (International Reading Association & National Association for the Education of Young Children, 1998). Although literacy development is a lifelong process, early childhood literacy experiences (from birth through age eight) and reading readiness in kindergarten are strong predictors for reading achievement in children (August & Hakuta, 1997; IRA & NAEYC, 1998). Young children develop reading readiness skills through preschool and family experiences (Blachman, 2000). Preschool helps children explore their environment and build the foundations for learning to read and write (IRA & NAEYC, 1998).

In kindergarten, children develop basic concepts of print and begin to read and write (IRA & NAEYC, 1998), but students who become successful readers typically enter primary school with certain experiences and literacy skills which among others, include an understanding of literacy, the concepts of print, the sound and structure of the language, and an age-appropriate developed vocabulary (August & Hakuta, 1997). According to the Condition of Education (2000), although on average, girls' reading skills appear to be more advanced than those of boys, most girls and boys in kindergarten are at the first level of reading proficiency (NCES, The Condition of Education, 2000a).

However, in today's American schools, kindergarten students may be one of the most diverse populations in terms of their backgrounds, experiences, and abilities. Some of them may have had preschool experience for three or four years while others are participating for the first time in an organized early childhood program (IRA & NAEYC, 1998). There is substantial variation in early childhood program enrollment among children from different racio-ethnic backgrounds and from families with different socio-economic status (U.S. Department of Health and Human Services: Trends in the Well-Being of America's Children and Youth, 2000). Many kindergarten students speak different languages at different levels of proficiency and may speak no English or be limited English proficient (LEP) (IRA & NAEYC, 1998).

There is a need to address the problems related to the education of LEP children and to help all students reach the national goals for reading excellence. Early intervention and a good start in kindergarten are very important factors in achieving these goals (IRA & NAEYC, 1998). In particular, to determine effective strategies for early intervention and improvement on Hispanic students' educational attainment, educators, school systems, administrators, parents, and the community in general need to develop a greater understanding of the factors which influence Hispanic students' readiness for school (Espinosa, 1995). According to the White House Initiative on Educational Excellence for Hispanic Americans (1996), there are several educational and socioeconomic factors which may influence educational achievement in Hispanic children. Hispanic children are less likely to hear or speak English at home and are more likely to have limited English proficiency and live in poverty or in a single parent household than White children (NCES, The Condition of Education, 1997; U.S. Bureau of the Census, 2000).

Although young children learn language, social, and practical life skills in preschool, many Hispanic parents prefer not to turn their young children to non-family members for care (Schwartz, 1996). Therefore, for most Hispanic children, their attendance at primary school is their first experience with formal learning (U.S. Bureau of the Census, 2000). As a result, at age four, Hispanic children tend to have less developed school readiness skills than do White children and many Hispanic students read below grade level during the elementary grades and are at-risk for school drop out (The White House Initiative on Educational Excellence of Hispanic Americans, 1996).

Purpose of Study

The purpose of this study was to examine the relationship between educational, cultural, and social factors and reading readiness in English in Hispanic kindergarten students. Specifically, this study examined the difference in Hispanic kindergarten students' reading readiness scores on the PALS-K with regard to (1) parents' education, (2) gender of the student (3) program of kindergarten instruction, (4) parents' country of

origin, (5) amount of years that the student has lived in the U.S., (6) parents' occupational status in the U.S., (7) family status, and (8) student's preschool experience.

Higher levels of parental education are generally associated with positive educational outcomes and experiences, such as participation in pre-primary education and not dropping out of high school (NCES, *The Condition of Education*, 1998b; Snow & Tabors, 1996). Research also suggests that parents' education and especially mother's education as well as other specific home literacy practices are related with academic achievement, literacy, and language development (Anglum, Bell, & Roubinek, 1990; Chaney, 1994; Goldfield & Snow, 1984; National Center for Educational Statistics [NCES] 2000b; Pellegrini, Brody, & Sigel, 1985; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). Although today the levels of parental education among Hispanic children have increased and in particular, the Hispanic parental education levels of 15 to 18 year-old students nearly doubled in the past 25 years (NCES, *The Condition of Education*, 1997), Hispanic preschoolers exhibit fewer signs of emergent literacy and are more likely to have one or more family risk factors (Zill, Colins, West, & Hausken, 1995).

Socio-demographic risk factors which were found to be associated with learning problems in school were correlated with the signs of emergent literacy and the difficulties children have when they enter kindergarten (Zill et al., 1995). This study was designed to answer questions with respect to educational, social, and cultural factors which have been associated with low reading achievement in kindergarten students. The following research questions were formed: Is there a relationship between Hispanic kindergarten students' fall/spring mean reading readiness scores and: (1) father's/mother's level of education, (2) gender of the student, (3) program of kindergarten instruction, (4) parents' country of origin, (5) number of years that the student has lived in the U.S., (6) father's/mother's occupation, (7) family status of the student, and (8) preschool experience of the student?

The study was conducted in an urban area in Northern Virginia. The study has two main limitations: (1) The study's population was limited to low socio-economic status (SES) Hispanic kindergarten students enrolled in two programs at four elementary schools, and (2) the reading readiness of the study's population was measured only by using the PALS-K instrument.

Method

Participants

The study was conducted in four urban elementary schools in a low socio-economic area in Northern Virginia. Only Hispanic kindergarten students who were enrolled in the First Language Support Program (FLS/Spanish and English instruction) or English for Speakers of Other Languages (ESOL/English only instruction) programs and attended kindergarten in 1998-1999, 1999-2000, and 2000-2001, were considered for this study. Final participants in this study were all students for whom the researcher obtained parental consent. Since the focus of the study was to examine the relationship between educational, social, and cultural factors and reading readiness, students with exceptionalities who were receiving special education services were not included in the final sample because student learning disabilities and exceptionalities may affect the reading readiness test scores. The final sample consisted of 332 students (n=332) which

represented 92.9% of the sample population. Of these students, 174 were males and 158 were females.

Table 1

Distribution of Study Sample of 332 Students by Gender, Kindergarten Program, and Year of Attendance

<u>Program of Instruction</u>	<u>Kindergarten Year</u>	<u>Males n</u>	<u>Males %</u>	<u>Female n</u>	<u>Female %</u>	<u>Total</u>	<u>Total %</u>
FLS Program	1998-99	18	5.4	19	5.7	37	11.1
	1999-00	33	9.9	25	7.5	58	17.5
	2000-01	39	11.7	35	10.5	74	22.3
Subtotal		90	27.1	79	23.7	169	50.9
ESOL Program	1998-99	15	4.5	14	4.2	29	8.7
	1999-00	26	7.8	21	6.3	47	14.2
	2000-01	43	12.9	44	13.3	87	26.2
Subtotal		84	25.3	79	23.8	163	49.1
FLS and ESOL	1998-99	33	9.9	33	9.9	66	19.9
FLS and ESOL	1999-00	59	17.8	46	13.9	105	31.6
FLS and ESOL	2000-01	82	24.7	79	23.8	161	48.5
Total		174	52.4	158	47.6	332	100

The Instrument

The instrument used in this study as a measurement of reading readiness in English in Hispanic kindergarten students, is the PALS-K, which was developed by a team of professors at the University of Virginia. PALS-K is one of the primary instruments which are used statewide in Virginia for the assessment of kindergarten students' reading readiness and the statewide diagnostic measure for the Virginia early Intervention Reading Initiative, which aims to provide early diagnosis and intervention to reduce the number of children with reading difficulties (Invernizzi, Meier, Swank, & Juel, 2000).

PALS-K measures a child's abilities on five important English literacy fundamentals in learning to read: (1) phonological awareness, (2) alphabet knowledge, (3) knowledge of letter sounds, (4) concept of word, and (5) word recognition in isolation (Invernizzi et al., 2000). The instrument helps identify those areas of early literacy instruction which will benefit children in their effort to learn to read (Invernizzi et al., 2000).

The phonological awareness components begin with a group administered rhyme task, the Group Rhyme, and a group administered beginning sounds task, the Group Beginning Sound. Students who score below criteria on either or both of the group tasks then participate in an individually administered rhyme task, the Individual Rhyme and/or an individually administered beginning sound task, the Individual Beginning Sound (Invernizzi et al., 2000). In reference to the alphabet knowledge component PALS-K includes alphabet recognition for lower-case only (Invernizzi et al., 2000). For the letter-sound kindergarten and first-grade, students are asked to spell five high-frequency words. The word recognition tasks include three lists of words, which correspond to the beginning, middle, and end of first-grade year. The concept of word is a finger-point reading task and for this task the student is presented with a simple four-line nursery rhyme, however, the concept-of-word score is not included in the PALS-K summed score (Invernizzi et al., 2000).

According to Invernizzi, et. al. (2000), 53,256 kindergarten students from different divisions of the State of Virginia participated in the PALS-K assessment for Virginia's Early Intervention Reading Initiative in the Fall of 1999. Of these students, 28,051 were males and 25,205 females; 15,321 were African-Americans, 130 African-American and Caucasian, 955 Asian and Pacific Islanders, 34,184 Caucasian, 2,004 Hispanic, 86 Native-Americans, and 576 Others. These students represented all four levels of SES as it was defined by the Virginia Department of Education, School Nutrition Programs in 1999-2000 (Invernizzi et al., 2000).

Reliabilities for PALS-K subtasks were determined for grade, gender, socio-economic status, and geographical region. In 1999, reliabilities were calculated for ethnic groups as well (Invernizzi et al., 2000).

Table 2a

Task Reliability Across demographic Categories - Fall 1999 (Invernizzi, et. al., 2000)

Entire Sample	Female	Male	SES 1	SES 2	SES 3	SES 4
.83	.83	.83	.85	.83	.83	.81

Table 2b

Task Reliability Across demographic Categories - Fall 1999 (Invernizzi, et. al., 2000)

African American	Asian & Pacific Islander Groups	Caucasian	Hispanic	Native American	Other
.80	.83	.84	.82	.80	.85

The inter-rater reliability coefficients are high and suggest that PALS-K can be administered accurately and reliably (Invernizzi et al., 2000).

Table 3

Inter-Rater Reliability Coefficients for PALS Subtasks (Invernizzi, et. al., 2000)

PALS Task	Inter-Rater Reliability Fall 1997	Inter-Rater Reliability Spring 1999
Beginning Sounds	.99 (p<.01) (n=122)	.99 (p<.01) (n=154)
Rhyme	.99 (p<.01) (n=134)	.96 (p<.01) (n=154)
Alphabet Recognition	.99 (p<.01) (n=122)	.99 (p<.01) (n=154)
Letter Sounds	.99 (p<.01) (n=121)	.98 (p<.01) (n=154)
Spelling	.99 (p<.01) (n=130)	.99 (p<.01) (n=154)

After extensive research, it was found that the tasks in the PALS-K assessment have ample content validity (Invernizzi et al., 2000). In reference to construct validity, PALS-K was designed to assess children's knowledge of sound and print, and included tasks that assess the relationship of the two. With factor analysis, it was found that PALS-K measures a unitary trait which is emergent literacy (Invernizzi et al., 2000). In reference to concurrent validity, PALS-K was compared with the Stanford 9. Medium to high correlations (.56 to .80, $p < .001$) demonstrate the concurrent validity of PALS-K with the Stanford 9 (when administered at the end of kindergarten) (Invernizzi et al., 2000). Criteria and benchmarks for the PALS-K were derived from over six years of research using PALS tests and were confirmed through statistical analyses (Invernizzi et al., 2000).

PALS-K was designed to be administered by teachers in a classroom setting. There are no time limits for PALS-K (Invernizzi et al., 2000). Teachers of the selected school district have been trained in the use and administration of the instrument. A student's summed score is derived by adding the student's scores on specific tasks and it characterizes that student's overall performance. Summed scores determine whether the student would benefit from additional instruction and the benchmarks are 28 for Fall term and 74 for Spring term (Invernizzi et al., 2000). Although scores from the concept-of-word task are not included in a child's summed score, they are used to provide literacy instruction and to predict literacy success (Invernizzi et al., 2000).

Procedure

The data collection procedures for this study were the following: After obtaining the necessary approvals from the respective school district, the researcher sent a letter of parental consent to all Hispanic parents whose children attended the FLS and ESOL programs in the target schools between 1998 and 2001 requesting their approval for their children's participation in the study. The letter was written in both English and Spanish to ensure clear communication with the parents. Upon receipt of the parental responses, the researcher herself collected the data from the students' academic files, which are located in the elementary schools that participated in the study. The researcher collected demographic information from the students' records and their PALS scores for the Fall and Spring of their kindergarten year. The data obtained went through a sort-out process, so that the children who had not taken the PALS-K in both Fall and Spring and the children who were receiving special education services were excluded. The data were initially recorded manually on spreadsheets and then converted to SPSS statistical software for data analyses.

All research questions for this study were designed to investigate the difference in Hispanic students' mean reading readiness scores in English with regard to specific educational, social, and cultural factors. The study was designed to conduct statistical analyses of existing data: Hispanic kindergarten students' demographic information and their PALS-K test scores. The most statistically appropriate way to answer the research questions was to analyze the PALS-K raw scores. Since the primary analysis investigates the difference in mean reading readiness scores with regard to several other factors, one-way Analysis of Variance (ANOVA) was the primary statistical technique which was used in testing all of these relationships. The selected probability level for all statistical tests in this study was $p=.05$.

The independent variables were: (1) father and mother's level of education, (2) gender of the student, (3) kindergarten program of student enrollment, (4) parents' country of origin, (5) number of years that the student has lived in the U.S., (6) father and mother's occupational status in the U.S., (7) family status of the student, and (8) preschool experience of the student. The dependent variables in this study were: The Hispanic students' Fall and Spring mean reading readiness scores in English.

This study sought to investigate the differences (changes) in the mean reading readiness scores with regard to the levels of the independent variables. Therefore, the students in this study were grouped into different groups according to: (1) Their parents' level of education (low, moderate, or high); (2) their gender (male vs. female); (3) their program of kindergarten instruction (FLS vs. ESOL); (4) their parents' country of origin (North America, Central America, South America, and students of Hispanic mothers and fathers who came from different Spanish speaking regions and not from the same, e.g., South American mother and Central American father); (5) the number of years they lived in the U.S. (less than two, two to four, or more than four); (6) their parents occupational status (non-technical, technical, professional); (7) their family status (married parent household versus single parent household); and (8) their preschool experience (preschool in the U.S., preschool abroad, preschool in the U.S. and abroad, and no preschool experience). Separate analyses were conducted for father and mother's level of education and occupation. The students' Fall and Spring mean reading readiness scores were also compared separately with regard to each one of the independent variables to determine if there is a difference in reading readiness mean scores among students when they enter and when they exit kindergarten.

For further statistical analyses purposes in this study, descriptive statistics were used. Specifically, in order to summarize the findings of the study, means and standard deviations were used. Frequencies, percentages, and cross-tabulations were also used in order to configure demographic information.

Table 4

Independent and Dependent Variables of the Study

Independent Variables (IVs)	<ol style="list-style-type: none"> 1) Father and mother’s level of education 2) Gender of the student 3) Kindergarten program of instruction (FLS vs ESOL) 4) Parents’ country of origin 5) Number of years that the student has lived in the US 6) Father and mother’s occupational status in the US 7) Family status of the student and 8) Preschool experience of the student
Dependent Variables (DVs)	<ol style="list-style-type: none"> 1) Students’ PALS-K fall mean reading readiness scores in English 2) Students’ PALS-K spring mean reading readiness scores in English

Findings

Regarding the Fall and Spring mean reading readiness scores in English on the PALS-K of Hispanic kindergarten students, the significant group differences were explored in relation to the independent variables. With regard to the father’s/mother’s level of education, no significant differences were revealed between the groups, except for the comparison between Fall mean scores and father’s level of education, which was found to be significantly different. In the Fall, students of fathers with low level of education scored significantly lower than students of fathers with high level of education with a mean difference of negative 8.6. In relation to the parents’ country of origin, the results did not indicate any significant differences in the Fall and Spring mean scores between the student groups.

Table 5

ANOVA for Fall Mean Reading Readiness Scores and Father’s Level of Education in Hispanic Kindergarten Students

Groups	N	Mean	Standard Deviation	F	Level of Significance	Significant Pairwise Comparison
Low	11	23	16.1	3.51	.031	High versus Low
Moderate	6	26.8	18.8			
High	13	31.6	20.2			
	4			3		
	36					

***p<.05**

With regard to the gender of the student, no significant differences were found between males and females’ Fall and Spring mean reading readiness scores. Similarly, no significant differences were revealed in the Fall and Spring mean reading readiness scores of students who attended the FSL program and the ESOL program.

The Fall mean scores of Hispanic kindergarten students in relation to the number of years that the student has lived in the U.S. were significantly different between the group of students who lived in the U.S. less than two years and those who lived in the U.S. for more than four years. The fall mean score of the students who lived in the U.S. less than two years was significantly lower than the Fall mean score of the students who lived in the U.S. for more than four years with a mean difference of negative 13.1. However, the Spring mean scores of all student groups in relation to the number of years that the student has lived in the U.S. were not significantly different.

Table 6

ANOVA for Fall Mean Reading Readiness Scores and Number of Years that the Student Has Lived in the U.S. in Hispanic Kindergarten Students

Groups	N	Mean	Standard Deviation	F	Level of Significance	Significant Pairwise Comparison
Less than 2 years	29	13.4	10	7.28 7	.001	Less than 2 years versus More than 4 years
From 2 to 4 years	25	23.9	18.5			
More than 4 years	25 5	26.6	18.2			

* $p < .05$

The examination of the students' Fall and Spring mean scores in relation to the father's/mother's occupational status in the U.S. did not reveal any significant differences between the groups. Similar results were found in comparing the Fall and Spring mean scores of the students with regard to the family status of the student indicating no significant differences between the groups.

Results revealed significant differences in the Fall and Spring reading readiness scores between the student groups in relation to the preschool experience of the student. In particular, students who attended preschool in the U.S. scored significantly higher in the Fall than students who attended preschool abroad with a mean difference of 17.8. In addition, students who attended preschool abroad scored significantly lower in the Fall than students who had no preschool experience with a mean difference of negative 13.1.

Table 7

ANOVA for Fall Mean Reading Readiness Scores and Preschool Experience of the Student in Hispanic Kindergarten Students

Groups	N	Mean	Standard Deviation	F	Level of Significance	Significant Pairwise Comparison
Preschool in U.S.	11 4	29	17.5			Preschool in U.S versus preschool
Preschool		11.2	7.6			

abroad	19			6.79	.000	abroad
		5.5	2.1	5		and
Preschool in both the U.S. and abroad	2					Preschool abroad versus no preschool experience
No preschool experience	17	24.4	18.3			
	4					

***p<.05**

Significant differences in the mean scores of the student groups were also found in the Spring between the mean scores of students who attended preschool abroad and the mean scores of the students who did not attend preschool. Specifically, students who attended preschool abroad scored significantly lower than the students who did not have preschool experience with a mean difference of negative 8.5.

Table 8
ANOVA for Spring Mean Reading Readiness Scores and Preschool Experience of the Student in Hispanic Kindergarten Students

Groups	N	Mean	Standard Deviation	F	Level of Significance	Significant Pairwise Comparison
Preschool in U.S.	11	72.5	16.6			
Preschool abroad	32	65	19.3			Preschool abroad versus No preschool experience
Preschool in both the U.S. and abroad	2	78.5	.7	2.95	.033	
No preschool experience	17	73.6	13.4	5		
	8					

***p<.05**

Summarizing, significant differences in the Fall mean scores were found between the student groups in relation to father's level of education, number of years that the student has lived in the U.S., and preschool experience of the student. Significant differences in the Spring mean scores were found only between the student groups in relation to the preschool experience of the student. All other statistical analyses did not reveal any significant differences in the Fall and Spring mean reading readiness scores between the student groups.

In addition, the gain scores (the difference between the Spring and Fall scores) for the entire group and for the two subgroups with regard to the program of instruction (FLS and ESOL) were examined. The number of students who took both tests (Fall and Spring) was 308. The researcher used the Paired Samples T-test statistics to investigate

the mean difference score of the study sample. The Fall mean score for the 308 students who took both tests was 25.1 and the Spring mean score 72.9. The mean difference score for the entire sample was 47.8 and was statistically significant at the 0.05 level. Therefore, it is evident that the two mean scores were significantly different and the entire group made significant progress in reading readiness skills even though both Fall and Spring mean scores were below the PALS-K benchmarks (28 for the Fall and 74 for the Spring, see Table 9).

Table 9
Distribution of the Study Population by Gain Mean Scores Between the Spring and the Fall Mean Scores

<u>Pair</u>	<u>N</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Paired Differences</u>		<u>t value</u>	<u>Level of Significance</u>
				<u>Mean Difference</u>	<u>Standard Deviation</u>		
PALS-K Fall	30 8	25.1	18.0	-47.8	17.2	-48.6	.000
PALS-K Spring	30 8	72.9	14.9				

***p<.05**

In order to determine the gain scores between the Fall and Spring scores of the FLS and the ESOL student groups, one-way ANOVA was conducted. One hundred and fifty-eight students who attended the FLS Program were tested in both Fall and Spring, and 150 students who attended the ESOL Program. It was found that the mean difference for the FLS group was 49.6 and for the ESOL group 45.8 with a level of significance $p=0.51$. Although the students who attended the FLS program made greater gains than the students who attended the ESOL program, the difference in the gain scores of the two groups was not found to be significant at the 0.05 alpha level (Table 10).

Table 10
Distribution of Study Sample by Program of Instruction and Gain Mean Scores between the Spring and the Fall Mean Scores

<u>Program of Instruction</u>	<u>N</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>F</u>	<u>Level of Significance</u>
First Language Support Program	15 8	49.6	17.6		
English for Speakers of Other Languages Program	15 0	45.8	16.6	3.84 9	.051
Total	30 8	47.8	17.2		

***p<.05**

Discussion

While many factors may be related to reading readiness in English in Hispanic kindergarten students, this study focused on the relationship between reading readiness and specific educational, social, and cultural factors. The results indicated a significant difference between father's level of education and Fall mean reading readiness scores. This finding is consistent with previous research findings which indicate that more literate and educated parents have children who perform better in school (Chaney, 1994; Goldfield & Snow, 1984; Pellegrini, Brody, & Sigel, 1985; Snow, et al., 1991; Snow & Tabors, 1996). However, by the end of the kindergarten year, the difference between father's level of education and mean reading readiness scores was not found to be significant. Since this research did not investigate the extent of parental involvement in Hispanic kindergarten students' schooling, it can not be determined from the findings whether the closing in the achievement gap between the groups by the end of the kindergarten year was due to parental participation and involvement in the children's learning. A possible interpretation for the similar scores that the three groups had in the Spring could be that the kindergarten instruction throughout the school year succeeded to promote learning of English language fundamentals in all three student groups regardless of the parents' level of education. In regard to the mother's level of education, this research findings did not support previous research. In addition, the results indicate a relationship between reading readiness in English and length of residence in the U.S. when entering kindergarten. Hispanic children who spent most part of their lives in the U.S. achieved significantly higher scores on the PALS-K than their counterparts who were born in Latin America.

Significant differences were found between two pairs of groups: students who attended preschool in the U.S. versus abroad and students who did not have any preschool experience. Since the PALS-K is a measurement of knowledge on English literacy fundamentals including phonological awareness in English, this finding indicates that preschool experience in another language may not contribute to reading readiness in English (as it is understood and measured by the PALS-K). However, it is important to note that in the Spring there was not found any significant difference between the two groups. Both groups made progress in reading readiness in English. An interpretation for this finding may be that preschool experience (even in schools abroad) may have long-term benefits and may be an important factor for the future academic progress of the student. This interpretation coincides with Boyer's (1992) suggestion that preschool experience is vital to the further academic success of the individual. Similarly, according to IRA and NAEYC (1998), preschool helps children explore their environment and build foundations for learning to read and write.

The second statistically significant difference was found between the students who attended preschool abroad and students who did not have any preschool experience for both the Fall and Spring tests. An interesting point about these findings is that although in the beginning of the kindergarten year, children who had schooling abroad scored very low on the Fall PALS-K (with a Fall mean score of 11.2), and the students with no preschool experience scored much higher (with a fall mean score of 24.4). In the Spring, this difference between the two groups was smaller. The students who had preschool abroad achieved a Spring mean score of 65 versus 73.6, which was the score of the students who did not have preschool experience. This may be explained by the fact that the students who had preschool education abroad were new to the U.S.

and their exposure to English was not sufficient in order for them to acquire English phonological awareness. The improvement in the tests' results in the Spring can be interpreted that although the students who attended preschool abroad were behind their peers in phonological awareness in English in the beginning of kindergarten, during kindergarten, they were able to make good progress because they were equipped with learning strategies and skills transferable to English language acquisition (August, Calderon, & Carlo, 2000; Bialystok, 1997; Cisero & Royer, 1995; Cummins, 1991; Durgunoglou, Nagy, & Hancin-Bahatt, 1993; Garcia, 1985).

However, the children who had preschool education abroad remained behind the peers in the Spring, and both groups, the children who attended preschool abroad and the children who had no preschool experience, were unable to reach the PALS-K Fall and Spring benchmarks. These findings are consistent with previous findings of second language acquisition research which suggest that children who speak a language at home other than English are generally able to develop social vocabulary in about two years and academic language necessary for school success in about five to seven years (Collier & Thomas, 1989; Cummins, 1981), and with findings of preschool education research which suggest that preschool education is beneficial to children's early literacy skills and further academic development and success (McKey, Condelli, Ganson, Barrett, McConkey, & Plantz, 1985).

As research indicates, despite the benefits of early childhood education on children's readiness to learn, there is low enrollment of children from diverse racial-ethnic backgrounds in preschool (U.S. Department of Health and Human Services, 2000). Specifically, many Hispanic parents do not prefer to enroll their young children to preschools (Schwartz, 1996), and there is evidence that the preschool enrollment of Hispanics is much lower than that of Whites (NCES, 1998a). The findings of this study support the above evidence that a great number of Hispanic students do not attend early childhood education programs. For example, of the 309 students who were tested in the Fall, 135 students attended preschool and 174 did not. Of the 331 students who were tested in the Spring, 153 students had preschool experience and 178 did not. In both the Fall and Spring student groups, the majority of the students did not have preschool experience.

In summary, the results of this study suggest that the following factors contributed to significant group differences in reading readiness in English: (1) father's level of education, (2) length of residence of the student in the U.S., and (3) preschool experience. All other examined factors did not indicate any significant group differences in reading readiness.

Implications of the Study

According to the Condition of Education (2000), 46% of the kindergarteners in urban areas have one or more of the following risk factors: (1) having a mother with less than a high school diploma, (2) living in a family who received welfare, (3) living in a single-parent household, and (4) having parents whose primary language is other than English. These socio-demographic risk factors are more common among minorities including Hispanics. About three-quarters of kindergarteners from Hispanic families have one or multiple risk factors (NCES, 2000c). Children with one or more risk factors are twice or three times more likely to have low reading scores than children with no risk

factors and are more likely to do poorly in school (Kaufman & Bradby, 1992; NCES, 2000c).

The distribution of the student sample with respect to the parents' education and occupation indicates that the sample of the study consisted of students from low SES families. In addition, the students of the study came from homes where the native language is other than English, and in this case the language is Spanish. All parent participants in the study were born in Latin American countries. Although the majority of the students lived with both parents (263 children), 69 children lived in a single parent household.

In addition, even though the majority of the students lived most of their lives in the U.S., living in low SES households, in a predominately Spanish speaking neighborhood, and having parents with low levels of education and perhaps limited English proficiency, it is likely that the exposure of these children to the English language was minimal prior to their entrance in kindergarten. And while in kindergarten, studying in predominately Hispanic student classrooms, the majority of the first interactions among peers may as well have been in the Spanish language.

Another factor identified by research as vital to reading success is preschool experience (IRA & NAEYC, 1998). The findings of this study indicated that the majority of the kindergarteners (179 children) did not have any preschool experience. During the collection of the data, it came to the attention of the researcher that many of the children who had preschool experience in the U.S., attended Head Start programs. Additionally, most of the risk factors, which have been identified from previous research as predictors for low reading achievement (Kaufman & Bradby, 1992; NCES, 2000c) were found to be also risk factors applicable to this study sample and the socio-demographic profile of the Hispanic kindergarteners who participated in this study is similar to the one described in the National Center for Educational Statistics (NCES) (2000c) findings.

The entire sample in this study, as a group, did not meet the reading readiness criteria in both the Fall and Spring PALS-K tests. In both tests, although the mean reading readiness scores were very close to the PALS-K benchmarks (25.2 vs. 28 in the Fall and 72.4 vs. 74 in the Spring), the students did not meet the reading readiness requirement for kindergarten maybe because they presented one or more of the above mentioned risk factors. However, this study was not designed to determine the extent to which a combination of these risk factors may have affected the reading readiness scores of the study sample. Therefore, specific conclusions with regard to the effect of these risk factors on reading readiness cannot be drawn from this study.

The results show that the number of Hispanic kindergarten students who failed to reach the benchmark in the Spring was larger proportionally than the number of students who did not reach the benchmark in the Fall (36.9% in the Fall vs. 57.7% in the Spring). It is interesting that despite the fact that these children received a full year of kindergarten instruction, instead of achieving higher as a group in the end of the kindergarten year, the number of the children who did not reach the reading readiness criteria increased.

Although this study was not designed to examine this outcome, a possible interpretation can be that the increase of the benchmark on PALS-K between the Fall and the Spring (from 28 in the Fall the benchmark increased 74 in the Spring) may be too dramatic for second language learners to reach. Kindergarten students who are just learning English may be unable to meet the Spring standards not because (1) they did

not make the expected progress, (2) did not receive proper English instruction in kindergarten, or (3) their parents were not active participants in their schooling. But, maybe these Hispanic students did not meet the Spring standards just because they are LEP and they need more time in school in order to meet these standards. And, to be more specific, we can look at the numbers. The PALS-K benchmark from 28 in the Fall increases to 74 in the Spring. The kindergarten student is therefore expected to have a gain score of 46 points in order to meet the Spring requirement. The results indicated that the overall mean gain score for the entire study sample was 47.8, which is 1.8 points higher than the expected gain score by the PALS-K gain score.

In examining the two groups separately, it was also found that the mean gain score of the students who attended the FLS program was 49.6, which is 4.6 points higher than the expected score, and the mean gain score of the ESOL group was 45.8, which is only 0.2 point lower than the expected score. It is clear from the findings that even though the Hispanic kindergarten students in this study as a group did not reach the benchmarks for either the Fall or Spring tests, they made more than the expected progress in reading. Therefore, although they did make the expected progress developmentally, because they started kindergarten having less knowledge of the important English language fundamentals than it is required by the PALS-K, they continued to perform lower after they had completed kindergarten and were unable to meet the PALS-K Spring criteria. The above inferences can be supported by the second language acquisition research, which suggests that it takes second language learners longer time to meet certain academic expectations than it takes native English speakers due to shorter length of residence in the host country and the step by step chronological process of second language acquisition (it takes from one to two years to master the Basic Interpersonal Communicative Skills and at least five to seven years to achieve Cognitive-academic Language Proficiency) (Collier, 1987; Cummins, 1996).

It is worthwhile to note that even though the difference in the mean gain scores of the two groups (FLS vs. ESOL) was not statistically significant, the findings showed that the students who attended the FLS program made higher gains as a group than the students who attended the ESOL program (49.6 vs. 45.8 respectively). Taking in consideration the fallacies which exist about bilingual education (Crawford, 1998) and the laws which have been passed in California (1998) and Arizona (2000) against bilingual education keeping it accountable for students' academic failure in English, the Hispanic students in this study who received bilingual instruction in kindergarten (English and Spanish) gained more in acquiring English language fundamentals than the Hispanic students who received English only language instruction even though the difference was not found to be statistically significant. Bilingual instruction therefore was in no means harmful, and it obviously did not prolong the acquisition of English language fundamentals in these students.

Suggestions for Future Research

Most past research has focused on examining the relationship between the level of maternal education and student reading readiness in kindergarten. Future studies that focus on the effects of the father and mother's level of education on Hispanic children's readiness to read in kindergarten can yield more detailed information about which parent's (father or mother's) educational level is more associated with Hispanic children's ability to read in kindergarten.

In addition, the results of this study indicated that although in the beginning of the kindergarten year, the father's educational level was found to be associated with Hispanic children's reading readiness, by the end of kindergarten year, no relationship was found between the father's level of education and reading readiness. A follow-up research study based on the finding that although Hispanic father's level of education appears to influence reading readiness prior to their children's kindergarten year, its influence disappears by the end of the kindergarten year. It would be of great interest in examining whether that's because the fathers are less involved in their children's literacy development at the time their children enter formal education leaving this role to the teachers, or that is because of the quality and the methods of the kindergarten instructional programs.

Previous research on the transfer skills from Spanish to English has shown that there is transfer in phonological awareness, vocabulary acquisition, word recognition, and reading comprehension (August et al., 2000; Durgunoglu et al., 1993; Fitzgerald, 1995; Jimenez, Garcia, & Pearson, 1995, 1996; Lambert & Tucker, 1972). Because it cannot be determined from the findings of this study whether the low scores of Hispanic kindergarten students on the reading readiness measurement may be attributed to their poor reading readiness skills in Spanish, future research can provide more information about the relationship between Spanish and English reading readiness skills in kindergarten Hispanic students.

Another factor to be considered is that although Hispanics are very diverse as a population group, in the U.S. they have been viewed and dealt with as a homogeneous group with the same racio-ethnic and cultural background. Ethnographic studies and national surveys that focus on the reading readiness and achievement of Hispanic students in the U.S. with respect to their parents' country of origin in relation to their SES will provide cultural, ethnical, and educational data about the different Hispanic subgroups in the U.S. and their educational needs.

During the collection of the data, it came to the attention of the researcher that although the majority of the student participants in this study were U.S. born, many of them went back to their parents' native country for long periods of time and returned to the U.S. only when it was the time for them to enter kindergarten. Many of these children were raised in Latin American countries where their exposure to the English language was very limited or non-existent. Future research on a national level can provide more insight about the length of residence in the U.S. of U.S. born Hispanic youngsters as a reason that may cause them to have limited English proficiency throughout the elementary and secondary grades.

In addition, further research which will be conducted on Hispanic students from all socio-economic levels with regard to their parents' occupational status in the U.S., family configuration, and quality of preschool experience may reveal more information regarding the relationship between these factors and reading readiness in English in Hispanic kindergarten students.

Conclusions and Recommendations

The results of this investigation showed that the Hispanic kindergarteners of the study did not meet the PALS-K benchmark upon entering and exiting kindergarten.

Although the mean gain scores between Spring and Fall indicate that they made substantial progress in reading during their kindergarten year, they were still not able to meet the reading readiness criteria set by PALS-K. This observation does not imply that the standards in the assessment of second language learners' reading readiness in kindergarten should be lower. On the contrary, we must maintain high standards and have high expectations for all students. However, it is crucial that the standards we establish and the criteria we set must accurately reflect the unique characteristics and needs of our LEP students (Lachat, 1999).

According to the PALS-K manual, the instrument has been extensively field tested across genders, socio-economic levels, and diverse student populations from various racial-ethnic backgrounds and it is a valid and reliable instrument for measuring reading readiness in kindergarten students (Invernizzi et al., 2000). However, further field-testing of the instrument specifically on second language learners would give more information about the use of the measurement with limited English children from linguistic backgrounds other than English. An investigation with a large number of Hispanic kindergarten students, in particular, will provide important information about the use of the measurement with this student population. This is very important since Hispanic students consist the larger linguistic student minority in the U.S. and it has been documented that are at risk for reading failure.

Since performance assessment has entered our schools and today the use of standardized measurements is mandatory in most school districts across the nation, students are expected to perform in a certain way and at a certain level on these tests in order to meet the "on grade level" criteria. However, relying only on standardized instruments for the reading assessment of second language learners can be misleading. A more holistic assessment approach which includes performance, authentic, and portfolio assessment may be a more accurate and safe way to assess linguistically diverse students' reading readiness in kindergarten.

According to Kagan (1992), the implementation of successful school readiness cannot be achieved only through collaboration among parents, schools, and communities, but it must be matched by internal school efforts. Therefore, schools must provide curricula and extra curricula educational programs which accelerate the immigrant student's mastery of literacy and development in the content areas. In addition, schools must develop parent-school partnerships and community outreach programs to support parents who speak a language other than English in their effort to assist their children in the acquisition of important English language fundamentals including in particular phonemic awareness and rhyming methods which differ significantly across languages.

From the findings of this study and previous research findings (Zill et al., 1995), it can be concluded that preschool attendance is related to higher scores in reading readiness in Hispanic kindergarten students. Taking in consideration that Hispanic parents are reluctant to enroll their children in preschool (Schwartz, 1996), which is not always offered in public schools, and the fact that the majority of Hispanic parents enroll their youngsters in kindergarten which is offered in public schools, and the importance of preprimary education in children's academic success (Boyer, 1992; IRA & NAEYC, 1998), legislators and policy makers must consider making preschools a part of public education. Such a decision will offer access to early childhood education to all individuals and will secure good quality of preschool education since instruction is going to be offered under the responsibility and umbrella of the public schools. In addition, making preschool education public and free of charge for all will allow parents from low

socio-economic levels to enroll their children in good quality preschool programs despite their financial status.

Success brings success! Understanding and emphasizing the progress on English literacy of second language learners and not holding on to a phenomenal failure on the standardized reading measurements allows us to see the clear picture of the results of our instructional interventions, the children's efforts, and the parents' support. Instead of emphasizing to our non-native English language students and their parents that they are reading below grade level, it would be helpful to also emphasize that their progress in school is the expected considering all the barriers and limitations. Boosting our students' self-esteem by recognizing their strengths and achievements is probably one of the best ways to motivate them to succeed in school and achieve the high literacy standards of our times.

References

- Anglum, B. S., Bell, M. L., & Roubinek, D. L. (1990). Prediction of elementary student reading achievement from specific home environmental variables. *Reading Improvement, 27*, 173-184.
- August, D., Calderon, M., & Carlo, M. (2000). The transfer of skills from Spanish to English: A study of young learners. Center for Applied Linguistics. Retrieved January 21, 2002, from <http://cal.org/projects/obemla.html>
- August, D., & Hakuta, K. (1997). *Improving schooling for language minority children: A research agenda*. Washington, DC: National Research Council.
- Bialystok, E. (1997). Effects of bilingualism and biliteracy on children's emerging concepts of print. *Developmental Psychology, 33*(3), 429-440.
- Blachman, B. A. (2000). Phonological Awareness. In M. L. Kamil, P. B. Mosenthal, D. P. Pearson, & R. Barr (Eds.). *Handbook of Reading Research* (pp.483-502). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Boyer, E. L. (1992). *Ready to learn: A mandate for the nation*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.
- Cairney, T. H., & Munsie, L. (1995). Parent participation in literacy learning. *The Reading Teacher, 48*(5), 392-403.
- Chaney, C. (1994). Language development, metalinguistic awareness, and emergent literacy skills of three year old children in relation to social class. *Applied Psycholinguistics, 15*, 371-394.
- Cisero, C. A., & Royer, J. M. (1995). The development and cross-language transfer of phonological awareness. *Contemporary Educational Psychology, 20*(3), 275-303.
- Collier, V. P., & Thomas, W. (1989). How quickly can immigrants become proficient in school English? *Journal of Educational Issues of Language Minority Students, 5*, 26-38.

- Collier, V.P. (1987). Age and rate of acquisition of second language for academic purposes. *TESOL Quarterly*, 21, 617-641.
- Crawford, J. (1998, November). Ten common fallacies about bilingual education. Center for Applied Linguistics. Retrieved November 2, 2000, from <http://www.cal.org/ericcll/digest/crawford01.html>
- Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: A reassessment. *Applied Linguistics*, 2(2), 132-149.
- Cummins, J. (1991). Interdependence of first-and second-language proficiency in bilingual children. In E. Bialystok (Ed.), *Language processing in bilingual children* (pp. 70-89). Cambridge, MA: Cambridge University Press.
- Cummins, J. (1996). *Negotiating identities: Education for empowerment in a diverse society*. Ontario, CA: California Association for Bilingual Education.
- Durgunoghlou, A., Nagy, W. E., & Hancin-Bhatt, B. J. (1993). Cross-language transfer of phonological awareness. *Journal of Educational Psychology*, 85, 453-465.
- Espinosa, L. M. (1995). *Hispanic parent involvement in early childhood programs*. Urbana, IL: ERIC Clearinghouse on Elementary and Early Childhood Education. (ERIC Document Reproduction Service No. ED 382412)
- Fitzgerald, J. (1995). English as second language learners' cognitive reading processes: A review of research in the United States. *Review of Educational research*, 65, 145-190.
- Garcia, E. (1985). *Bilingual development and the education of bilingual children during early childhood*. (ERIC Document Reproduction Service No. ED 283 365).
- Goldfield, B.A., & Snow, C.E. (1984). Reading books with children: The mechanics of parental influence on Children's reading achievement. In J. Flood (Ed.), *Promoting Reading Comprehension* (pp. 204-215). Newark, DE: International Reading Association.
- International Reading Association (IRA) & National Association for the Education of Young Children (NAEYC). (1998). Learning to read and write: Developmentally appropriate practices for young children. *Young Children*, 30-46.
- Invernizzi, M., Meier, J. D., Swank, L., & Juel, C. (2000). *PALS-K: Phonological Awareness Literacy Screening*. Charlottesville, VA: University of Virginia Press.
- Jimenez, R. T., Garcia, G. E., & Pearson, P. D. (1995). Three children, two languages, and strategic reading: Case studies in bilingual/monolingual reading. *American Educational Research Journal*, 32, 31-61.

- Jimenez, R. T., Garcia, G. E., & Pearson, P. D. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Quarterly*, 31(1), 90-112.
- Kagan, S. L. (1992). *Young children and education: First...at last*. (ERIC Document Reproduction Service No. EJ 444 282)
- Kaufman, P., & Bradby, D. (1992). *Characteristics of at-risk students in NELS:88*. Washington, DC: U.S. Department of Education, National Center for Educational Statistics.
- Lachat, M. A. (1999). Standards, equity, and cultural diversity (RJ 96006401). Providence, RI: Northeast and Islands Regional Educational Laboratory at Brown University.
- Lambert, W., & Tucker, G. (1972). *Bilingual education of children: The St. Lambert experiment*. Rowley, MA: Newbury House Publishers Inc.
- McKey, R. H., Condelli, L., Ganson, H., Barrett, B.J., McConkey, C., & Plantz, M.C. (1985). *The impact of Head Start on children, families, and communities*. Washington, DC: U.S. Government Printing Office.
- National Center for Educational Statistics. (1997). *The condition of education: Progress in the achievement and attainment of Hispanic students*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- National Center for Educational Statistics. (1998a). *The condition of education: Supplemental and standard error tables*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- National Center for Educational Statistics. (1998b). *Dropout rates in the United States*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- National Center for Educational Statistics. (2000a). *The condition of education. Entering kindergarten: A portrait of American children when they begin school*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- National Center for Educational Statistics. (2000b). *The condition of education*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- National Center for Educational Statistics. (2000c). *America's kindergarteners: Early childhood longitudinal study*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- Pellegrini, A., Brody, G., & Sigel, I. (1985). Parent's book-reading habits with their children. *Journal of Educational Psychology*, 77, 332-340.

- Schwartz, W. (1996). *Hispanic preschool education: An important opportunity*. (Report No. EDO-UD-96-2). New York, NY: Institute for Urban and Minority Education, Teachers College, Columbia University. (ERIC Document Reproduction Service No. ED 405 398)
- Snow, C., & Tabors, P. (1996, January). Intergenerational Transfer of Literacy. Family Literacy: Directions in Research and Implications for Practice, Retrieved from <http://www.ed.gov/pubs/FamiLit/transfer.html>
- Snow, C. E., Barnes, W. S., Chandler, J., Goodman, I. F., & Hemphill, L. (1991). *Unfulfilled expectations: Home and school influences on literacy*. Cambridge, MA: Harvard University Press.
- U.S. Bureau of the Census. (2000). *The Hispanic population in the United States*. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services. (2000). *Trends in the well-being of america's children and youth*. Washington, DC: U.S. Government Printing Office.
- White House Initiative on Educational Excellence for Hispanic Americans. (1996). *Our Nation on the Fault Line: Hispanic American Education*. Washington, DC: President's Advisory Commission on Educational Excellence for Hispanic Americans.
- Zill, N., Collins, M., West, J., & Hausken, E. G. (1995). *School readiness and children's developmental status*. (ERIC Document Reproduction Service No. ED 389 475).