

10-6-2010

Understanding School Readiness Abilities of Bilingual Latino Head Start Children and the Differences Among Latin American Regions

Liza Arango
University of South Florida

Follow this and additional works at: <https://digitalcommons.usf.edu/etd>



Part of the [American Studies Commons](#)

Scholar Commons Citation

Arango, Liza, "Understanding School Readiness Abilities of Bilingual Latino Head Start Children and the Differences Among Latin American Regions" (2010). *Graduate Theses and Dissertations*.
<https://digitalcommons.usf.edu/etd/3579>

This Thesis is brought to you for free and open access by the Graduate School at Digital Commons @ University of South Florida. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact scholarcommons@usf.edu.

Understanding School Readiness Abilities of Bilingual Latino Head Start Children and
the Differences Among Latin American Regions

by

Liza Arango

A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist
Department of Psychological and Social Foundations
College of Education
University of South Florida

Co-Major Professor: Lisa M. Lopez, Ph.D.
Co-Major Professor: Linda Raffaele Mendez, Ph.D.
John Ferron, Ph.D.

Date of Approval:
October 6, 2010

Keywords: Hispanic, Latino, bilingual, achievement

Copyright © 2010, Liza Arango

Table of Contents

List of Tables	iv
List of Figures	v
Abstract	vi
Chapter 1: Introduction	1
Statement of the Problem	1
Latino Students' Abilities in U.S. Schools	2
Learning Disabilities of Latino Students	3
Differences Among Latinos	4
Effects of the Environment	7
Purpose of the Study	9
Research Questions	10
Significance of the Study	10
Operational Definitions of Terms	12
Delimitations and Limitations	13
Organization of Remaining Chapters	13
Chapter 2: Review of the Literature	14
History of Bilingualism	14
Academic Achievement of Latinos	15
Latino Students' Abilities in U.S schools	16
Oral Language	17
Spelling	19
Cross-language Transfer	21
Learning Disabilities of Latino Students	23
An Ecological Approach	24
Testing Practices used with ELL and Bilingual Students	25
Accommodations	27
Assessing in Both Languages	28
Differences among Latinos	29
Latinos' Demographics	30
Number of Years of Residence in the U.S.	31
Acculturation	33
Effects of the Environment on Latinos' Abilities	34
Home Language	35
Socioeconomic Status	36
Parental Education	37

Conclusions	39
Purpose of the Study	39
Chapter 3: Methods	41
Purpose of the Study	41
Participants	42
Ethical Considerations	43
Variables	44
Family Factors	44
Latin American Region	44
School Readiness Skills	44
Measures	45
Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4)	45
Test de Vocabulario en Imágenes Peabody (TVIP)	45
Woodcock Johnson III Complete (W.J. III)	46
The Demographic Parent Interview	47
Procedure	47
Qualifications	48
Data Analysis	48
Chapter 4: Results	51
Overview	51
Descriptive Statistics	52
Reliability	55
Research Question 1	55
Research Question 2	58
Correlational Analyses	58
Regression Analyses	61
Chapter 5: Discussion	71
Differences in Latino Children’s School Readiness Abilities	71
Family Factors Associated with Latino Children’s School Readiness Abilities	73
Limitations	77
Implications for Practice	78
Directions for Future Research	80
Conclusions	81
List of References	82

List of Tables

Table 1: Latin American Regions	52
Table 2: Means and standard deviations of each composite score	53
Table 3: Descriptive Statistics for Continuous Family Variables	55
Table 4: Reliability of English Measures	57
Table 5: Reliability of Spanish Measures	57
Table 6: One-Way Anova Results by Composite Score	58
Table 7: Correlations Between English Measures and Family Factors	59
Table 8: Correlations Between Spanish Measures and Family Factors	60
Table 9: Predicting English-Oral Language Scores	64
Table 10: Predicting English-Cognitive Scores	65
Table 11: Predicting English-Early Literacy/Numeracy Scores	66
Table 12: Predicting Spanish-Oral Language Scores	67
Table 13: Predicting Spanish-Cognitive Scores	68
Table 14: Predicting Spanish-Early Literacy/Numeracy Scores	69

List of Figures

Figure 1. Mothers' Years of Residence in the U.S.	70
Figure 2. Mothers' English Proficiency	70

Understanding School Readiness Abilities Among Bilingual Latino Head Start Children:
An Examination of Differences Between Latin American Regions

Liza Arango

ABSTRACT

Limited research has been conducted focusing on the school readiness abilities among bilingual Latino children. Additionally, little is known about how children from different Latin American regions may differ in their readiness skills. This study examines the differences in school readiness abilities in both English and Spanish of a group of bilingual Latino Head Start children in five counties in Florida (n = 202). Specifically, the study investigates the differences in abilities among children from different Latin American Regions (i.e., North American, Caribbean, Central American, and South American). School readiness skills were assessed using subtests from the Woodcock Johnson III Complete, the Bateria III Woodcock-Muñoz, the Peabody Picture Vocabulary Test-Fourth Edition, and the Test de Vocabulario en Imágenes Peabody. Additionally, a demographic parent interview was used to examine specific family factors that may influence the children's development of these skills. All participants attend Head Start and come from households where Spanish is one of the languages spoken. A series of one-way ANOVAs were calculated to test the differences among the groups, and multiple regressions were used to evaluate the relationship between several family factors and the children's abilities. Results indicated significant differences among Latin American

Regions in the area of Oral Language in English and Spanish. Furthermore, all family factors were related to some extent with the children's Oral Language skills in both languages. Mother's years of residence in the U.S. as well as mothers' English proficiency were shown to increase English-Oral language scores for most of the participants. This research study will add to the literature information about the abilities of specific Latino groups given that research focusing on this population tends to overgeneralize their findings.

Chapter 1

Introduction

Statement of the Problem

The Latino population in the United States (U.S.) is rapidly increasing and has been the fastest growing ethnic group in U.S. schools since the 1990-1991 school year (U.S. Census Bureau, 2008). It is expected that by the year 2020 this minority group will make up one-quarter of the student population in the U.S. (Garcia & Gonzalez, 2006). The population of English Language Learner (ELL) students has increased by 105 percent, while the whole school population has only increased by 12 percent (Lazarin, 2006). In the 2000-2001 school year, it was estimated that 4.6 million ELLs were enrolled in public schools in the U.S. (National Center of Education Statistics, 2004). Additionally, 35% of the students enrolled in Head Start, a comprehensive child development program, are Latinos (National Head Start Association, 2009).

Given the alarming rates of underachievement among Latino children in the U.S., their educational outcomes in school should be an area of concern for all educators (Klinger & Artiles, 2003). Latino students have higher dropout rates than non-Latinos (National Center for Educational Statistics, 2000), and only 63 percent of this population between the ages of 18 and 24 have finished high school or earned a GED (U.S. Department of Education, 2003). To date, limited research has been conducted with bilingual children, resulting in a lack of understanding of Latino children's academic development. Because the Latino population is the fastest growing minority group in the

U.S. (U.S. Census Bureau, 2000a), the U.S. economy is being placed at a great disadvantage as a result of Latino's poor educational outcomes.

Various factors may play a role in a student's academic success. It has been reported that Latino students from economically disadvantaged environments are twice as likely to read below level in English when compared to non-Latinos (Snow, Burns & Griffin, 1998) and are at higher risk of experiencing poor literacy outcomes (Hammer, Miccio, & Wagstaff, 2003). Moreover, reading achievement gaps for all individuals, including Latinos, get even wider once they reach adulthood (National Assessment of Adult Literacy, 2003).

In addition to the lack of understanding of the abilities of Latino students in U.S. schools, there is a remarkable lack of research in regards to specific groups of the Latino population. It is essential to be cognizant of the fact that although the Latino population encompasses the largest minority group in the U.S., this population is highly diverse in culture, immigration history, SES, and social dilemmas (Suarez-Orozco & Paez, 2002). On the other hand, research completed on Latinos is usually directed to a specific home country; however, researchers tend to overgeneralize findings to all Latino populations.

Latino students' abilities in U.S. schools

In an effort to meet all students' needs in school, it is essential to comprehend clearly Latino's abilities in schools. Even though there is an insufficient understanding of Latinos' abilities, existing research has focused on understanding whether skills transfer from Spanish to English and have shown that abilities do transfer. More specifically, research has shown that phonological awareness abilities transfer from Spanish to English (Durgunoglu, Nagy, and Hancin-Bhatt, 1993). More recent research reports that

phonological awareness transfers across languages as early as preschool (Lopez & Greenfield, 2004; Dickinson, McCabe, Clark-Chiarelli, & Wolf, 2004). Given that various research studies have concluded the cross language transfer of phonological awareness, Durgunoglu (2002) suggests that it is possible for educators to assess a child's phonological awareness skills in the second language as long as they have received sufficient instruction in the child's first language. Likewise, Riccio, Amado, Jimenez, Hasbrouch, Imhoff, and Denteon (2001) indicated that using Spanish phonological awareness measures may be essential for the early identification of those students who are developing difficulties in reading, in both English and Spanish. When working with ELL children, tailoring the instruction in the second language to build on the child's existing abilities in the first language may be helpful.

Learning disabilities of Latino students. One of the biggest dilemmas and debates of U.S. schools that work with ELLs has been the identification of a learning disability among this population. It is important to be knowledgeable that when ELL students are given the label of learning disabled, they are often classified as having a lack of proficiency in their first language as well as in their second language, English (Artiles, Rueda, Salazar & Higareda, 2003). This population is overrepresented in the learning disability category (Baca & Cervantes, 1998) even though sufficient opportunity to learn often is not given to them before it is determined that the students qualify for special education (Klingner & Artiles, 2003). Furthermore, U.S. schools often use inappropriate measures of assessment to evaluate ELL students; therefore, many of these children are being misdiagnosed and misplaced in the category of special education (Artiles & Trent,

1994). Assessment measures that provide valid scores for most students tend to underestimate the abilities and potential of culturally and diverse students (Abedi, 2002).

On the other hand, certain accommodations are currently being put into place when evaluating ELL students. More specifically, research findings suggest that the manner in which some of the Latino children approached the test given to them demonstrate the need for more time to finish the task (Garcia, 1991). Overall, providing ELL students with certain accommodations not only during state assessments, but also during classroom and local assessments, can serve as a tool to decrease the effect of limited proficiency in English, therefore, improving the accuracy of the assessments administered (Abedi, Lord, Hofstetter, & Baker, 2000).

It is essential for educators to be knowledgeable of the importance of assessing ELL students in both languages, in their first language and also in English if they speak English (McCardle, McCarthy & Leos, 2005). Assessing in the child's first language can provide insight on whether the student's difficulties are related to a learning disability, a specific language need, or developmental language differences. In addition, research suggests that in order to make appropriate accommodations for this population of students, assessments should be conducted in both languages. This strategy provides a complete view of the child's abilities despite the language in which the skills are shown (Spinelli, 2008).

Differences among Latinos

Latinos in the U.S. have numerous similarities and common views which characterize their ethnic group; however, it is essential to recognize the differences within this group of individuals when understanding their abilities given that they are a

heterogeneous group. Furthermore, most of the previous research targeting Latino families, center their attention on a specific home country, most often being Mexico and Puerto Rico (De Von Figueroa-Moseley et al., 2006; Hammer, Miccio, & Wagstaff, 2003; Teichman & Contreras-Grau, 2006), however, researchers tend to overgeneralize findings to all Latino populations.

It is important to be cognizant of the fact that this population is highly diverse in many aspects including but not limited to culture, immigration history, SES, and regions of settlement (Suarez-Orozco & Paez, 2002; De Von Figueroa-Moseley, Ramey, Keltner, & Lanzi, 2006). Within the Latino population, their experiences are shaped by various factors including who they are, the life they left behind, their ability to accustom into the new community, as well as their immigration history (Sánchez, 2002). Among other characteristics, the Latino population in the U.S. is comprised of different national origins and is diverse in terms of racial identification (Qian & Cobas, 2004). Mexicans and Puerto Ricans residing in the U.S. comprise 68% of the Latino population, while the percentage of immigration from Central (4.8% of the population) and South America (3.8% of the population) has increased in the last decade (Marotta & García, 2003; U.S. Census Bureau, 2000).

Another characteristic that makes this population a heterogeneous group is the number of years Latinos have resided in the United States (Qian & Cobas, 2004). The number of years the parents have resided in the United States can impact the cultural norms present within the family (Hammer & Miccio, 2004), as well as the parents' level of stress (Farver, Xu, Eppe, & Lonigan, 2006). Moreover, those who have been in the U.S. for longer periods of time report speaking more English at home, compared to fewer

of those that recently arrived from their country of origin (Portes & Rumbaut, 1996). Uchikoshi (2006) suggested that children who are born in the U.S. have higher receptive and expressive vocabulary in English at the start of kindergarten, compared to those children who are born abroad. The results of this study also demonstrated that fewer years of residence in the U.S. is correlated with a steeper growth trajectory in expressive vocabulary.

Another consideration that researchers need to take into account is that Latinos have immigrated to the U.S. for many different reasons and have had different educational experiences before arriving to the U.S. Throughout the last half-century, as a result of political turmoil and/or escaping oppression, the immigration patterns of Latinos have resulted in many individuals moving from their country of origin to the U.S. (Stepick & Stepick, 2002). Other Latinos immigrating to the U.S. have experienced civil conflict in their home country, or in other cases they have been forced to start working at an early age making it hard for them to attend school and receive an education (Delgado-Gaitan, 2001). Therefore, immigration history may also play a role in the SES of Latino families which can consequently influence children's development.

Another factor that differs among the Latino population is their acculturation to the U.S. culture. In general, acculturation refers to cultural changes that a person experiences as a result of continuous and direct contact with individuals, groups as well as social influences that are culturally dissimilar (Gibson, 2001). More specifically, as a result of Latino immigrant parents gradually adjusting to the U.S. culture regardless of SES, changes associated with the families' acculturation may have crucial implications for the immigrant children's success in school, (Farver, Eppe, & Ballon, 2006). In

addition, as stated by Hammer, Miccio, and Wagstaff (2003), parenting strategies such as speaking English at home and engaging in literacy activities at home are considered evidence of acculturation. Overall, the Latino population in the U.S. is a heterogeneous group with numerous differences among individuals. Latino children are at a greater risk for poor educational outcomes as a result of a lack of understanding about the abilities of this population as well as the characteristics that can impact their learning. Thus, it is critical to investigate the children's abilities of the various Latino subgroups in order to better inform interventions for this population.

Effects of the environment

Research has shown that parents can serve as important instruments when preparing their children for school by being directly involved in literacy-related activities in order to improve their child's school readiness skills (Farver, Xu, Eppe, & Lonigan, 2006). By promoting exposure to books by parents, the development of the child's language abilities can be positively impacted (Uchikoshi, 2006).

Additionally, it is important to be cognizant of the fact that students from different backgrounds have home languages that are different from the school language. It has been reported that home language experience is a valuable variable specific to bilingual acquisition (Umbel, Pearson, Fernandez, and Oller, 1992). The school language is an additional language that these children are learning; thus, it is important to understand that although these children are exposed to more than one language, they may not be proficient in either language or be, in fact, bilingual (Durgunoglu, 2002). Therefore, home-school collaboration and support from both home and school may have an impact on these students' abilities.

Past research studies focusing on monolinguals have linked parental education level with the children's academic achievement (Seefeldt, Denton, Galper, & Younoszai, 1999; Snow, Burns, & Griffin, 1998), therefore it is crucial to examine parent education as a factor and to understand to what extent it impacts Latino children's abilities. Furthermore, socioeconomic status of the family can have an impact on the child's development. More specifically, the experience of Latino students who are raised in economically disadvantaged communities has a great impact on the development of their overall abilities as a result of lack of resources and opportunities to learn (Hammer, Miccio & Wagstaff, 2003). The children in these families have fewer opportunities to work with their parents on literacy-related activities, and have limited exposure to literacy materials in the home (Hammer, Miccio & Wagstaff, 2003). Low socioeconomic status (SES) is likely to cause stress in families, leading to a lower probability of the members of the family to engage in more leisure-related activities, such as literacy events (August & Hakuta, 1997). This can also be linked to the issue of people living in rural areas who tend to have fewer resources available to them, while people living in urban areas reside in places that are more developed and that have numerous resources. This is supported by Logan, Evans, Stevenson and Jordan (2005) who stated that people who live in rural areas tend to have fewer available services of all types. Furthermore, other researchers have reported that the resources that do exist in these rural regions must cover larger geographic areas, the quality as well as consistency of staff tends to be problematic, and the cost for these rural services are higher which becomes a problem given that these individuals have fewer personal resources to pay (Booth, Ross, & Rost, 1999; DeLeon, Wakefield, & Hagglund, 2003; Ricketts, 1999). As mentioned previously,

research suggests that the development of Latino students who are raised in economically disadvantaged communities is greatly impacted as a result of lack of resources and a decrease in opportunities to learn (Hammer, Miccio & Wagstaff, 2003).

Another family factor that may influence children's abilities is their parents' English proficiency. It is important to understand whether the children's school readiness abilities are affected by their parents' English proficiency given that research has linked parental engagement in literacy practices with higher early achievement in both low and middle class families (Payne, Whitehurst, & Angell, 1994) and parents' inability to use the English language may reduce their opportunity to work with their children in literacy-related activities.

Research studies suggest that different home factors may restrict the development of children (Hammer, Miccio & Wagstaff, 2003) and parent direct involvement in and encouragement of literacy-related activities can serve as important instruments in the children's development of skills (Farver, Xu, Eppe, & Lonigan, 2006). This study aims to add some understanding to the literature on specific family factors that may influence Latino children's development in school readiness abilities including mothers' years of residence in the U.S., mothers' place of residence in their country of origin (urban versus rural), mothers' level of English proficiency, and mothers' level of education.

Purpose of the Study

The purpose of this study is to identify differences that may exist in the performance on school readiness tasks of English Language Learners from different Latin American regions as determined by their mothers' country of origin (i.e., North America, Caribbean, Central America, and South America). To determine these differences,

archival data was used from another study looking at the school readiness abilities of Head Start Latino ELL students. Spanish speaking children ages 3-5, attending Head Start in five counties in Florida, and their families participated in this study measuring the children's abilities in both languages. Data were gathered in both languages using a battery of assessments from the Woodcock Johnson III (WJ-III/Batería 3), the Phonological Awareness Test and the PPVT-IV/TVIP to evaluate the children's skills in the areas of oral language, early literacy, early numeracy, and cognition. These were administered individually by separate assessors for each language on separate days at the Head Start sites. Additionally, the study examines specific precursor factors from the children's home environment that predict their skills, thus, parents were contacted by phone to complete a parent interview.

Research Questions

1. Are there differences in preschool children's school readiness abilities (Oral Language, Cognitive, and Early Literacy/Early Numeracy abilities) among families immigrating from different Latin American regions (North American, Caribbean, Central American, and South American) in English and Spanish?
2. What family factors (mothers' years of residence in the U.S., mothers' place of residence in their country of origin, mothers' level of English proficiency, and mothers' level of education) are associated with preschool children's higher levels of school readiness abilities (Oral Language, Cognitive, and Early Literacy/Early Numeracy abilities) in English and Spanish and what are the differences between Latin American Regions (North American, Caribbean, Central American, and South American)?

Significance of the Study

Given Latinos' alarming rates of underachievement, the existing gap in the understanding of bilingual Latino students' and monolingual students' abilities in schools, as well as the abilities of Latino students from various Latin American regions, should be a concern for all educators and professionals in the field of education. Latinos in the U.S. are a heterogeneous group with numerous differences; and are at a greater risk for poor educational outcomes than all other groups. This is a result of a lack of understanding about the abilities of this population as well as the different characteristics that can impact their learning. Additionally, researchers tend to overgeneralize when investigating the population of Latino students and ignore the potential differences among the individual regions and nationalities.

As mentioned previously, Latino children's educational outcomes in schools in the U.S. are of great concern since they continue to underachieve at alarming rates (Klinger & Artiles, 2003). This population of students have higher dropout rates than non-Latinos (National Center for Educational Statistics, 2000), and only little over half of Latino students between the ages of 18 and 24 have finished high school or earned a GED, in comparison to eighty five percent of the total population (U.S. Department of Education, 2003).

The overarching goal of this present study is to better understand the abilities of preschool Latino students by identifying regional differences among this population, and to examine specific factors of their home environment that may predict their ability to perform in various tasks. More specifically, the information about the children's mothers may provide insight on characteristics that may influence the children's development of

various skills. It is hoped that the findings from this study can serve as guidance for future research directed to understanding Latino students' abilities and the development of effective strategies to help this population. By gaining knowledge in regards to ELL students, this population can hopefully receive the necessary assistance and support given the multifaceted factors that influence their learning. Furthermore, this research project is conducted with the attempt to add some understanding to the field of school psychology in reference to individual students from the different Latin American regions in U.S. schools.

Operational Definitions of Terms

A brief description of each of the variables included in this study follows.

Dependent Variable:

School readiness abilities: Children's oral language abilities, cognitive abilities, and early literacy/early numeracy abilities. These are being measured using a variety of subtests from the Woodcock Johnson III (WJ-III/Batería 3), as well as the PPVT-IV/TVIP

Independent Variables:

Years of residence in the U.S.: The total numbers of years the mothers have been residing in the United States.

Place of residence in their country of origin (rural vs. urban): The type of area where the mothers lived (urban/city vs. rural/countryside) in their country of origin.

Parents' levels of English proficiency: How well the mothers self-rated that they speak English.

Parents' levels of education: The highest level of schooling the mothers completed.

Delimitations and Limitations

The findings of this study may be generalizable to similar populations of students given that this study sampled from a population of low income families in Head Start residing in five different counties in the state of Florida. More specifically, the findings may be representative of Latino children in the age range of three years old and five years old, who are low income and bilingual learners attending preschool programs, specifically Head Start programs. Therefore, it is concluded that since the sample is limited, the generalizability of the findings is reduced. Particularly, the findings may not be generalizable to low income preschool students who do not attend preschool at all or who do not attend Head Start preschool programs. Furthermore, the results of this study may not be generalizable to preschool students who are also from low income families but who do not reside in the state of Florida and the specific counties from which the population was sampled.

Organization of Remaining Chapters

The proceeding chapters highlight the specifics of the research study. Included in Chapter two is a review of the literature already published that relates to Latino students' abilities in U.S. schools, assessment methods used with this population, differences among the Latino population and the factors in the environment of these children that may affect their learning. Chapter three describes the methodology that was used in this study including a description of the participants, variables, assessment instruments, procedure, ethical considerations, research design, and data analysis. Chapter four displays the results of the current research study and chapter five includes a summary of the findings and the implications of this study.

Chapter 2

Review of the Literature

The Latino population in the United States (U.S.) is increasing at a fast rate and it now makes up the largest minority group in the U.S., accounting for over 15% of the population (US Census Bureau, 2008). This minority group has surpassed African Americans as the largest minority group in the country (U.S. Census Bureau, 2003).

The Latino population in the U.S. has also been the fastest growing ethnic group in U.S. schools since the 1990-1991 school year (US Census Bureau, 2008). More specifically, the ELL population has increased by 105 percent, while the whole school population has only increased by 12 percent. In the 2000-2001 school year, it was estimated that 4,584,946 ELLs were enrolled in public schools (National Center of Education Statistics, 2004). Lazarin (2006) reported that nearly 80% of English Language Learners (ELL) currently in schools are native Spanish speakers. Furthermore, since the Latino population of students in schools is increasing at a faster rate (estimated to currently make up one-fifth of the preschool through high school population), it is expected that by the year 2020 this minority group will make up one-quarter of the student population in the U.S. (Garcia & Gonzalez, 2006). Additionally, thirty five percent of the students enrolled in Head Start, a comprehensive child development program, are Latinos (National Head Start Association, 2009).

History of Bilingualism

In the past, the image of bilingualism was seen as a negative force in a child's development. More specifically, bilingualism was seen as a disease which not only caused confusion in children's thinking but also prevented children from belonging to the majority culture (Cummins, 1981). Bilingual children were obligated to reject their home culture while adopting the majority culture. In the past two decades, empirical studies have emerged which contradict this belief. For example Umbel, Pearson, Fernandez, and Oller (1992) conducted a study in which they measured bilingual children's receptive vocabularies, with Spanish speaking participants, and found that learning two different languages at once does not harm receptive language development in the child's first language. Instead, learning two languages served as groundwork for superior performance in the majority language. Furthermore, Gunn, Smolkowskil, Biglan, and Black (2002) reported that a child's dominant language at the time of instruction has a positive effect on the child's ability to benefit from the instruction provided.

Academic Achievement of Latinos

In comparison to research focusing on monolinguals, limited research has been conducted with bilingual children; therefore, there is a lack of understanding of Latino children's academic development. At the same time, it is important to understand that not all Latino students are ELL, given that this minority group is highly diverse and represents numerous Latino cultures that are discrepant in their history and that have had different experiences (Suarez-Orozco & Paez, 2002). Nevertheless, these children's educational outcomes in schools in the U.S. are an area that concerns all educators, given that they continue to underachieve at alarming rates (Klinger & Artiles, 2003). A report from the National Center for Educational Statistics (2000) has indicated that Latino

students have higher dropout rates than non-Latinos. In addition, the U.S. Department of Education (2003) reported that in 1998, only 63 percent of Latinos between the ages of 18 and 24 had finished high school or earned a GED, in comparison to 85 percent of the total population.

Additionally, given that the experiences of bilingual students in economically disadvantaged environments are multifaceted, research suggests that students, whose first language is Spanish, are at high risk for poor literacy outcomes (Hammer, Miccio, & Wagstaff, 2003) and are twice as likely to read below level in English when compared to non-Latino White students (Snow, Burns & Griffin, 1998). This information indicates that Latino students start out with a disadvantage in literacy skills and the gap widens as time progresses, a phenomenon called the “Mathew Effect.” (Stanovich, 1986). Students who are poor readers in early grades are more likely to be poor readers in later grades and it is unlikely for them to acquire subsequent abilities due to their inadequate exposure to reading. In addition, reading achievement gaps for all individuals get even wider once they reach adulthood (National Assessment of Adult Literacy, 2003).

Due to the limited knowledge and research in regards to bilinguals and ELL students, in the continuation of this chapter, research will be reviewed highlighting the following: Latino’s academic abilities, effects of the environment, differences among Latinos, and the various assessments used for this population of students. While the studies in this literature review will be focused on Latino ELLs, studies conducted with monolingual students will be included throughout as most of the existing research is directed towards this population of students.

Latino students’ abilities in U.S. schools

Students who attend schools where the instructional language differs from their native language encounter the challenge of mastering academic skills in a language that they have not yet mastered (Jongejan, Verhoeven & Siegel, 2007). In reference to ELLs, Durgunoglu (2002) states that these students are bilingual due to the fact that they are exposed to two languages, but they may or may not be truly bilingual in the area of linguistic proficiency. Previous research suggests that variables such as, program type, instructional technique, the child's native language and socioeconomic status have an impact on the oral and literacy proficiency in the child's second language (August & Hakuta, 1997; Fitzgerald, 1995; Hakuta, 1999; Tabors & Snow, 2001). The complexity of learning a second language is evident in the findings presented by Thomas and Collier (2002) that it takes ELLs 5 to 7 years to achieve grade level norms if proper instruction is given.

Oral Language. Oral language entails the verbal communication skills needed to understand and to use language when listening and talking to others. Moreover, oral language has been highly correlated with achievement in reading comprehension for monolingual students (Biemiller, 2003). Over 70% of students who experienced difficulty in reading exhibited language deficits in kindergarten in a study conducted by Catts, Fey, Zhang, and Tomblin (1999). The children's deficits were primarily related to difficulties in the areas of phonological processing and oral language. In applying this research to ELL students, it is essential for them to have English oral language skills in order for them to be successful when reading in English (Carlisle, Beeman, Davis, & Spharim, 1999; Proctor, Carlo, August, & Snow, 2005). Lindholm (1991) found that both academic

and conversational language skills are correlated with ELL students' abilities to read in English. This finding has crucial implications for working with this student population.

An important part of oral language is vocabulary; thus, when evaluating ELLs, vocabulary scores can play a crucial role in order to understand their abilities to read in English. Umbel, Pearson, Fernandez, and Oller (1992) revealed that students who came from bilingual homes performed below the normative sample in English vocabulary regardless of whether they were from higher SES homes than the norm sample.

Uchikoshi (2006) showed that preschool experience can impact children's English vocabulary growth. The results from her study suggest that Latino children who were enrolled in preschool or Head Start were more likely to start kindergarten with higher English expressive vocabulary than those students who stayed at home and did not attend preschool. Paez, Tabors, and Lopez (2007) reported that starting in kindergarten Latino students lose skills in Spanish in exchange for increasing their English skills for school success. Lastly, in order to successfully comprehend both spoken and written language, vocabulary knowledge needs to be present (Proctor, Carlo, August, & Snow, 2005). If ELL students struggle with vocabulary development, their ability to understand what they read is affected, thus, the probability of being misdiagnosed and misplaced in special education increases (August, Carlo, Dressler, & Snow 2005).

Another important part of oral language is listening comprehension which has been observed to have a bidirectional relationship with reading. Generally, high levels of listening comprehension are correlated with high levels of reading comprehension and vice versa. Duvfa, Niemi and Voeten (2001) conducted a study with 200 Finnish students who were followed from preschool through second grade. The authors found that reading

comprehension was better correlated with listening comprehension than word recognition. Additionally, Garcia (1991) conducted a study with ELL Latino students in fifth and sixth grade. The author administered expository text passages and provided the students with the passages in order for them to follow along while the examiner read out loud. This assessment measure not only evaluated the students' ability to read English but also their comprehension. Results indicated that students were able to produce longer and more accurate recalls of the English text when they were allowed to use their first language.

These findings are also supported by Langer, Bartolome, Vasquez and Lucas (1990) who indicated that for a student to be able to comprehend a text in English and Spanish, the students must develop meaning making strategies in either language. Furthermore, students who had good meaning making strategies in Spanish were able to transfer those skills when reading in English, and vice versa (Langer Bartolome, Vasquez & Lucas, 1990).

Spelling. There are a limited number of research studies that have focused on examining the spelling abilities of Spanish speaking students, yet it is essential to understand that when compared to the Spanish language, the English language has less systematic phoneme-grapheme correspondences (Sun-Alperin & Wang, 2008). The Spanish language also has a shallow orthography, a more direct mapping between letters and sounds (Sun-Alperin & Wang, 2008). Students who are native Spanish speakers, may encounter difficulties when trying to spell words in English, given that their Spanish orthography is strictly phonetic. People spell words in the same manner as they are pronounced (Nobel, 1982), a strategy reliant on phonemes, which works well with the

Spanish orthography, leading students to formulate spelling errors in English (Campion, 2004).

In a study conducted by Campion (2004), the spelling proficiency of students who were native Spanish speakers and who were in grades six through eight were evaluated. The students were given a 75-word spelling test and a fill-in-the-blank derivational suffix test. The results showed that the native Spanish speakers are less proficient spellers than native English speakers. The author concluded that this finding can be a result of the differences between the orthographical rules among both languages, Spanish and English. Furthermore, it is implied by the author that the traditional spelling model used with native English speakers may not be adequate when working with native Spanish speakers. This finding is supported by Sun-Alperin and Wang (2008) who conducted a study with native Spanish speakers and native English speakers. They evaluated whether the native Spanish speakers particularly struggled with the spelling of English vowel sounds and whether the errors were consistent with the Spanish orthographic rules. They found that these students formulated more vowel spelling errors that were indeed consistent with the Spanish orthography. The authors concluded that students may apply the phonological and orthographical rules of Spanish, therefore misspelling English words when transitioning from Spanish to English.

Fashola, Drum, Mayer, and Kang (1996), who examined the spelling errors made by native Spanish speaking children, found that these students formulated more errors consistent with the correct use of orthographic and phonological rules in Spanish, thus applying the Spanish spelling rules, when trying to spell words in English. Research suggest that both language of instruction and vocabulary knowledge have significant

effects on Spanish–influenced spelling (Rolla San Francisco, Mo, Carlo, August, & Snow, 2006). Only students who received instruction in both English and Spanish demonstrated that Spanish influenced spelling (Rolla San Francisco, Mo, Carlo, August, & Snow, 2006). Studies investigating the development of ELLs’ spelling abilities have reported that as these students acquired the knowledge about English spelling norms, the use of first language knowledge when spelling English words decreases (Figueredo, 2006). On the other hand, additional research has suggested that spelling performance appears to be influenced by individual differences unrelated to native language (Wade-Woolley & Siegel, 1997). Wade-Woolley & Siegel (1997) reported that second language speakers performed in a manner similar to native English speakers in a spelling task.

Cross-language transfer. Research focusing on cross-language transfer investigates whether using characteristics of the first language can help acquire and produce a second-language. Understanding cross-language transfer can help in distinguishing between ELL students who are struggling as a result of low linguistic proficiency versus those who struggle because of cognitive or learning problems (Durgunoglu, 2002). Existing research focused in understanding whether skills transfer from English to Spanish has shown that abilities certainly transfer. More specifically, Durgunoglu, Nagy, and Hancin-Bhatt (1993) conducted a study to investigate whether phonological awareness abilities transferred from Spanish to English. They examined the factors influencing the English word identification performance of 31 Spanish speaking beginning readers. All of the participants were in first grade and were administered various tests, including tests of letter naming, English and Spanish Oral proficiency, English and Spanish word recognition, and Spanish phonological awareness. The authors

found that children's phonological awareness abilities transferred from Spanish to English. The findings suggested that the students' abilities to recognize words in English were correlated with their Spanish phonological awareness. In addition, more recent research reports that phonological awareness transfers across languages as early as preschool (Lopez & Greenfield, 2004; Dickinson, McCabe, Clark-Chiarelli, & Wolf, 2004).

Durgunoglu (2002) completed a review of the literature on cross-language transfer effects in literacy. Findings suggest that a young child who has developed his or her phonological awareness to some extent in the first language is more likely to show the same awareness in the second language as it is developed. Furthermore, research suggests building on the strengths that a student already has in the first language, therefore, developing phonological awareness abilities in the child's first language, is likely to increase the child's second language abilities, especially in word recognition (Durgunoglu, Nagy, and Hancin-Bhatt, 1993). When working with ELL children, tailoring the instruction in the second language to build on the child's existing abilities in the first language may be helpful.

Lindsey, Manis, and Bailey (2003) conducted a study in which 249 Spanish-speaking ELL were evaluated at three time points in their English and Spanish skills. They supported the above mentioned findings by suggesting that Spanish phonological awareness is correlated with English word identification to the same degree that Spanish phonological awareness is correlated with Spanish word identification. Additionally, findings of this study showed that there were strong correlations between Spanish phonological awareness and later English passage comprehension. The authors concluded

that Spanish phonological awareness is not language-specific; instead it is a general cognitive process that is involved in early reading. Lindholm (1991) also reported strong relationships of content across languages, thus suggesting that there is transfer of content across languages.

Given that various research studies have concluded the cross language transfer of phonological awareness, Durgunoglu (2002) suggested that it is possible for educators to assess children's phonological awareness skills in the second language as long as they have received sufficient instruction in the children's first language. Moreover, Riccio et al. (2001) indicated that using Spanish phonological awareness measures may be essential for the early identification of those students who are developing difficulties in reading, in both English and Spanish.

Learning disabilities of Latino students

One of the biggest dilemmas and debates of educators and professionals who work with English language learners and bilinguals has been the identification of a learning disability among this population. Limited research has been conducted in comparing English language learners who have a disability to those who do not. Emerging data from urban regions located in California, suggest that ELL students who are placed in the learning disability category may be classified as having a lack of proficiency in their first language as well as in their second language, English (Artiles, Rueda, Salazar & Higareda, 2003).

Educators have expressed concern in reference to the overrepresentation in the learning disability category of culturally and linguistically diverse students (Baca & Cervantes, 1998). In contrast, Latino students are not overrepresented in the mental

retardation or emotional disturbance categories (Donovan & Cross, 2002). Furthermore, there is an extensive variation in representation of Latinos in the learning disability category across states (Artiles & Trent, 2000) and within school districts (Losen & Orfield, 2002). Moreover, the exclusionary clause stipulated in the IDEA definition, states that before determining if a student qualifies for special education, he or she must receive the sufficient opportunity to learn (Klingner & Artiles, 2003). This includes the opportunity to learn in a language that the student can understand; however, it is suggested that school personnel, often disregard this clause (Klingner, Harry, Sturges, Artiles, & Wimes, 2003).

Eight hundred and fifty nine school psychologists who had administered psychoeducational assessments to bilingual students were surveyed as part of a study conducted by Ochoa, Rivera and Powel (1997). Only six percent of this extensive group of school psychologists indicated that they asked about the student's home language, and only one percent of them attempted to evaluate if the learning disability was present in both languages. Moreover, it has been shown that members of the Individualized Education Program (IEP) team grant minimal attention and importance to factors related to language acquisition when coming up with the decision about the eligibility and placement of a bilingual student (Klingner & Artiles, 2003).

An ecological approach. McCardle, McCarthy and Leos (2005) suggest that it is essential to consider cultural and contextual factors in the student's environment when conducting assessments, instruction or intervention. More specifically, an ecological approach should be followed, where information about the child's culture, home, community and school is gathered (Bronfenbrenner, 1994). Often times, this is an aspect

that is lacking in the completion of the evaluation for bilingual students. Additionally, school personnel and IEP teams ignore or disregard the classroom environment from which students were referred when making decisions about eligibility, and classroom observations are not conducted (Klingner & Artiles, 2003). It is also common for school personnel to assume that the student being assessed for special education must have an internal deficit and that external factors are not affecting the student's performance, therefore, observations are not necessary. Carrasquillo and Rodriguez (1997), conducted a study in New York City, in which 46 Latino limited English proficient elementary students' schooling characteristics were examined. The students that participated were referred to or participated in bilingual special education. Even though only few prereferral interventions had been completed prior to placing the student in special education, most students were classified as learning disabled or speech impaired given that most referrals were due to academic deficits and reading/language factors.

Klingner and Artiles (2003) proposed three different approaches to addressing the problem of misdiagnosing and overrepresentation of bilingual students in special education. These approaches included professional development to increase school personnel's knowledge of the exclusionary clause in the IDEA definition, including an English language acquisition expert in the IEP team, and considering the classroom context when discussing the students learning and behavior.

Testing practices used with ELL and bilingual students

As a result of using inappropriate measures of assessment to evaluate English language learners and bilingual students, many of this population of children are being misdiagnosed and misplaced in the category of special education (Artiles & Trent, 1994).

Some schools use the same assessments used for monolinguals to evaluate ELLs. As a consequence, these schools are failing to take into account the language proficiency of the student and therefore setting them up for failure (Klingner & Artiles, 2003).

Additionally, Garcia and Pearson (1994) suggest that the test performance of bilingual students may be affected by several factors, including differential interpretation of questions, limited English vocabulary, and limited fluency in English.

Most importantly, Abedi (2002) stated that assessment measures that provide valid scores for most students, tend to underestimate the abilities and potential of culturally and diverse students. Researchers such as Roseberry-McKibbin and O'Hanlon (2005) suggest that it is appropriate to use nonstandardized measures and to gather information from multiple sources when evaluating ELL students. This finding is also supported by Spinelli (2008) who states that informal assessment such as portfolios, and curriculum-based assessments allow ELL students to demonstrate their abilities as well as specific areas where they are lacking competencies.

Garcia (1991) conducted a study with 51 fifth and sixth grade Latino children to examine the factors that influence their performance in a reading test. Results showed that unknown vocabulary in the questions asked affected the children's test performance, and when questions were translated into Spanish, some of those children who previously had chosen the incorrect answer, were able to provide the correct response. Therefore, it is suggested that in some cases, Latino children can perform better in Spanish than in English. Additionally, the results of this study indicate that Latino children who are enrolled in classrooms with Caucasian students and who are from the same SES, are not

as familiarized with the topics included in standardized assessments and are not accustomed to making the kinds of inferences needed to answer some of the questions.

Aside from the tests that are utilized for monolinguals, other methods used to assess ELL students' performance and abilities include dynamic assessments, curriculum-based measurement, classroom assessments and checklists, and designated accommodations during testing sessions. As described by Barrera (2003), by legal mandate, when assessing a student for a learning disability, no single measure procedure should be utilized to identify whether the student has a disability. McCardle, McCarthy and Leos (2005) suggest that the creation of classroom assessments encompassing the student's culture, home and school environments, and the relationship with peers may be used in order to accurately assess ELL students. Additionally, the authors stated that validated teacher checklists could serve as a tool for the referral stage when a student is experiencing difficulty.

Accommodations. In addition to different measures used to assess ELL students' abilities, another key instrument that is used during the assessments is the accommodations provided to this student population. McCardle, McCarthy and Leos (2005) acknowledged that ELL and ELL with disabilities need to have certain accommodations in place during assessments in order to ensure that their abilities are fully understood. Some accommodations include additional time during the test, displaying simpler English language, and the possibility to use a dictionary. However, it is important to be cognizant that even when an accommodation is recommended in the IEP of a student, not all accommodations are permitted in state assessments (McCardle, McCarthy and Leos, 2005); therefore, accommodations are not guaranteed to ELL

students in all situations. Furthermore, as stated by these authors, minimal research has been conducted addressing the effectiveness of the aforementioned accommodations. Some of these accommodations mentioned by McCardle, McCarthy and Leos (2005) are supported by the research findings from Garcia (1991), who suggested that the manner in which some of the Latino children approached the test given to them, demonstrated that they needed more time to finish the task. This result was concluded from a qualitative analysis conducted as part of the study. Particularly, the qualitative data suggested that because the children felt they were running out of time towards the end of the test, they guessed on many of the questions, affecting the final score and their overall performance. Overall, providing ELL students with certain accommodations not only during state assessments, but also during classroom and local assessments, can serve as a tool to decrease the effect of limited proficiency in English, therefore, improving the accuracy of the assessments administered (Abedi, Lord, Hofstetter, & Baker, 2000).

Assessing in both languages. Given the lack of evidenced based measures to assess this population of students, it is essential to assess ELLs in both languages, in their first language and also in English if they speak English (McCardle, McCarthy & Leos, 2005). This can have an impact on whether accurate results are obtained in regards to a student's English proficiency, academic skills, or the presence of a learning disability. This suggestion for best practices, are consistent with Paez and Rinaldi (2006), who conducted a study with 244 low SES bilingual children who attended Head Start or public preschool programs in three different communities in Massachusetts and in one community in Maryland. The children who participated in this study lived in homes where Spanish was one of the languages spoken. Results supported the implication that

when assessing language abilities and phonological awareness, practitioners should assess these abilities in both English and the child's first language. Assessing in the child's first language can provide insight on whether the student's difficulties are related to a learning disability, a specific language need, or developmental language differences. Additionally, the best practices of evaluating in both languages is also supported by Umbel, Pearson, Fernandez and Oller (1992) who compared children whose families only spoke Spanish at home (OSH) and children whose families spoke both English and Spanish at home (ESH). Results showed that children in ESH group performed in the low average range in the English vocabulary test (PPVT), however, these same children performed comparable to monolingual Spanish speaking norm sample in the Spanish vocabulary test (TVIP-H), suggesting the importance of evaluating these students in both languages to better obtain an accurate picture of their abilities. Furthermore, Spinelli (2008) suggested that in order to make appropriate accommodations for this population of students, assessments should be conducted in both languages in order to provide a complete view of the child's abilities despite the language in which the skills are shown.

Differences among Latinos

Latinos in the U.S. have numerous similarities and common views which characterizes their ethnic group. It is important to be cognizant that a language other than English has been reported to be spoken at home by a large percentage of the Latino population in the U.S. (70%), (U.S. Census Bureau, 2000).

Although the Latinos in the U.S. are similar in various ways, it is crucial to recognize the differences within this group of individuals given that they differ in numerous characteristics which create a heterogeneous group. For example, in the area of

academic achievement, it has been reported that the different Latino subgroups vary in their performance. De Von Figueroa-Moseley, Ramey, Keltner, and Lanzi, (2006), investigated the distinctions among Latino subgroups (Mexico, Puerto Rico and El Salvador) in regards to parenting and its effects on child cognitive outcomes. The results of the study demonstrated that the various subgroups performed differently on the Letter Word and Applied Problems subtests of the Woodcock-Johnson. More specifically, those from El Salvador consistently scored higher on both subtests. In addition, there were differences in parenting techniques. Even though all parental caregivers demonstrated nurturing parent-child relationships, Puerto Rican caregivers reported more nurturing behaviors.

Most of the previous research targeting Latino families as well as their parenting and child-rearing styles, have centered their attention on a specific home country, most often being Mexico and Puerto Rico (De Von Figueroa-Moseley, Ramey, Keltner, & Lanzi, 2006, Hammer, Miccio, & Wagstaff , 2003; Teichman & Contreras-Grau, 2006). Having said this, a major problem of research focusing on the Latino population in the United States is that most of the existing research is directed to a specific home country; however, researchers tend to overgeneralize findings to all Latino populations.

Latinos' Demographics. It is important to understand that a critical characteristic of the Latino community in the United States is its enormous diversity. Although the Latino population encompasses the largest minority group in the U.S., this population is highly diverse in culture, immigration history, SES, social dilemmas, language, racial composition, cultural customs and practices, as well as regions of settlement (Suarez-Orozco & Paez, 2002). It is crucial to understand that within the Latinos' experiences are

shaped by various factors including but not limited to their ability to accustom into the new community, as well as their immigration history (Sánchez, 2002). Another characteristic of the Latino population in the U.S. is that is comprised of diverse national origins, including but not limited to Mexico, Puerto Rico, Cuba and other Latin American countries (Qian & Cobas, 2004). They also are diverse in terms of racial identification, given that they may be considered White, Amerindian, Black, and other races (Qian & Cobas, 2004). Furthermore, as presented by the U.S. Census Bureau (2001), the U.S. is characterized by multiple dialect regions from Spain and the Americas with the three major Latino groups established in the U.S. including Mexicans, Cubans, and Puerto Ricans. Even though there has been an increase in the percentage of immigration from Central (4.8% of the population) and South America (3.8% of the population) in the last decade, Mexicans and Puerto Ricans residing in the U.S. comprise the largest group of the Latino population in U.S. (68%) (Marotta & García, 2003; U.S. Census Bureau, 2000).

Number of Years Residing in the U.S. The number of years Latinos have resided in the United States also differs among this population (Qian & Cobas, 2004). For example, Cubans exiles began arriving only recently to the U.S., while Mexicans have a long history in America (Qian & Cobas, 2004). Research has shown that the number of years the parents have resided in the United States can impact the cultural norms present within the family (Hammer & Miccio, 2004), as well as the parents' level of stress (Farver, Xu, Eppe, & Lonigan, 2006). It is essential to understand that immigrants who have resided in the U.S. for longer periods of time report speaking more English at home compared to fewer of those that recently arrived from their country of origin (Portes &

Rumbaut, 1996). In connection to this, home language is unlike other factors of the Latino culture (e.g., food, religion) that tend to remain the same across generations (Portes & Rumbaut, 1996). For example, mothers of Mexican-descent reported that at least some English had begun to be used by many of them at home, while still valuing the Spanish language (Pease-Alvarez, 2002).

In regards to the home literacy practices of Puerto Rican mothers, Hammer and colleagues (Hammer, Miccio, & Wagstaff, 2003; Hammer, Rodríguez, Lawrence, & Miccio, 2007) reported that immigration history plays a function in this area. Children who were dual learners of English and Spanish were more likely to have a second generation Puerto Rican mother (Hammer, Miccio, & Wagstaff, 2003). The mothers' literacy practices with their children was impacted by the number of years they had resided in the U.S. as well as the gradual shift in the mothers' child-rearing styles (e.g., changes in goals, values) as they became more familiar with the American culture and the school system. More specifically, mothers of children who were learning English simultaneously with Spanish versus sequentially, were more likely to have a stronger focus towards achievement and engaged in literacy activities in order to teach their children pre-academic and literacy skills. Moreover, Uchikoshi (2006) investigated the relationship between the number of years of residence in the United States and the English vocabulary of Latino English language learners. Results of this study suggested that children who are born in the U.S. have higher receptive and expressive vocabulary in English at the start of kindergarten, compared to those children who are born abroad. In addition, the findings indicated that fewer years of residence in the U.S. is correlated with a steeper growth trajectory in expressive vocabulary.

Immigration history also plays a role in the SES of Latino families which can consequently influence children's development. Even though SES has been considered in previous literature as an alternative to parent education level, this may not be the case for many Latinos. Throughout the last half-century, as a result of political turmoil and/or escaping oppression, the immigration patterns of Latinos have resulted in many individuals moving from their country of origin to the U.S. (Stepick & Stepick, 2002). Other Latinos immigrating to the U.S. have experienced civil conflict in their home country, or in other cases they have been forced to start working at an early age making it hard for them to attend school and receive an education (Delgado-Gaitan, 2001).

Acculturation. Overall, acculturation refers to cultural changes that a person experiences as a result of continuous and direct contact with individuals, groups as well as social influences that are culturally dissimilar (Gibson, 2001). In regards to the Latino population in the U.S., Latino immigrant parents gradually adjust to the U.S. culture regardless of SES, thus the changes associated with the families' acculturation may have crucial implications for the immigrant children's success in school (Farver, Eppe, & Ballon, 2006). In a study conducted by Farver, Eppe, and Ballon (2006), the influence of mothers' level of acculturation (Mexican and Central American mothers) on the children's developing literacy skills as well as on the family environment was investigated. The best outcomes in relation to children's developing literacy skills were seen in homes where mothers had an integrated style of acculturation. These parents modeled and engaged in more literacy activities with their children, and higher scores on the literacy assessments in both Spanish and English were obtained by these children. This is supported by other research studies stating that the development of Latino

children's early English language is impacted by acculturation (Hammer & Miccio, 2004; Teichman & Contreras-Grau, 2006). As stated by Hammer, Miccio, and Wagstaff (2003), speaking English at home, engaging in literacy activities at home; among other parenting strategies are considered evidence of acculturation.

In sum, as shown by the articles cited above, the Latino population in the U.S. is a heterogeneous group with a high number of differences among each individual in this group. Therefore, it is crucial to investigate the children's abilities of the various Latino subgroups in order to better help and inform interventions with this population.

Effects of the environment on Latinos' abilities

Educators have expressed concern regarding children entering kindergarten and first grade with a lack of basic academic skills. As reported in a survey by over 3000 teachers, at least half of children entering these grades lack academic abilities, cannot follow directions and have difficulty working in groups (Rimm-Kaufman, Pianta, & Cox, 2000). A study conducted by Farver, Xu, Eppe, & Lonigan (2006) examined 122 Latino children aged 39 to 49 months and their mothers. They evaluated the relations among characteristics of the children's home environment and the children's oral language and social functioning. Results showed that different aspects of the home environment such as SES may restrict the general development of the children. Furthermore, parent direct involvement in and encouragement of literacy-related activities as well as mother's perceived levels of stress were correlated with school readiness skills. The authors suggest that parents can serve as important instruments when preparing their children for school by being directly involved in academic activities in order to improve their child's abilities.

Additionally, Uchikoshi (2006) examined the growth rates in vocabulary over a complete school year for one hundred and fifty ELL students in which 80% or more qualified for free lunch. The findings of this study concluded that the number of children's books in the home was positively correlated with the children's expressive vocabulary scores measured with the Woodcock Language Proficiency Battery-Revised-Picture Vocabulary subtest (Woodcock, 1991) in English. Moreover, the findings suggested that families taking their children to the library, indicates additional exposure to books, therefore increasing their future reading abilities.

The development of the child's language abilities can be positively impacted by promoting exposure to books by parents. Even though further investigation is needed to examine ELL's language acquisition and literacy development, a small number of research studies have focused in this population. Hammer, Miccio, and Wagstaff (2003) conducted a study with forty-three Puerto Rican mother-child dyads attending Head Start programs in Pennsylvania. This study focused on the home literacy experiences and emerging English literacy skills of these dyads. The authors found that those mothers, who had children that were learning English and Spanish at the same time, were more likely to spend time with their children teaching them pre-academic and literacy skills, when compared to those mothers whose children were learning only Spanish at home.

Home Language. It is important to be cognizant of the fact that students from different backgrounds have home languages that are different from the school language. Umbel, Pearson, Fernandez, and Oller (1992) found that home language experience is a variable of great importance specific to bilingual acquisition. In their study, two groups of participants were investigated, the children whose families only spoke Spanish at

home (OSH) and children whose families spoke both English and Spanish at home (ESH). The results of this study suggested that both groups were functioning on the same level in receptive language, however, the English vocabulary performance was significantly higher for the ESH group of students, than that of the OSH group. Additionally, the findings of this study suggest that even though both groups of students performed near the mean of 100 in Spanish, and the ESH group performed higher in English than the OSH groups, both groups performed below the mean of the normative sample in English.

Socioeconomic Status. An additional environmental factor that may impact children's development of their abilities is their socioeconomic status. The experience of Latino students who are raised in economically disadvantaged communities has a great impact on the development of their overall abilities, as a result of lack of resources and opportunities to learn. Hammer, Miccio and Wagstaff (2003) found that in low socioeconomic status (SES) home, families have less opportunity to purchase literacy materials. Therefore, the children in these families have fewer opportunities to work with their parents on literacy-related activities, and have limited exposure to literacy materials in the home. In other words, low SES families are less likely to be able to purchase books for their children in order to increase their literacy and vocabulary skills.

Additionally, low SES can have an effect on the stressors these families experience during their day to day lives. More specifically, low SES families are less likely to engage in more leisure-related activities, such as literacy events, as a result of the stress they experience in their lives (August & Hakuta, 1997). It is suggested by D'Angiulli, Siegel and Maggi (2004) that it is more difficult to change a family's SES,

than to adjust the instructional support provided to these students. Thus, school based programs that are introduced to children during their early education years have the capacity to improve the learning trajectories of children at risk, therefore, reducing the probability of children experiencing school failure and being misdiagnosed with learning disabilities later during their education.

Parental Education. A number of research studies focusing on monolinguals as well as Latino bilingual students have linked parental education level with the children's academic achievement (Seefeldt, Denton, Galper, & Younoszai, 1999; Snow, Burns, & Griffin, 1998). Moreover, the level of education in mothers of low SES families have been reported to be positively correlated with higher levels of language abilities in the children (Dollaghan et al., 1999), therefore, it is important to investigate this family factor that may be influencing the Latino children's abilities in various areas of development. This is supported by Nixon, McCardle, and Leos (2007) who recommend for researchers to investigate the influence of various risk factors, including parental education in regards to Spanish-speaking ELL children's oral language skills.

Other factors that may influence Latino children's abilities in various areas of development may include the parents' place of residence in their country of origin (urban versus rural). This family factor was chosen as part of this investigation given that people living in rural areas tend to have fewer resources available to them, while people living in urban areas reside in places that are more developed and that have numerous resources. Researchers suggest that people who live in rural areas tend to have fewer available services of all types (Logan, Evans, Stevenson and Jordan, 2005). Furthermore, It has been reported that the resources that do exist in these rural regions must cover larger

geographic areas, the quality as well as consistency of staff tends to be problematic, and the cost for these rural services are higher which becomes a problem given that these individuals have fewer personal resources to pay (Booth, Ross, & Rost, 1999; DeLeon, Wakefield, & Hagglund, 2003; Ricketts, 1999). In connection to this, research suggests that the development of Latino students who are raised in economically disadvantaged communities is greatly impacted, as a result of lack of resources and opportunities to learn (Hammer, Miccio & Wagstaff, 2003). On the other hand, the parents' English proficiency may also affect the children development in various areas. More specifically, it is important to understand whether the children's school readiness abilities are affected by their parents' English proficiency given that research has linked parental engagement in literacy practices with higher early achievement in both low and middle class families (Payne, Whitehurst, & Angell, 1994). Therefore, the parents' inability to use the English language reduces their opportunity to work with their children in literacy-related activities.

In summary, the studies cited above underscore that numerous environmental and family factors may influence Latino children's development in various areas, including academics and language. It is essential to be cognizant that parents play crucial roles in the development of their children. Further investigation is necessary to determine which family factors influence Latino children's development. Therefore, this research project attempts to add some understanding to the literature on specific family factors that may influence Latino children's development in school readiness abilities. More specifically, this study looks at four precursor family factors, including mothers' years of residence in

the U.S., mothers' place of residence in their country of origin (urban versus rural), mothers' level of English proficiency, and mothers' level of education.

Conclusion

In the past, it was believed that bilingualism was a negative force to the child's development; therefore, bilingual children were obligated to reject their home culture while adopting the majority culture. Even though this negative view of bilingualism has been rejected by more recent research findings, more research is still needed to further understand ELLs' abilities and performance in school. Considering the findings discussed previously, specific accommodations must be implemented when assessing ELLs during both classroom tests and states standardized tests. Additionally, best practices entail testing bilingual children in both languages, their native language and the English language. A comparison should not be made between monolingual students and bilingual students due to the fact that their development and educational experiences encompass different aspects that expose the two groups of students to dissimilar learning experiences.

Purpose of the Study

In addition to the lack of research on Latinos, the understanding of the abilities of individual Latino groups is minimal; therefore research should focus on individual Latino groups and their intellectual abilities, given that researchers tend to overgeneralize when investigating the population of Latino students and ignore the differences among the individual Latin American regions and nationalities. Thus, this research project is conducted with the attempt to add some understanding to the field of school psychology

in reference to distinct factors across Latin American regions influencing differences across groups of the Latino population of students.

Chapter 3

Methods

Purpose of the Study

Latinos in the U.S. have numerous similarities and common views which characterize their ethnic group; however, there are numerous differences among these individuals which create a heterogeneous group. Limited research has been conducted focusing on the school readiness abilities among bilingual Latino children. Additionally, little is known about how children from different Latin American regions may differ in their readiness skills. Thus, the purpose of this study is to identify the differences that may exist in the performance on school readiness tasks of English Language Learners from different Latin American regions (i.e. North America, Caribbean, Central America, and South America). To determine these differences, archival data was used from another study looking at the school readiness abilities of Head Start Latino ELLs.

This research study is conducted with the attempt to add some understanding to the field of school psychology in reference to the differences among various Latin American regions in the school readiness skills of Latino children attending Head Start and the precursor factors that may influence their development in these skills. In the continuation of this chapter, the methodology of this project will be reviewed highlighting the following: participants, ethical considerations, variables, measures, procedures and data analysis.

Participants

The participants in this research study attended 29 Head Start sites in five different counties in Florida, including Hillsborough (11), Pinellas (4), Lee (7), Palm Beach (3) and Monroe (4). These sites were chosen to participate given their location in the south or central regions of the state of Florida, where there is a high density of ELL children. All of the participants were between the ages of three and five years old, and were living in homes where at least one of the parents spoke Spanish.

The total sample from the archival was made up of 350 participants, however in specific to this research study the sample was reduced including only those with complete data in both languages (N=202). The majority of the children were born in the United States (92%), while the rest of the children were born in Cuba, Puerto Rico, Mexico, Guatemala, Honduras, Peru and Colombia. The parents' countries of origin included Cuba, Puerto Rico, Mexico, Guatemala, Honduras, Peru, Colombia, Dominican Republic, Panama, El Salvador, Venezuela, Nicaragua, Argentina, Ecuador, and Bolivia. Additionally, not all children had a father or male figure present in the home (27%).

The sample of children represented a variety of family backgrounds. More specifically, the families recruited differed in regards to language spoken at home, parental years of education, parents' English proficiency, number of years residing in the United States, and parents' place of residence in their country of origin (urban vs. rural). In addition, given that the majority of the students attending Head Start programs are primarily from low-income families, it was not surprising for the majority of the participants in this study to be members of low-income families (72% reported an annual income of \$20,000 or less).

Furthermore, the children's parents also participated in this research study. Parents were contacted by phone in order to complete a parent interview in their preferred language (82% were completed in Spanish, and 18% were completed in English) to obtain information about home factors that may be influencing the children's school readiness abilities in both languages, English and Spanish.

Ethical Considerations

Given that this research study is part of a larger project directed to English language learners attending Head Start, and in order to follow ethical guidelines, permission from the University of South Florida Institutional Review Board (IRB) was obtained to conduct the assessments utilized in this study. No data collection or analyses were conducted until the study was approved by the IRB committee.

Ethical issues were addressed by providing consent forms to teachers and parents. More specifically, the child's parent or guardian was asked to sign consent for the children given that the children are too young to sign an assent form. However if at any time during the testing period the child did not want to continue the assessment, his/her decision was respected. Parents' consent forms were provided in both languages, English and Spanish prior to working and making any type of contact with the children and the families. In addition, staff from the Head Start programs explained the research project to each participant before they signed the consent form, and gave them one week to be able to take the consent form home to review it and make an informed decision about their participation in the study.

In order to keep all the data confidential and to protect the privacy of the participants, all the children who participated in this research study were assigned ID

numbers in order to identify the data without the need to use their names. Additionally, all informed consents and data collected were recorded, reviewed and kept in a locked cabinet at the University of South Florida.

Variables

Family Factors. In this research study, the independent variables are different family factors that may be associated with the children's levels of abilities (language, cognitive, and literacy/math) in English and Spanish. These variables were obtained from a parent interview and included mothers' years of residence in the United States ("How many years has the mother been residing in the U.S.?"), mothers' place of residence in their country of origin ("Did the mother live in the countryside (rural) or in a city (urban)?"), mothers' level of English proficiency ("How well does the mother speak English?"), and mothers' level of education ("What is the highest level of schooling the mother has completed?").

Latin American Region. An additional independent variable was included in this project: Latin American Region. The various regions were used to examine whether there were differences in abilities (language, cognitive, and literacy/math) in English and Spanish among the different groups. The information about the regions was obtained from the parent interviews; however, given the restricted access to children from specific countries, these were grouped in terms of location of the various countries (North America, Caribbean, Central America, and South America).

School Readiness Skills. The dependent variables in this research study incorporated a number of skills, which included oral language, early literacy/early numeracy, and cognition abilities. Given that there are several measures and subtests used

in this project, three composite scores for each language were used which were taken from the various assessments, including an oral language composite score, a cognitive composite score, and an early literacy/early numeracy composite score. The measures used to assess the dependent variable are described in the next section and the process completed to develop all composite scores is also explained.

Measures

Data were gathered in both languages, English and Spanish using a battery of assessments. These assessments are listed below and were chosen based on the age range appropriateness of the measure for preschool students and whether it has been used in other studies that have been completed with children participating in Head Start. However, the reliability of all these measure based on the sample of this research project will also be calculated.

Peabody Picture Vocabulary Test, fourth edition (PPVT-4, Dunn & Dunn, 2007).

This is a standardized assessment to evaluate the child's receptive vocabulary; it is normed on American English speakers. The test is administered by providing a word orally and the child must choose the picture that best exemplifies the given word out of four pictures on the page. This test is suitable for assessing children as young as two years old. Additionally, the items on the PPVT-4 represent 20 content areas and parts of speech that are arranged in increasing levels of difficulty.

Test de Vocabulario en Imágenes Peabody (TVIP; Dunn, Lugo, Padilla, & Dunn, 1986). This assessment is the Spanish version of the PPVT-R, which was normed on Spanish speaking Puerto Rican and Mexican participants. This test was developed with the intent to make it as universal as possible for the different groups that are considered to

be “Hispanic.” The 125 items are administered in the same way as the PPVT-4, and is suitable to assess children as young as two years old. This measure was used in this study to assess the Spanish receptive vocabulary of the children.

Woodcock Johnson III Complete (WJ III; Woodcock, McGrew, & Mather, 2001).

This assessment includes two co-normed batteries, which are the WJ III Tests of Achievement and the WJ III Tests of Cognitive Abilities. Subjects in the norm sample of this assessment were randomly sampled from the population across the country. The WJ-III Cognitive is designed to measure a variety of qualities that comprise human intelligence, while the WJ-III Achievement measures achievement in reading, mathematics, oral language, and written language. Together, they provide a comprehensive system for evaluating general intellectual ability (g), specific cognitive abilities, scholastic aptitude, oral language, and achievement, and can be administered to people ages 2 to 90+. The Bateria III Woodcock-Muñoz (Bateria III; Woodcock, Muñoz-Sandoval, McGrew, & Mather, 2004) is the Spanish version of the WJ III, which is used to assess the same abilities but in the Spanish language. The items and instructions were developed with the intent to be deemed appropriate across all Spanish-speaking individuals. The norming population for the Bateria III was obtained from native Spanish-speaking subjects from several regions of the Spanish-speaking world. These data is equated to the WJ-III norms.

The subtests used and administered from these two batteries of assessments in this study were those appropriate for the age group that was evaluated in this project and that measured the school readiness skills which included language, early literacy, early numeracy, and cognition abilities. For each subtest used, reliability statistics are

provided for administration with 3-, 4-, and 5- year olds. The language abilities of the children were measured using the Picture Vocabulary subtest ($r = .76-.84$) and the Oral Comprehension subtest ($r = .85-.90$) in addition to the PPVT-4/TVIP tests mentioned above. The early literacy abilities of the participants were measured using the subtests of letter-Word Identification ($r = .97-.99$), and spelling ($r = .77-.90$).

Early numeracy skills were measured with the applied problems ($r = .92-.94$) and the quantitative concepts ($r = .86-.93$) subtests. To measure the cognitive abilities of the children, the picture recognition subtest ($r = .78-.82$), spatial relations subtest ($r = .90-.92$) and visual matching ($r = .93-.95$) were used.

The demographic parent interview. This parent interview was administered to the children's parents in the study via telephone. It is a demographic survey developed by the research team, used to obtain information in relation to the home language, home literacy environment, home demographic information, as well as immigration history. This parent interview provides cross-comparison among the Latino families participating in this study.

Procedures

Assessment sessions were conducted one-on-one at the Head Start sites with the children. Students were assessed between the hours of 9:00 a.m. and 12:00 p.m. in any office within the center that was available. The children were assessed in both languages, English and Spanish to measure their oral language, cognitive, and early literacy/early numeracy abilities using a battery of assessments. They were assessed by separate assessors for each language on separate days, at least one week apart and the assessments took place during the spring and summer of the 2009 school year. The order of the

languages in which the battery of assessments were administered, depended on the availability of the assessors. For each language, the assessors divided the assessment battery into two parts, such that completing the evaluation for each language took two days. This was done in order to avoid the children becoming tired and losing motivation to participate in the assessment. It took approximately a total of 80 minutes to complete all the assessments in both languages.

Parent interviews were also conducted with the children's parents. This was done by contacting the parents via telephone and completing the demographic parent interview. The interviews were completed in the parents' language of preference and lasted approximately 30 to 40 minutes. As a token for the participants' time, the children were given a toy or a sticker after each testing session, while each one of the parents was given a bilingual children's book.

Qualifications

As mentioned above, there were two teams of assessors, one for each language. Each assessor received extensive training on administering the battery of assessments. Additionally, each assessor spoke only in the language of the assessment during the whole evaluation period. The reason why it was decided to have separate language teams and using only the language of the assessment was to minimize code-switching during testing sessions. In other words, the decision was made to avoid the concurrent use of more than one language during the assessment.

Data Analysis

The data screening procedures for this research project entailed evaluating whether there were any outliers, making sure that all data was entered accurately by

quality checking every 10th item, as well as getting rid of any missing values (children who were missing either English tests scores, Spanish tests scores and/or parent interview data (N=166) were taken out of the final sample that was evaluated). Furthermore, descriptive statistics were calculated as preliminary analyses to this study. More specifically, the means and standard deviations for each of the regions as well as each measure are reported for both languages, English and Spanish. The analyses for the English and the Spanish measures were conducted separately. Given that there are several measures and subtests used in this project, three composite scores for each language were used which were taken from the various assessments, including an oral language composite score, a cognitive composite score, and an early literacy/early numeracy composite score. More specifically, raw scores from every single assessment administered were converted into z scores in order to combine specific assessments to develop all three composite scores for each language. Once z-scores were obtained for individual subtests, those for each specific composite score (oral language, a cognitive, and early literacy/early numeracy) were average together in order to obtain a z-score for each composite. Thus, the composite scores are all z scores. As mentioned previously, the oral language composite included the subtests of picture vocabulary, oral comprehension, and PPVT/TVIP. In addition, the cognitive composite score encompassed the subtests of picture recognition, spatial relations, and visual matching. The early literacy/early numeracy composite score was developed by combining the scores of the letter-word identification subtest, as well as the spelling, applied problems, and quantitative concepts subtests.

The main focus of this research project is to determine if there are differences in the abilities of the children among the various Latin American Regions, therefore a series of one-way ANOVAs were calculated to test the differences among the groups. A total of six one-way ANOVAs were completed given that there are three composite scores for each language, adding to a total of six comparisons.

Additionally, there is an interest in evaluating whether specific family factors are associated with higher levels of abilities in English and Spanish, and whether there are differences among the Latin American regions. Thus, multiple regressions were calculated to evaluate the relationships between the independent or predictor variables (i.e. the family factors) and the dependent variable (i.e. the children's abilities in each language). As there are three composite scores and the children are being assessed in two languages, six multiple regressions were calculated. Calculating multiple regressions provides the ability to investigate the relationship among specific variables while controlling for the effect of the other variables. Prior to conducting the multiple regression analysis correlations were conducted in order to determine whether relationships existed between any of the variables of interest.

Chapter 4

Results

Overview

A battery of assessments were administered to a group of bilingual Latino pre-school Head Start students in five counties in Florida in order to measure their school readiness skills. The participants in the sample were living in homes where at least one of the parents spoke Spanish, therefore, each one of the measures were administered in both English and Spanish. The analyses for the English and the Spanish measures were conducted separately. This chapter provides a description of the results of the current study. Given that several measures and subtests were used in this research study, three composite scores for each language taken from the various assessments were used, including an oral language composite score, a cognitive composite score, and an early literacy/early numeracy composite score. In order to obtain these composite scores, z -scores for each subtest were obtained, thus the composite scores for each language are based on z -scores. Once z -scores were obtained for individual subtests, those for each specific composite score (oral language, a cognitive, and early literacy/early numeracy) were averaged together in order to obtain a z -score for each composite. Furthermore, descriptive statistics were calculated as preliminary analysis to determine the normality of the scores used in the later analyses.

The main focus of this research project was to determine if there were any differences in the abilities of the children among the various Latin American regions (i.e.,

Region 1 = North American, Region 2 = Caribbean, Region 3 = Central American, and Region 4 = South American); therefore a series of one-way ANOVAs were calculated to test if there were any differences among the groups. Refer to Table 1 for a list of countries included in each Latin American region. Additionally, there was an interest in examining whether specific family factors (i.e., Mothers' years of residence in the U.S., Mothers' place of residence in their country of origin, Mothers' English proficiency, and Mothers' education level) were related to higher levels of abilities in English and Spanish and whether there were differences among the regions. Only mothers' variables were used due to a large amount of information missing for the children's fathers. Correlations were first conducted to determine which variables clustered together. Multiple regressions were then completed in order to evaluate the relationships between several predictor variables (family factors) and the dependent variable (children's school readiness abilities).

Table 1.

Latin American Regions

Region 1 (North America)	Region 2 (Caribbean)	Region 3 (Central America)	Region 4 (South America)
United States	Puerto Rico	Guatemala	Peru
Mexico	Cuba	Honduras	Colombia
	Dominican Republic	Panama	Venezuela
		El Salvador	Argentina
		Nicaragua	Ecuador
			Bolivia

Descriptive Statistics

The means and standard deviations of each measure in English and Spanish are presented in Table 2 for the group as a whole and also according to Latin American region. Results from these analyses indicate that the scores for later analyses in both

Table 2.

Means and standard deviations of each composite score

Composite	Mean	SD	N
English-Oral Language			
Total	-0.91	0.85	202
Region 1	- 1.03	0.75	111
Region 2	-0.64	1.03	44
Region 3	-1.03	0.73	32
Region 4	-0.57	1.10	15
English-Cognitive			
Total	-0.80	0.99	202
Region 1	-0.83	0.95	111
Region 2	-1.0	1.14	44
Region 3	-0.59	0.86	32
Region 4	-0.44	1.03	15
English-Early Literacy/Early Numeracy			
Total	-0.43	0.73	202
Region 1	-0.42	0.63	111
Region 2	-0.53	0.91	44
Region 3	-0.39	0.73	32
Region 4	-0.35	0.81	15
Spanish-Oral Language			
Total	-0.91	1.13	202
Region 1	-1.19	0.90	111
Region 2	-0.42	1.61	44
Region 3	-0.81	0.84	32
Region 4	-0.46	0.88	15
Spanish-Cognitive			
Total	-0.18	0.90	202
Region 1	-0.11	0.82	111
Region 2	-0.21	1.01	44
Region 3	-0.49	1.01	32
Region 4	0.05	0.79	15
Spanish-Early Literacy/Early Numeracy			
Total	-0.54	0.69	202
Region 1	-0.58	0.63	111
Region 2	-0.51	0.73	44
Region 3	-0.51	0.74	32
Region 4	-0.42	0.86	15

Note. All values are z scores.

languages were approximately normally distributed and that typical analyses could be conducted for mean comparisons. When comparing the sample of students from each individual Latin American region to the mean z -scores for the English and Spanish composite scores from the complete sample ($N=202$), overall, the students' average performance on all areas were close to the complete sample means. In other words, all participants from all Latin American regions scored within the same standard deviation in all composite scores for both languages.

In terms of the family factors that were included in this research study, descriptive statistics were also calculated for the continuous variables (Mothers' number of years of residence in the U.S., Mother's English proficiency, and Mothers' education level) as well as the categorical variables (Region-Mother's country of origin, Mother's place of residence in their country of origin). Results from the descriptive statistic analyses for the continuous variables are listed on Table 3. In specific to mothers' English proficiency, the mothers self-rated themselves on their ability to speak English, and scores ranged from 0 ("mother does not speak English") to 3 ("mother speaks English very well"). Mothers' education level was not equivalent to the total number years of education; rather it was based on the self-reported level of education by the mothers which ranged from "none" to "completed graduate level education after college." In terms of the categorical variables, the number of participants in each Latin American region was not even (North American = 111; Caribbean = 44; Central American = 32; South American = 15). On the other hand, 113 of the children had mothers who resided in rural areas in their country of origin while 89 of the participants had mothers who lived in urban areas.

Table 3.

Descriptive Statistics for Continuous Family Variables

	Mean	SD	Median	Mode	Minimum	Maximum
Yrs. in U.S.	10.84	5.86	10	10	0	35
English Proficiency	1.30	0.95	1	1	0	3
Education Level	3.98	2.48	4	4	0	11

Note. All participants (202) had complete data, thus these values are pertinent to all children’s mothers.

Reliability

In order to obtain a measure of reliability for each one of the measures and subtests used in this research study, Cronbach’s alpha was calculated for each individual assessment administered in each language. A summary of these findings can be found in Table 4 for the English measures and Table 5 for the Spanish measures. Adequate reliability was obtained for each of the measures in both languages. In general, the English measures demonstrated higher reliabilities than the Spanish measures that were administered. The highest internal consistency reliability was found when Cronbach’s alpha was calculated for the English subtest of Letter-Word Identification (.87) which is part of the Early Literacy/Early Numeracy composite score. On the other hand, the lowest internal consistency reliability was found when Cronbach’s alpha was calculated for the Spanish subtests of Applied Problems (.76) which is part of the Early Literacy/Early Numeracy composite score. This is still considered acceptable reliability.

Research Question 1: Are there differences in preschool children’s school readiness abilities (Oral Language, Cognitive, and Early Literacy/Early Numeracy abilities)

among families immigrating from different Latin American regions (North American, Caribbean, Central American, and South American) in English and Spanish?

A series of one-way ANOVAs were conducted to determine if there were any differences between the different Latin American regions in terms of the children's school readiness abilities (Oral language composite score, Cognitive composite score, and Early literacy/early numeracy composite score) in English and Spanish. Results from these analyses are presented in Table 6.

The general linear model displayed that overall there is a statistically significant difference between the Latin American regions in the areas of English-Oral Language and Spanish-Oral Language. No significant differences were found in the Cognitive composite score and the Early Literacy/Early Numeracy composite score for any of the languages. Furthermore, following the overall one-way ANOVAs, post-hoc analysis using Tukey tests were conducted for each language to identify the specific differences between the regions in regards to oral language abilities in both, English and Spanish. Results display that there were no comparisons between the different regions that were statistically significant at the 0.05 level for English-Oral Language. This may be considered an unusual finding given that the results from the initial statistical analysis showed significant differences between the groups; however, no specific differences were found. On the other hand, there was a comparison between regions that was significant at the 0.05 level in regards to Spanish-Oral Language. Results showed that children from the Caribbean scored on the Spanish-Oral Language composite score 0.7713 ($p < .05$) standard deviation higher than children from North America. Aside from this significant

difference between these two regions, no other comparisons were shown to be significant in the area of Spanish-Oral Language.

Table 4.

Reliability of English Measures

Measure	Cronbach's alpha
Picture Vocabulary	.86
Oral Comprehension	.86
Picture Recognition	.86
Spatial Relations	.86
Visual Matching	.86
Applied Problems	.85
Quantitative Concepts	.86
Letter-Word Identification	.87
Spelling	.86
Peabody Picture Vocabulary Test-Fourth Edition	.86

Note. All values are based on raw variables for n=202. All measures except the Peabody Picture Vocabulary Test-Fourth Edition are subtests from The Woodcock Johnson III Complete.

Table 5.

Reliability of Spanish Measures

Measure	Cronbach's alpha
Picture Vocabulary	.81
Oral Comprehension	.77
Picture Recognition	.79
Spatial Relations	.79
Visual Matching	.79
Applied Problems	.76
Quantitative Concepts	.78
Letter-Word Identification	.79
Spelling	.78
Test de Vocabulario en Imágenes Peabody	.78

Note. All values are based on raw variable for n=202. All measures except the Test de Vocabulario en Imágenes Peabody are subtests from The Bateria III Woodcock-Muñoz.

Table 6.

One-Way Anova Results by Composite Score

Composite	<i>Df</i>	Sum of Squares	Mean Square	F	P-value
English-Oral Language	3	6.83	2.27	3.18	0.0250*
English-Cognitive	3	5.24	1.74	1.78	0.1518
English-Early Literacy/Early Numeracy	3	0.57	0.19	0.36	0.7848
Spanish-Oral Language	3	22.80	7.60	6.39	0.0004*
Spanish-Cognitive	3	4.41	1.47	1.82	0.1450
Spanish-Early Literacy/Early Numeracy	3	0.47	0.15	0.33	0.8073

Note. *P-value < .05

Research Question 2: What family factors (mothers' years of residence in the U.S., mothers' place of residence in their country of origin, mothers' level of English proficiency, and mothers' level of education) are associated with preschool children's higher levels of school readiness abilities (Oral Language, Cognitive, and Early Literacy/Early Numeracy abilities) in English and Spanish and what are the differences between Latin American Regions (North American, Caribbean, Central American, and South American)?

Correlational Analyses. Correlations were calculated as part of the second research question to determine if the specific family factors chosen as part of this research study were related to the school readiness abilities of the participants. The correlation matrix included all three composite scores (Oral Language, Cognitive, Early Literacy/Early Numeracy) for each language. Results from this analysis are presented in Table 7 for English measures and Table 8 for Spanish measures.

In terms of the English composite scores, the correlation matrix indicated that English-Oral Language abilities were mildly to moderately correlated to mothers' years of residence in the U.S. ($r=.15, p<.05$), mothers living in urban areas in their country of origin ($r=.24, p<.001$), mothers' English proficiency ($r=.38, p<.001$), and mothers' education level ($r=.38, p<.001$). This skill was also moderately correlated to English-Cognitive abilities ($r=.54, p<.001$), and English-Early Literacy/Early Numeracy skills ($r=.60, p<.001$). English-Cognitive skills was found to be mildly to moderately correlated to mothers' English proficiency ($r=.14, p<.05$), and mothers' education level ($r=.15, p<.05$). This skill was also moderately correlated with English-Early Literacy/Early Numeracy abilities ($r=.64, p<.001$). English-Early Literacy/Early Numeracy abilities was found to be mildly to moderately correlated with mothers' place of residence in their country of origin ($r=.14, p<.05$), and mothers' education level ($r=.16, p<.05$).

Table 7.

Correlations Between English Measures and Family Factors (N = 202)

	YRS_US	PLACE_RES	ENG	EDU	EOL	ECOG	ELIT_NUM
YRS_US	1.00	.03	.39***	.01	.15*	-.02	-.009
PLACE_RES		1.00	.24***	.37***	.24***	.10	.14*
ENG			1.00	.51***	.38***	.14*	.11
EDU				1.00	.38***	.15*	.16*
EOL					1.00	.54***	.60***
ECOG						1.00	.64***
ELIT_NUM							1.00

Note. YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin; ENG = Mothers' English Proficiency; EDU = Mothers' Education Level; EOL = English oral language composite score; ECOG = English cognitive composite score; ELIT_NUM = English early literacy/early numeracy composite score. * $p<.05$ ** $p<.01$ *** $p<.001$.

The correlation matrix including the Spanish measures that were administered indicated that Spanish-Oral Language abilities was mildly to moderately correlated to mothers living in urban areas in their country of origin ($r=.14, p<.05$), and mothers' level of education ($r=.19, p<.001$). This skill was also mildly to moderately, negatively correlated to mothers' years of residence in the U.S. ($r= -.23, p<.001$), and mothers' English proficiency ($r= -.18, p<.001$). Spanish-Cognitive abilities was mildly to moderately correlated to Spanish-Oral Language skills ($r=.13, p<.05$). Spanish-Early Literacy/Early Numeracy abilities was mildly to moderately correlated to mothers' level of education ($r=.18, p<.001$). This skill was also moderately correlated to Spanish-Oral language abilities ($r=.51, p<.001$), and Spanish-Cognitive skills ($r=.51, p<.001$). In general, when compared to the Spanish measures, the correlation matrix for the English measures indicated stronger correlations between the variables.

Table 8.

Correlations Between Spanish Measures and Family Factors (N = 202)

	YRS_US	PLACE_RES	ENG	EDU	SOL	SCOG	SLIT_NUM
YRS_US	1.00	.03	.39***	.01	-.23***	.01	-.06
PLACE_RES		1.00	.24***	.37***	.14*	.03	.12
ENG			1.00	.51***	-.18***	.10	.09
EDU				1.00	.19***	.13	.18***
SOL					1.00	.13*	.51***
SCOG						1.00	.51***
SLIT_NUM							1.00

Note. YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin; ENG = Mothers' English Proficiency; EDU = Mothers' Education Level; SOL = Spanish oral language composite score; SCOG = Spanish cognitive composite score; SLIT_NUM = Spanish early literacy/early numeracy composite score. * $p<.05$ ** $p<.01$ *** $p<.001$.

Regression Analyses. A series of multiple regression analyses were used to develop models for predicting students' school readiness scores (i.e., Oral Language composite score, Cognitive composite score, and Early Literacy/Early Numeracy composite score) from the specific family factors included in this study (i.e., Mothers' years of residence in the U.S., Mothers' place of residence in their country of origin, Mothers' English proficiency, and Mothers' education level). These analyses were conducted in each language (English and Spanish) and included all Latin American regions in order to identify whether differences were present among the groups as well as interactions of regions with Mothers' years of residence in the U.S., Mothers' place of residence in their country of origin, Mothers' English proficiency, and Mothers' level of education. In addition, multiple regressions were analyzed for 202 participants (166 participants were excluded) who had no missing data in either language as well as complete information about the specific family factors. This allowed the researcher to make direct comparisons across the languages, since the same participants were used in each one of the analysis.

The regressions displayed that no variables were found to significantly predict the Cognitive abilities or the Early Literacy/Early Numeracy abilities in either language of the students in the sample (Refer to Tables 10 and 12 for English, and Tables 13 and 14 for Spanish). Furthermore, results of these analyses indicated that in the area of English-Oral Language the variables found to predict the Oral Language abilities of the children included mothers' years of residence in the U.S. ($p < .05$) and mothers' English proficiency ($p < .05$). The results of the regressions for English-Oral Language are

displayed in Table 9. There were no significant findings for Spanish Oral Language abilities (Refer to Table 12).

Following these analyses, the regression equation for English-Oral Language was used to construct a graph of predicted values showing the differences in predictions that result from the combination of Mothers' years of residence in the U.S. and Mothers' English proficiency. To illustrate the relationship between Mothers' years of residence in the U.S., Mothers' English proficiency, and English Oral-Language, graphical displays of predicted values were constructed. When completing these prediction equations, combinations of the variables found to significantly predict the participants' English-Oral Language skills (Mothers' years of residence in the U.S. and mothers English proficiency) was taken into account, while holding constant the rest of the family factors (i.e., Mothers' years of residence in the U.S., Mothers' place of residence in their country of origin, Mothers' English proficiency, and Mothers' education level). In order to determine the children's English-Oral Language skills as a function of mothers' years of residence in the U.S., all other variables were held constant. The minimum (0 years), maximum (35 years) and mean (10 years) values of the mothers' number of years residing in the U.S. were included in the analysis. In regard to mothers' English proficiency, in order to determine students' English-Oral Language skills as a function of mothers' English proficiency, all other variables were held constant. The highest and lowest self-reported score of English proficiency was included in the analysis (0 and 3). All four Latin American regions were included in the equation in order to identify the differences among the groups.

The results of these analyses are presented in Figure 1 for Mothers' number of years residing in the U.S. and Figure 2 for Mothers' English proficiency. It is important to mention that the group of children from South America was considerably smaller when compared to the other regions ($N=15$). Results show that the predicted English-Oral Language score for the participants increased for all regions with the exception of Region 4 (South America), as mothers' years of residence in the U.S. increased. In other words, all but participants from South America obtained higher predicted scores in the English-Oral Language composite when mothers reported to have been residing in the United States for a longer period of time. Similar findings are displayed in terms of mothers' English proficiency (Figure 2). In general, children from all Latin American regions, with the exception of Central America (Region 3), obtained a higher predicted English-Oral Language score when their mothers' English proficiency was a score of 3 ("mother speaks English very well"). The difference between a score of 0 ("mother does not speak English) and a score of 3 ("mother speaks English very well") was shown to be most pronounced for participants in region 4 (South America).

Table 9.

Predicting English-Oral Language Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	-0.10	1.34	-0.08	0.93
YRS_US	-0.12	0.05	-2.39	0.01*
PLACE_RES	-0.49	0.64	-0.76	0.44
ENG	0.68	0.27	2.53	0.01*
EDU	0.10	0.08	1.25	0.21
YRS_US*REGION 1	0.13	0.05	2.47	0.01*
YRS_US*REGION 2	0.12	0.05	2.40	0.01*
YRS_US*REGION 3	0.16	0.05	2.80	0.005**
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	0.67	0.66	1.01	0.31
PLACE_RES*REGION 2	0.51	0.68	0.75	0.45
PLACE_RES*REGION 3	1.09	0.73	1.49	0.13
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	-0.39	0.28	-1.35	0.17
ENG*REGION 2	-0.65	0.31	-2.09	0.03*
ENG*REGION 3	-0.75	0.32	-2.35	0.01*
ENG*REGION 4	-	-	-	-
EDU*REGION 1	-0.09	0.09	-0.96	0.34
EDU*REGION 2	0.04	0.09	0.45	0.65
EDU*REGION 3	-0.01	0.10	-0.16	0.87
EDU*REGION 4	-	-	-	-
REGION 1	-1.65	1.37	-1.20	0.23
REGION 2	-1.54	1.41	-1.09	0.27
REGION 3	-2.52	1.42	-1.78	0.07
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .28$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

Table 10.

Predicting English-Cognitive Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	0.64	1.70	0.38	0.70
YR_US	-0.12	0.06	-1.96	0.05
PLACE_RES	-0.56	0.82	-0.69	0.48
ENG	0.28	0.34	0.84	0.39
EDU	0.13	0.10	1.30	0.19
YRS_US*REGION 1	0.11	0.06	1.72	0.08
YRS_US*REGION 2	0.10	0.06	1.59	0.11
YRS_US*REGION 3	0.11	0.07	1.49	0.13
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	0.66	0.84	0.79	0.43
PLACE_RES*REGION 2	0.19	0.87	0.22	0.82
PLACE_RES*REGION 3	1.59	0.93	1.71	0.08
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	-0.05	0.36	-0.15	0.87
ENG*REGION 2	-0.12	0.39	-0.32	0.75
ENG*REGION 3	-0.43	0.40	-1.05	0.29
ENG*REGION 4	-	-	-	-
EDU*REGION 1	-0.16	0.12	-1.33	0.18
EDU*REGION 2	-0.07	0.12	-0.63	0.52
EDU*REGION 3	-0.07	0.13	-0.57	0.57
EDU*REGION 4	-	-	-	-
REGION 1	-1.68	1.74	-0.96	0.33
REGION 2	-1.44	1.80	-0.80	0.42
REGION 3	-2.60	1.80	-1.45	0.15
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .07$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

Table 11.

Predicting English-Early Literacy/Numeracy Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	0.45	1.28	0.35	0.72
YR_US	-0.17	0.04	-0.36	0.72
PLACE_RES	-0.67	0.61	-1.09	0.27
ENG	-0.07	0.25	-0.29	0.76
EDU	0.13	0.07	1.68	0.09
YRS_US*REGION 1	0.01	0.05	0.29	0.77
YRS_US*REGION 2	0.00	0.05	0.19	0.84
YRS_US*REGION 3	-0.00	0.05	-0.11	0.91
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	0.83	0.63	1.30	0.19
PLACE_RES*REGION 2	0.63	0.65	0.97	0.33
PLACE_RES*REGION 3	1.46	0.70	2.08	0.03
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	0.14	0.27	0.53	0.59
ENG*REGION 2	0.15	0.30	0.53	0.59
ENG*REGION 3	0.03	0.30	0.13	0.89
ENG*REGION 4	-	-	-	-
EDU*REGION 1	-0.10	0.09	-1.16	0.24
EDU*REGION 2	-0.08	0.09	-0.94	0.35
EDU*REGION 3	-0.10	0.10	-1.08	0.28
EDU*REGION 4	-	-	-	-
REGION 1	-1.21	1.31	-0.93	0.35
REGION 2	-1.23	1.35	-0.91	0.36
REGION 3	-1.75	1.35	-1.29	0.19
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .09$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

Table 12.

Predicting Spanish-Oral Language Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	0.37	1.81	0.20	0.83
YR_US	-0.01	0.06	-0.27	0.78
PLACE_RES	-0.67	0.87	-0.77	0.44
ENG	-0.39	0.36	-1.09	0.27
EDU	0.21	0.11	1.96	0.05
YRS_US*REGION 1	-0.01	0.07	-0.18	0.86
YRS_US*REGION 2	0.00	0.07	0.02	0.98
YRS_US*REGION 3	0.11	0.08	0.14	0.88
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	0.61	0.90	0.68	0.49
PLACE_RES*REGION 2	1.30	0.93	1.41	0.16
PLACE_RES*REGION 3	1.02	0.99	1.03	0.30
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	0.13	0.39	0.36	0.72
ENG*REGION 2	-0.12	0.42	-0.30	0.76
ENG*REGION 3	-0.15	0.43	-0.35	0.72
ENG*REGION 4	-	-	-	-
EDU*REGION 1	-0.11	0.13	-0.89	0.37
EDU*REGION 2	-0.16	0.13	-1.23	0.21
EDU*REGION 3	-0.08	0.14	-0.63	0.53
EDU*REGION 4	-	-	-	-
REGION 1	-1.16	1.85	-0.63	0.53
REGION 2	-1.02	1.91	-0.53	0.59
REGION 3	-1.46	1.92	-0.76	0.44
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .24$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

Table 13.

Predicting Spanish-Cognitive Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	0.10	1.53	0.07	0.94
YR_US	-0.02	0.05	-0.36	0.72
PLACE_RES	0.38	0.73	0.52	0.60
ENG	-0.32	0.30	-1.06	0.28
EDU	-0.01	0.09	-0.14	0.89
YRS_US*REGION 1	0.04	0.06	0.81	0.42
YRS_US*REGION 2	-0.01	0.06	-0.17	0.86
YRS_US*REGION 3	0.01	0.06	0.18	0.86
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	-0.32	0.76	-0.42	0.67
PLACE_RES*REGION 2	-1.10	0.78	-1.40	0.16
PLACE_RES*REGION 3	0.24	0.83	0.29	0.77
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	0.35	0.33	1.09	0.27
ENG*REGION 2	0.59	0.35	1.67	0.09
ENG*REGION 3	0.07	0.36	0.20	0.84
ENG*REGION 4	-	-	-	-
EDU*REGION 1	0.09	0.11	0.83	0.40
EDU*REGION 2	0.03	0.11	0.29	0.77
EDU*REGION 3	0.10	0.12	0.90	0.37
EDU*REGION 4	-	-	-	-
REGION 1	-0.89	1.56	-0.57	0.57
REGION 2	0.58	1.62	0.36	0.71
REGION 3	-1.47	1.62	-0.91	0.36
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .14$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

Table 14.

Predicting Spanish-Early Literacy/Numeracy Scores

Parameter	Estimate	Standard Error	t-Value	p-Value
Intercept	0.07	1.22	0.06	0.95
YR_US	-0.02	0.04	-0.51	0.61
PLACE_RES	-0.43	0.59	-0.73	0.46
ENG	-0.04	0.24	-0.19	0.85
EDU	0.10	0.07	1.44	0.15
YRS_US*REGION 1	0.01	0.04	0.39	0.69
YRS_US*REGION 2	-0.00	0.04	-0.12	0.90
YRS_US*REGION 3	0.03	0.05	0.66	0.51
YRS_US*REGION 4	-	-	-	-
PLACE_RES*REGION 1	0.62	0.60	1.03	0.30
PLACE_RES*REGION 2	0.40	0.62	0.64	0.52
PLACE_RES*REGION 3	0.50	0.67	0.75	0.45
PLACE_RES*REGION 4	-	-	-	-
ENG*REGION 1	0.05	0.26	0.22	0.82
ENG*REGION 2	0.28	0.28	1.01	0.31
ENG*REGION 3	-0.13	0.29	-0.45	0.65
ENG*REGION 4	-	-	-	-
EDU*REGION 1	-0.06	0.08	-0.69	0.48
EDU*REGION 2	-0.10	0.08	-1.19	0.23
EDU*REGION 3	-0.02	0.09	-0.30	0.76
EDU*REGION 4	-	-	-	-
REGION 1	-1.03	1.25	-0.82	0.41
REGION 2	-0.62	1.29	-0.48	0.63
REGION 3	-0.92	1.29	-0.71	0.47
REGION 4	-	-	-	-

Note. * $p < .05$ ** $P < .01$; $R^2 = .05$; YRS_US = Mothers' Years of Residence in the U.S.; PLACE_RES = Mothers' Place of Residence in their Country of Origin (rural = 1; urban = 2); ENG = Mothers' English Proficiency; EDU = Mothers' Education Level.

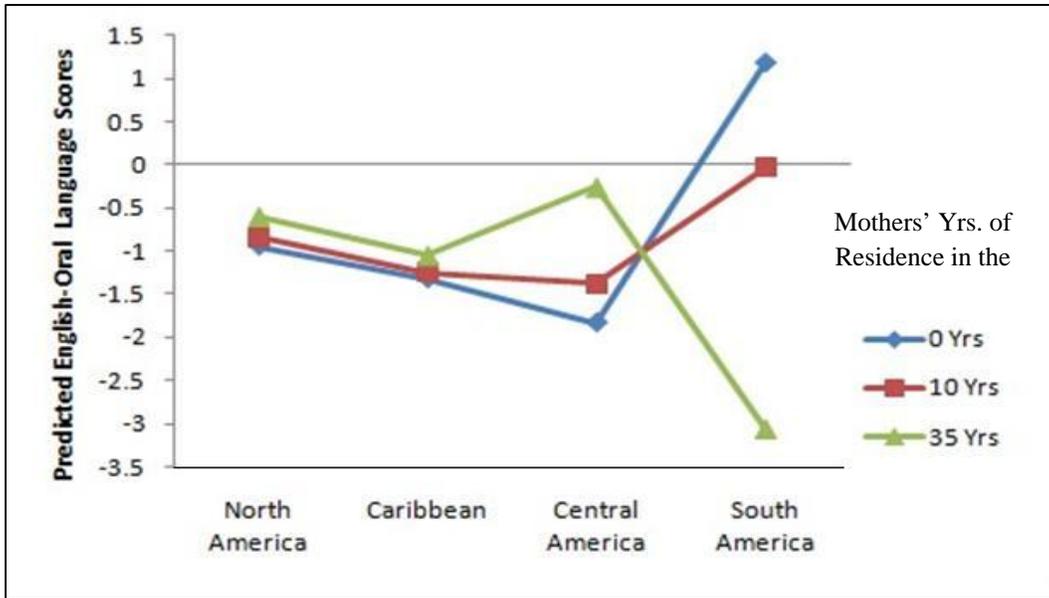


Figure 1. Mothers' Years of Residence in the U.S. Predicted English-Oral Language scores as a function of Mothers' place of residence in their country of origin (rural); Mothers' English proficiency (score of 2); Mothers' education level (some elementary school).

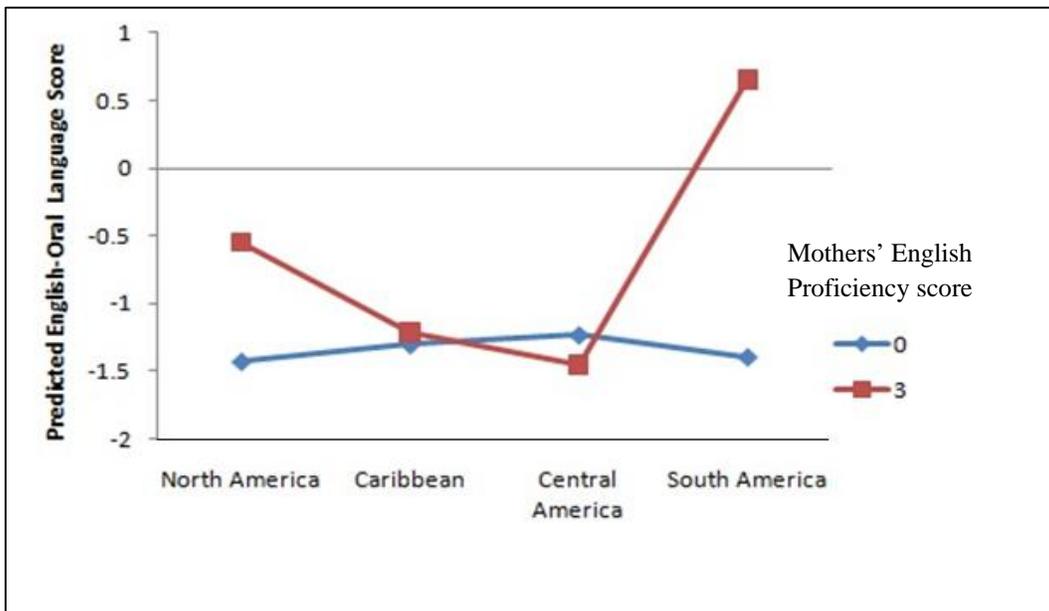


Figure 2. Mothers' English Proficiency. Predicted English-Oral Language scores as a function of Mothers' years of residence in the U.S. (10 years); Mothers' place of residence in their country of origin (rural); Mothers' education level (some elementary school).

Chapter 5

Discussion

The main purpose of this study was to explore the differences in school readiness abilities in both English and Spanish of a group of bilingual Latino Head Start children immigrating from different Latin American regions (i.e., North American, Caribbean, Central American, and South America). A number of analyses were run in order to explore two main questions in each of the languages (English and Spanish). First, this research study investigated the differences in school readiness abilities (Oral Language, Cognitive, and Early Literacy/Early Numeracy) among the various Latin American Regions in English and Spanish. Finally, the researcher investigated whether specific family factors (i.e., Mothers' years of residence in the U.S., Mothers' place of residence in their country of origin, Mothers' English proficiency, and Mothers' education level) were associated with higher levels of abilities in English and Spanish, and the differences among the Latin American regions. In this chapter, a summary of the findings as well as implications for research and practice are discussed.

Differences in Latino Children's School Readiness Abilities

Results of the statistical analyses demonstrated that there were statistical significant differences in the Oral Language abilities of the children in both English and Spanish. Further analyses were conducted (Tukey tests) to determine specific differences among the groups in both languages. The only significant difference found between the Latin American regions was in regards to Spanish-Oral Language. Results demonstrated

that children from the Caribbean scored on the Spanish-Oral Language composite score almost one standard deviation higher than children from North America.

Overall, significant differences were found in Oral Language abilities in English and Spanish. These findings support the idea that given that vocabulary is considered one aspect of early language and literacy skill that does not transfer across two languages (Lindsey et al., 2003; Uchikoshi, 2006), it is crucial for educators to take into account the development of English language learners in both languages when assessing their abilities and making decisions about their education. In addition, it has been reported that it is essential to take into consideration cultural and contextual factors in a student's environment when conducting assessments, instruction or intervention (McCardle, McCarthy & Leos, 2005). Assessing these children in only one language (i.e., English), may only serve as a quick image of their skills and may underestimate their true abilities. Early in children's development, students often display vocabulary knowledge based on the context in which the specific words are being used (i.e., at home), and may not have equal vocabulary skills in the other language (Genesee et al., 2004). Therefore, ELLs' vocabulary may be divided by location; thus if assessed in only one language, they may not be able to express all their capabilities. The differences in the area of Oral Language among different Latin American regions presented in these findings supports the idea that given that Latinos are a heterogeneous group as a result of being highly diverse in many different aspects (Suarez, Orozco & Paez, 2002), educators must recognize the individual differences among Latino students and provide them with the services according to each child's specific needs. Furthermore, there was a significant difference between children from the Caribbean and those from North American, where participants from the

Caribbean scored higher on the Spanish-Oral Language composite score. This reinforces the need to treat Latino students from the different regions as unique individuals rather than just members of their ethnic group. This finding demonstrates the diversity in abilities that Latinos may have and that different factors, such as their nationality may play a role in these children's skill development in both English and Spanish.

Family Factors Associated with Latino Children's School Readiness

The correlational analyses conducted as part of the second research question show that many of the variables included in the correlational matrix for each language are related to some degree. This is expected given that research suggests that different factors of the home environment may restrict or enhance the development of children (Hammer, Miccio & Wagstaff, 2003). More specifically, English and Spanish Oral Language abilities were found to be mildly to moderately correlated with all the variables in the correlational matrix (i.e., Mother's years of residence in U.S., Mothers' place of residence in their country of origin, Mother's English proficiency, Mothers' education level, English and Spanish cognitive abilities, and English and Spanish Early Literacy/Early Numeracy abilities). Stronger correlations were shown to be present between English-Oral Language and Mothers' English proficiency as well as Mothers' education level. On the other hand, weaker negative correlations were shown to be present between Spanish-Oral Language and Mothers' years of residence in the U.S. as well as Mothers' English proficiency level. The relationship between Oral Language and Cognitive abilities as well as with Early Literacy/Early Numeracy abilities supports the crucial role that vocabulary plays in various areas. For example, numerous researchers suggest a strong relationship between vocabulary and reading skills (i.e., Lonigan,

Burgess & Anthony, 2000; Wagner, Torgesen, Rashotte, Hecht, Baker, Burgess et al., 1997). Furthermore, Paez and Rinaldi (2006) reported vocabulary as one of the best predictors of word reading abilities.

Additionally, the correlation displayed in these analyses demonstrated that a variety of home factors may impact children's abilities in English and Spanish. This is supported by Farver, Xu, Eppe, & Lonigan (2006) who suggest that parents can serve as important instruments when preparing their children for school by being directly involved in literacy-related activities in order to improve their child's school readiness skills. This illuminates the crucial role that home-school collaboration plays in these children's success in school. Relationships between mothers' education level and all areas of school readiness in English and Spanish included in this study (Oral Language, Cognitive, Early Literacy/Early Numeracy) with the exception of Spanish Cognitive abilities, were shown to be present. This is supported by past research studies focusing on monolinguals as well as Latino bilingual students that have linked parental education level with the children's academic achievement (Seefeldt, Denton, Galper, & Younoszai, 1999; Snow, Burns, & Griffin, 1998). Lastly, Umbel, Pearson, Fernandez and Oller (1992) suggest that home language experience is a variable of great importance specific to bilingual acquisition which may explain the correlation between English-Oral Language abilities and mothers' English proficiency. Of additional significance is that there were a few weaker negative correlations between Spanish-Oral Language and mothers' number of years in the U.S. as well as mothers' English proficiency. This suggests that as mothers' become more proficient in the English language and have resided for longer periods of time in the

United States where the primary language is English, these children's Spanish-Oral Language skills tend to decrease.

Results from the multiple regression that were conducted as part of the second research question indicated that in the area of English-Oral Language, the variables found to predict the Oral Language abilities of the children included mothers' years of residence in the U.S. and mothers' English proficiency. As mothers' years of residence in the U.S. increased, the predicted English-Oral Language score for the participants was higher for all regions with the exception of Region 4 (South America). In other words, all but participants from South America obtained higher predicted scores in the English-Oral Language composite when their mothers had been residing in the United States for a longer period of time. When compared to other Latin American regions, immigration patterns of those individuals coming from South America to the United States have recently started to increase, thus it is possible that the impact of Mothers' years of residence in the U.S. may differ for these children's abilities. Furthermore, the fact that most of the children obtained higher scores when their mothers' numbers of years of residence in the U.S. increased supports the idea that not all Latino students have the same experiences and same background. As many researchers have reported, the Latino population in the U.S. is highly diverse in culture, immigration history, SES, social dilemmas, language, racial composition, cultural customs and practices, as well as regions of settlement (Suarez-Orozco & Paez, 2002; De Von Figueroa-Moseley, Ramey, Keltner, & Lanzi, 2006). The number of years Latinos have resided in the United States differs among this population (Qian & Cobas, 2004). For example, Mexicans and Puerto Ricans residing in the U.S. comprise 68% of the Latino population, while the percentage

of immigration from Central (4.8% of the population) and South America (3.8% of the population) has increased in the last decade (Marotta & García, 2003; U.S. Census Bureau, 2000). In addition, those who have been in the U.S. for longer periods of time report speaking more English at home, compared to fewer of those that recently arrived from their country of origin (Portes & Rumbaut, 1996). However, this is contradicted by the finding in this research study showing that children from South America did not obtain higher scores on the English-Oral Language composite score when their mothers' years of residence increased. Thus, careful attention must be given to all possible factors that may influence these children's abilities in English, instead of generalizing research findings to all Latino students.

Similar findings were also displayed in terms of mothers' English proficiency (Figure 2). In general, children from all Latin American regions, with the exception of Central America (Region 3), obtained a higher predicted English-Oral Language score when their mothers' English proficiency was reported to be a score of 3 ("Speaks English very well" as reported by the mothers). This finding may imply that if mothers are unable to use the English language, the likelihood of working with their children in literacy-related activities is reduced which can then have an effect on the children's school readiness abilities. In connection to this, research has linked parental engagement in literacy practices with higher early achievement in both low and middle class families (Payne, Whitehurst, & Angell, 1994), thus it may be more difficult for parents who do not speak English to engage in this activities impacting their children's skill development.

Overall, similar trends were observed across most of the different groups of participants in regards to English-Oral Language, however, the degree to which specific family factors, including Mothers' years of residence in the U.S. and Mother's English proficiency level, impact these children's oral language skills varies depending on Latin American region. For example, most of the children obtained a higher predicted English-Oral Language score when their mothers reported to have a higher English proficiency level, however; the impact of this family factor was shown to be most pronounced for participants in region 4 (South America).

Limitations

It is crucial to take some precautions when interpreting the results of this study given that several limitations inherent in this research project. Perhaps the greatest limitation existed with the measures used to determine the children's school readiness abilities in English and Spanish. More specifically, all the measures administered contained monolingual norms, but the sample in this study encompassed dual language learners. Therefore, a comparison between a monolingual sample with a sample of children who speak more than one language fails to take into account the language proficiency of the student (Klingner & Artiles, 2003). Importantly, Abedi (2002) stated that assessment measures that provide valid scores for most students tend to underestimate the abilities and potential of culturally and diverse students. Another limitation that needs to be taken into account is that there was an extreme difference in the number of students per region. More specifically, the number of students from North America ($N=111$) was much bigger than any other region, while South America only contained fifteen participants. This may have affected the statistical results when looking

at the differences among the groups. Lastly, given that the number of participants per individual Latino nationality was limited, the researcher was forced to group the students according to Latin American region, and this may have had an impact on the results of this study. Additional differences may have been observed if the individual nationalities were analyzed.

Implications for Practice

The results of this research study demonstrate a vital need for researchers and practitioners in the field of education to work towards increasing their understanding about English language learners. Given that Response to Intervention (RTI) is permitted with the reauthorization of the Individuals with Disabilities Educational Act (IDEA) of 2004, the effective screening and monitoring of this population of students may increase. More specifically, it has been reported that the use of RTI by intervening in kindergarten or if possible earlier, is a framework that can have an impact on those students who are at risk (Coleman, Buysse & Neitzel, 2006). The RTI framework can tremendously benefit the population of English language learners given that by conducting universal screening and monitoring the progress/performance of the students, language and academic difficulties of these students can be identified and targeted with evidenced based interventions. Additionally, an ecological approach should be followed, where information about the child's culture, home, community and school is gathered (Bronfenbrenner, 1994). As shown by the finding in this study, relationships may exist between numerous home factors and these students' abilities. This supports the idea that Latinos have numerous differences and should be treated as individuals with specific needs. In specific to school psychologists, it is crucial to understand the differences that

may exist among the different groups of Latinos in order to accurately assess these students and develop appropriate interventions.

The differences shown to be present in this study among the different Latin American Regions, specifically with Oral Language abilities in English and Spanish supports the importance of assessing these children in both languages. School psychologists must be knowledgeable that there is a lack of appropriate assessments for this population. The findings of this study suggest that with regard to Oral Language abilities, assessing dual language learners in only one language may underestimate the students' actual vocabulary skills. Some English language learners may have higher vocabulary skills in English rather than Spanish, or vice versa. It is crucial for school psychologists to understand that bilingual students split their vocabulary knowledge between two languages and when compared to monolingual norms, these students may score well below average in assessments of vocabulary (Cobo-Lewis et al., 2002). Thus, ELL's vocabulary skills should not be assessed in English solely, not only because there are differences among the different groups of Latinos in terms of Oral-Language abilities in English and Spanish, but because they may only demonstrate half of their knowledge.

Furthermore, as part of school psychologists' roles as well as a piece of RTI, it is crucial to provide students in need with appropriate interventions. As shown by this study's findings, Oral Language abilities are greatly affected by numerous factors and may differ among the different groups of Latinos. Thus, this study suggests that one important service for ELLs includes early interventions that will reinforce language skills, not only in the classroom environment but all around the school setting.

Directions for Future Research

Since the researcher is unaware of any other research study focusing on differences in abilities among the groups of Latino students, more investigations with larger sample sizes per Latino groups should be conducted. More specifically, studies concentrated in understanding how the members in this group differ can benefit researchers and practitioners in understanding this population of students. Although this study does not specifically focus on best practices of instruction for this population, the findings in this study support further investigation focusing on what practices work best in fostering faster growth in the oral language skills of bilingual students. Paez and colleagues (2007) reported that placing these students in English-only environments does not build upon their already deficient vocabulary. Thus it is crucial for researchers to investigate alternative teaching models/curriculum that work best with this population.

In terms of parent involvement of ELLs, the sample in this study encompassed students who came from homes where at least one of the parents spoke Spanish; therefore, the participants' parents may have felt unable or incapable of helping their children with school work or to reinforce their literacy abilities as a result of their limited English proficiency. This is supported by the findings in this study which indicated that children from most Latin American regions scored higher in English-Oral Language when their mothers' English proficiency was higher. It is unlikely for these students to improve their performance in school unless resources such as parents and the community are also included in the process. Further investigation should be completed focusing on what the parents of ELLs who score higher in various academic areas do to reinforce and increase their children's abilities. Additionally, researchers should investigate reasons

behind the reduced level of parent involvement by Latino parents when compared to their White counterparts, in order for schools to be capable of increasing the home-school collaboration with this population of students.

Conclusions

Only a small step was taken in the exploration of differences in abilities among Latino students with the research questions posed in this study. The truth is that when compared to monolingual individuals, the population of English language learners is tremendously understudied and much more is left to be investigated in terms of this group. However, the information presented as well as the findings in this research study indicated that Latino students may differ in their Oral Language skills in English and Spanish. Additionally, many different home factors were found to be related with their Oral Language abilities in both languages. More specifically, the degree to which these home factors impact the children's English-Oral Language skills varies depending on the Latin American region. Some of these students may be at a greater risk of falling behind and developing their language abilities at a slower rate due to demographic variables that cannot be changed. Thus, educators must focus their efforts in the early identification as well as providing early intervention services to these children at risk. Nevertheless, many questions still remain in regards to the differences among specific Latino groups, therefore; it is crucial to consider all possible factors affecting a child's abilities when serving the Latino population in schools.

List of References

- Abedi, J. (2002). Standardized achievement tests and English language learners: Psychometric issues. *Educational Assessment, 8*, 231-257.
- Abedi, J., Lord, C., Hofstetter, C., & Baker, E. (2000). Impact of accommodation strategies on English language learners' test performance. *Educational Measurement: Issues and Practice, 19* (3), 16-26.
- Artiles, A. J., & Trent, S. C., (1994). Overrepresentation of minority students in special education: A continuing debate. *Journal of Special Education, 27*, 410-437.
- Artiles, A.J., & Trent, S.C. (2000) Representation of culturally/linguistically diverse students. *Encyclopedia of special education* (2nd ed. , Vol 1, pp. 513-517), New York: Wiley.
- Artiles, A.J., Rueda, R., Salazar, J., & Higareda, I. (2005). Within-group diversity in minority disproportionate representation: English language learners in urban school districts. *Council for Exceptional Children, 71*, 283-300.
- August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English Language Learners. *Learning Disabilities Research & Practice, 20*, 50-57.
- August, D., & Hakuta, K. (1997). *Improving schooling for language-minority children: A research agenda*. Washington, DC: National Academy Press.
- Baca, L. M., & Cervantes, IL. T. (1998). *The bilingual special education interface*. New Jersey: Merrill/Prentice Hall.

- Biemiller, A. (2003). Oral comprehension sets the ceiling on reading comprehension. *American Educator*, 27, 23-44.
- Booth, B., Ross, R., & Rost, K. (1999). Rural and urban problem drinkers in six southern states. *Substance Use and Misuse*, 34, 471-493.
- Bronfenbrenner, U. (1994). Ecological models of human development. *In International Encyclopedia of Education*, Vol. 3, 2nd Ed. Oxford: Elsevier.
- Bronstein, M. H., Hynes, O.M. & Painter, K.M. (1998). Sources of child vocabulary competence: A multivariate model. *Journal of Child Language*, 25, 367-393.
- Boyle, J. (1987). Sex differences in listening vocabulary. *Language Learning*, 37, 273-284.
- Campion, C. (2004). Spelling proficiency of native speakers of Spanish: A look at the influence of morpheme structures in spelling errors. *The UCI Undergraduate Research Journal*, 19-26.
- Carrasquillo, A.J., & Rodriguez, J. (1997). Hispanic limited English-proficient students with disabilities. *Learning Disabilities: A Multidisciplinary Journal*, 8(3), 167-174.
- Carlisle, J.F., Beeman, M., Davis, L.H., & Spharim, G. (1999). Relationship of metalinguistic capabilities and reading achievement for children who are becoming bilingual. *Applied Psycholinguistics*, 20, 459-478.
- Catts, H.W., Fey, M.E., Zhang, X., & Tomblin, J.B. (1999). Language basis of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3, 331-361.

- Crawford, J. (1989). *Bilingual education: History, politics, theory, and practice*. Trenton, NJ: Crane.
- Cobo-Lewis, A. B., Pearson, B. Z., Eilers, R. E., & Umbel, V. C. (2002). Effects of bilingualism and bilingual education on oral and written Spanish skills: A multifactor study of standardized test outcomes. In D. K. Oller, & R. E. Eilers (Eds.), *Language and literacy in bilingual children* (pp. 3-21). Clevedon, England: Multilingual Matters.
- Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education*, 163, 16-30.
- D'Angiulli, A., Siegel, L. S., & Maggi, S. (2004). Literacy instruction, SES, and word Reading achievement in English-language learners and children with English and a first language: A longitudinal study. *Learning Disabilities Research & Practice*, 19, 202-213.
- DeLeon, P., Wakefield, M., & Hagglund, K. (2003). The behavioral health care needs of rural communities in the 21st century. In B. Stamm (Ed.), *Rural behavioral health care: An interdisciplinary guide* (pp. 23-31). Washington, DC: American Psychological Association.
- Delgado-Gaitan, C. (2001). *The Power of Community*. Lanham, MD: Rowman & Littlefield.
- Delgado-Gaitan, C. & Trueba, H. (1991). *Crossing Cultural Borders: Education for Immigrant Families in America*. London: Falmer.

- De Von Figueroa-Moseley, C., Ramey, C.T., Keltner, B., & Lanzi, R.G. (2006). Variations in Latino parenting practices and their effects on child cognitive development outcomes. *Hispanic Journal of Behavioral Sciences*, 28(1), 102-114.
- Dickinson, D. K., McCabe, A., Clark-Chiarelli, N., & Wolf, A. (2004). Cross-language transfer of phonological awareness in low-income Spanish and English bilingual preschool children. *Applied Psycholinguistics*, 25, 323-347.
- Dollaghan, C.A., Campbell, T.F., Paradise, J.L., Feldman, H.M., Janosky, J.E., Pitcairn, D.N., & Kurs-Lasky, M. (1999). Maternal education and measures of early speech and language. *Journal of Speech, Language, and Hearing Research*, 42, 1432-1443.
- Donovan, M.S., & Cross, C.T. (2002). *Minority students in special and gifted education*. Washington, DC. National Research Council.
- Durgungolu, A.Y., Nagy, W.E., & Hancin-Bhatt, B.J. (1993). Cross language transfer of phonological awareness. *Journal of Educational Psychology*, 85, 453-465.
- Durgungolu, A.Y. (2002) Cross-linguistic transfer in literacy development and implications for language learners. *Annals of Dyslexia*, 52, 189-204.
- Duvfa, M., Niemi, P., & Voeten, M. (2001). The role of phonological memory, word recognition, and comprehension skills in reading development: from preschool to grade 2. *Reading and Writing: An Interdisciplinary Journal*, 14, 91-177.
- Farver, J.M., Eppe, S., & Ballon, D. (2006). Acculturation and family characteristics that facilitate literacy development among Latino children. *Acculturation and parent-child relationships: Measurement and development*. Monographs in Parenting Series. NJ: Erlbaum Press.

- Farver, J.M., Xu, Y., Eppe, S., & Lonigan, C.J. (2006). Home environments and young Latino children's school readiness. *Early Childhood Research Quarterly, 21*, 196-212.
- Fashola, O. S., Drum, P. A., Mayer, R. E., Kang, S. (1996). A cognitive theory of orthographic transition: Predictable errors in how Spanish-speaking children spell English words. *American Educational Research Journal, 33*, 825-843.
- Figueredo, L. (2006). Using the known to chart the unknown: A review of first-language influence on the development of English-as-a-second-language spelling skill. *Reading and Writing, 19*, 873-905.
- Fitzgerald, J. (1995). English-as-a-second-language learners' cognitive reading processes: A review of research in the United States. *Review of Educational Research, 65*, 145-190.
- Garcia, G.E. (1991). Factors influencing the English reading test performance of Spanish-speaking Hispanic children. *Reading Research Quarterly, 26*, 371-392.
- Garcia, E. E., & Gonzales, D. M. (2006, July). *Pre-K and Latinos: The Foundation for America's future*. Washington, DC: Pre-K Now.
- Garcia, G.E., & Pearson, P.D. (1994). Assessment and diversity. *Review of Research in Education, 20*, pp. 337-391.
- Genesee, F., Paradis, J., & Crago, M. B. (2004). *Dual language development and disorders*. Baltimore: ML Paul H. Brookes Publishing Co.
- Gibson, M. A. (2001). Immigrant adaptation and patterns of acculturation. *Human Development, 44*, 19-23.

- Gunn, B., Smolkowski, K., Biglan, A., & Black, C. (2002). Supplemental instruction in decoding skills for Hispanic and non-Hispanic students in early elementary school: A follow up. *Journal of Special Education, 36*, 69-79.
- Hammer, C.S., & Miccio, A.W. (2004). Home literacy experiences of Latino families. In B.H. Wasik (ed.), *Handbook of Family Literacy* (pp.305-328). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hammer, C.S., Miccio, A.W., & Wagstaff, D.A. (2003). Home literacy experiences and their relationship to bilingual preschoolers' developing English literacy abilities: An initial investigation. *Language, Speech, and Hearing Services in Schools, 34*, 20-30.
- Hammer, C.S., Rodríguez, B.L., Lawrence, F.R., & Miccio, A.W. (2007). Puerto Rican mother's beliefs and home literacy practices. *Language Speech, and Hearing Services in Schools, 38*, 216-224.
- Hakuta, K. (1999). The debate in bilingual education. *Journal of Developmental and Behavioral Pediatrics, 20*, 36-37.
- Jongejan, W., Verhoeven, L., & Siegel, L. (2007). Predictors of reading and spelling abilities in first- and second-language learners. *Journal of Educational Psychology, 99*, 835-851.
- Klingner, J.K., & Artiles, A.J. (2003). When should bilingual students be in special education? *Educational Leadership, 61*, 66-71.
- Klingner, J.K., Harry, B., Sturges, K. M., Artiles, A. J., & Wimes, C. (2003, April). *The role of child study and multidisciplinary team meetings in the overrepresentation of culturally and linguistically diverse students in special education*. Paper

presented at the annual meeting of the American Educational Research Association, Chicago, IL.

- Langer, J.A., Bartolome, L., Vasquez, O., & Lucas, T. (1990). Meaning construction in school literacy tasks: A study of bilingual students. *American Educational Research Journal*, 27, 427-471.
- Lazarin, M. (2006). Improving assessment and accountability for English Language Learners in the No Child Left Behind Act. *National Council of La Raza, Issue Brief: 16*.
- Lindholm, K.J. (1991). Theoretical assumptions and empirical evidence for academic achievement in two languages. *Hispanic Journal of Behavioral Sciences*, 13, 3-17.
- Lindsey, K.A., Manis, F.R., & Bailey, C.E., (2003). Predictions of first-grade reading in Spanish-speaking English language learners. *Journal of Educational Psychology*, 95(3), 482-494.
- Logan, T. K., Evans, L., Stevenson, E., & Jordan, C. E. (2005). Barriers for rural and urban survivors of rape. *Journal of Interpersonal Violence*, 20, 591-616.
- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from latent-variable longitudinal study. *Developmental Psychology*, 36, 596-613.
- Lopez, L. M., & Greenfield, D. B. (2004). The cross-language transfer of phonological skills in Hispanic Head Start children. *Bilingual Research Journal*, 28, 1-18.
- Losen, D.J., & Orfield, G. (2002). Racial inequity in special education. Cambridge, MA: Harvard Education Press.

- Lyon, G.R. (1996). Learning disabilities. *The Future of Children, 6*, 54-76.
- MacDonald, W.G., & Cornwall, A. (1995). The relationship between phonological awareness and reading and spelling achievement eleven years later. *Journal of Learning Disabilities, 28*, 253-527.
- McCardle, P., McCarthy, J., & Leos, K. (2005). English language learners and learning disabilities: Research agenda and implications for practice. *Learning Disabilities Research and Practice, 20*, 68-78.
- National Assessment of Adult Literacy (2003). National Center for Educational Statistics Home Page. Retrieved June 17, 2009 from <http://nces.ed.gov/naal/>.
- National Center for Education Statistics (2000). High school dropouts, by race/ethnicity and recency of migration (NCES 2000-009). Washington, DC: Author.
- National Center for Education Statistics. (2004). The condition of education. Retrieved June 17, 2009 from <http://nces.ed.gov/programs/coe>.
- National Head Start Association (2009). Head Start Basics. Retrieved from http://www.nhsa.org/about_nhsa/head_start_facts
- Nixon, S.M., McCardle, P., & Leos, K. (2007). Implications of research on English language learners for classroom and clinical practices. *Language, Speech, and Hearing Services in Schools, 38*, 272-277.
- Nobel, B. L. *Linguistics for Bilinguals*. Massachusetts: Newbury House Publishers, 1982.
- Ochoa, S.H., Rivera, B.D., & Powell, M.P. (1997). Factors used to comply with bilingual and limited-English-proficient pupils: Initial guidelines. *Learning Disabilities Research & Practice, 12*, 161-167.

- Paez, M. M., & Rinaldi, C. (2006). Predicting English Word Reading skills for Spanish-speaking students in first grade. *Topics in Language Disorders, 26*, 338-350.
- Paez, M. M., Tabors, P.O., & Lopez, L.M. (2007). Dual language and literacy development of Spanish-speaking preschool children. *Journal of Applied Developmental Psychology, 28*, 85-102.
- Payne, A.C., Whitehurst, G.J., & Angell, A.L. (1994). The role of home literacy environment in the development of language ability in preschool children from low-income families. *Early Childhood Research Quarterly, 9*, 427-440.
- Pease-Alvarez, L. (2002). Moving beyond linear trajectories of language shift and bilingual language socialization. *Hispanic Journal of Behavioral Sciences, 24*(2), 114- 137.
- Portes, A. & Rumbaut, R.G. (1996). *Immigrant America, second edition*. Berkeley, CA: University of California Press.
- Proctor, C.P., Carlo, M., August, D., & Snow, C. (2005). Native Spanish-speaking children reading in English: Toward a model of comprehension. *Journal of Educational Psychology, 2*, 246-256.
- Qian, Z., & Cobas, J. A. (2004). Latinos' mate selection: national origin, racial, and nativity differences. *Social Science Research, 33*, 225-247.
- Riccio, C. A., Amado, A., Jimenez, S., Hasbrouch, J. E., Imhoff, B., & Denton, C. (2001). Cross-linguistic transfer of phonological processing: Development of a measure of phonological processing in Spanish. *Bilingual Research Journal, 25*, 583-603.

- Ricketts, T. (1999). Introduction. In T. Ricketts (Ed.), *Rural health in the United States* (pp. 1-6). New York: Oxford University Press.
- Rimm-Kaufman, S.E., Pianta, R.C., & Cox, M.J. (2000). Teacher's judgements of success in the transition to kindergarten. *Early Childhood Research Quarterly, 15*, 147-166.
- Rolla San Francisco, A., Mo, E., Carlo, M., August, D., & Snow, C. (2006). The influences of language literacy instruction and vocabulary on the spelling of Spanish-English bilinguals. *Reading and Writing, 19*, 627-642.
- Roseberry-McKibbin, C., & O'Hanlon, L. (2005). Nonbiased assessment of english language learners: A tutorial. *Communication Disorders Quarterly, 26*(3), 178.
- Sanchez, G.J. (2002). "Y tú, ¿qué?" (Y2K): Latino history in the new millennium. In M.M. Suárez-Orozco & M.M. Pérez (Eds.), *Latinos: Remaking America* (pp. 45-58). Berkeley, CA: University of California Press.
- Seefeldt, C., Denton, K., Galper, A., & Younoszai, T. (1999). The relation between Head Start parent's participation in a transition demonstration, education, efficacy, and their children's academic abilities. *Early Research Childhood Quarterly, 14*(1), 99-109.
- Snow, C., Burns, M. S., & Griffin, P. (Eds.) (1998). *Preventing reading difficulties in young children*. Washignton, DC: National Academy Press.
- Spinelli, C. G. (2008). Addressing the issue of cultural and linguistic diversity and assessment: Informal evaluation measures for English language learners. *Reading & Writing Quarterly, 24*(1), 101-118.

- Stanovich, K. E. (1986). Mathew effects in reading: Some consequences in individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360-406.
- Stepick, A. & Stepick, C.D. (2002). Power and identity: Miami Cubans. In M.M. Suárez-Orozco & M.M. Páez (Eds.), *Latinos: Remaking America* (pp. 75- 92). Berkeley, CA: University of California Press.
- Suarez-Orozco, M. M., & Paez, M. M. (2002). Introduction: The research agenda. In M. M. Suarez-Orozco & M. M. Paez (Eds.). *Latinos: Remarking America* (pp. 1-38). Berkeley, CA: University of California Press.
- Sun-Alperin, M. K. & Wang, M. (2008). Spanish-speaking children's spelling errors with English vowel sounds that are represented by different graphemes in English and Spanish words. *Contemporary Educational Psychology*, 33, 932-948.
- Tabors, P. & Snow, C. (2001). Young bilingual children and early literacy development. In S.B. Newman & D. K. Dickinson (Eds.) *Handbook on Research in Early Literacy* (pp. 159-178). New York: Guilford Press.
- Teichman, J.R. & Contreras-Grau, J.M. (2006). Acculturation and teaching styles among young mainland Puerto Rican mothers. *Hispanic Journal of Behavioral Sciences*, 28(1), 84-101.
- Thomas, W. & Collier, V. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement* (Final Report: Project 1.1). Santa Cruz, CA: Center for Research on Education, Diversity, and Excellence.

- Uchikoshi, Y. (2006). English vocabulary development in bilingual development in bilingual kindergarteners: What are the best predictors? *Bilingualism: Language and Cognition*, 9, 22-49.
- Umbel, V. M., Pearson, B. Z., Fernandez, M. C., & Oller, D. K. (1992). Measuring bilingual children's receptive vocabularies. *Child Development*, 63, 1012-1020.
- United States Census Bureau (2000). *Census 2000 Demographic Profile Highlights*. Retrieved from <http://www.census.gov>.
- U. S. Census Bureau. (2003). *U.S. Census Bureau, Population Division*. Available: www.ed.gov/population/www/cen2000/phe-t20.html
- U. S. Census Bureau. (2008). *Annual estimates of the resident population by sex, race, and Hispanic origin for the United States: April 1, 2000 to July 1, 2008 (NC-EST2008-03)*. Washington, DC: Population Division.
- U.S Department of Education. (2003) *Key indicators of Hispanic student achievement: National goals and benchmarks for the next decade*. Washington, DC: Author. Available: [www. Ed.gov/pub/hispanicindicators](http://www.ed.gov/pub/hispanicindicators)
- Valdés, G. (1996). *Con Respeto: Bridging the Distances Between Culturally Diverse Families and Schools*. New York: Teachers College Press.
- Wade-Woolley, L. & Siegel, L. S. (1997). The spelling performance of ESL and native speakers of English as a function of reading skill. *Reading and Writing: An Interdisciplinary Journal*, 9, 387-406.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., Hecht, S. A., Barker, T. A., Burgess, S. R., et al. (1997). Changing relations between phonological processing abilities

and word-level reading as children develop from beginning to skilled readers: A 5-year longitudinal study. *Developmental Psychology*, 33, 468-479.

Woodcock, R. W. (1991). *Woodcock language proficiency battery-revised*. Itasca, IL: Riverside Publishing.

Woodcock, R.W., McGrew, K.S., & Mather, N. (2001). *Woodcock Johnson III Complete*. Itasca, IL: Riverside Publishing.

Woodcock, R.W., Muñoz-Sandoval, A.F., McGrew, K.S., & Mather, N. (2004). *Batería III Woodcock-Muñoz*. Itasca, IL: Riverside Publishing.