

THE PREDICTORS OF EMERGENT LITERACY SKILLS IN  
TYPICALLY DEVELOPING AND LANGUAGE  
DISORDERED LATINO/A PRESCHOOLERS

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by

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## **DEDICATION**

This thesis is dedicated to my mother and my best friend, Rosa Palacios, who never stops believing in me and always teaches me the importance of family and the beauty of faith and love.

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## **ABSTRACT**

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The purpose of this study was to determine the effectiveness of acculturation and the home literacy environment to predict the variance in the emergent literacy skills of bilingual typically developing and language disordered Latino(a) preschoolers. Regression analyses suggest that the home literacy environment had a statistically significant relationship to letter identification in typically developing children. Neither of the variables demonstrated a significant relationship to the scores of bilingual preschoolers diagnosed with language disorders.

## **CHAPTER I**

### **INTRODUCTION TO THE STUDY**

Numerous studies reveal a substantial disparity between the literacy levels of Caucasian, African-American, and Hispanic children (Campbell, Hombo, & Mazzeo, 2000; Craig, Connor, & Washington, 2003). Researchers have attempted to explain why these disparities exist among Latino children demonstrating low literacy levels (August & Hakuta, 1997). During an interview, Lesaux suggested that certain demographic factors can affect reading achievement of English Language Learners (ELL). Some factors may include recent immigration, lower socioeconomic status, poor instruction, and disparities between the home and school cultures (Choy, 2003). With recent immigration from another country to the United States, difficulties may arise when reading instruction is provided in *English only* regardless of the child's native language. Due to limited proficiency in English and without access to their native and/or dominant language, children will struggle with comprehension of literacy concepts when those concepts are taught in their less proficient language. On the other hand, cultural values and beliefs also have an effect on emergent literacy. Incorporating these cultural values and beliefs into learning environments will help the child learn and comprehend academic information (Choy, 2003). Since oral language impacts literacy and language is an important aspect of culture, it is important to investigate literacy development and how culture influences it.

### *Literacy Development*

Oral language is the foundation for literacy skills (Mather, Goldstein, Lynch, & Richards, 2001; Miller et al., 2006; Nathan, Stackhouse, Goulandris, & Snowling, 2004). This statement holds true across languages where oral language not only facilitates reading, but the transfer of language skills from one language to another also benefits reading development (Miller et al., 2006). As children acquire language, they learn prerequisite skills necessary to support the acquisition of literacy. These skills include: phoneme awareness, letter-sound knowledge, linguistic awareness, word recognition, print recognition, semantic development, and comprehension (August & Hakuta, 1997; Justice & Ezell, 2000; Snow, Scarborough, & Burns, 1999). Furthermore, Catts, Fey, Tomblin and Zhang (2002) suggested that an inverse relationship existed between reading and oral language. According to their study, emergent reading skills help with language attainment, which in turn is associated with reading achievement. An inverse relationship such as this indicates how language comprehension, language production and reading development can impact each other and together influence academic achievement (Catts et al., 2002; Mather et al., 2001). Therefore, it is important that parents and educators expose their children to a daily variety of experiences to build the necessary skills for literacy acquisition. According to Marvin and Wright (1997), children have everyday experiences where they are exposed to print and they learn that print conveys a message. Parents expose children to language and literacy when they acknowledge the environmental print and/or relate life experiences to book events. Discussing print material gives children one method of applying language skills for the development of literacy skills (Sonnenschein & Munsterman, 2002). When discussing the experiences

involved in attaining literacy skills, it is important to understand how another language may influence the development of literacy.

Bilingual literacy skills begin developing in similar ways to monolingual literacy skills in terms of establishing vocabulary, understanding language, gaining proficiency in the native language and second language, acquiring print concepts in each language, and awareness of phonemic concepts in both languages (Bialystok, 2002). A study by Miller et al. (2006) examined the proficiency levels of Spanish-speaking English-language learners (ELLs) and determined the impact of oral language on reading proficiency. This study was conducted on a group of ELL students in kindergarten through third grade and the impact of oral language on reading proficiency within and across languages. An evaluation of the children's performance on oral language and reading measures revealed an increase in reading scores in both languages resulting in second language acquisition without the loss of the native language. Furthermore, the researchers supported that language skills have a significant impact on academics and communication and they also indicated that reading skills improve in both languages with age/grade. In addition, an evaluation of the relationship between reading and oral language supported the idea that oral language contributes significantly to literacy acquisition in either language. Miller et al. further noted that oral language skills in each language impacted reading scores in English comprehension by six percent whereas the same skills in each language only impacted scores of Spanish comprehension by two percent. Although the contribution of oral language had a four percent difference, they concluded that oral language impacts literacy in any language whether instruction was in Spanish or English. Furthermore, acquiring a second language enhances literacy and the native language is significant for

literacy attainment in the second language. Miller et al. concluded that oral language deficits in preschoolers could contribute to language-based learning disabilities.

Tabors, Páez and López (2003) conducted a study that focused on Spanish-speaking children's oral language and early literacy skills in English and Spanish from pre-kindergarten through second grade. In their study, the researchers assessed phonological awareness, vocabulary skills, symbolic learning and letter identification skills, prewriting skills, and language recalling skills. The researchers categorized these skills into oral language abilities (phonological awareness, vocabulary skills, and recalling skills) and early literacy skills (symbolic learning, letter identification, and prewriting skills). Results from the pre-kindergarten group indicated that in both languages, early literacy task performance was better than oral language task performance. When vocabulary was tested, children scored higher in one language and lower in the other language. Tabors et al. suggested that a less extensive vocabulary impacts literacy acquisition across both languages. Overall, in both English and Spanish, participants demonstrated a higher performance in letter-word identification and dictation subtests rather than oral language tasks. In addition, it was noted that children learning English scored lower on oral language subtests in English and oral language subtests in Spanish suggesting that bilingual children experience language loss when acquiring a second language. In conclusion, Tabors and colleagues believe that information from the home and school helps with understanding the influence on language and literacy development. Furthermore, during the investigation of dual language abilities, the researchers evaluated the relationship between English and Spanish language and early literacy skills. Results indicated that there was a significant relationship between

language and early literacy skills in both English and Spanish. The related variables included phonological awareness, semantics, letter-word identification skills, writing and spelling, and language recall skills. All of these relationships indicated that a positive correlation between languages and phonological awareness exist, reinforcing the idea that phonological awareness is important. The study suggested that bilingual children are learning a variety of skills in two languages prior to formal schooling, and these skills will impact their learning process in the classroom and at home.

#### *Parent Interaction*

Since language development is an important foundation of literacy acquisition, understanding parental involvement in the development of language and literacy is necessary. Studies suggest that parents should introduce and facilitate language via various communicative contexts and spend more time with their children to understand their needs, wants and interests (Dale, Crain-Thoreson, Notari-Syverson & Cole, 1996). On the other hand, literacy skills for academic achievement are also introduced and taught in formal schooling however, exposure to literacy in the home is still important for learning. Researchers also suggest that letter knowledge, vocabulary, phoneme/sound relation, and rhymes are variables that contribute to language growth for literacy acquisition and that phonological awareness is the most significant predictor to emerging literacy skills prior to entrance into formal educational programs (Muter & Diethelm, 2001; Stewart, 2004).

Other studies indicate that parent interaction and home literacy activities, such as book reading, benefit the beginning reader (Bus, van Ijzendoorn, & Pellegrini, 1995; Sonnenschein & Munsterman, 2002) and convey parental values and beliefs toward

literacy, language and academics (Bennett, Weigel, & Martin, 2002; Rodriguez & Olswang, 2003). Overall, parent interaction is important in building the language skills necessary for reading and academic success across languages.

Bus and colleagues (1995) conducted a study on how parent-child interactions with books were significant in attaining literacy. Results of this study indicated that book reading related to an increase in the development of language and literacy skills. The research suggests that book reading in the home regardless of socioeconomic status (SES) of the families impacts literacy skills. The authors suggested that book reading, regardless of SES, continues to play a major role in developing the knowledge necessary for successful reading. On the other hand, researchers have suggested other non-traditional approaches to book reading such as watching television, story telling, songs/rhymes, and environmental print materials (Bennett et al., 2002; Gillanders & Jiménez, 2004). It is also important that parents support reading to encourage accessibility to books to those children who are not active readers (Bus et al., 1995). Furthermore, Bus and colleagues suggest that parents who have no intrinsic motivation to read may not encourage the child's interest in reading. In addition, the beginning reader may demonstrate difficulty comprehending a story when the parent has a low literacy level. Further investigation indicated that effective joint-book reading decreases as children grow into active readers and learn to read on their own. Overall, the study suggests that book reading is a prerequisite for literacy instruction and that book reading and phonemic awareness are predictors to reading achievement.

### *Acculturation*

Although parent involvement is considered important for reading development, it is necessary to determine the influence of the family's culture on literacy practices in the home and school. When working with culturally and linguistically diverse children, the parents' level of acculturation may influence literacy acquisition. Cuéllar, Arnold and Maldonado (1995) and Rodriquez and Olswang (2003) described acculturation as the process whereby individuals within a culture identify and modify cultural practices to another culture, resulting in a decreased identity with native cultural values and beliefs. The degree of acculturation can shape an individual's behavior. According to Gillanders and Jiménez (2004) and Hughes, Schumm, and Vaughn (1999) differing cultures immersed in the dominant Anglo-American culture appear to be changing their behaviors, beliefs and values in order to help their children with literacy and academic success. As parents become more acculturated, they become more involved in their children's education. Recent Mexican immigrants experience a variety of characteristics that affect child interaction. Those characteristics include country of origin, years of residency, community in which they have to co-exist, the amount of contact with their home country, and socioeconomic status (Orellana, 2003). As a result, it is likely that the changes due to acculturation will create a difference in the interaction between parents and their children. It has been observed that Latino children practice literacy skills when helping siblings with homework, teaching the family skills that were learned at school, and when assisting and/or translating reading material for the parents (Jiménez, 2001).

Different cultures vary in traditions, values and beliefs. The characteristics of a culture may differ in their interactions, values, and beliefs when it comes to educational

instruction. Mexican-American children are taught at a young age to respect and obey their elders and parents. With this traditional and authoritarian approach towards interaction, children remain quiet and parents communicate to them in a direct manner (Gillanders & Jiménez, 2004; Rodriguez & Olswang, 2003). This interaction style has also been observed in parent-child interactions among middle-income families before children enter school (Bennett et al., 2002). Researchers have suggested that Mexican-American immigrant parents are unaware of the school practices to help children in academic situations because of the cultural differences between Anglo-American and Mexican-American academic instruction. Children are enrolled into academic schooling with the cultural belief that teachers and parents play separate roles; the teacher is the educator and the parent the care provider (Rodriguez & Olswang, 2003).

Culture also influences the child's learning. A paper by Nowak-Fabrykowski and Shkandrij (2004) indicated that when a child is acculturated to a new culture, the new values and demands will help the child integrate and understand the mainstream culture. Thus, the child starts to learn a new language and begins to understand the meaning of a new culture. When learning new languages, values and demands, the child finds it difficult to transition and create adequate relationships and interactions expected in the mainstream culture. The adaptation to the new culture can cause a negative impact on parent-child interactions when parents are not in accordance with the mainstream culture. This difference in interaction can impact how children demonstrate their knowledge base in school. Therefore, it is important that teachers understand the process of acculturation that different cultural groups undergo.

A study conducted by Burriel (1993) addressed acculturation and biculturalism of

first-, second-, and third- generation Mexican-American and Euro-American children participating in a bilingual/bicultural program. Instead of using parent ratings or acculturation rating scales, teacher ratings were used to measure acculturation and biculturalism. According to this study, acculturation was not associated with loss in the native culture however, a decrease in cultural identification was noted between first- and second-generation Mexican-American children who still expressed a strong identity with the native culture more so than the Euro-American children. On the other hand, third-generation Mexican-American children did not have a strong identity with their native culture. A possibility was because they no longer had contact with the country of origin and/or the more traditional Mexican-American culture was not emphasized in their home environment. Buriel (1993) further suggests that children quickly acculturate to the mainstream culture as a result of schooling. If a strong cultural identity is present prior to schooling, it is more likely that the Mexican Americans will adapt to the Euro-American culture without losing their native culture.

In another investigation, Cheng and Starks (2002) studied the influence of significant others relative to multiple cultures on their childrens' educational expectation. The multiple cultures included Asians, Hispanics, African Americans, and Anglo Americans. They found that Asian-American and Hispanic-American mothers and African-American fathers had high aspirations for their children's educational attainment but less influence on their children's expectations. This may be due to the different interactions among parents and children within culturally diverse families. In addition, Cheng and Starks (2002) discovered that Asian-American children perceived higher aspirations from teachers and friends, whereas Hispanic children perceived lower

aspirations from their teachers and friends. It was suggested that this outcome was related to how acculturated the families were and the function of cultural influences in the classroom. Therefore, it is of utmost importance to recognize how teacher and parent perceptions impact every child's learning.

### *Predictors of Literacy*

#### *Studies Addressing Monolingual English Speakers Who Are Typically Developing or Language Disordered.*

When considering the influences on learning, it is necessary to understand how language skills contribute to the development of literacy. With a better understanding of effective predictors of literacy, researchers are given an opportunity to recommend strategies to better prepare children for the acquisition of literacy skills and identify data of at-risk children in order to prevent reading difficulties (Bishop, 2003; Catts, 2001; Haney & Hill, 2004). Important predictors of literacy outcome in typically developing monolingual English speaking children include phonological awareness, letter identification (Bishop, 2003; Mann & Foy, 2003; Young, 2003). Other predictors that appear to have a correlation to literacy include phonological sensitivity, phonological segmentation and home environment (Burgess, 2002; Muter & Diethelm, 2001; Roberts, Jurgens, & Burchinal, 2005).

While numerous researchers have investigated the predictors of literacy in typically developing children (Bishop, 2003; Mann & Foy, 2003; Roberts et al., 2005; Young, 2003), they have also suggested similar predictors in children diagnosed with language disorders (Bird, Bishop, & Freeman, 1995; Gallagher, Frith, & Snowling, 2000; Nathan, et al., 2004). Results suggest that non-developed literacy skills may be due to the effects that language and speech disorders have on phonological awareness skills needed

for literacy development (Bird et al., 1995; Gallagher et al., 2000; Nathan, et al., 2004; Raitano, Pennington, Tunick, Boada, & Shriberg, 2004).

Furthermore, Catts (1993) suggested that speech-language impairments increased the risk for reading disabilities. His study indicated that 50% of the speech-language impaired children were within normal limits in their reading ability by second grade. However, those with reading difficulties had trouble with word recognition and reading comprehension. Results of the study suggested that certain components pertaining to speech and language development contributed to reading. The components that related to reading were receptive/expressive language, phonological awareness and rapid automatized naming whereas the speech component of articulation did not affect reading comprehension. The researchers concluded that phonological awareness and rapid naming were predictors of word recognition in reading. However, language had a greater effect on comprehension than phonological awareness and rapid naming.

According to a later study conducted by Catts et al. (2002), a similar association between language impairment and reading disabilities was found. This study focused on children from kindergarten to fourth grade and discovered that children with language impairments were having difficulty with word recognition and reading comprehension as concluded in his earlier study. Furthermore, the factors contributing to the development of literacy skills in language impaired individuals were nonverbal IQ, degree of language impairment, and improvement in language acquisition. In terms of reading outcome, the significant predictor was letter identification. In addition, the researchers suggested that grammar, nonverbal IQ, phonological awareness and rapid naming influenced reading achievement. Of these contributing factors, Catts et al. found that grammar and

phonological awareness in second grade were the components that continued to impact comprehension and word recognition for reading in fourth grade (Catts et al., 2002).

A study by Gallagher et al. (2000) investigated the impact of phonological difficulties on children at risk for dyslexia. The results of the study suggested that at-risk children with delayed literacy skills had verbal deficits on language tests. They had difficulties on tests of receptive/expressive vocabulary development, expressive language, non-word repetition, rhyme knowledge, digit span and letter knowledge. Gallagher and colleagues found the strongest predictor of literacy was letter knowledge. This language skill impacted literacy development of 45 month to 6-year-old children. In addition, individual analyses of reading outcomes suggested that the predictors of reading were letter knowledge and speech. The speech variables consisted of non-word repetition and speech-motor articulation. Overall, the results of the study indicated that speech and language were both contributing factors to early reading. Also, the letter knowledge component suggested that at-risk children with delayed literacy skills will have problems with letter names and phonemes; thereby, impacting their development of literacy. The researchers discovered that at 6 years of age, letter knowledge, speech and language measures, and performance IQ were all independent predictors of literacy skills.

Another study, whose participants consisted of language-impaired 5 and 6 year-old children, investigated the association between language impairment, speech sound disordered persistence, and preliteracy skills. The authors also evaluated preliteracy measures from children with articulation/phonological disorders with or without language impairments. Of the nine preliteracy variables included in the study, three factors were chosen as the preliteracy measures. These measures were phonological awareness (rhyme

judgment, elision, blending words, sound matching), letter knowledge (letter writing, letter name knowledge, letter sound knowledge), and rapid serial naming. Results revealed that children performed poorly on phonological awareness and letter knowledge tasks. Overall results from the study suggested that children with articulation/phonological disorders have larger deficits on phonological awareness tasks. Furthermore, the researchers suggested that articulation/phonological disorders alone were related to deficits on pre-literacy skills of phonological awareness and letter knowledge, and articulation/phonological disorders with co-occurring language impairments also resulted in phonological awareness deficits, which will affect literacy achievement (Raitano et al., 2004).

Bird, Bishop, and Freeman (1995) reported varied findings relating phonological awareness to later literacy acquisition. The varied findings indicated that expressive phonology is an indicator of language difficulties, and that a relationship between phonological impairment and literacy problems existed. The researchers suggested that reasons for the mixed findings were related to problems with phonological development or motor development, the co-occurrence of language difficulties with phonological impairment, and the age at which children who experience speech problems were assessed. The authors addressed literacy skills of children, ages 5-7 years, with phonological impairments. Results of the study suggested that cognitive nonverbal ability and expressive phonology were two variables that indicated a difference between good and poor literacy outcomes. The study also revealed that phonological awareness was not a significant indicator of literacy outcome. The study suggests that young children with mild phonological impairments performed well on tasks. The researchers indicated that a

significant level of expressive phonological ability exists before learning to read. Also considered was another possible impairment in language or literacy that impacted performance on tasks. Overall, problems in phonological *processing* appeared to have an impact on literacy outcome. According to this study, expressive phonology was one of many linguistic factors that impact literacy. After reviewing studies that suggest a variety of predictors for literacy development in monolingual English speakers (Bird et al., 1995; Raitano et al., 2004), it is essential to consider if similar predictors exist among bilingual Spanish/English speakers.

*Studies Addressing Bilingual Spanish/English Speakers Who Are Typically Developing or Language Disordered.*

Phonological processing is suggested to be a predictor of literacy in both monolingual English and bilingual children. Bialystok (2002) suggested that although bilingual children may have similar predictors of literacy as monolingual speakers, bilingual literacy skills may develop differently.

Goldstein and Washington (2001) conducted a study that compared the phonological patterns of bilingual English/Spanish speakers with monolingual speakers (English and Spanish). Results revealed that bilingual speakers had not developed the following phonological patterns as their monolingual English and Spanish counterparts: fricatives and affricates (English) and the flap and trill “r” (Spanish). The researchers further indicated that bilingual children displayed phonological processes similar to monolingual speakers. However, between both monolingual English/Spanish speakers, phonological processes that appeared were different. Monolingual English speakers exhibited phonological processes in stopping and final consonant deletion whereas

monolingual Spanish speakers exhibited phonological processes in liquid simplification and cluster reduction.

Additionally, researchers suggested that bilingual children benefit from incorporating metalinguistic skills (Bialystok, 2002; Lesaux & Siegel, 2003) to comprehend phonological awareness similarities in their own language and relate similar phonemes when acquiring the second language (Bialystok, 2002). This will increase their phonological awareness, which is considered to be a predictor for literacy acquisition. Also investigated has been the home literacy environment and its impact on literacy outcomes. Results revealed that the home literacy environment and caregiver involvement are beneficial to the development of literacy skills (Rush, 1999).

August, Calderón, and Carlo (2002) conducted a study addressing the English reading performance of bilingual (Spanish/English) speakers from second grade to third and fourth grade. The areas evaluated were phonological awareness, word reading, word knowledge, and comprehension. Results indicated that predictors of reading performance of third and fourth grade bilingual speakers receiving Spanish instruction were phonemic awareness, letter identification, and word reading. Also observed was the significant effect of letter identification when children received instruction in Spanish. Furthermore, when evaluating performance at fourth grade, children instructed in Spanish had higher grade-level performance in comprehension and reading than students instructed in English only. Overall, the results of the study indicated that Spanish literacy instruction to Spanish-speaking children learning English is more beneficial in the acquisition of English literacy skills. On the other hand, English letter identification scores increased with English only instruction and a negative relationship was noted with bilingual

childrens' letter identification in second grade while their Spanish letter identification scores declined.

Furthermore, a paucity of research exists concerning the predictors of emergent literacy in children diagnosed with a language disorder. A current study by Gonzales and Shanmugam (2006) found a significant difference in letter identification tasks between the Latino/a preschool population who were either typically developing or language disordered. Since some researchers suggest that letter identification is a predictor of literacy skills (Bishop, 2003; Catts et al., 2002) and there is limited research on language disordered bilingual children, there is a need for research investigating the predictors of literacy skills with a bilingual population.

A study conducted by Vaughn, Mathes, Linan-Thompson and Francis (2005) evaluated features that were important for intervention of those who are at-risk for reading disabilities. Participants of the study were first-grade English-language learners (ELLs). Since the majority of previous research investigated treatment efficacy for ELLs based on interventions with monolingual English speakers, the authors stated that it was difficult to generalize intervention between English at-risk readers and bilingual at-risk readers. Comparing these two different groups is unsuitable to determine the efficacy of intervention. The researchers supported the need for studies evaluating effective interventions for ELLs with reading difficulties. Due to the insufficient investigations with the ELL population in terms of intervention, the researchers studied interventions designed for monolingual English speakers in order to see how they could meet the needs of ELLs. The goal of the study was to develop two interventions (English and Spanish) for at-risk ELLs who experience reading difficulties. The researchers also evaluated the

language of instruction for literacy and the reading problems that occurred in first grade in order to develop an effective intervention program that would connect the language of instruction with the intervention. Results of the study indicated that Spanish intervention had a significant influence on the at-risk students' performance on the Spanish Test of Phonological Processing (STOPP; Branum-Martin, et al., 2006) for letter naming fluency, phonological awareness, and the Woodcock Language Proficiency Battery – Revised (WLPB-R; Woodcock, 1991) measures of oral language, word attack, passage comprehension and oral reading fluency. The English intervention results revealed a significant influence on the Rapid Letter Naming subtest of the Comprehensive Test of Phonological Processing (CTOPP; Wagner, Torgesen, & Rashotte, 1999), English phonological processing, Letter Sound Identification and word attack, reading comprehension, and dictation subtests of the WLPB-R (Woodcock, 1991). Overall, the study provided information on the effectiveness of both English and Spanish intervention.

Due to the limited research on the predictors of emergent literacy involving bilingual populations, the purpose of this study was to determine variables predictive of emergent literacy skills in both typically developing and language disordered Latino/a preschoolers. The research questions are:

1. To what extent do the degree of acculturation and the home literacy environment contribute significantly to the variance in the emergent literacy skills of typically developing Latino/a preschoolers?
2. To what extent do the degree of acculturation and the home literacy environment contribute significantly to the variance in the emergent literacy skills of language disordered Latino/a preschoolers?

## **CHAPTER II**

### **METHODOLOGY**

#### *Participants*

The participants of this study included twenty-eight bilingual preschoolers who were part of a larger study by Gonzales and Shanmugam (2006) on the emergent literacy skills and the home and school literacy environments of preschoolers. Children and their families attending local Head Start Centers and preschool programs located in western Massachusetts were invited to participate in the study. Of the twenty-eight participants, eighteen were placed into a control group (typically developing) and 10 were placed into an experimental group (language disordered). The participants were of Puerto Rican descent and ranged from monolingual Spanish speakers to bilingual Spanish-English speakers. The dominant language was verified through a questionnaire, and all testing was completed in the dominant language and facilitated with the second language.

**Table 1. Participants' Dominant Language.**

Participants	Sample Size	Dominant Language
	<i>n</i> = 18	Spanish ( <i>n</i> = 0)
Typically Developing		English ( <i>n</i> = 3)
		Span/Eng ( <i>n</i> = 6)
		Eng/Span ( <i>n</i> = 9)
	<i>n</i> = 10	Spanish ( <i>n</i> = 0)
Language Disordered		English ( <i>n</i> = 3)
		Span/Eng ( <i>n</i> = 2)
		Eng/Span ( <i>n</i> = 5)

Table 1 indicates the dominant language of both groups of participants, typically developing and language disordered. Most of the participants were speakers of both Spanish and English with the majority demonstrating greater proficiency in English than Spanish.

Inclusionary criteria for the participants included preschool children between the ages of four years, zero months and four years, 11 months who were Spanish and/or bilingual (Spanish/English speakers) and of Puerto Rican descent. Children placed in the control group were required to pass a hearing and language screening to verify the absence of a language disorder. On the other hand, children placed in the experimental group were required to pass a hearing screening and language assessments were administered to substantiate a language disorder as the children had already qualified for speech therapy services by other certified speech-language pathologists in head start centers or school districts.

### *Procedures*

A speech and language screening was conducted to verify that the control group consisted of typically developing children without language delays/disorders. The Preschool Language Scale – 3 (PLS-3) (Zimmerman, Steiner, & Pond, 1992) was administered and spontaneous language samples were obtained to verify that a language delay/disorder existed to qualify for the experimental group. The PLS-3 was administered in the dominant language and facilitated with the second language. After the absence and/or presence of a language disorder was verified, three measurements used to determine environmental print recognition, letter identification (Ezell, Gonzales, & Randolph, 2000) and comprehension of print concepts (Clay, 1979) were administered.

The Reading Environmental Print (Ezell et al., 2000) task was an expressive task where 20 cards with environmental print were presented to the child. The child was asked to label the print on the card and a point was assigned for each correct response. When all points were assigned, they were totaled to obtain the overall total score. The second task administered was the Letter Identification Task (Ezell et al., 2000). In this task, letters found in the child's name and five additional letters were selected by the examiner. The letters were then arranged and displayed in random order and the child was instructed to identify the letters found in his/her first name. The letters selected were recorded and a point was assigned for each letter that was found in the child's name. The score for this task was obtained by adding the total possible letters and the total letters selected correctly. In order to generate the overall score, the total correct was divided by the total possible letters and multiplied by 100. Finally, the Concepts about Print (Clay, 1979) test was administered which required the child to demonstrate his/her emergent literacy skills

such as: identifying the front book cover, reading left to right, word sequencing, word concepts, and punctuation.

Following the three measurements used to investigate emergent literacy skills, the Pediatric Acculturation Rating Scale (Cuéllar, Montgomery, Gonzales, & Gonzalez, 1997) was administered to determine the acculturation level of the participants through variables such as household income, parent occupation, parent educational levels and parent self identification (refer to Tables 2 and 3).

**Table 2. Acculturation Rating Scale Characteristics of Typically Developing Participants.**

Characteristics	Coding	Number	Percentage
Control Group (Typically Developing) <i>N</i> = 18			
Maternal Generation Level	1 <sup>st</sup> Generation 2 <sup>nd</sup> Generation 3 <sup>rd</sup> Generation 4 <sup>th</sup> Generation 5 <sup>th</sup> Generation	14 4 0 0 0	78% 22% 0% 0% 0%
Paternal Generation Level	1 <sup>st</sup> Generation 2 <sup>nd</sup> Generation 3 <sup>rd</sup> Generation 4 <sup>th</sup> Generation 5 <sup>th</sup> Generation	11 6 1 0 0	61% 33% 5% 0% 0%
Maternal Ethnicity	Puerto Rican Puerto Rican-American Latina; Hispanic; Latin American American	14 2 2 0	78% 11% 11% 0%
Paternal Ethnicity	Puerto Rican Puerto Rican-American Latino; Hispanic; Latin American American Missing Data	12 3 2 0 1	67% 17% 11% 0% 6%
Preferred Language	Spanish Both English	10 5 3	56% 28% 17%
Maternal Education	0-3 years 4-6 years 7-9 years 10-12 years College Graduate School	0 0 2 7 9 0	0% 0% 11% 39% 50% 0%
Paternal Education	0-3 years 4-6 years 7-9 years 10-12 years College Graduate School Missing Data	0 1 2 10 3 0 2	0% 6% 11% 56% 17% 0% 11%
Family Yearly Income	0 – 12,500 12,501 – 25,000 25,001 – 37,500 37,501 – 50,000 50,001 – 62,500 Missing Data	7 5 3 2 1 0	39% 28% 17% 11% 6% 0%

**Table 3. Acculturation Rating Scale Characteristics of Participants Diagnosed with a Language Disorder.**

Characteristics	Coding	Number	Percentage
Experimental Group (Language Disordered) <i>N</i> = 10			
Maternal Generation Level	1 <sup>st</sup> Generation	10	100%
	2 <sup>nd</sup> Generation	0	0%
	3 <sup>rd</sup> Generation	0	0%
	4 <sup>th</sup> Generation	0	0%
	5 <sup>th</sup> Generation	0	0%
Paternal Generation Level	1 <sup>st</sup> Generation	7	70%
	2 <sup>nd</sup> Generation	3	30%
	3 <sup>rd</sup> Generation	0	0%
	4 <sup>th</sup> Generation	0	0%
	5 <sup>th</sup> Generation	0	0%
Maternal Ethnicity	Puerto Rican	8	80%
	Puerto Rican-American	1	10%
	Latina; Hispanic; Latin American	1	10%
	American	0	0%
Paternal Ethnicity	Puerto Rican	5	50%
	Puerto Rican-American	3	30%
	Latino; Hispanic; Latin American	2	20%
	American	0	0%
Preferred Language	Spanish	6	60%
	Both	3	30%
	English	1	10%
Maternal Education	0-3 years	0	0%
	4-6 years	2	20%
	7-9 years	1	10%
	10-12 years	4	40%
	College	3	30%
	Graduate School	0	0%
Paternal Education	0-3 years	0	0%
	4-6 years	2	20%
	7-9 years	2	20%
	10-12 years	5	50%
	College	0	0%
	Graduate School	0	0%
	Missing Data	1	10%
Family Yearly Income	0 – 12,500	4	40%
	12,501 – 25,000	3	30%
	25,001 – 37,500	2	20%
	37,501 – 50,000	0	0%
	50,001 – 62,500	0	0%
	Missing Data	1	10%

Overall results of the acculturation rating scale indicated that 70% of the typically developing participants were from first-generation parents as compared to 85% of the participants diagnosed with a language disorder. Approximately 50% of maternal education level for the typically developing group was college level. As for the maternal education level for the group diagnosed with a language disorder, 40% had completed 10-12 years of education. On the other hand, approximately 50-62% of the parents of both groups indicated having an income above \$12,000. Some of the occupational levels included proprietors of large businesses, homemakers and executives. The majority of typically developing families held an occupational level of semiskilled workers, business owners, and managers; whereas, families of children diagnosed with a language disorder consisted of homemakers and semiprofessionals (refer to Tables 2 and 3).

In addition to the acculturation scale, a home literacy parent questionnaire was administered to identify literacy opportunities in the home environment. Parents were asked about the exposure each child had to reading materials, the number of books the child had in the home, the child's access to books, the frequency of the child reading or looking at books, the child's curiosity about letters, words, or numbers, and the child's ability to read letters, words, or numbers. Responses were issued points and the points were totaled for a composite score. Each session was conducted at the preschool or in the home, depending on the participants' preference (Ezell et al., 2000).

## **CHAPTER III**

### **RESULTS**

The data were entered into a database using the Statistical Package of Social Sciences software version 13.0 (SPSS Inc., 2004). In order to ensure consistency of entries, the author reviewed the variables and scores from the three measurements, the acculturation rating scale (Cuéllar et al., 1997) and the parent questionnaire (Ezell et al., 2000) to compare it to the data entered. If any discrepancies were found between the entries, the thesis chair reviewed the data and decided the correct score. This resulted in 100% agreement of data entry.

The data were analyzed using bi-variate forced entry regression procedures with SPSS version 13.0 (SPSS Inc., 2004) to compare the predictive variables of emergent literacy outcomes of the two preschool groups (typically developing and language disordered). The predictive (independent) variables consisted of the total scores of the Pediatric Acculturation Scale (Cuéllar et al., 1997) and the Parental Home Literacy questionnaire (Ezell et al., 2000). The emergent literacy outcome variables consisted of letter identification (Ezell et al., 2000), recognition of environmental print (Ezell et al., 2000), and Concepts About Print Test (Clay, 1979) scores. Parental level of acculturation and the home literacy environment were the predictive variables analyzed to determine their impact on the variability of the emergent literacy scores of typically developing preschoolers and children diagnosed with language disorders.

### *Descriptive Statistics*

Means and standard deviations for the predictive variables and the three emergent literacy measurements of preschoolers who were typically developing and diagnosed with a language disorder are included in Table 4.

**Table 4. Descriptive Statistics of the Variables and the Participants.**

Variables	Control Group Typically Developing (n=18)				Experimental Group Language Disordered (n=10)			
	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Environmental Print	6.5556	4.25955	1	15	6.4000	5.21110	1	15
Letter Identification	44.1667	30.48481	0	100	18.1000	27.56588	0	75
Concepts About Print	4.7222	2.60781	1	11	3.8000	1.75119	2	7
Acculturation Score	31.6667	8.60403	19	49.50	27.5500	8.41114	18.50	40.50
Parent Questionnaire	27.9444	4.22141	22	35	23.2000	6.40833	15	36

### *Correlation*

The correlation matrix of the predictive variables and the emergent literacy skills of the bilingual preschoolers who are typically developing and diagnosed with a language disorder is presented in Table 5.

**Table 5. Pearson's Correlations Among Variables of Bilingual Typically Developing and Language Disordered Participants.**

	Environmental Print Score	Letter Identification Score	Concepts of Print Score	Acculturation Score	Parent Questionnaire Score
<b>Control Group (Typically Developing) (n=18)</b>					
Environmental Print Score	1.000 ---	-.154 (.542)	.497 (.036)*	.156 (.536)	.021 (.933)
Letter Identification Score		1.000 ---	-.102 (.686)	.563 (.015)**	.783 (.000)**
Concepts of Print Score			1.000 ---	.048 (.850)	.170 (.501)
Acculturation Score				1.000 ---	.596 (.009)**
Parent Questionnaire Score					1.000 ---
<b>Experimental Group (Language Disordered) (n=10)</b>					
Environmental Print Score	1.000 ---	-.023 (.950)	-.209 (.561)	.539 (.108)	.646 (.044)*
Letter Identification Score		1.000 ---	.452 (.190)	.518 (.125)	.069 (.850)
Concepts of Print Score			1.000 ---	.178 (.623)	.143 (.694)
Acculturation Score				1.000 ---	.252 (.482)
Parent Questionnaire Score					1.000 ---

\*  $p < .05$ , two-tailed. \*\*  $p < .01$ , two-tailed

As can be seen in Table 5, of the typically developing bilingual preschoolers, the Parental Home Literacy Environment questionnaire (Ezell et al., 2000) and the Pediatric Acculturation Scale (Cuéllar et al., 1997) were both significantly correlated to letter identification ( $p = .000$  and  $p = .015$  respectively). However, no significant correlation was found between either predictive variable (Parental Home Literacy questionnaire and Pediatric Acculturation Scale) with environmental print ( $p = .933$  and  $p = .536$ ), and Concepts About Print scores ( $p = .501$  and  $p = .850$ ).

The correlation matrix of the language disordered bilingual preschoolers revealed that of the two predictive variables, the Parent Home Literacy questionnaire significantly correlated to environmental print ( $p = .044$ ). However, no significant correlation was found with letter identification, ( $p = .850$  and  $p = .125$ ), and Concepts About Print, ( $p = .694$  and  $p = .623$ ).

### *Regression Analysis*

#### *Predictive Variables of Typically Developing Bilingual Preschoolers*

The regression analyses revealed that when combined, the two predictive variables suggest a statistically significant relationship to letter identification in bilingual typically developing children ( $R = .792$ ;  $p = .001$ ) as they accounted for approximately 63% of the variance in the outcome measure. No significant relationship was found between the Parental Home Literacy questionnaire (Ezell et al., 2000) and Pediatric Acculturation Scale (Cuéllar et al., 1997) with environmental print recognition ( $F = 2.51$ ;  $p = .781$ ) or Concepts About Print ( $F = .257$ ;  $p = .777$ ) as seen in Table 6.

**Table 6. Forced Regression Results of Typically Developing Participants.**

n=18	Multiple R	R <sup>2</sup>	Adj. R <sup>2</sup>	R <sup>2</sup> Change	F	p
Environmental Print	.180	.032	-.097	.032	.251	.781
Letter Identification	.792**	.627	.577	.627	12.610	.001
Concepts About Print	.182	.033	-.096	.033	.257	.777

\*  $p < .05$ , one-tailed. \*\*  $p < .01$ , one-tailed

Of the two predictive variables, *only* the Parental Home Literacy questionnaire score accounted for a statistically significant portion of the scores ( $p = .003$ ) in the letter identification score of typically developing participants. When the predictive variables were analyzed individually, neither accounted for a statistically significant relationship among environmental print and Concept About Print scores.

**Table 7.** Variables in the Equation for Predictors of Outcome Scores of Typically Developing Participants.

Predictors (n=18)	B	SE B	B	t	p
Environmental Print Score					
Acculturation Score	.110	.157	.223	.703	.493
Parent Questionnaire Score	-.112	.319	-.111	-.352	.730
Letter Identification Score					
Acculturation Score	.532	.696	.150	.765	.456
Parent Questionnaire Score	5.005	1.418	.693	3.529	.003*
Concepts About Print Score					
Acculturation Score	-.025	.096	-.082	-.260	.798
Parent Questionnaire Score	.135	.195	.219	.691	.500

*Predictive Variables of Bilingual Language Disordered Preschoolers*

Regression analyses between both predictive variables in bilingual language disordered preschoolers are shown in Table 8.

**Table 8. Forced Regression Results of Language Disordered Participants.**

n=10	Multiple R	R <sup>2</sup>	Adj. R <sup>2</sup>	R <sup>2</sup> Change	F	p
Environmental Print	.754	.569	.446	.569	4.617	.053
Letter Identification	.522	.273	.065	.273	1.312	.328
Concepts About Print	.205	.042	-.232	.042	.153	.861

\*  $p < .05$ , one-tailed. \*\*  $p < .01$ , one-tailed

Of the two predictive variables, neither variable accounted for a statistically significant portion of the scores of the language disordered participants in environmental print ( $F = 4.617$ ;  $p = .053$ ), letter identification ( $F = 1.312$ ;  $p = .328$ ), and Concepts About Print ( $F = .153$ ;  $p = .861$ ). When the predictive variables were analyzed individually, neither predictive variable accounted for enough of the environmental print, letter identification or Concepts About Print score variance to reveal a statistical significance (refer to tables 8 and 9).

**Table 9. Variables in the Equation for Predictors of the Outcome Score of Participants Diagnosed with a Language Disorder.**

Predictors (n=10)	B	SE B	B	T	p
Environmental Print Score					
Acculturation Score	.249	.159	.402	1.567	.161
Parent Questionnaire Score	.443	.209	.545	2.124	.071
Letter Identification Score					
Acculturation Score	1.753	1.092	.535	1.606	.152
Parent Questionnaire Score	-.283	1.433	-.066	-.198	.849
Concepts About Print Score					
Acculturation Score	.032	.080	.152	.397	.703
Parent Questionnaire Score	.029	.104	.104	.273	.793

## **CHAPTER IV**

### **DISCUSSION**

The purpose of this study was to determine the effectiveness of acculturation and the home literacy environment to predict the variance in the emergent literacy skills of typically developing and language disordered Latino/a preschoolers. Correlation analyses suggested that both predictive variables were correlated to letter identification. However, regression analyses indicated that of the two predictive variables, the home literacy environment revealed a statistically significant relationship to letter identification in typically developing Latino/a preschoolers. The findings revealed that exposure to books, time allotted for reading and stories recited in the home, etc. had more of an influence on letter identification rather than the acculturation level among the bilingual typically developing participants. Neither of the predictive variables accounted for a significant portion of the variance among the three emergent literacy scores in language disordered bilingual preschoolers. Even though a positive correlation was found between environmental print and parent questionnaire in this population, the regression analysis did not reveal a significant relationship to environmental print when predictors were combined ( $p = .053$ ) or analyzed separately ( $p = .161$ ;  $p = .071$ ). After a review of previous studies, researchers indicated that phonological awareness (Bialystok, 2002; Manis, Lindsey, & Bailey, 2004; Mann & Foy, 2003) letter knowledge, phonological segmentation and processing, vocabulary, print knowledge and home environment

activities (Bennett et al., 2002; Gottardo, 2002; Hammer, Miccio, & Wagstaff, 2003; Manis et al., 2004; Muter & Diethelm, 2001) are effective predictors of literacy skills in bilingual children. The results of this current study suggest that it was the home literacy environment that accounted for a significant portion of the variance of the emerging literacy skills in letter identification among the typically developing bilingual preschool population. Therefore, the current results would concur with previous findings (Bennett et al., 2002; Bus et al., 1995; Ezell et al., 2000) indicating that the home environment activities play an essential role in literacy acquisition. However, in this study no significant relationships were found between the predictors and the emergent literacy skills of preschoolers diagnosed with a language disorder.

#### *Performance Among the Bilingual Typically Developing Preschoolers*

The results of this study suggest that the impact of parent involvement in the home environment significantly affected letter identification. Previous research demonstrated that for third and fourth grade bilingual speakers, effective predictors were phonemic awareness, letter identification, and word reading when instructed in Spanish (August et al., 2002). Therefore, the researchers indicated that letter identification is a strong predictor when analyzed individually. However, it is important to note that August et al. (2002) investigated second grade to third and fourth grade student performance when instructed in Spanish whereas this current study measured the performance of preschool children only. However, August et al. (2002) suggested that when instruction is focused on one language, letter identification still impacts reading. Furthermore, the authors indicated that word reading was a predictor of reading skills when instructed in Spanish. Due to the positive performance when instructed in the dominant language, it is

important to make a note of the benefit of dominant language instruction in literacy in order to improve acquisition of second language skills. This also may have been a contributing factor to the gained knowledge in English reading performance (August et al., 2002).

Studies (Bennett et al., 2002; Bus et al., 1995; Hammer et al., 2003) indicated that exposure to literacy in the home and parent interaction is important for language and learning. This current study concurred that the home literacy environment was a significant predictor in the typically developing bilingual child's performance on letter identification, and according to some studies (Bishop, 2003; Mann & Foy, 2003; Tabors et al., 2003) letter identification is a contributing factor to literacy acquisition and achievement. This study also concurs with Bus et al. (1995) that parent interaction and home literacy activities, such as book reading and frequency of reading, benefit the beginning reader. Bus et al. indicated that socioeconomic status (SES) was not a significant contributing factor to literacy acquisition. This current study suggested that the acculturation level, which included SES, was not predictive of emergent literacy skills. Socioeconomic status was not analyzed individually because it was one of many variables used to calculate the total acculturation score. In addition, Bus et al. suggests that story comprehension is difficult for individuals with low literacy levels. However, the authors warrant further research. Furthermore, the acculturation rating scale used in the current study took into consideration the education level of the parents and the results indicated that despite the parent's educational level, acculturation was still not a significant predictor. Again it is important to note that the acculturation score consisted of a combination of variables. Therefore, if the paternal and maternal education levels were

singled out, then perhaps the education level itself would have been a significant predictor. Overall, this current study indicated that together, the parent's degree of acculturation, education, occupation and income did not account for the variance in emergent literacy skills of either typically developing or language disordered preschoolers. Rather the parent's involvement in literacy skills is what accounted for more of the variance in the scores in letter identification among typically developing children. Therefore, the child still has the opportunity to gain appropriate emergent literacy skills regardless of SES, parent's education, occupation, or income.

Furthermore, Tabors et al. (2003) indicated that letter-word identification and dictation subtest results were similar in bilingual English- Spanish- pre-kindergarten through second grade. To further support the impact of letter identification, Tabors et al. mentioned that letter identification was one of the contributing factors that indicated a relationship between language and early literacy skills in both languages. Similarly, the current findings revealed that the home literacy environment was an effective predictor for emergent literacy skills in letter identification among typically developing bilingual children. In addition, Bishop (2003) and Lesaux and Siegel (2003) concur letter identification is also a predictor. However their study only supports this among monolingual English speakers.

#### *Performance Among the Bilingual Language Disordered Preschoolers*

Since there is a paucity of research on bilingual children diagnosed with a language disorder, the current study examined the predictors of acculturation and the home literacy environment on environmental print, letter identification and concepts of print scores in children diagnosed with language disorders. However no statistically

significant relationship was found among the predictors and the outcome scores.

Catts (1993) indicated that the participants experiencing speech-language impairments had difficulties in recognizing words and comprehension in reading. It is important to keep in mind that although word recognition might help children with reading and recognizing context, it also helps with understanding the material read. A later study by Catts et al. (2002) revealed that from kindergarten to fourth grade, the children with language impairments were experiencing difficulty with word recognition. Furthermore, Catts et al. also indicated that a significant predictor of literacy acquisition was letter identification.

Gallagher et al. (2000) also indicated that letter knowledge was the strongest predictor for literacy skills in children exhibiting phonological difficulties who were at-risk for dyslexia. But even then, letter knowledge and speech seem to be primary predictors for literacy acquisition. Furthermore, in their study they also considered speech and language outcomes and performance IQ as predictors.

When a deficit appears in articulation and phonology, Raitano et al. (2004) indicated that these deficits, when co-occurring with a language impairment, have a detrimental affect on phonological awareness that will affect literacy achievement. However, Bird et al. (1995) indicated that phonological awareness is not a significant indicator of literacy outcome among children with mild impairments. Instead, their results revealed that problems in phonological *processing* appeared to have an impact on literacy rather than phonological awareness. They also concluded that initial expressive phonology is another factor that impacts literacy. According to the results of both studies, it is important to take into consideration the type and degree of the speech and language

impairment since not all children are diagnosed with the same degree of impairment. When comparing disordered individuals, a child with a mild language impairment may present with expressive deficits that do not significantly impact literacy whereas a severe impairment would significantly impact literacy.

The overall results of this current study may be explained from a language perspective. It is important to reiterate that oral language is the foundation for literacy. A child with a speech-language disorder is likely to have trouble acquiring the skills needed for literacy due to the neurological deficit that interferes with understanding and using language (Bird et al., 1995; Nathan et al., 2004). When children have a language impairment, it is difficult for them to understand the sound/symbol associations, word recognition and the use of words. If a child has difficulty with acquiring the appropriate language skills needed for emergent literacy, then the child will show deficits or delays in literacy acquisition. Although children are influenced by literacy opportunities in the home and learning environment, the neurological deficit seems to override typical language acquisition, which makes the disorder a strong mitigating factor with the literacy acquisition process.

#### *Limitations*

Limitations to the study include the use of the PLS-3 (Zimmerman et al., 1992), which was the only version available at the time of data collection; currently there is a newer edition. A Spanish version of the PLS was available and all attempts were made to administer the test appropriately for the bilingual population by administering the test in the dominant language and facilitating with the second language if needed.

Another limitation included the small sample size, which only consisted of 28

participants. Of the 28, 18 were typically developing and 10 were diagnosed with a language disorder. Increasing the sample size of the population diagnosed with a language disorder might have allowed for more statistical power to unearth a significant relationship between the predictive variables and the emergent literacy outcome scores.

In addition, numerous variables were analyzed collectively to calculate overall home literacy environment and acculturation score. Analyzing individual variables such as SES and paternal and maternal education levels may reveal significant relationships between the individual variables and the emergent literacy skills of preschoolers. The individual analyses of group variables such as parental education, occupation, non-traditional approaches, etc. may have demonstrated and/or supported that certain aspects of acculturation and the home environment contribute significantly to emergent literacy skills.

### *Conclusion*

In conclusion, this study suggests that the home literacy environment is important to the acquisition of emergent literacy skills among typically developing preschool children. Prior to formal schooling, acquiring language and learning occurs in the home and it is important to enrich children's language skills who are both typically developing or diagnosed with a language disorder to allow the opportunity for early learning experiences in order to help with further language acquisition and emergent literacy skills. If the home environment provides opportunities for language acquisition and learning prior to formal education, the opportunity to teach and involve children in many experiences will allow for a more effective academic transition into school. However, it is important to note that further research is needed to examine additional predictors of the

emergent literacy skills of bilingual preschoolers. Since oral language is the foundation of literacy, children diagnosed with a language disorder need additional language stimulation.

## **APPENDIX A**

### **FORMS**

The forms that were used to gather data on each individual participant included the following: Reading Environmental Print, Letter Identification Task, and Tarea De Identificar Las Letras (Ezell et al., 2000); Parent Questionnaire and Cuestionario Para Los Padres (Ezell et al., 2000); Pediatric Acculturation Rating Scale (Cuéllar et al., 1997).

**READING ENVIRONMENTAL PRINT**

Child's ID# \_\_\_\_\_

D.O.B. \_\_\_\_\_

Date \_\_\_\_\_

**Instructions:** Expressive Task: Present each card one-at-a-time and ask the child to tell you what it says.

**Instrucciones:** Presente cada tarjeta una a la vez y preguntele al nene(a) que dice cada una. Presente todas las palabras en la condición contextual.

**Expressive**

1. Barbie \_\_\_\_\_
2. Batman \_\_\_\_\_
3. Coca-Cola \_\_\_\_\_
4. Colgate \_\_\_\_\_
5. Burger King \_\_\_\_\_
6. Kentucky Fried Chicken \_\_\_\_\_
7. Dunkin' Donuts \_\_\_\_\_
8. Rugrats \_\_\_\_\_
9. Super K-Mart \_\_\_\_\_
10. McDonald's \_\_\_\_\_
11. Phone \_\_\_\_\_
12. Pizza Hut \_\_\_\_\_
13. Power Rangers \_\_\_\_\_
14. Railroad \_\_\_\_\_
15. Stop \_\_\_\_\_
16. Teenage Mutant Ninja Turtles \_\_\_\_\_
17. Stop & Shop \_\_\_\_\_
18. U. S. Mail \_\_\_\_\_
19. Wal-Mart \_\_\_\_\_
20. Taco Bell \_\_\_\_\_

**TOTAL CORRECT:** \_\_\_\_\_

**Key:**    **Mark + for correct**

Comments: \_\_\_\_\_

Mark - for incorrect

Mark "NR" for no response

\_\_\_\_\_

### Letter Identification Task

Name: \_\_\_\_\_ Examiner: \_\_\_\_\_ Date: \_\_\_\_\_  
 D.O.B.: \_\_\_\_\_

**Instructions:** Select all of the letters of the child's first name from the bag plus 5 additional letters that do not occur in the child's first name. (Example: Child's name is "Ben"; examiner presents: N, O, T, P, B, Y, E, U). Arrange these letters right-side-up in random order and displayed two rows. You may use either upper or lower case letters. **Record these under item #1.**

Ask the child to point to the letters that are in his/her name. Say the child's first name and say "Show me the letters in your name" or "Which letters spell 'Ben' ?". As the child points to a letter, move that letter closer to the child. Pay attention to whether the child arranges the letters correctly to spell his/her name. **Record the selected letters and any arrangement that the child provides under item #2.**

1. Letters presented to the child include:

First Name

---

2. Letters selected by the child:

First Name

---



---



---

Comments: (Does the child name the letters as he/she selects them? Are letters arranged correctly by child during the task? Does child ask for other letters not present?)

---



---



---

First Name

Total letters selected correctly: \_\_\_\_\_

Total possible letters: \_\_\_\_\_

Letter identification score: \_\_\_\_\_

(Divide total correct by total possible & multiply by 100)

\*\* Note: If the child selects ALL the letters, he/she is showing no selective discrimination. In this case, provide an explanation & score "0".

### TAREA DE IDENTIFICAR LAS LETRAS

Nombre: \_\_\_\_\_

Fecha: \_\_\_\_\_

Instrucciones: Seleccione todas las letras del nombre del nene(a) de la bolsa, más cinco letras adicionales que no sean del nombre (Ejemplo: Si el nombre del nene es "Ben", el examinador presenta: N, O, T, P, B, Y, H, E.). Arregle las letras que se vean sin ningún orden en particular y haga dos filas. Puede usar letras mayúsculas o minúsculas. Escribalas bajo el número 1.

Pídale al nene(a) que apunte con el dedo las letras que están en su nombre. Diga el nombre del nene(a) y digale, "Enseñame las letras en tu nombre" o "¿Cuáles letras deletrean 'Ben'?" Según el nene(a) señale la letra, mueva la letra más cerca del nene(a). Ponga atención si el nene(a) arregla las letras correctamente para deletrear su nombre. Escriba las letras seleccionadas o cualquier arreglo que el nene(a) ha proveído bajo el número 2.

Letters presented to the child include:

First Name

---



---

Letters selected by the child:

First Name

---



---

Comments: (Does the child name the letters as he/she selects them? Are letters arranged correctly by child during the task? Does child ask for other letters not presented?)

---



---



---

First Name

Total letters selected correctly: \_\_\_\_\_  
Total possible letters: \_\_\_\_\_

Letter identification score: \_\_\_\_\_  
(Divide total correct by total  
Possible & multiply by 100)

\*\*Note: If the child selects ALL the letters, he/she is showing no Selective discrimination. In this case, provide an explanation & score "0".

### PARENT QUESTIONNAIRE

*Child's ID Number:* \_\_\_\_\_

*Date:* \_\_\_\_\_

*D. O. B.* \_\_\_\_\_

*Age:* \_\_\_\_\_

Please answer each question as completely as possible.

1. What types of reading materials do you have in your home at this time? (Check all items that apply). Indicate whether the reading materials are in Spanish, English or any other language.

<input type="checkbox"/> newspapers	<input type="checkbox"/> novels	<input type="checkbox"/> children's books
<input type="checkbox"/> magazines	<input type="checkbox"/> "How To" books	<input type="checkbox"/> children's books
<input type="checkbox"/> cookbooks	<input type="checkbox"/> Bible or religious materials	<input type="checkbox"/> with audio cassettes
<input type="checkbox"/> dictionary		

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
----------------------------------	----------------------------------	---------------------------------	--------------------------------

2. About how many children's books do you currently have in your home? (Circle one)

No Books	1 to 10 Books	11 to 20 Books	21 to 30 Books	More than 30 Books
----------	---------------	----------------	----------------	--------------------

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
----------------------------------	----------------------------------	---------------------------------	--------------------------------

3. Does \_\_\_\_\_ like to sit and look at books with you or an older sibling?

<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other

4. How often do you or an older sibling look at books with \_\_\_\_\_? (Circle one)

Rarely	About once a month	About once a week	Several times a week	Everyday
--------	--------------------	-------------------	----------------------	----------

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
----------------------------------	----------------------------------	---------------------------------	--------------------------------

5. Has your child ever asked to look at a particular book again and again?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

If yes, which book is it? \_\_\_\_\_

6. How often does \_\_\_\_\_ look at books on his or her own? (Circle one)

Rarely	About once a month	About once a week	Several times a week	Everyday
--------	-----------------------	----------------------	-------------------------	----------

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
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7. Has your child ever asked about letters, words, or numbers while looking at a book or environmental signs?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
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8. In your opinion, does your child read any letters, numbers, or words?

<input type="checkbox"/> No	If yes, which letters, numbers, or words? _____
<input type="checkbox"/> Not Sure	_____
<input type="checkbox"/> Single Numbers/	_____
<input type="checkbox"/> Letters	_____
<input type="checkbox"/> Words	_____

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
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9. How often does \_\_\_\_\_ scribble or draw? (Circle one)

Rarely	About once a month	About once a week	Several times a week	Everyday
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10. In your opinion, does your child print any letters, numbers, or words?

<input type="checkbox"/> No	If yes, which letters, numbers, or words? _____
<input type="checkbox"/> Not Sure	_____
<input type="checkbox"/> Single Numbers/	_____
<input type="checkbox"/> Letters	_____
<input type="checkbox"/> Words	_____

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
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11. What resources are available to you for borrowing books?

<input type="checkbox"/> Friends	<input type="checkbox"/> Library	<input type="checkbox"/> Preschool
<input type="checkbox"/> Church	<input type="checkbox"/> Book Mobiles	<input type="checkbox"/> Relatives
<input type="checkbox"/> Other		

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
----------------------------------	----------------------------------	---------------------------------	--------------------------------

**12. How often do you borrow books from those sources?**

Never	About once a month	A couple times a month	About once a week	More than once a week
<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other	

**13. How often do you tell stories to your child? (Circle One)**

Rarely	About once a month	About once a week	Several times a week	Every day
<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other	

**14. What types of stories do you tell your child? (Check all items that apply)**

<input type="checkbox"/> Folktales	If yes, name the folktales _____
<input type="checkbox"/> Stories About Past	_____
<input type="checkbox"/> Stories About Recent Events	_____
<input type="checkbox"/> Religious Stories	_____
<input type="checkbox"/> Humorous Anecdotes	_____

<input type="checkbox"/> English	<input type="checkbox"/> Spanish	<input type="checkbox"/> Sp/Eng	<input type="checkbox"/> Other
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**15. How many hours does your child spend a day watching television?**

0	1 hour	2 hours	3 hours	4 or more hours
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**16. How many shows are viewed in Spanish per day?**

0	1	2	3	4
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**17. How many shows are viewed in English per day?**

0	1	2	3	4
---	---	---	---	---

**18. How long has your child attended a preschool program?**


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**19. Please list the names of any favorite books your child owns.** \_\_\_\_\_

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### CUESTIONARIO PARA LOS PADRES

Número ID del niño(a) \_\_\_\_\_ Fecha: \_\_\_\_\_

Fecha de Nacimiento: \_\_\_\_\_ Edad: \_\_\_\_\_

Conteste cada pregunta lo más completamente posible

1. ¿Qué tipo de materiales para leer tiene en su hogar en estos momentos? (Marque todas las respuestas que apliquen) Indique si los materiales para leer son en español, inglés, o cualquier otro idioma.

<input type="checkbox"/> periódicos	<input type="checkbox"/> novelas
<input type="checkbox"/> revistas	<input type="checkbox"/> libros de "Como Hacer"
<input type="checkbox"/> libros para cocinar	<input type="checkbox"/> Biblia o materiales religiosos
<input type="checkbox"/> diccionario	<input type="checkbox"/> libros para niños(as)
<input type="checkbox"/> libros para niños(as) con audio cassette	

inglés       español       español/inglés       otro idioma

2. ¿Aproximadamente cuántos libros para niños(as) tiene en su hogar en este momento? (Circule uno)

Ningún Libro	1 a 10 libros	11 a 20 libros	21 a 30 libros	Más de 30 libros
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inglés       español       español/inglés       otro idioma

3. ¿A su nene(a) \_\_\_\_\_ le gusta sentarse y ver libros con usted o con un hermano(a) mayor?

Sí       No

inglés       español       español/inglés       otro idioma

4. ¿Cuánto tiempo se sienta usted o un hermano(a) mayor a ver libros con \_\_\_\_\_? (Circule uno)

Casi nunca	Aproximadamente una vez al mes	Aproximadamente una vez a la semana	Varias veces a la semana	Todos los días
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inglés       español       español/inglés       otro idioma

5. ¿Há pedido su nene(a) un libro en particular una y otra vez?

Sí       No

Si la contestación fué Sí, ¿cuál es el libro? \_\_\_\_\_

6. ¿Cuánto tiempo se sienta \_\_\_\_\_ a ver libros solo(a)? (Circule uno)

Casi nunca	Aproximadamente una vez al mes	Aproximadamente una vez a la semana	Varias veces a la semana	Todos los días
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inglés       español       español/inglés       otro idioma

7. ¿Há hecho preguntas su nene(a) acerca de letras, palabras, o números cuando está viendo un libro o letreros?

Sí       No  
 inglés       español       español/inglés       otro idioma

8. ¿En su opinión, puede su nene(a) leer algunas letras, números o palabras?

No      \*Si contestó sí, cuáles números, letras o palabras? \_\_\_\_\_  
 No estoy seguro(a) \_\_\_\_\_  
 Algunos(as) números, letras \_\_\_\_\_  
 Palabras \_\_\_\_\_  
 inglés       español       español/inglés       otro idioma

9. ¿Cuánto tiempo usa su nene(a) \_\_\_\_\_ para dibujar o para hacer garabatos? (Circule uno)

Casi nunca      Aproximadamente una vez al mes      Aproximadamente una vez a la semana      Varias veces a la semana      Todos los días

10. ¿En su opinión, puede su nene(a) marcar algunas letras, números o palabras?

No      \*Si contestó sí, cuáles números, letras o palabras? \_\_\_\_\_  
 No estoy seguro(a) \_\_\_\_\_  
 Algunos(as) números, letras \_\_\_\_\_  
 Palabras \_\_\_\_\_  
 inglés       español       español/inglés       otro idioma

11. ¿Qué recursos tiene usted disponible para coger libros prestados? (Marque todo lo que aplique)

Amigos(as)       Biblioteca       Centro de Head Start  
 Iglesia       Biblioteca Móvil       Parientes o Familiares  
 Otros recursos  
 inglés       español       español/inglés       otro idioma

12. ¿Cuántas veces pide usted libros prestado de esos recursos?

Nunca      Aproximadamente una vez al mes      Aproximadamente una vez a la semana      Varias veces a la semana  
 inglés       español       español/inglés       otro idioma

13. ¿Cuántas veces le cuenta cuentos a su nene(a)? (Circule uno)

Casi nunca	Aproximadamente una vez al mes	Aproximadamente una vez a la semana	Varias veces a la semana	Todos los días
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<input type="checkbox"/> inglés	<input type="checkbox"/> español	<input type="checkbox"/> español/inglés	<input type="checkbox"/> otro idioma
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14. ¿Qué tipo de cuentos le cuenta ha su nene(a)?

<input type="checkbox"/> Cuentos tradicionales	*Si contestó sí, cuáles cuentos tradicionales? _____
<input type="checkbox"/> Cuentos del pasado	_____
<input type="checkbox"/> Cuentos de eventos recientes	_____
<input type="checkbox"/> Cuentos religiosos	_____
<input type="checkbox"/> Cuentos chistosos (de humor)	_____

<input type="checkbox"/> inglés	<input type="checkbox"/> español	<input type="checkbox"/> español/inglés	<input type="checkbox"/> otro idioma
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15. ¿Cuántas horas ve su nene(a) la televisión durante el día?

0	1 hora	2 horas	3 horas	4 o más horas
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16. ¿Cuántas películas o programas ve su nene(a) en español al día?

0	1	2	3	4 o más
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17. ¿Cuántas películas o programas ve su nene(a) en inglés al día?

0	1	2	3	4 o más
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18. ¿Cuánto tiempo ha asistido su nene(a) al programa de preescolar?

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19. Por favor, digame los títulos de los libros más favoritos de su nene(a). \_\_\_\_\_

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Name (Nombre) : \_\_\_\_\_  
 D. O. B. \_\_\_\_\_  
 (Fecha de Nacimiento)  
 Examiner (Examinador): \_\_\_\_\_

Age (Edad): \_\_\_\_\_  
 Date of Testing: \_\_\_\_\_  
 (Fecha de examen)

**PEDIATRIC ACCULTURATION RATING SCALE**  
**ESCAMA DE VALUACION DE ACULTURACION PEDIATRICA**

A. Maternal Generation (Generación Maternal)

1. Where were you born (Mother of the child)?  
 ¿Dónde nació usted (Madre del nene(a))?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

2. Where was your father born?  
 ¿Dónde nació su padre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

3. Where was your mother born?  
 ¿Dónde nació su madre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

4. Where was your father's mother born?  
 ¿Dónde nació la mamá de su padre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

5. Where was your father's father born?  
 ¿Dónde nació el papá de su padre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

6. Where was your mother's mother born?  
 ¿Dónde nació la mamá de su madre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

7. Where was your mother's father born?  
 ¿Dónde nació el papá de su madre?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

II. Paternal Generation (Generación Paternal)

8. Where were you born (Father of the child)?  
 ¿Dónde nació usted (Padre del nene(a))?

Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

9. Where was his father born?  
 ¿Dónde nació el padre de él?

Puerto Rico  
 United States (Estados Unidos)

- Other Country (Otro País) \_\_\_\_\_
10. Where was his mother born?  
¿Dónde nació la mamá?
- Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_
11. Where was his father's mother born?  
¿Dónde nació la mamá del padre?
- Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_
12. Where was his father's father born?  
¿Dónde nació el papá del padre?
- Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_
13. Where was his mother's mother born?  
¿Dónde nació la mamá del madre?
- Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_
14. Where was his mother's father born?  
¿Dónde nació el papá de la mama?
- Puerto Rico  
 United States (Estados Unidos)  
 Other Country (Otro País) \_\_\_\_\_

On the basis of the above answers, circle the generation that best applies.

1. 1<sup>st</sup> Generation = subject born in Puerto Rico or other.
2. 2<sup>nd</sup> Generation = subject born in U. S., either parent born in Puerto Rico or other
3. 3<sup>rd</sup> Generation = subject born in U. S., both parents born in U. S.; and all grandparents born in Puerto Rico or other
4. 4<sup>th</sup> Generation = subject and parents born in U. S. and at least one grandparent born in Puerto Rico or other with remainder born in the U. S.
5. 5<sup>th</sup> Generation = subject and parents born in U.S. and all grandparents born in the U.S.  
(Cuellar, Harris, & Jasso, 1980)

1. Maternal Generation (Generación Maternal): \_\_\_\_\_
2. Paternal Generation (Generación Paternal): \_\_\_\_\_
3. Which ethnic identification do you use?  
¿A cuál identificación étnica pertenece usted?
- Puerto Rican (Puerto Riqueño)  
 Puerto Rican-American (Puerto Riqueña-Americana)  
 Latina; Hispanic; Latin American (Latina; Hispana, Hispano-Americana)  
 American (Americana)
4. Which ethnic identification does the child's father use?  
¿A cuál identificación étnica pertenece el padre del nene(a)?
- Puerto Rican (Puerto Riqueño)  
 Puerto Rican-American (Puerto Riqueño-Americano)  
 Latino, Hispanic; Latin American (Latino; Hispano, Hispano-American)  
 American (Americano)
5. Which language do you prefer to use?  
¿Cuál idioma prefiere usar usted?
- Spanish (Español)  
 Both (Ambos)  
 English (Ingles)
6. What is the Mother's educational level?  
¿Qué es el nivel de su educación?
- 0-3 years (años)  
 4-6 years (años)  
 7-9 years (años)

10-12 years (años)  
 College (# of years attended \_\_\_\_\_)  
 Graduate School

7. What is the Father's educational level?

*¿Qué es el nivel de la educación del padre del nene(a)?*

0-3 years (años)  
 4-6 years (años)  
 7-9 years (años)  
 10-12 years (años)  
 College (# of years attended \_\_\_\_\_)  
 Graduate School

8. What is the family's yearly income? {*¿Qué es el salario anual de la familia?*} \$ \_\_\_\_\_

9. What is the mother's occupation? {*¿Qué es la ocupación de la madre?*} \_\_\_\_\_

10. What is the father's occupation? {*¿Qué es la ocupación del padre del nene(a)?*} \_\_\_\_\_

**DO NOT ASK PARENTS THE FOLLOWING QUESTIONS. RESPONSES WILL BE OBTAINED FROM PREVIOUS INFORMATION ASKED EARLIER!**

11. Dominant language of the child at the time of testing.

1 = Spanish  
 2.5 = Spanish, English used as a facilitator  
 3.5 = English, Spanish used as a facilitator  
 5 = English Only

12. Language used with the child at home.

1 = Spanish  
 2 = Both  
 3 = English

13. Language the parent thinks the child comprehends the best.

1 = Spanish  
 2 = Both  
 3 = English

14. Language child spoke first..

1 = Spanish  
 2 = Both  
 3 = English

15. Language spoken by extended family members most frequently.

1 = Spanish  
 2 = Both  
 3 = English

Total Score: \_\_\_\_\_

Total score is the sum of all 15 multiple-choice items circled.

Average Score: \_\_\_\_\_

Average score is the total score divided by 15.

Scoring: The higher scores reflect individuals who may be more acculturated than those with lower scores.

\*\*This informal measure was adapted from Dr. Cuellar's ARSMA.

\*\*\*This scale was developed by Dr. Israel Cuellar, Consultant in collaboration with Dr. Gary Montgomery, Dr. Diana Gonzales, and Cindy Gonzalez.

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## **VITA**

Cecilia Angel Palacios was born in Austin, Texas, on July 12, 1982. She is the daughter of Jose and Rosa Palacios. In 2000, she completed her work at Anderson High School, Austin, Texas, and began her undergraduate program at Texas State University-San Marcos. During her undergraduate studies, she was the Vice President of the Texas State Chapter of the National Student Speech Language Hearing Association (NSSLHA) and was a member of the national student organization NSSLHA, and the Texas Speech Language Hearing Association (TSHA). She co-authored a research poster presentation which was presented at the College of Health Profession's Faculty/Student Research Forum and was a member of the Bilingual/Multicultural Interest Group and Service to Mankind (SERTOMA). In the spring of 2005, she graduated from Texas State with a Bachelor of Science in Communication Disorders. Thereafter, she pursued a Master of Arts degree at Texas State in Communication Disorders with an emphasis in bilingual/multicultural studies. During this time she presented her thesis at the University of Texas' 2007 Research Symposium on Language Diversity, was the first recipient of the María Juarez Scholarship presented by TOMMAS, received recognition as the College of Health Profession's Outstanding Graduate Student of 2007, and was selected as the student commencement speaker.

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