INDIVIDUAL DIFFERENCES AND SECOND LANGUAGE ACQUISITION AMONG LOW-INCOME PRESCHOOLERS

by

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A Thesis
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Master of Arts
Psychology

Committee:

Director

Department Chairperson

Dean, College of Humanities and Social Sciences

Date: 11/28/07

Fall Semester 2007
George Mason University
Fairfax, VA

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ACKNOWLEDGEMENTS

I would like to thank my friend and colleague Dr. Henry Tran, who provided invaluable assistance and support throughout the research and writing process.

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ABSTRACT

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Second language acquisition has become a highly relevant, hotly debated topic in the United States. Of particular importance to early childhood researchers is how to most effectively educate young English language learners. Thus, a goal is to develop an understanding of the young language learner's school-related strengths and weaknesses. Existing literature has demonstrated associations between motivation, creativity, problem solving, language aptitude and bilingualism; however, the role of social-emotional skills in second language acquisition, particularly in young children, has been understudied. The study was an exploration of (1) an analysis of demographics and the role individual differences in cognitive/language skills and social-emotional skills play in English language acquisition and (2) the effects of first language proficiency on social-emotional development. Using a sample (n = 1,501) of diverse low-income preschoolers participating in the Miami School Readiness project, the present study aimed to illuminate the cognitive/language and social-emotional factors associated with successful second language acquisition during early childhood. Children were assessed in the areas

of social-emotional skills and cognitive/language skills at the beginning of their preschool year and then social-emotional skills were assessed again at the end of the year. Finally, English proficiency was assessed a year later at the beginning of their kindergarten year. Multivariate analyses of variance were utilized to explicate the role of individual differences in social-emotional and cognitive/language skills among monolingual English, monolingual Spanish, and bilingual preschoolers. Findings demonstrated that Spanish-speaking preschoolers with higher levels of social-emotional and cognitive/language skills were more successful in obtaining English proficiency by kindergarten. Results indicated that demographic differences, cognitive and language skills, and social-emotional skills are all significantly related to success in second language acquisition. Further, after controlling for the effects of cognitive and language abilities and demographic differences, social-emotional skills maintained a significant association with the attainment of English-language proficiency. First language proficiency did not predict children's gains in social-emotional development. Findings suggest that social-emotional skills are a valuable resource for English language learners, specifically in this population of low-income, minority preschoolers.

Introduction

Bilingualism is an ubiquitous phenomenon. Worldwide, more people speak a second language than do not (Hamers & Blanc, 2000). Further, the number of bilinguals in the United States is increasing. 2000 US Census data report a 47% increase in people who reported they "spoke a language other than English at home" (from 32 million to 47 million; Shin & Bruno, 2003); further, most people who reportedly spoke a language other than English at home claimed to speak English "very well" (55%) or "well" (22%) (Shin & Bruno, 2003). Relatedly, the number of English language learners (ELL) has been increasing progressively in recent years; ELL enrollment more than doubled between 1990 and 2004 (National Clearinghouse for English Language Acquisition, 2006). Within the past several decades, the rise of Spanish/English bilinguals in particular promises to yield crucial implications for policy in hotly debated areas such as immigration and education. The view that bilingualism is merely a transitional phase for immigrants to "pass through" (i.e., Homel, Palij, & Aaronson, 1987) has been largely superseded; researchers today promote the advantages associated with fluency in and maintenance of two languages, given the appropriate context (see Bialystok, 2001; Collier, 1995; Diaz & Klinger, 1991; Hamers & Blanc, 2000). The work of the psychologist or linguist is no longer to convince fellow cognitive scientists of the benefits

of bilingualism; rather, the new goal is to effect educational policy change and maximize bilingualism and second language learning (i.e. Lambert, 1987).

Bilingualism itself is a complex, generous term that proves simple neither to define nor study. A number of considerations must be taken when discussing bilingualism. What role does the bilingual's first/second language have in the community? How old is the bilingual? Is the bilingual "balanced," equally proficient in both languages, or is one language dominant over the other? An individual's knowledge of a second language, from rudimentary vocabulary skills to native-like fluency, cannot be viewed as the acquisition of an entirely distinct, novel language system (Ellis, 2005). The individual learning a second sequential language has already established some structures in one system; thus, the addition and integration of a second communication system into one's mental repertoire is much more complex a task than the initial acquisition of the first language. The language-learning slate is no longer blank; rather, a number of variables color the individual's unique learning process, contributing to a striking range of ability in second language fluency.

Because of this variance of ultimate proficiency observed in adults, bilingualism and second language acquisition prove interesting and quite distinctive from first language acquisition. While the vast majority of adults attain advanced proficiency in their first language, the second language capabilities of adults prove much more varied (Dörnyei, 2005; Ellis, 2005; Sebastián-Galles & Bosch, 2005). Perhaps a handful achieve native-like competence. This variance is due to an interaction of a number of

factors, some of which include age of acquisition, language skill, culture, motivation, and gender.

Individual differences in second language acquisition and bilingualism

To what extent do individual differences such as personality or ability play in second language acquisition? According to Dörnyei (2005), individual differences in adults are "the most consistent predictor of (second language) success; no other phenomena investigated have come even close" (p. 2). Some variables that have been consistently named as factors influencing second language acquisition include language aptitude, gender, motivation, creativity, and age of acquisition. Specifically, students exhibiting the lowest levels of foreign language achievement are most often low academic achieving males possessing high levels of foreign language anxiety and valuing cooperative learning (Onwuegbuzie, Bailey, & Dailey, 2000).

Language aptitude

It has been suggested that an individual's native language ability is related to successful second language acquisition. Skehan (1986) related first language early childhood experience and subsequent vocabulary and comprehension skills to second language aptitude. First and second language acquisition, although yielding much more varied results, are guided by similar principles (McLaughlin, 1987). The rate of second language acquisition is related to the individual's proficiency level in his or her first language; the two languages appear to share and build on a common base as skills transfer (Collier, 1995; Cummins, 1984). A significant portion of the variance in second language ability may be explained by first language ability; in particular, individuals with

native language problems and disabilities are especially troubled in learning a second language (Sparks & Ganschow, 1991).

Gender

Several lines of research suggest that significant gender differences in second language acquisition may exist. One study focusing on gender differences in learning demonstrated that females utilize more conscious strategies than males, including areas of metacognition, planning, and evaluation (Oxford, 1993). Further, females may possess better listening skills than do males (Larsen-Freeman & Long, 1991). It has been proposed that females are anatomically equipped to excel in languages. Females may have an overall advantage in language-learning skills, due to a more global representation of language centers in the brain (Kimura, 1987).

Motivation, Attitude, and Anxiety

Motivation is a considerable aspect of language acquisition; factoring out aptitude, students who are adequately motivated to learn a second language will be more successful in becoming bilingual than those who are not motivated (i.e. Dörnyei, 2005; Gardner, 1985). Such motivation to learn is comprised of several factors. Firstly, the opinion that second language learners have of the target language influences their ability to learn (Gardner & Lambert, 1959). A language learner who holds the target language in high regard will be more enthusiastic about learning the second language. Another aspect of motivation is self-confidence in language-learning ability, which is a function of quality and occurrence of contact with members of the second-language community (Clément, 1980). Also of note, Fox et al. demonstrated a strong correlation between self-

efficacy in the first language and success in second language acquisition and academic success (Fox, Kitsantas, & Flowers, 2007). Further, an individual's level of anxiety regarding the learning of a foreign language is related to ability; anxiety may serve to facilitate or debilitate the learning process, depending on type and quantity of anxiety (Horwitz, Horwitz, & Cope, 1986; Krashen, 1981; Scovel, 1978).

In a similar vein, it has been suggested that social skills, such as extroversion and confidence, are related to second language ability. An individual's willingness to communicate, or personality-based inclination toward communication, has been linked to second language acquisition (MacIntyre, Clément, Dörnyei, & Noels, 1998). Willingness to communicate in a second language is determined by previous experience, anxiety, self-confidence, and outgoingness (MacIntyre & Charos, 1996; McCroskey & Richmond, 1987). Highly anxious, reserved individuals who have had past negative experiences communicating and are consequently insecure of their abilities will be less willing to communicate; thus, the quality of verbal interactions and learning opportunities is diminished (MacIntyre et al., 1998).

Creativity

Divergent thinking, or thinking which "goes off in different directions" (Guilford, 1959, p. 381), is characterized by fluency and flexibility (Landry, 1973). Individuals working with two languages often must develop more flexibility in their thinking (Peal & Lambert, 1962). Learning a second language requires a certain level of ability to flexibly embrace novelty and expand one's horizons. Being required to switch from one language to another may lead to greater flexibility in thinking and seeking out of alternatives.

Greater flexibility and resourcefulness, in turn, facilitates language ability. Thus, creative, divergent thinking has been described as a contributor to successful second language acquisition (Albert & Kormos, 2004; Landry, 1973; Ottó, 1998). In learning a new language, students are required to use their imaginations, seek alternatives, and produce original ideas.

Age of acquisition

It was once widely accepted that children fare better than adults in acquiring a second language (i.e. DeKeyser, 2000; Johnson & Newport, 1989; Lenneberg, 1967). While the population at large may continue to hold this belief today, the reality is that age of acquisition is a much less reliable predictor of second language success. The basic language skills necessary to operate in the child's simple everyday context, as well as the more supportive learning environment offered by school, create an appearance of advanced competency in children when compared to older learners. Adults must learn to communicate with other adults on a higher level, often without the assistance of a supportive communicative context (McLaughlin, 1992). Yet most of the studies exploring individual differences in second language acquisition have focused specifically on adolescents or adults who have passed the hypothesized "critical period" for language acquisition (see Dörnyei, 2005); minimal research has explored individual differences among young children as related to second language acquisition. However, given the unique nature of the young child's learning context, children should be ideal candidates for studying individual differences in second language acquisition. Moreover, the robust role that individual differences such as attitude and motivation play in second language

acquisition during early childhood, as opposed to later in life, is an area ripe for exploration.

While some questions remain unanswered regarding the subtleties of personality, mood, and social-emotional skills, it can be said that, overall, individual differences do influence a language learner's ability to become bilingual. At the same time, however, the converse is probably true; it is likely that bilingualism plays a formative role in a child's overall development. The specific effects of this bidirectional relationship may be difficult to tease apart. For example, Peal and Lambert (1962), pioneers in the field of second language acquisition and bilingualism, asserted that it was difficult to ascertain whether the benefits associated with second language acquisition occurred because "the more intelligent child became bilingual or whether bilingualism aided his intellectual development" (p. 20). Thus, a study of individual differences and second language acquisition must also explore the function that language learning plays in social-emotional and cognitive development.

How does bilingualism influence a child's development?

Historically, the earliest literature in bilingualism and second language acquisition claimed that a child's knowledge of two languages was detrimental to development (see Baker, 2006; Hakuta, 1986). Initially, the pervasive attitude was antagonistic. Researchers in the field contended that, in learning a second language, children had to forfeit cognitive resources that would otherwise be used toward advancement of other developmental skills and tasks (i.e. Jensen, 1962; Macnamara, 1966). These early reports were often fueled by politics, promoting findings that called for a reduction of

immigration (Baker, 2006; Hakuta, 1986). Further, such studies were methodologically unsound, utilizing poorly constructed subject groupings and failing to measure actual bilingualism (Peal & Lambert, 1962).

While there are certainly some stressors and challenges for young language minorities who are in the process of becoming bilingual, the findings from such early studies have been mostly refuted. Rather than debilitating cognitive deficits, speakers of a second language often must contend with issues of poverty, discrimination and difficulties of psychosocial and cultural integration (Brown, 1994; Larson & Smalley, 1972; Stengal, 1939). However, when part of an environment that values both the first and second language, bilinguals typically assimilate well with both cultures (Aellen & Lambert, 1969; Lambert & Tucker, 1972).

Thus, as the integrity and design of research studies in bilingualism have improved, knowledge of two languages is no longer viewed as a developmental hindrance. The current literature contends that the bilingual experience is advantageous. Beginning with Peal and Lambert's watershed study of Canadian French/English speaking bilinguals (1962), contemporary research has moved through a phase of stark ambivalence to now embrace bilingualism as a developmental asset. Peal and Lambert sought to refute the extant literature by demonstrating a lack of monolingual advantage on measures of nonverbal intelligence. Unlike some of the previous related studies, they were meticulous in subject selection, controlling for group differences in socioeconomic status and actual degree of bilinguality. In using a variety of tests to measure different aspects of intelligence, they captured a more comprehensive view of intelligence and

cognition. They noted a bilingual advantage in mental reorganization and flexibility; further, they found bilinguals to possess an overall "language asset," rather than a "language handicap."

The findings of Peal and Lambert gained political attention, ultimately helping to justify the establishment of bilingual education programs beginning in the 1960s (Homel et al., 1987). Researchers recognized the methodological flaws inherent in the early research, and a sea change occurred regarding the perceived relationship between bilingualism and cognition. Subsequent researchers have documented a number of cognitive advantages, including greater skills in metalinguistic awareness, nonverbal intelligence, perception, inhibition, and academic and social problem solving.

Metalinguistic Awareness and Cognition

It has been posited that a child's knowledge of two languages promotes information processing skills, ultimately contributing to increased metalinguistic awareness (i.e. Hamers & Blanc, 2000; Lambert, 1987; Mohanty & Perregaux, 1997; Segalowitz, 1977; Tunmer & Myhill, 1984). Metalinguistic awareness, a predictor of reading achievement, involves the ability to focus on and analyze language as an object (Hamers & Blanc, 2000). The bilingual child has two different language systems represented in the brain. Having access to two languages results in a more complex, robust set of mental tools for the child to utilize (Segalowitz, 1977). Accordingly, the bilingual child develops skills of reflection that generalize to metacognitive processes, potentially enabling a heightened sense of control over cognitive function (Mohanty & Perregaux, 1997). The two distinct systems make language structural patterns more

noticeable. Further, the child pays more attention to systematic features of language. Ultimately, the bilingual child is able to achieve higher levels of reading acquisition and academic achievement (Tunmer & Myhill, 1984). Relatedly, early bilingual advantages have also been noted in the area of phonological awareness, including onset-rime segmentation and word recognition (Bruck & Genesee, 1995; Yelland, Pollard, & Mercuri, 1993).

Flexibility

Bialystok (2001), among others, asserts that bilingualism is related to increased mental flexibility in children. While monolingual children are more rigid in their acceptance of familiar meanings of words, bilinguals are more willing to accept the meaning of a word as a matter of agreement rather than a hard truth. In a study examining the effects of bilingualism on creativity and problem-solving, Kessler and Quinn (1980) instructed the participants to formulate as many hypotheses as possible to solve a given problem. The bilingual children gave more structurally complex, qualitatively sophisticated answers than their monolingual counterparts. These findings confirmed the hypothesis that bilingual children attune to more relevant aspects of a problem and incorporate different perspectives to the solution. They are more likely to activate and exhibit divergent thinking skills, exhibiting enhanced flexibility and creativity.

Inhibition and Perception

A further benefit of bilingualism that has been documented in the literature is related to attention and the consequences of having two distinct language representations

in the brain. It has been posited that such bilingual children demonstrate advantages in perception and inhibition. Kroll and De Groot (1997) contend that this is due to extensive practice with selective attention and inhibition of irrelevant stimuli. The bilingual must engage in near-constant inhibition of the non-relevant (and possibly dominant) language, attending to and conversing in only the appropriate language for any given moment. Consequently, the bilingual child exercises both motor inhibition of the response and cognitive inhibition of attention (Bialystok, 2001; Bialystok & Martin, 2004). Such exercise in language inhibition subsequently permeates other domains. The findings of Bialystok and Codd (1997) demonstrate an advantage in such perceptive and inhibitory skills. Using the Towers Task, in which a child must make a decision about perceptually misleading information, the authors found that monolinguals were unable to ignore the misleading information, while bilinguals were more able to focus on meaning and to consider only the relevant information (Bialystok & Codd, 1997).

Problem Solving

Knowledge of a second language is also purportedly related to advantages in problem solving abilities. Bilinguals are more oriented toward meaningful stimuli and better able to conceive of words as arbitrary symbols (Ianco-Worrall, 1972). Thus, as Ben-Zeev (1977) found, bilinguals demonstrate superior ability in symbol substitution and verbal transformation. Further, bilinguals have exhibited more advanced processing of verbal material (Cummins & Gulutsan, 1974), more discriminating perceptual distinctions, an increased propensity to search for structure in perceptual situations, an elevated capacity to reorganize perceptions in response to feedback, and, finally, more

flexible thinking patterns (Diaz & Klinger, 1991). Advantages tied to such flexible thinking patterns were demonstrated in a study by Ricciardelli (1992), who noted significant advantages among balanced bilinguals on tests of cognitive flexibility and creativity. Likewise, Bialystok and Majumder (1998) found that bilingual children scored significantly higher than their monolingual counterparts in solving tests related to attentional control. These findings confirm the hypothesis that bilingual awareness of the systematic basis of language structure will generalize to an increased ability to analyze nonverbal structures. Ben-Zeev concludes that bilinguals exhibit a "readiness to impute structure and readiness to reorganize their perceptions; thinking patterns of bilinguals seek out rules and determine what is required by circumstances" (pg. 1017). Overall, Ben Zeev characterizes bilinguals as more adept at interpreting appropriate rules for behavior as determined by circumstances.

Social-Emotional Skills

The literature provides numerous instances of some manner of bilingual advantage. Yet considerably less is known about social-emotional skills and second language acquisition. Of significant importance to the bilingual is the sociocultural environment (i.e. Lambert, 1987). The attitudes second language learners hold toward the new language and community, and, conversely, how they are viewed within the family and community, is highly related to motivation and second language ability (Gardner, 1985). Yet what can be said of the relationship between an individual's social-emotional skills and second language acquisition? The need to explore social-emotional domains as related to bilingualism on an individual level might be mentioned in a "future

directions" section, or noted in previous literature as an interesting but irrelevant finding, but individual social-emotional skills have rarely been investigated as primary variables (see Hakuta & Garcia, 1989).

This dearth of research is unfortunate, as strong social-emotional skills have universal importance for children. Children from impoverished backgrounds in particular may benefit from such social-emotional skills (Coolahan, Fantuzzo, Mendez, & McDermott, 2000; Lewit & Baker, 1995; Raver, 2002). Solid social-emotional skills promote competent interactions with classmates, teachers, and other adults, potentially contributing positively to the ultimate success of the individual. That second language acquisition may be related to social-emotional skills has not only intrinsic value but has considerable implications for a child's cognitive development and academic performance. Recent literature has demonstrated the value of social-emotional skills for school readiness (Denham, 2006; Raver, 2002).

Given what is known regarding the advantages related to bilingualism and second language learning, a relationship between social-emotional skills and second language acquisition is anticipated. As stated, the mutual interference between the bilingual's two languages forces the child to develop coping strategies for successful communication in everyday living. Such strategies are posited to accelerate and enhance the child's development (Ben-Zeev, 1977). Further, Vygotsky has said that bilingualism "frees the mind from the prison of concrete language and phenomena" (Vygotsky, 1962). Rather than employing a rigid, one-dimensional point-of-view, bilinguals more readily view their own language as just one particular system among many, allowing for a more

holistic outlook. Bilingual children learn earlier on that their own way of thinking and relating is not exclusive. Thus, the consequent advantages associated with bilingualism, including flexibility, an enhanced ability to conceptualize rules and to inhibit attention, and superior perspective-taking, should relate not solely to learning and cognition, but also to a bilingual child's social-emotional skills.

That successful English language acquisition might be related to social-emotional strengths in early childhood is an area that has received minimal study. A dissertation published by Stephens in 1997 examined a piece of this question. A sample of Hispanic children were administered the Torrance Test of Creative Thinking (TTCT; Torrance, 1974), a measure of verbal and figural creative thinking, and the Preschool Interpersonal Problem Solving Scale (PIPS; Shure, 1974), an open-ended assessment in which the child is instructed to provide alternate solutions to real-life problems. Comparisons were drawn between the students classified as monolingual and those considered bilingual. Results suggested that Hispanic bilingual preschoolers performed better than their monolingual counterparts in the area of social problem-solving.

As discussed, the bilingual experience typically has a positive impact on development. But because not all language learners achieve competency in their second language, the known developmental benefits associated with bilingualism prompt the study of factors associated with successful acquisition of a second language. Specifically, how are school-relevant cognitive and social-emotional factors related to second language acquisition? What individual skills facilitate language learning?

Conversely, to address the bidirectional piece, this study explored whether a child's first language proficiency predicts social-emotional development over time.

The present study

The present study investigated both how individual differences in demographics, cognitive/language skills, and social-emotional skills contribute to one's ability to achieve proficiency in a second language, and how one's degree of first language proficiency predicts development in social-emotional skills during the preschool year. Although bilingualism is the ideal goal, not all English Language Learners are able to fully master both languages and do well in school at the same time. This may be especially difficult for children in poverty. Thus, it is of great consequence to study factors associated with successful second language acquisition during early childhood, specifically in a sample of low-income children residing in a community supportive of two languages, such as Miami-Dade County, Florida. The present study used data from the Miami School Readiness Project (Winsler et al., 2007), a large-scale school readiness assessment and intervention program that monitors the progress of nearly the entire population of diverse, low-income four year old children receiving subsidies to attend childcare or public school pre-kindergarten programs through the first several years of elementary school. The school district of Miami-Dade County, which serves approximately 80,000 children, is a model area in which to study bilingualism in young children, given the marked ethnic and economic diversity and the community support for both Spanish and English languages. Because of the large, diverse sample, and because many of the children are Spanish-speaking, there was sufficient variance to conduct this

type of exploration. Social-emotional and cognitive/language assessments were administered by teachers and trained professionals to participants at the beginning of their preschool year (Time 1). Social-emotional skills were assessed again at the end of the pre-k year. One year later, at the beginning of kindergarten year, children were assessed on English language proficiency (Time 2). Three groups resulted a) a control group of children who were predominantly monolingual English, b) Spanish-dominant children who became quite proficient in English, and c) Spanish-dominant children who remained predominantly monolingual in Spanish

Research Questions

1. What individual difference factors at Time 1 distinguished the low-income, Spanish-speaking preschoolers who demonstrate strong English language skills one year later from the students who remained predominantly monolingual in Spanish at Time 2?
    a. *Demographic differences.* On what demographic dimensions are Spanish-speaking students who become functionally bilingual one year later (those demonstrating relative proficiency in English at Time 2 – "emergent bilinguals") different from Spanish-speaking students who remain predominantly monolingual (those demonstrating limited English proficiency at Time 2)?
    b. *Cognitive and Language Skills.* Do individual differences in cognitive and language skills play a role in low-income, Spanish-speaking preschoolers' ability to acquire English? Are there differences at age four in the areas of

cognition and language between Spanish-speaking students who become functionally bilingual (emergent bilinguals) and Spanish-speaking students who remain predominantly monolingual? And what role does gender play? Does gender interact with cognitive and language skills in predicting later English proficiency?

c. *Social-emotional differences.* Are there differences at age four in the levels of demonstrated initiative, closeness with adults, self-control, and behavior problems between Spanish-speaking preschoolers who become functionally bilingual (emergent bilinguals) and Spanish-speaking preschoolers who remain predominantly monolingual? And what role does gender play? Does gender interact with social-emotional skills in predicting later English proficiency?

2. Controlling for cognitive/language skills, gender, and other demographic factors, do social-emotional skills continue to uniquely predict English language acquisition among low-income, Spanish-speaking preschoolers, distinguishing the emergent bilinguals from the Spanish-speaking children who do not demonstrate proficiency in English?

    a. Do the English language acquisition benefits associated with social-emotional skills remain after cognitive/language skills and gender are accounted for?

    b. Do the English language acquisition benefits associated with social-emotional skills remain after demographic differences are accounted for?

3. Taking all possible predictors—demographical information, language skills, cognitive skills, and social-emotional skills—into consideration, what individual difference factors at Time 1 appear to be the most significantly predictive of English language proficiency at Time 2?
4. What effect does first language proficiency at Time 1 appear to have on social-emotional development over time during the child's four-year-old year in low-income, Spanish-speaking preschoolers? Do language skills at the beginning of the preschool year predict gains in social-emotional skills of low-income children during their preschool year? Does this relationship appear to be moderated by the child's dominant language (English versus Spanish)?

Method

Participants

Child participants for the current study consisted of 1,501 (50.6% male) preschoolers (*M* age = 55 months at pre-test) in Miami-Dade County, Florida, who received subsidies to attend community-based childcare in their pre-kindergarten year. These children represent a sub-sample of a larger sample of children who participated in the Miami School Readiness Project (Winsler et al., 2007). Children selected for this study were from low-income homes (*M* yearly household income = $16,287), attending subsidized, community-based childcare programs.

The diversity of the greater community is reflected in this study's sample (50.6% Hispanic/Latino, 46.2% African American/Black/Caribbean, and 3.2% White). The majority of students in Miami-Dade County are Hispanic/Latino; thus, for many children,

English is not the first language. Many students enter school exhibiting either some degree of bilinguality and/or a need to acquire English skills.

Measures

Social-Emotional Skills. The Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) was completed by teachers at the beginning of the preschool year (September – October) to appraise the child's social-emotional skills and behavior concerns at age four. Forms were available in both English and Spanish, according to the rater's discretion (65.2% were completed in English; 34.8% in Spanish). Teachers reported on the frequency of the child's behaviors on four sub-scales: initiative, self-control, attachment/adult closeness, and behavioral concerns.

On the DECA, a 5-point likert-scale (0 = Never, 1 = Rarely, 2 = Occasionally, 3 = Frequently, and 4 = Very Frequently) is used to indicate how often within the past four weeks the child has exhibited the illustrated behavior. The initiative subscale includes such items as "chooses to do a task that was challenging for her/him" and "starts or organizes play with other children." Example items from the self-control subscale include "listens to or respects others," "controls her/his anger," and "handles frustration well." The attachment/adult closeness subscale includes such items as "responds positively to adult comforting when upset" and "acts happy or excited when parent/guardian returned." The composite of these three subscales is deemed the overall social-emotional total protective factors score. Higher numbers indicate greater social-emotional strengths. On the other hand, a lower number is desirable for the behavior

concern scale, which includes items such as "fights with other children" and "has temper tantrums."

The authors of the DECA reported the instrument to have internal consistency reliability alphas of .94 for total protective factors and .80 for behavior concerns. Test-retest reliabilities were .94 for total protective factors and .68 for behavior concerns (LeBuffe & Naglieri, 1999). Moreover, the authors contend that the DECA has criterion validity, as it has successfully differentiated children with known emotional and behavioral problems from typically developing children (LeBuffe & Naglieri, 1999). Internal consistency reliability for this sample was .94 for total protective factors and .81 for behavior concerns. Language of form (Spanish or English) did not affect reliabilities (Crane, Mincic, & Winsler, 2007).

Cognitive, and Language Skills. The Learning Accomplishment Profile-Diagnostic (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992) was used to provide information on the child's cognitive and language skills. The LAP-D was administered to children at the beginning of the child's preschool year (PRE: September-October). The LAP-D was selected by the Miami-Dade County multi-agency, early childhood assessment task force for a number of reasons, including bilingual availability, good content validity and construct validity (correlations ranging from .40 to .87 between the LAP-D and the Battelle Developmental Inventory (DBI; Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984), Developmental Indicators for the Assessment of Learning – Revised (DIAL-R; Mardell-Czudnowski, & Goldenberg, 1983), and the Wechsler Preschool and Primary Scale of Intelligence – Revised (WPPSI-R; Wechsler, 1989) and

correspondence with the State Early Learning Performance Standards (Florida Partnership for School Readiness, 2003, as reported in Winsler et al., 2007).

LAP-Ds were given by 82 educated assessors (MA-level social workers or educational and school psychologists, bilingual in English and Spanish) who had received comprehensive training on the instrument from the instrument's publisher and the local collaborating university. The one hour-long assessment, timed so as not to interfere with the child's lunch or naptime, was administered in a room separated from the child's classroom. As the instrument is available in both English and Spanish forms, the assessor conferred with both the child's teacher and, if necessary, the child, to determine in which language to conduct the assessment. Assessors followed a random order, using palm-pilots to up-synch scores to the master database.

The LAP-D produces scale scores in four domains, each with two sub-scale scores: cognitive (matching and counting), language (comprehension and naming), fine motor (writing and manipulation), and gross motor (body and object movement). The motor domains were not included in the present study. After establishing a basal, the child is administered progressively more difficult tasks. Ceiling is reached after failure to complete three out of five tasks. For this sample, good internal consistency reliabilities were reported (alphas of .76 to .92; Winsler et al., 2007.

Language Proficiency Groupings. Three groups were constructed based on the child's proficiency in English and/or Spanish at two distinct time points. The focus of this study was on differences between two Spanish-speaking groups of children: those who became proficient in English, and those who still qualified at the beginner or

intermediate level in English language skills in kindergarten. A third group, dominant monolingual English, was used as a control group. Group membership for this study was determined by:

- The child's primary language at the beginning of the four-year-old preschool year, as determined by the language in which the child was administered the cognitive test, LAP-D, at the beginning of his/her preschool year (either Spanish or English); and
- The child's ESOL level one year later, in kindergarten. In accordance with Florida state policy, incoming elementary students from non-English speaking backgrounds are administered an assessment of English language skills. Based on performance on the ESOL (English to Speakers of Other Languages), qualifying students are instructed in English language skills for a number of hours with the ultimate goal of becoming proficient in the English language. The ESOL has five codes, ranging from the beginner level to independent in English:
    - beginner
    - intermediate level A
    - intermediate level B
    - advanced
    - independent in English

The control group was comprised of students classified as PREDOMINANTLY MONOLINGUAL ENGLISH (*n* = 967; 71% African American/Black/Caribbean, 24.5% Hispanic/Latino, 4.4% White). This group included children who were dominant in

English at the beginning of their preschool year according to the LAP-D assessment language at age four; accordingly, they did not qualify for any form of ESOL services, as they were not assessed on the ESOL upon entry into kindergarten one year later. This particular group was created to serve as a control to compare to the Spanish-speaking students; specifically of interest for this study are the differences between a group of Spanish-speaking students who demonstrate significant gains in English language proficiency by kindergarten versus those who do not demonstrate such gains, as described below.

Students categorized as PREDOMINANTLY MONOLINGUAL SPANISH-SPEAKING (*n* = 223; 98.2% Hispanic/Latino, 0.9% African American/Black/Caribbean, 0.9% White) comprised Group 2. These students were Spanish-speaking children with limited English language proficiency in kindergarten, requiring additional language training. They were administered the LAP-D at age four in Spanish, as it was their stronger language, and tested at the beginner or intermediate level in English one year later (in kindergarten) according to the ESOL standards.

The EMERGENT BILINGUAL preschoolers (*n* = 311; 97.7% Hispanic/Latino, 1.3% African American/Black/Caribbean, 1.0% White) formed Group 3. This group incorporates Spanish-speaking children who demonstrated proficiency in English by kindergarten. That is, as four year-old preschoolers they were administered the LAP-D in Spanish, their stronger language, but one year later, as kindergarteners, they scored as advanced or independent in English on the ESOL.

Results

Preliminary Analyses

To capture the demographic characteristics of the sample, descriptive analyses were conducted, which included child's age, gender, ethnicity, parent's country of birth, parent's marital status, parent's education level, household size, and yearly household income. Table 1 presents the demographic characteristics of children dominant in English versus the children dominant in Spanish at age 4. Dominant language at Time 1 was determined by the language in which the LAP-D was administered. Significant group differences were noted for child ethnicity and parent immigrant status; English-dominant children were more likely to be Black/African-American or Caucasian, with parents born in the United States, while Spanish-dominant children were more likely to be Latino/Hispanic, born to immigrant parents. Significant group differences in parent marital status were also identified, wherein English-dominant children were more likely to be born to single parents, and the parents of Spanish-dominant children were more often married. Further, group differences were detected in household size; English-dominant children tended to come from slightly larger households. No gender, parent education, or household income differences were detected between the two groups.

Exploratory data analyses were conducted to evaluate the distribution of the data. Frequency statistics and box plots confirmed that the values on all of the dependent measures (DECA and LAP-D) were within the expected ranges, all reasonably distributed, with no outliers or errors.

Question 1a: On what demographic dimensions are Spanish-speaking students who become functionally bilingual one year later (those demonstrating relative proficiency in English at Time 2 – "emergent bilinguals") different from Spanish-speaking students who remain predominantly monolingual (those demonstrating limited English proficiency at Time 2)?

Descriptive analyses (chi square and analysis of variance) were performed to establish demographic differences between two Spanish-speaking groups of students with distinct English language-learning trajectories. Table 2 compares the demographic characteristics of the Spanish-speaking students who become functionally bilingual one year later (those demonstrating proficiency in English at Time 2 – emergent bilinguals) to the Spanish-speaking students who remained predominantly monolingual (those demonstrating limited English proficiency at Time 2).

Results indicate that child gender, parent immigrant status, number of people in household, and parent marital status were all significantly related to English proficiency one year later; that is, the Spanish-speaking students who demonstrated more advanced proficiency in English one year later were more likely to exhibit at least one of the following characteristics: 1) female; 2) coming from smaller households; 3) born to single parents; 4) born to parents who had been born in the United States. On the other hand, the Spanish-speaking children who remained predominantly monolingual were more often characterized as: 1) males; 2) coming from larger households; 3) born to immigrant parents 4) born to married parents. Household income, child ethnicity, and

level of parent education were not significantly related to language proficiency one year later. An alpha level of .05 was used for all analyses.

Question 1b: Do individual differences in cognitive and language skills play a role in low-income, Spanish-speaking preschoolers' ability to acquire English? Are there differences at age four in the areas of cognition and language between Spanish-speaking students who become functionally bilingual (emergent bilinguals) and Spanish-speaking students who remain predominantly monolingual? And what role does gender play? Does gender interact with cognitive and language skills in predicting later English proficiency?

To address the relationship between cognitive skills and English language acquisition at age four, a multivariate analysis of variance (MANOVA) was conducted, using the subscales of the LAP-D at pretest (percentile scores on cognitive skills and language skills) as the dependent measures and language proficiency group (emergent bilingual, or predominantly monolingual Spanish, or English language control) and gender as the independent variables.

Table 3 presents the results for cognitive and language skills, as measured by the LAP-D. Results for the English language group are given as controls. A multivariate main effect was found for language proficiency group on all subscales of the cognitive assessment; F [2, 1478] = 6.04, $p < .001$. To establish on which of the subscales these groups differ, follow-up univariate tests were conducted. Post-hoc analyses using the LSD technique confirmed that the Spanish-speaking students who demonstrated English language proficiency in kindergarten scored significantly higher than the predominantly

monolingual Spanish-speakers on the Cognitive (Bilingual $M = 40.69$ vs. Monolingual Spanish $M = 30.89$, respectively; $d = 0.38$), and Language (30.45 vs. 21.30, respectively; $d = 0.41$) subscales. Further, the Emergent Bilingual group was reported to have significantly higher scores than the English language control group on all measures; the monolingual Spanish-speakers, meanwhile, displayed significantly lower scores on the language subscale than the monolingual English controls. Figure 1 presents the mean differences among the groups.

A multivariate effect was also found for gender; F [2, 1480] = 6.03. Females demonstrated a consistent advantage over males on both subscales of the LAP-D. For the cognitive domain, male $M = 32.30$ and female $M = 38.24$; $d = 0.23$; F [1, 1480] = 11.83, $p < .001$. For the language domain, male $M = 23.69$ and female $M = 27.45$; $d = 0.12$; F [1, 1480] = 6.14, $p < .001$. Further, there were no significant multivariate interaction effects for gender-by-language proficiency. That is to say, every language group demonstrated the same gender pattern, with females consistently scoring higher than males.

Question 1c: Are there differences at age four in the levels of demonstrated initiative, closeness with adults, self-control, and behavior problems between Spanish-speaking preschoolers who become functionally bilingual (emergent bilinguals) and Spanish-speaking preschoolers who remain predominantly monolingual? And what role does gender play? Does gender interact with social-emotional skills in predicting later English proficiency?

To determine if significant differences existed in the social-emotional domains at age four between the Spanish-speaking children with emergent bilingualism and the Spanish-speakers who remained predominantly monolingual one year later, as well as to compare these to the English-speaking control group, a multivariate analysis of variance (MANOVA) was conducted, using all subscales of the DECA at pretest (Initiative, Self-Control, Attachment, and Behavioral Concerns) as the dependent measures and language group (English-speaking controls, emergent bilingual or predominantly Spanish) and gender as the independent variables.

Table 4 displays the results for social-emotional assessment skills, as measured by the DECA. Results for the English language group are given as controls. A multivariate main effect was found for language groups on the DECA at Time 1; F (2, 1269) = 14.04, $p < .05$. Follow-up univariate tests established that the groups differed on all subscales: Initiative, Self-Control, Attachment, and Behavioral Concerns.

Post-hoc analyses using the LSD technique confirmed that the emergent bilingual group of students scored significantly higher than the Spanish-speaking group on measures of all subscales of the DECA (initiative, self-control, and attachment) at Time 1. The exception was behavioral concerns, where lower numbers are desired. In this case, the bilingual group was reported to have significantly fewer behavioral concerns than their Spanish-speaking monolingual peers. By means of comparison, the bilingual group of students scored significantly higher than the English-speaking control group on measures of self-control and attachment. The predominantly monolingual Spanish-speaking group scored significantly lower than the English control group on measures of

Initiative, but significantly higher on measures of Self-Control, than the English control group. The predominantly monolingual Spanish-speaking group also exhibited significantly fewer behavioral concerns than the English control group. Figure 2 presents the differences in means among the groups.

Further, a multivariate main effect was found for gender; F (2,1269) = 9.60, $p <$ .001. Females demonstrated a consistent advantage over males on all subscales of the DECA. For initiative, male M = 52.15 and female M = 62.39, d = 0.36; F [1, 1270] = 20.04, $p <$.001. For self-control, male M = 59.85 and female M = 68.28, d = 0.30; F [1, 1270] = 16.85, $p <$ .001. For attachment, male M = 47.62 and female M = 55.59, d = 0.28; F [1, 1270] = 13.78, $p <$.001. For behavioral concerns, male M = 59.17 and female M = 49.00, d = 0.35; F [1, 1270] = 30.08, $p <$ .001). There were no significant multivariate interaction effects for gender-by-language proficiency. In other words, every language group demonstrated the same gender pattern; the female advantage was constant for all groups.

Question 2a: Controlling for cognitive/language skills and gender, do social-emotional skills continue to uniquely predict English language acquisition among low-income, Spanish-speaking preschoolers, distinguishing the emergent bilinguals from the Spanish-speaking children who do not demonstrate proficiency in English? Or do the effects related to social-emotional skills disappear after controlling for these other factors? Do the English language acquisition benefits associated with social-emotional skills remain after cognitive/language skills and gender are accounted for?

Analyses were conducted to determine if significant differences in social-emotional skills exist among the three language groups of preschoolers after controlling for the effects of cognitive and language skills and gender. A multivariate analysis of covariance (MANCOVA) was run to determine if social-emotional skills are related to second language acquisition while controlling for (including as covariates) cognitive abilities, language abilities, and gender.

Multivariate group differences in social-emotional skills were still present, and significant, after controlling for language, cognitive skills, and gender (F [2, 1254] = 13.37, $p < .05$). Further, as before, females demonstrated a consistent advantage over males (F [2, 1254] = 8.86, $p < .05$). There were still no significant multivariate interaction effects for gender-by-language proficiency group (F [2, 1254] = 1.19, $p = .29$). The female advantage was constant across groups, and did not differ by English proficiency.

Univariate analyses revealed significant differences between the two Spanish-speaking groups on all of the DECA subscales: Initiative (F [2, 1254] = 7.95, $p < .05$); Self-Control (F [2, 1254] = 19.41, $p < .05$); Attachment (F [2, 1254] = 4.23, $p < .05$); and Behavioral Concerns (F [2, 1254] = 8.34, $p < .05$).

Question 2b: Controlling for gender and significant demographic factors, do social-emotional skills continue to uniquely predict English language acquisition among low-income, Spanish-speaking preschoolers, distinguishing the emergent bilinguals from the Spanish-speaking children who do not demonstrate proficiency in English? Or do the effects related to social-emotional skills disappear after controlling for these other

factors? Do the English language acquisition benefits associated with social-emotional skills remain after demographic differences are accounted for?

Social-emotional skills were found to be significantly associated with English language proficiency one year later in Spanish-speaking preschoolers. Yet the Spanish-speaking students who demonstrated emergent bilingualism demonstrated significant demographic differences from the Spanish-speakers who did not develop proficiency in English by kindergarten. Additionally, the two groups differed significantly in cognitive and language skills. To verify that social-emotional skills do in fact uniquely relate to English language acquisition, it was necessary to account for the effects of demographic, cognitive, and language differences. A multivariate analysis of covariance (MANCOVA) was utilized to determine if social-emotional skills were still related to language proficiency after controlling for cognitive/language skills and demographic variables. The MANCOVA was run, with number of people in the household, parent immigrant status, and parent marital status, as well as the language and cognitive subscales of the LAP-D entered as covariates.

Multivariate group differences were still present after controlling for language, cognitive skills, demographic variables, and gender (F [2, 830] = 6.87, $p < .05$). As before, females demonstrated a consistent advantage over males (F [2, 833] = 4.51, $p < .05$) and there were no significant multivariate interaction effects for gender-by-language proficiency (F [2, 833] = 0.53, $p = .83$). The female advantage was constant across groups.

Follow-up univariate tests were conducted to determine on which of the DECA subscales the groups differed. Group differences were still detected in initiative (F [2, 830] = 6.41, $p < .05$) and self-control (F [2, 830] = 6.20, $p < .05$), but not on attachment (F [2, 830] = 1.06, $p = .35$) or behavioral concerns (F [2, 830] = .34, $p = .26$). Attachment and behavioral concerns were no longer statistically significantly related to language proficiency group after the effects of demographic differences, cognitive and language skills, and gender had been controlled for.

Question 3: Taking all possible predictors—demographic information, language skills, cognitive skills, and social-emotional skills—into consideration, what individual difference factors at Time 1 appear to be the most significantly predictive of English language proficiency at Time 2?

The previous questions have taken a retrospective and rather univariate view of language acquisition, aiming to uncover in what ways two distinct English-language proficient groups of Spanish-speaking students were different from each other one year earlier in the areas of social-emotional skills, cognitive/language skills, and demographic variables. Conversely, this question aims to examine the individual difference factors at Time 1 that serve as robust predictors of English language proficiency at Time 2. To determine which factors are most strongly related to English language acquisition among low-income Spanish-speaking preschoolers, a multivariate logistic regression model was conducted. The demographic variables noted to be significant in Question 1 (child gender, parent immigrant status, number of people in household, and parent marital status) were entered at Step 1. To explore the effects of language and cognition on

English proficiency at Time 2, the LAP-D subscales Cognitive and Language were added at Step 2. At Step 3, the DECA subscales Initiative, Self-Control, Attachment, and Behavioral Concerns were included as additional predictors to explore the social-emotional component of language learning. English language proficiency group (Emergent bilingual or Predominantly monolingual Spanish) at Time 2 served as the criterion variable.

Table 5 displays the findings from the logistic regression. At Step 1, number of people in household was the only significant demographic predictor of English language proficiency at Time 2 (B = -0.22, $p < .05$, with an odds ratio of 0.81, suggesting that the children from larger households had fewer odds of becoming proficient in English by kindergarten). All of the demographic variables contributed to 12% of the variance explained in English language proficiency.

At Step 2, with the addition of Language and Cognitive variables, number of people in household and Language Lap-D score were found to be significant predictors (B = -0.25, $p < .05$ for number of people in household, wherein children from larger households had lower odds of becoming proficient in English. For Language, B = 0.014, $p < .05$, children scoring higher on the LAPD language scale had slightly greater odds of becoming English proficient by kindergarten). Step 2 variables contributed an additional 3% to the explained variance in English language proficiency. Finally, at Step 3, social-emotional variables were added. With the inclusion of all variables, the significant predictors were parent immigrant status (B = 0.67, $p < .05$, wherein children born to native parents had almost twice the odds of being an emergent bilingual), parent marital

status ($B = 0.77$, $p < .05$, with children from single families having more than twice the odds of becoming English-proficient compared to children with married parents), LAP-D language score ($B = 0.02$, $p < .05$, with children scoring higher being slightly more likely to become English-proficient), and the DECA subscales initiative ($B = 0.01$, $p < .05$, with children scoring higher on initiative 1.01 being slightly more likely to be an emergent bilingual), self-control and behavioral concerns ($B = 0.01$, $p < .05$ for both). The addition of social-emotional variables contributed a further 7% to the variance explained in English proficiency at Time 2 and with all variables entered, 22% of the variance in English language proficiency group was explained.

Question 4: What effect does first language proficiency at Time 1 appear to have on social-emotional development over time during the child's four-year-old year in low-income, Spanish-speaking preschoolers? Do language skills at the beginning of the preschool year predict gains in social-emotional skills of low-income children during their preschool year? Does this relationship appear to be moderated by the child's dominant language (English versus Spanish)?

To determine if first language proficiency scores at the beginning of the preschool year (and whether dominant language at Time 1 was Spanish or English) were related to development of social-emotional skills in preschoolers over time in the pre-kindergarten year, four moderated regressions were conducted. The child's language skill level according to the LAP-D language assessment at Time 1 was used as the predictor variable and the child's dominant language (English or Spanish), as determined by the language of LAP-D administration, was included as a moderator variable. The change in

each DECA subscale raw score (Initiative, Self-Control, Attachment, and Behavioral Concerns) from the beginning to the end of the child's preschool year was used as the criterion measure.

The results from the multiple regression analyses that were conducted to determine if language proficiency served as a significant predictor of change in social-emotional skills during the preschool year indicate that there were no significant main effects or interaction effects. Findings showed that neither language proficiency, as determined by LAP-D Language percentile score, nor dominant language at Time 1, was significantly related to change from Time 1 to Time 2 on any of the DECA subscales, nor did the variables produce an interaction effect. These findings suggest that the gains a child makes in social-emotional development during the preschool year are not predicted by the child's language abilities at the beginning of the year.

Discussion

The overarching goal of this study was to investigate the correlates of English language acquisition in young language minority children in poverty. Specifically of interest was uncovering the unique learning characteristics of a population of preschool English language learners in poverty from Spanish-speaking backgrounds. To this end, research was conducted with a population of low-income, diverse, English-learning preschoolers in Miami preparing for kindergarten.

The research questions sought to explain what individual difference factors in preschool differentiated the Spanish-speaking preschoolers who one year later demonstrated English language proficiency versus the Spanish-speakers who did not

demonstrate English proficiency one year later. Knowledge of these distinguishing factors can serve to provide policy makers and educators valuable information on how to most effectively reach language learners of varying skill levels and backgrounds. As discussed, enrollment of English language learners is on the rise in the United States (National Clearinghouse for English Language Acquisition, 2006). It is keenly important for researchers in second language acquisition and educational research to collaborate and to disseminate their findings, effectively educating the educators on best practice techniques for teaching English language learners, including the importance of remaining culturally sensitive and respectful of the child's learning needs (Lambert, 1987).

In particular, this study aimed to discover the extent to which social-emotional skills are related to English language acquisition in a vulnerable population of preschoolers. Based on previous research (Collier, 1995; Cummins, 1984; Skehan, 1986), it was expected that strong cognitive and language skills at the beginning of preschool would be predictive of success in English language learning one year later. However, less was known about the role of social-emotional skills such as inhibition, self-control, attachment, and behavioral concerns. Providing empirical evidence that strengths in social-emotional skills are, in fact, related to successful English language acquisition is an important piece to contribute to the research in bilingualism, second language acquisition, and education fields. To most effectively prepare their students, teachers should aim to build not only cognitive and language skills, but social-emotional skills as well.

Social-emotional skills and English language acquisition

Given the essential function of social-emotional skills for school-age children, especially for children in poverty (i.e. Coolahan et al., 2000), it was hypothesized that the children reported to have higher levels of social-emotional skills would be better equipped to acquire a second language. Social-emotional strengths promote school readiness (Denham, 2006; Raver, 2002). Ultimately, the children with such supportive assets were expected to outperform their peers on any school-related tasks. This hypothesis is in line with Collier's Prism Model (1995), which details the interrelationship among four processes, sociocultural, linguistic, academic, and cognitive, that contribute to second language acquisition in a school context. According to Collier, all four of these processes must be supported for successful acquisition to occur; however, the sociocultural factors are foundational.

More specifically, as motivation, creativity, flexibility, cognitive inhibition, and problem solving have all been demonstrated to be related to second language acquisition, it was hypothesized that the students demonstrating the highest levels of social-emotional skills in the preschool classroom at age four would be most likely to show evidence of advancement in English language. While the relationship between cognitive aptitude and second language acquisition had previously been demonstrated to be robust, less was known about the role of social-emotional skills and behavioral concerns in learning a second language. Research in related areas, however, led to the hypothesis that social-emotional skills would reinforce second language acquisition. For example, a concept described as willingness-to-communicate, or personal inclination toward communication,

is a reflection of a child's social skills. A child's willingness-to-communicate, as determined by self-esteem, anxiety levels, outgoingness, and previous experiences, has been related to second language acquisition (MacIntyre, Clément, Dörnyei, & Noels, 1998). Motivation and initiative also reportedly figure into second language learning. The opinion the child has of the target language, as well as anxiety and self-confidence in ability to learn, all influence the amount of initiative a second language learner will take in learning (Gardner & Lambert, 1959; Horwitz et al., 1986; Krashen, 1981). Language learners with higher levels of initiative are more likely to place themselves in situations that contribute to language development; for example, they may be more willing to initiate conversations in English, to seek English-language reading materials, or to seek challenges in their new language. Further, as bilingualism requires the child to constantly inhibit the non-relevant language and attend to only the appropriate system for the given moment (i.e. Bialystok, 2001), it was hypothesized that children with greater self-control and inhibition would be better equipped to learn the second language. Children with higher levels of self-control are perhaps more capable of self-monitoring, listening and responding to only the suitable language.

Attachment and behavioral concerns were also hypothesized to be predictive of second language acquisition. Attachment, or the child's level of adult closeness, may be related to a child's degree of comfort or quality interaction with adults, such as teachers. Teachers are most likely central figures in the language learning process; thus, children who are more comfortable interacting with their teachers most likely demonstrate higher levels of success in English language acquisition. Similarly, children with fewer

behavioral concerns are more likely to pay attention during language instruction. They are probably less likely to act out in class, to be distracted, or to be publicly reprimanded; thus, their overall classroom experience is more fruitful.

It was predicted that the students who become emergent bilinguals would exhibit higher levels of initiative, self-control, and adult closeness, and lower levels of behavioral concerns at age four, than the students who do not attain proficiency in English by the kindergarten year. The results confirmed this hypothesis. The Spanish-speaking children who demonstrated English language proficiency at age five were indeed higher in social skills and exhibited fewer behavioral concerns at the beginning of the school year, than their Spanish-speaking agemates who remained predominantly monolingual at age five. This remained true for initiative and self-control even after controlling for the effects of language skills, cognitive skills, and demographic variables. However, after making these controls, behavioral concerns and attachment were no longer predictive of English language acquisition. The research does not provide the support for attachment and behavioral concerns, or related concepts, to the same extent that it does other social-emotional variables, cognitive/language skills, or demographic variables. Thus, it appears that attachment and behavioral concerns are correlated with other relevant predictors.

Cognitive/language skills and English language acquisition

Based on the existing literature outlined in the introduction, it was predicted that the Spanish-speaking students with greater language skills would be more successful in learning English. First language abilities are related to second language acquisition; both

languages share a similar base, allowing for skill transferal (i.e. Cummins, 1984). Further, in line with Cummins' interdependence hypothesis (1978), it was proposed that the students with weaker first language skills would not yet be capable of demonstrating second language proficiency. According to this theory, a certain level of first language ability must be attained before second language acquisition may successfully occur. Meaningful exposure to the first language that builds vocabulary and comprehension skills, is associated with success in the second language (Skehan, 1986). As might be expected based on the literature, first language proficiency was significantly related to English language proficiency.

Cognitive strengths were also hypothesized to be related to English language acquisition. Second language acquisition has also been associated with increased information processing skills and metalinguistic awareness (Hamers & Blanc, 2000; Lambert, 1987; Mohanty & Perregaux, 1997; Segalowitz, 1977; Tunmer & Myhill, 1984). Moreover, creativity, or divergent thinking, has been associated with second language acquisition (Albert & Kormos, 2004; Landry, 1973; Ottó, 1998; Peal & Lambert, 1962). Successful communication in more than one language necessitates a certain amount of mental flexibility and cognitive resourcefulness (Albert & Kormos, 2004; Peal & Lambert, 1962). Thus, it was consistent with previous findings that the students here who attained proficiency in a second language exhibited higher levels of cognitive dexterity and skill one year earlier.

Demographic differences and English language acquisition

Analyses were conducted to evaluate the role of demographic variables in English acquisition. Certain variables differentiated successful young English language learners from those who had not demonstrated proficiency in the English language by kindergarten. Female Spanish-speaking children born in homes providing more ready access to the English language demonstrated higher levels of English language acquisition.

The findings indicated that gender, parent immigrant status, number of people in household, and parent marital status were all significantly related to English language acquisition among low-income Spanish-speaking preschoolers. Girls and/or children born to parents who were themselves born in the United States tended to exhibit the highest levels of English language acquisition. That girls were more likely to evidence English language acquisition than boys is consistent with previous research asserting a female language advantage (see Kimura, 1987; Oxford, 1993).

Parents born in the United States are probably more familiar with the English language than their immigrant counterparts, who are more likely to speak a language other than English in the home with their children. Further, native-born parents may be more likely to purchase English-language reading materials, watch English-language television, and make other efforts to expose their children to the English language. On the other hand, children born to immigrant parents might not have solid English-language role models in the home. Similarly, children coming from larger households might have English-proficient siblings to practice with, who serve to scaffold and aid the language

learning process. Rather than providing an enriching, speech-filled environment ripe for language acquisition via scaffolding and practice with siblings, for this population, larger households apparently hindered the second language acquisition process. Children may receive inadequate personalized attention from parents, a "lost in the shuffle" situation, not allowing for facilitative family involvement in the educational process (see Fan & Chen, 2001) or they may have a lack of opportunities for age-appropriate English exposure via adult modeling and scaffolding (see Wong-Fillmore, 1991).

It was found that the children coming from smaller households and born to single parents also demonstrated superior English language acquisition, while children from larger households headed by married parents tended to remain predominantly monolingual in Spanish. Household income and parent education level were not found to be related to English language acquisition, suggesting that second language learning in Spanish-speaking preschoolers is not in fact buttressed by the presence of typical markers of higher-income homes, such as enriching literacy materials, or by having well-educated parents. These results may be in part due to the specific nature of the population; income levels and parent education were both low and marked by restricted ranges. Further, because of the probable overlap amongst some of the demographic categories, such as parent marital status and parent immigrant status, multicollinearity is a likely factor.

Predicting English language acquisition

To further explore the role of social-emotional skills, a multivariate logistic regression was utilized to determine the variables at Time 1 that could serve as predictors for English language proficiency at Time 2 with all relevant factors considered. The

results from this projective analysis help determine which factors bear the most significance in predicting second language success, lending themselves to intervention. The results from the logistic regression indicate that, at Step 1, number of people was the only significant demographic predictor. At Step 2, with the addition of language and cognitive variables, number of people in the home and LAPD language score were significant predictors. And lastly, at Step 3, when all factors are considered, parent's country of birth and marital status, the child's LAPD language score, and the initiative, self-control, and behavioral concerns scores on the DECA at Time 1 are all predictors of English language proficiency at Time 2. That the significant predictive demographic variables changed between Step 2 and Step 3 indicates that an interaction occurred; interestingly, the addition of social-emotional variables served to suppress the role of household size, allowing the effects of parent's birth country and marital status to attain significance.

Language proficiency and social-emotional development

Because social-emotional skills have been related to school achievement, and in particular because social-emotional skills are associated with successful second language acquisition, it is important to study the factors associated with successful development of such skills as initiative, self-control, and attachment. Similarly, knowing how to prevent and/or decrease incidence of behavioral problems in the classroom is of high consequence. Also explored here was the relationship between language proficiency and the development of social-emotional skills during the preschool year, taking into consideration the dominant language (English or Spanish) of the child.

As outlined in the literature review and suggested by the results from Question 1, social-emotional skills have been significantly associated with second language acquisition and bilingualism. Thus, it was hypothesized that Spanish-speaking children with high scores on the LAP-D language scale would demonstrate the highest gains in social-emotional development. This particular cohort of children has the developmental asset of solid language skills in the first language; further, as a Spanish-speaking minority, they are in the process of acquiring a second language.

Language proficiency, as indicated by LAP-D Language score at Time 1, was not significantly related to change scores in any of the social-emotional skill domains (initiative, self-control, attachment, or behavioral concerns) during the preschool year. Student language proficiency at the beginning of the preschool year was not predictive of social-emotional development throughout the course of the year. Further, these findings held across student language groups. These findings are likely due to overall low levels of change in social-emotional skills during the preschool year. For example, mean percentile changes from Time 1 to Time 2 ranged from 1.12% (behavioral concerns) to 4.78 (initiative). Unfortunately, later data were unavailable; however, it is probable that the benefits in social-emotional development related to strong language skills would show up in subsequent years.

Implications

This study has addressed the strengths and weaknesses of preschool English language learners. Because second language acquisition has only recently been recognized as a highly relevant area in need of further study, and because of shifting

demographics in the United States, these findings bear practical significance for anyone researching and working with young English Language Learners. For this study, the data collection process encouraged teacher involvement and interaction; educators themselves were directly involved in the testing process.

This study adds a unique contribution to the literature in that, firstly, the children in the sample were a young, immersed minority learning English out of necessity. While the Miami-Dade County community is supportive of two languages, English remains the dominant, preferred language, at least in the public schools. Further, 22.9% of children under the age of 18 are living below the federal poverty line (US Census Bureau, 2000). Thus, while previous research in second language acquisition and bilingualism has involved advantaged students engaged in additive bilingualism, this research is special in that it is relevant to current migration trends and education policy, as it is community-based and ecologically valid for the population of Miami and involved language minority children in poverty working toward the acquisition of English.

This study took a holistic approach to English language acquisition, capturing a multifaceted picture of the language learner. Findings provide information on not just cognitive and language variables, but demographic and social-emotional development as well. The findings are special and not necessarily generalizable to other communities; however, they are highly important in terms of young, low-income Spanish-speaking children's school readiness and potential academic success.

Given the proven importance of social-emotional skills in language acquisition and overall school readiness, and given that low income children are especially at risk for

developing literacy problems (Hart & Risley, 1995), preschool teachers should be heartily encouraged to tackle these developmental needs in their students as they prepare their students for kindergarten. Low income language learners, specifically those with weak first language skills and underdeveloped social-emotional skills, are especially in need of extra help on the road to becoming proficient in a second language.

Further, this study provides evidence of both the importance of the heritage language in second language acquisition success as well as evidence of the beneficial role of bilingualism in development in children as early as the preschool years. As demonstrated, the child's first language skills play a crucial role in second language development. The children with solid skills in their heritage language outperformed their peers who did not have similar strengths in their primary language. Policy makers and educators should be encouraged to promote the maintenance and development of the child's first language, ensuring that the child has a solid base on which to build second language skills. Moreover, the young emergent bilinguals in this study proved more competent than not only their predominantly monolingual Spanish-speaking peers, but also the English-speaking controls. Such findings demonstrate that, even in early childhood, bilingualism serves as a developmental asset.

Limitations

The study cannot account for school and learning factors such as early opportunities for pre-literacy activities in the classrooms. No data were available on classroom environment, home literacy materials, or language of instruction in school. Further, no specific information on center quality was known; rather, as indicated in

studies using a related sample, the county-wide data suggested that the quality of care varies from "mediocre to fair" (Winsler et al., 2007). But whether or not English language acquisition is facilitated in higher quality centers cannot be answered with the present data.

A further limitation is related to a lack of information regarding the role the heritage language plays for these children. Promotion of the heritage language can serve as a buffer for second language learners, as it ensures that these children have a solid foundation on which to build their language skills (Cummins, 1984). Unfortunately, as is typical of the United States, continued development of the heritage language is not likely encouraged in this population (Tse, 2001). The second language necessarily builds upon the first language; thus, the children who have sound social and academic abilities in the heritage language have a distinct advantage over the children possessing only rudimentary speaking skills, as outlined in Cummins' interdependence hypothesis (1978). Fortunately, however, children with weak first language skills may benefit from continued instruction and advancement in their heritage language. No estimates were available for possible differences in true first language competency, first language loss, or classroom/extracurricular efforts at heritage language maintenance.

Additionally, the study employed a rather tenuous measure of "bilingualism" or second language acquisition. At Time 1, a single group of students were labeled "Spanish-speaking" based on the language that examiners deduced was the child's strongest language. Degree of English language proficiency was then measured one year later based on the child's ESOL level. Aside from the fact that the child's skills in

English were weak enough to necessitate a Spanish form, nothing is known of the child's level of English proficiency at Time 1. It is likely that *all* of the Spanish-speaking children had some level of English-language proficiency; thus, individual growth in language skills between Time 1 and Time 2 is unknown.

Future research

While this study has provided a comprehensive outline of individual difference factors related to second language acquisition, the aforementioned limitations and unanswered questions prompt future study. Potential related research should endeavor to use a stronger measure of bilingualism and second language acquisition. Any information available on the child's first language abilities or actual degree of bilingualism (i.e., balanced versus essentially monolingual) should be taken into consideration.

Working with this particular cohort, it would be highly informative to track the progress of these language learners through kindergarten and beyond. As the children continue to mature and make gains in English language proficiency, studies may be undertaken that monitor the development of 1) English language skills; 2) Spanish language skills; 3) social-emotional skills; and 4) cognitive skills. Based on earlier abilities, do divergent developmental trajectories become evident? Does second language acquisition appear to influence the development of other educational tasks? Is knowledge of a second language in and of itself beneficial for development, or are the associated benefits due to correlated factors, such as overall intelligence or quality of education?

To further build the research base and provide a more comprehensive outlook, research of this nature should be conducted within different communities, with students learning different languages. Because of the specialized nature of this population, the findings are relevant for low-income, Spanish-speaking bilinguals in Miami, Florida. The extent to which such findings generalize is limited; it cannot be said if social-emotional skills serve the same robust facilitative role for additive French language learners in the rural Midwestern United States, for example.

Future research studies may also be undertaken that address the applied, in-class component of second language acquisition. Researchers should investigate the utility of in-class interventions, working to further inform educators and policy makers on specific, practical suggestions to be implemented in the classroom that serve to facilitate the development of social-emotional skills, heritage language fluency, and second language acquisition. Such interventions should be suitable for the current political climate, yet employable across various educational contexts.

Appendix

Table 1. Demographic Characteristics – LAP-D Language Spanish versus English

	English (n = 967)	Spanish (n = 534)	F or χ^2
Child's gender			
% Male	50.8	50.4	.022
% Female	49.2	49.6	
Child's ethnicity			
% Caucasian	4.4	0.9	743.91*
% Hispanic/Latino	24.5	97.9	
% Black/African-American	71.0	1.1	
Parent's immigrant status	n = 667	n = 352	115.67*
% US born	96.3	73.6	
% Born outside of US	3.7	26.4	
Parent's marital status	n = 667	n = 352	86.54*
% Married	3.6	17.9	
% Single	74.2	49.4	
% Divorced, separated, or widowed	22.2	32.7	
Annual household income	n = 667	n = 133	0.16
M	$16,213	$16,427	
SD	$8,440	$6,799	
Family size	n = 667	n = 352	30.70*
M	3.52	3.07	
SD	1.36	.91	
Parent education in years	n = 667	n = 352	4.25
M	11.73	11.52	
SD	1.23	1.94	

* $p < .01$

Table 2. Demographic Characteristics– Language Proficiency – English Language Learners

	Remained Spanish dominant (n = 223)	Became English proficient (Emergent Bilingual) (n = 311)	F or χ^2
Child's gender			
% Male	58.3	44.7	9.61*
% Female	41.7	55.3	
Child's ethnicity			
% Caucasian	0.9	1.0	0.18
% Hispanic/Latino	98.2	97.7	
% Black/African-American	0.9	1.3	
Parent's immigrant status	n = 133	n = 219	10.28*
% US born	63.9	79.5	
% Born outside of US	36.1	20.5	
Parent's marital status	n = 133	n = 219	12.24*
% Married	27.1	12.3	
% Single	43.6	53.0	
% Divorced, separated, or widowed	29.3	32.7	
Annual household income	n = 133	n = 219	1.49
M	$15521	$16979	
SD	$6498	$6933	
Family size	n = 133	n = 219	16.25*
M	3.18	3.00	
SD	0.99	.84	
Parent education in years	n = 133	n = 219	2.47
M	11.44	11.58	
SD	2.05	1.88	

* $p < .01$

Table 3: Child Assessment Scores: LAP-D percentile scores at Time 1

	Monolingual English (control) n = 943		Monolingual Spanish n = 214		Emergent Bilingual n = 306		F	Effect Size BIL vs. SPA
	M	*(SD)*	M	*(SD)*	M	*(SD)*		
Cognitive	34.25[a]	*(27.05)*	30.89[a]	*(27.02)*	40.69[b]	*(29.17)*	9.38*	0.38
Gender x Group Interaction							0.06	
Language	24.96[a]	*(24.04)*	21.30[b]	*(21.84)*	30.45[c]	*(25.43)*	10.05*	0.41
Gender x Group Interaction							1.03	

*$p < .01$

Subscripts are used to indicate significant between-group differences:
Cognitive: Emergent bilinguals are significantly higher than Monolingual Spanish and Monolingual English controls.
Language: Significant group differences exist between all three groups.

Effect size: Cohen's

Table 4. Child Assessment Scores: DECA percentile scores at Time 1

	Monolingual English (control) *n* = 817		Monolingual Spanish *n* = 197		Emergent Bilingual *n* = 258		F	Effect Size (Bilingual vs Spanish)
	M	*(SD)*	*M*	*(SD)*	*M*	*(SD)*		
DECA Subscale (*n* =1272)								
Initiative	58.32[a]	(*28.31*)	48.35[b]	(*28.79*)	60.94[a]	(*28.89*)	10.68*	0.44
Gender x Group Interaction							2.35	
Self Control	60.43[a]	(*28.68)*	67.18[b]	(*27.63)*	73.34[c]	(*24.75)*	20.58*	0.26
Gender x Group Interaction							.23	
Attachment	49.81[a]	*(28.35)*	51.15[a]	*(28.49)*	57.78[b]	*(29.33)*	6.00*	0.23
Gender x Group Interaction							.54	
Behavior concerns	56.29[a]	*(28.45)*	54.92[a]	*(28.91)*	46.25[b]	*(30.39)*	9.86*	0.29
Gender x Group Interaction							.66	

*$p < .01$

Subscripts are used to indicate significant between-group differences:
Initiative: Monolingual Spanish are significantly lower than Emergent bilinguals and Monolingual English controls.
Self-Control: Significant group differences exist between all three groups.
Attachment: Emergent bilinguals are significantly higher than Monolingual Spanish and Monolingual English controls.
Behavior Concerns: Emergent bilinguals are significantly lower than Monolingual Spanish and Monolingual English controls.
Effect size: Cohen's

Table 5. Summary of Logistic Regression Analysis

		B	SE	Wald	Exp/ Odds Ratio
Step 1	Gender	.218	.214	1.038	1.244
	Number of people in household*	-.216	.096	5.093	.806
	Parent immigrant status	.444	.296	2.246	1.559
	Parent marital status	.554	.315	3.087	1.740
Step 2	Gender	.072	.224	.104	1.075
	Number of people in household*	-.253	.099	6.558	.777
	Parent immigrant status	.515	.304	2.885	1.674
	Parent marital status	.442	.324	1.862	1.555
	LAP-D Cognitive	.000	.006	.000	1.000
	LAP-D Language*	.014	.006	4.681	1.014
Step 3	Gender	.170	.254	.445	1.185
	Number of people in household	-.041	.124	.109	.960
	Parent immigrant status*	.676	.317	4.554	1.966
	Parent marital status*	.772	.354	4.771	2.165
	LAP-D Cognitive	-.002	.006	.130	.998
	LAP-D Language*	.016	.007	5.455	1.016
	DECA Initiative*	.013	.007	3.862	1.014
	DECA Self-Control*	-.015	.007	5.194	.985
	DECA Attachment	-.002	.008	.044	.998
	DECA Behavioral Concerns*	-.014	.005	8.785	.986

R^2 = .12 for Step 1; ΔR^2 = .03 for Step 2; R^2 = .15 for Step 2; ΔR^2 = .07 for Step 3; R^2 = .22 for Step 3

* ($p < .05$)

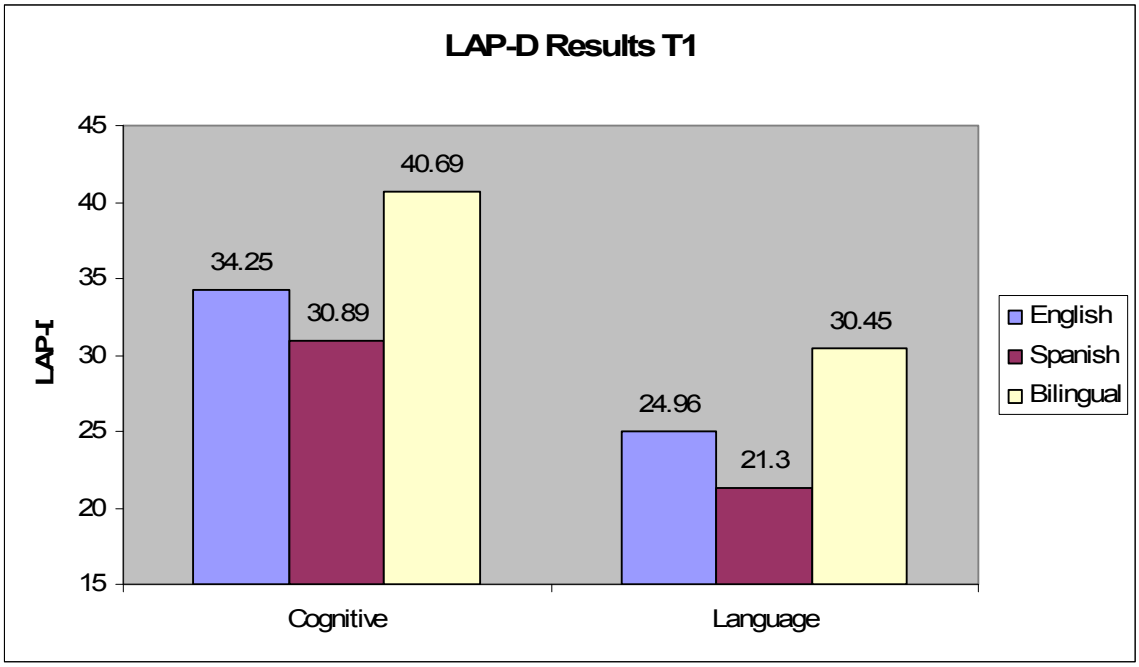

Figure 1. LAP-D Results Time 1

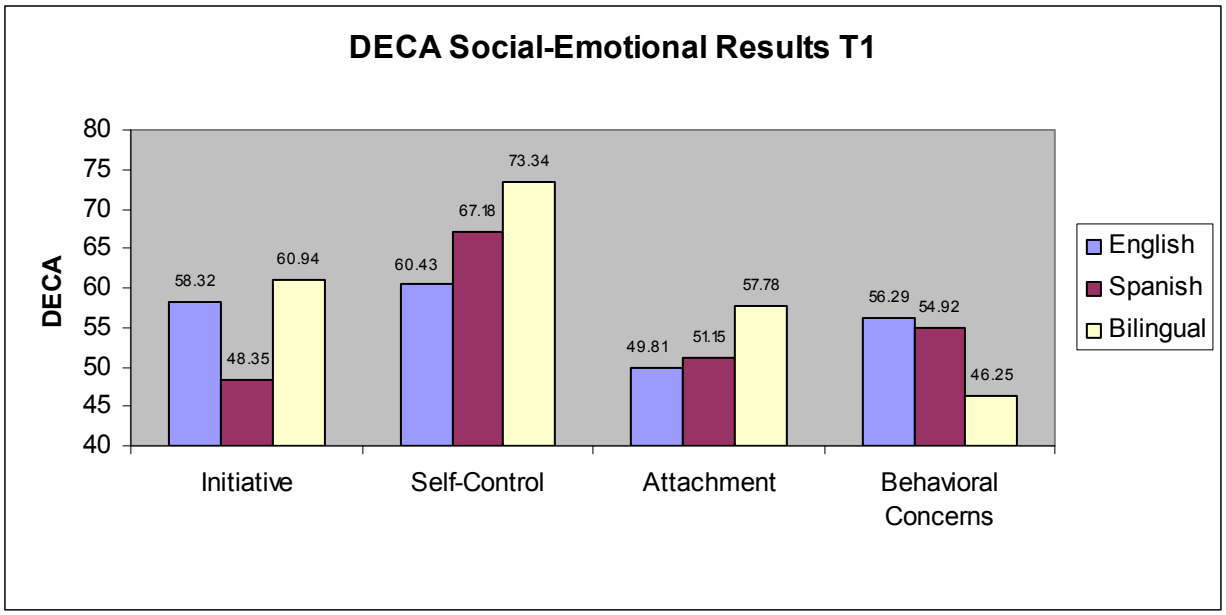

Figure 2. DECA Results Time 1

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