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Recoges lo que Siembras: Examining the Relationship between Family Engagement and School Readiness Skills for Latino Head Start Children

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UNIVERSITY OF MIAMI

RECOGES LO QUE SIEMBRAS: EXAMINING THE RELATIONSHIP BETWEEN
FAMILY ENGAGEMENT AND SCHOOL READINESS SKILLS FOR LATINO
HEAD START CHILDREN

By

Johayra Bouza

A THESIS

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Master of Science

Coral Gables, Florida

May 2016

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Recoges lo que Siembras: Examining the Relationship between Family Engagement and School Readiness Skills for Latino Head Start Children.

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Family engagement has been found to be a protective factor for low-income children's school readiness. However, few studies have examined the relationship between family engagement as a multidimensional construct and school readiness skills for Latino preschool children from low-income families. The purpose of this study was to examine the relationship between three dimensions of family engagement, children's language skills assessed in both Spanish and English and teacher-reported approaches to learning skills. Participants included 301 Latino children from low-income families enrolled in the Miami-Dade County Head Start program. Family engagement was assessed using the Spanish form of the Family Involvement Questionnaire (FIQ-21; Fantuzzo et al., 2013), which consists of the following dimensions: home-based engagement, school-based engagement, and home-school conferencing. Structural equation modeling was used to examine the unique contribution of the three dimensions of family engagement at the beginning of the school year to children's school readiness outcomes. Results indicated that home-based engagement was positively associated with both Spanish and English language development and all three dimensions of approaches to learning. Study findings extend prior research emphasizing the role of families in supporting school readiness skills of children from Spanish-speaking, Latino backgrounds.

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Chapter 1: Introduction

Children from ethnic and language minority backgrounds are a particularly vulnerable group, as they disproportionately live in low-income families (Espinosa, 2007). In addition to the risk for lower academic achievement and higher social-emotional problems associated with living in poverty (Bradley, & Corwyn, 2002; McDermott & Spencer, 1997), Latino children experience multiple social risk factors that cumulatively may increase their risk for negative outcomes. For example, Latino children are more likely to come from non-English speaking immigrant families and are more likely to perform poorly in reading and be retained in elementary school grades (Rathbun, West, & Hausken, 2004; Gersten & Woodward, 1994). Therefore, they not only face the risk factors associated with poverty but are more likely to face additional risk factors. Despite these risks to school success, there is heterogeneity within Latino populations in their early learning experiences and their early school outcomes. For example, recent studies have suggested that some Latino preschool children from low-income families have higher executive functioning and higher peer social competence than other groups of ethnic minority children (Cabrera & the SCRD Ethnic and Racial Issues Committee, 2013). It is critical to identify factors within the home and school settings that may be responsible for promoting such positive outcomes for Latino children from low-income backgrounds; despite the cumulative risk they experience (Fuller & Garcia Coll, 2010; Cruz et al., 2011).

Early childhood programs such as Head Start provide prevention and intervention that can address the school readiness needs of Latino children from low-income families. Head Start our nation's largest federally-funded early childhood educational program

provides high quality educational experiences early in development, when learning is most malleable and critical to children's academic success (Duncan et al., 2007; Heckman & Masterov, 2007). As the demographics of our nation's families living in poverty changes, Head Start increasingly serves a growing population of children from Latino households, with 38% percent of Head Start's current national enrollment comprising children of Latino background (Child Trends Databank, 2014). Promisingly, research shows that Latino children particularly benefit from high-quality preschool experiences when compared to other ethnic minority groups (Garcia & Jensen, 2009). Latino children who participated in the Tulsa, Oklahoma Universal Pre-K program showed higher gains in early literacy and mathematics when compared to their white, non-hispanic counterparts. In fact, Latino children experienced 27% greater gains than their white counterparts in an early literacy assessment and 48% greater gains in early mathematics (Gormley, Gayer, Phillips, & Dawson, 2004). This differential gain has been replicated in other national early childhood studies focused specifically on children from low-income backgrounds (U.S. Department of Health and Human Services, 2010).

There are two key aspects of Head Start's intervention model that make it an ideal program to study Latino children's school readiness in the context of families. Head Start has a comprehensive focus on multiple developmental domains comprising school readiness such as language and literacy, approaches to learning, social-emotional development, cognitive and general knowledge, and physical development and health (U.S. Department of Health and Human Services, 2015). In addition, Head Start incorporates a two-generational approach that focuses on both the needs of the "whole child" and of the family within the community context. The program provides activities

that foster intellectual, social and emotional growth while respecting and inviting children and their families' to share their ethnic and cultural traditions. As children from Latino backgrounds increasingly enroll in early education programs like Head Start, understanding ways in which programs can best address their academic and social-emotional school readiness needs within the context of their families is a critical policy relevant issue.

In order to best intervene, early childhood programs need to identify those protective factors that enhance educational outcomes for Latino children living in poverty. It is well understood that in order to improve outcomes for children, Head Start needs to support all aspects of children's development within the context of parents, families, and communities in which children live (Zigler, Gilliam, & Jones, 2006). Therefore, family engagement has been a cornerstone of Head Start since its conception. As part of the two-generation approach, Head Start mandates "maximum feasible participation" of parents in all aspects of the program (Head Start Program Performance Standards, 1996). This mandate aligns with a growing body of early childhood research documenting the positive relationship between family engagement and children's academic and social outcomes (Barnard, 2004; Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004; Marcon, 1999; Miedel & Reynolds, 1999; Rimm-Kaufman, Pianta, Cox, & Bradley, 2003). Despite this research evidence, few studies have been conducted examining the contribution of family engagement to the school readiness of children from low-income, Latino households. Understanding and promoting family engagement in children's early learning experiences is critical as it can inform practices in programs like

Head Start, which can help narrow the achievement gap for low-income Latino children (U.S. Department of Health and Human Services, 2011).

Bioecological and Eco-cultural Framework for Latino Children

A bioecological and an eco-cultural model provides a theoretical framework for studying the importance of family engagement for children from low-income, Latino backgrounds. First, the bioecological model (Bronfenbrenner & Morris, 1998) recognizes the bidirectional influence of children's proximal contexts on early development, in this case the influence of family engagement on children's development and school readiness. Second, the eco-cultural framework focuses on understanding sociocultural factors within the family and community that contribute to variability in home activities and childrearing practices that influence children's school readiness within specific ethnic or cultural groups, such as Latino families.

From an eco-cultural theoretical perspective, family engagement is embedded within a broader sociocultural context, including cultural and social beliefs regarding the family's conceptualization of their role in children's academic learning and parent's perceived role of the teacher. For example, Latino parents uphold a cultural value of "respeto" for their child's teacher. This means that they may value and respect their child's teacher as the "expert" in educating their child in academic areas. Therefore, Latino parents may feel that it may not be their place to "educate" their child in academic skills, and also may feel that they are being disrespectful to the teacher if they become too actively involved in teaching children academic skills at home or intervene in the school setting (Cauce et al., 2002).

In alignment with this eco-cultural framework that highlights attention to within group variability in cultural practices for Latino families, the present study proposes a research design that incorporates a “within-group” approach. This approach allows the researcher to focus on examining the unique strengths and weaknesses within a sample of families comprising an ethnic or cultural group, such as Latino children and families. This within group design differs from a comparative approach where developmental researchers compare ethnic minority groups such as Latino children and families to non-ethnic minority, mainstream, or other ethnic minority groups. The comparative approach may lead to false conclusions about the developmental skills of children or family practices that support children’s development (McWayne & Melzi, 2014). For example, in a comparative approach, researchers might identify group differences in mean levels of family engagement, identifying Latino parents with lower levels of engagement. Researchers then from a “deficit” orientation might then question why Latino parents participating in Head Start are not as highly involved as other ethnic or cultural groups, in their child’s home and school learning, without understanding some of the cultural differences underlying parents’ behavior. For example, research has found that Latino families, especially Spanish speaking immigrant families, score lower on measures of family engagement than other ethnic groups (Copper, Crosnoe, Suizoo, & Pituch, 2010; Farver, Xu, Eppe, & Lonigan, 2006; Wong & Hughes, 2006). In contrast, a within group approach focusing only within groups of Latino families from low-income backgrounds, may help identify strengths among families in their engagement and help us understand family engagement as it uniquely occurs in Latino families (Castro, Mendez, Garcia, & Westerberg, 2012; Fuller & Garcia Coll, 2010; McWayne & Melzi, 2014).

Family Engagement

Family engagement has been defined as the participation of parents in regular, two-way, and meaningful communication involving student academic learning and other social activities (U.S. Department of Education, 2004). It is a multidimensional construct that has been conceptualized in early childhood as encompassing the following three dimensions: home, school, and home-school conferencing (Fantuzzo, Tighe, Childs, 2010). Family home engagement includes the practice of family members creating learning opportunities at home and in the community by providing a place and materials for homework, visiting the library, and engaging in educational activities (Fantuzzo et al., 2000). Family school engagement consists of the following activities: volunteering at school, communicating with teachers, participating school events, and attending parent-teacher meetings (Hill & Taylor, 2004). Home-School conferencing refers to communication between parents and school faculty about a child's academic progress and/or difficulties, and learning behaviors (Fantuzzo et al., 2000).

Family Engagement and School Readiness for Latino Children

Over a decade ago, the National Education Goals Panel identified the following five dimensions of early development and learning considered critical to children's school readiness: Health and physical development, emotional well-being and social competence, approaches to learning, language development, and cognition and general knowledge (NEGP, 1997). Additionally, they identified "parents as first teachers" to be a crucial component that contributes to preparing children for school. Family engagement has also been identified as a key protective factor for low-income, ethnic minority children (Jeynes, 2003; National Research Council [NRC], 2006; U.S. Department of

Education, 2000). In fact, many studies have found that multiple dimensions of family engagement are associated with children's school readiness skills in children from a variety of socioeconomic backgrounds (Hill & Craft, 2003; Miedel & Reynolds, 1999; Osyerman, Brickman, & Rhodes, 2007; Parker, Boak, Griffin, Ripple, & Peay, 1999).

In accord with an eco-cultural and within group approach, this study focuses on understanding the relationship between multiple dimensions of family engagement for a group of children from low-income Latino families and two critical school readiness domains: language development and approaches to learning. Language development is vital for children's later school success because it is the foundation for reading ability. Reading ability is one of the strongest predictors of later school success such as high school graduation (Hernandez, 2011). This is particular important domain of school readiness for Latino children since they are at a greater risk for difficulties learning how to read than other ethnic groups. In fact, 51% of Latino students read below a basic reading level in fourth grade (National Center for Education Statistics [NCES], 2009). Approaches to learning is another important dimension for children's school readiness. Approaches to learning has been identified as one of the most critical and foundational domains of school readiness (Kagan et al. 1995). This dimension of school readiness is about "how" children learn rather than what they learn. It includes children's initiative and curiosity, engagement and persistence, and reasoning and problem solving (McDermott, Green, Francis, and Stott, 2002). These skills are considered domain general skill, which are skills that underlie learning in a multitude of school readiness dimensions. For example, focusing on promoting approaches to learning in the classroom may not only be associated with better approaches to learning but also with higher

language, literacy, and mathematical skills (Fantuzzo, Perry, & McDermott, 2004; McClelland, Morrison, & Holmes, 2000; McWayne, Fantuzzo, & McDermott, 2004). It is therefore, imperative to identify potential protective influences of malleable factors (like family engagement) on these two school readiness skills: language and literacy, and approaches to learning.

Family engagement and language outcomes. Overall, most studies to date have examined the dimensions of school-based involvement (or program participation) and home-based involvement as they relate to early literacy and language development for low-income children. However, few studies focus on children from low-income, Latino backgrounds and few examine the home-school conferencing dimension. Below, this research is reviewed as it supports the need for the current study.

School-based engagement and language. Several studies have identified positive associations between family's engagement at school and low-income children's early literacy and language development. For example, Lamb-Parker et al. (1997) in a study conducted with Head Start families found that higher levels of family engagement as measured by parents' participation in their child's program was associated with higher levels of children's literacy skills. Lamb-Parker and colleagues found that families contributed to children's literacy skills in the school context by volunteering in the classroom and through teacher-parent communication (i.e. attending teacher-parent conferences). Other studies conducted with Head Start families suggest that parent school involvement is not significantly associated with children's emerging literacy skills such as alphabet knowledge and vocabulary (Fantuzzo et al., 2013). In contrast, a recent meta-analysis conducted by Jeynes also provide more evidence to support that children whose

families are more involved in school and communicate more frequently with teachers earn higher scores in a variety of achievement tests than children whose parents are less involved in the school (Jeynes, 2003; Jeynes, 2005).

In addition, longitudinal studies conducted with low-income families, provide evidence that greater school participation is associated with higher literacy skills. Miedel and Reynolds (2000) in a follow up study of children who participated in the Chicago Child-Parent program found that greater parent participation in preschool and kindergarten activities was associated with higher reading achievement in kindergarten. Dearing, Kreider, Simpkins and Weiss (2006) conducted a longitudinal study from kindergarten to third grade and found that family school engagement in kindergarten (as measured by an 8-item dichotomous measure of whether or not the parent participated in parent-teacher conferences, visited the classroom, attended school performances, attended field trips, volunteered in the classroom, attended PTA meetings, and attended open house events) was positively associated with a direct assessment of children's letter-word identification skills in third grade. While these findings provide evidence of the importance of school involvement and early literacy skills, the studies are limited by the measures used to assess family engagement. First, in the Miedel and Reynolds (2000) study, family engagement data were collected through conducting retrospective phone interviews with parents, limiting the reliability of this measure. In the Dearing et al. (2006) study, the 8-item dichotomous measure used only focused on school involvement and did not provide a comprehensive, continuous measure of the quantity and quality of

parents' school involvement (e.g., parents who participated once were rated the same as parents who participated in the same activity many times) (MacCullum, Zhang, Preacher, & Rucker, 2002).

To date, only one study has examined the relationship between family school engagement and children's literacy in Latino families; this study was conducted in a sample of Mexican-American families, who reported speaking Spanish predominantly in the home with their children. Tang, Dearing, and Weiss (2012) found that higher family school engagement in kindergarten was predictive of higher scores on the letter-word recognition subtest of the Woodcock-Johnson Tests of Achievement/Bateria Munoz in third grade. While this finding supports the importance of school engagement for Latino children from Spanish speaking backgrounds, it is limited to Mexican American families, and children while given a choice to be tested in either English or Spanish, mostly (83% of children) chose to be assessed in English.

Home-based engagement and language. Family engagement with children's learning at home has been identified as a positive influence on children's literacy and language skills (Fantuzzo et al, 2000). It has been shown to be one of the most significant predictors of children's academic achievement (Halgunseth, Peterson, Stark, & Moodie, 2009). In fact, when McWayne and colleagues (2004) simultaneously included home and school engagement in a regression model predicting school readiness outcomes of children participating in Head Start, school-based engagement was no longer significant. In this sample, controlling for school-based engagement and home-school conferencing, home engagement emerged as the strongest predictor of higher reading levels when children were assessed at the end of kindergarten.

Whereas these findings document the important relationship between home-based involvement and early language and literacy skills, most of these prior studies have been conducted with samples of African American Head Start children, or used a comparative approach by examining associations across groups of African American and Latino children. Due to the meaningful cultural differences between African American children and Latino children, it is important to examine these relationships within groups of Latino children. In two recent studies, family engagement was examined using national or local samples that include a proportion of Latino families. However, findings were mixed. For example, Hindman, Skibbe, Miller and Zimmerman (2010) examined the relationship between family engagement and literacy growth in the Head Start FACES (1997) national dataset, which included Latino children but did not find any significant relationships. Additionally, Fantuzzo et al. (2013) found only small positive correlations between home-based engagement and a direct assessment of children's literacy skills including alphabet knowledge and vocabulary, in a local sample that included Latino Head Start children. Given these mixed findings and general lack of Head Start studies including Latino children in their samples, more research is warranted.

Although it is understood that family engagement is crucial for children's emerging literacy, it is not well understood what dimension of family engagement may be more important for Latino children's school readiness. It is widely accepted that culture plays a major role in shaping human development but there is limited research available to understand the contribution of each dimension of family engagement to children's early learning in Latino families. Jeynes (2003; Jeynes, 2005; Jeynes, 2007) stated that the benefits of family engagement on children's literacy vary across socio-cultural

groups. Therefore, it is important to further examine this relationship in a *within group* framework.

This *within group* framework is imperative when examining Latino children's language and literacy for the following two reasons: (1) there is heterogeneity in familial language preferences in Latino children and these preferences directly affect children's language development; (2) there is variability in Latino children's early language development which is dependent upon their language experiences in the home and school setting. Latino children are often exposed to both Spanish and English in the home and school settings; but when and how they are exposed to either or both languages depends on multiple and complex factors such as the recency of their family's immigration, acculturation status (Espinosa, 2013), and parents' country of origin (Winsler et al., 2014). For example, a study using a nationally representative sample found that only 19% of Latino children were exclusively exposed to Spanish in the home and 21% were exclusively exposed to English in the home. The remaining 60% were exposed to different combinations of both languages (Barrueco, Lopez, and Milles, 2007). In addition, Winsler et al. (2014) found that Puerto Rican mothers were more likely to use English exclusively in the home, but Cuban mothers, although born in the U.S., were more likely to use Spanish in the home.

As a consequence, differences in the timing, setting, and amount of exposure to each language may shape the trajectories of children's language development. For example, Latino children may acquire their second language simultaneously or sequentially, and often unevenly (Espinosa, 2013). It is important to assess Latino children in both English and Spanish (if they are in fact exposed to both languages in the

home and/or school setting) to obtain a more complete picture and holistic understanding of their language development (Barrueco et al., 2007). To date, only one study has looked at the relationship between family home engagement and Latino children's language development in both Spanish and English. Farver et al. (2006) found that family home engagement positively predicted scores on a direct assessment of children's language development in both Spanish and English, in a Spanish-speaking dual language learner sample. To understand how family engagement differentially related to children's Spanish and English language and literacy development, the present study will include assessments for children in both languages.

Home-School conferencing and early literacy and language. Although it is theoretically acknowledged that the bi-directional communication between families and teachers is important, few studies have examined the predictive relationship between home-school conferencing and school readiness skills. Currently there are only two studies that have examined the relationship between home-school conferencing and language development, in samples of Head Start children. For example, Fantuzzo et al. (2013) found that home-school conferencing was not related to a direct assessment of children's alphabet knowledge and English vocabulary in a sample of primarily African-American children that included a small percentage of children from Latino backgrounds. Additionally, Fantuzzo, McWayne, Perry, and Childs (2004) in a sample of predominantly African American Head Start children, found that home-school conferencing was positively correlated with receptive vocabulary skills; however, this relationship was no longer present when home-based and school-based involvement were controlled for in the regression model.

Family engagement and approaches to learning. Approaches to learning, a key dimension of school readiness, is defined as initiative, curiosity, enthusiasm, persistence, flexibility, and problem-solving skills in the face of challenging learning tasks (Hyson, 2008). Approaches to learning skills are domain-general skills, which serve as a foundation for more domain-specific skills (such as literacy, language skills) and later academic achievement. In general, few studies have examined the relationship between family engagement and approaches to learning. One of the few studies, which focused mostly on African American children participating in Head Start, found that both family home and school engagement were significantly related to children's motivation to learn (Fantuzzo, McWayne Perry, & Childs 2004). Another study, which focused on primarily immigrant low-income Latino families from Dominican Republic, found that improving the home learning environment for children increased children's independence, motivation and creativity (Parker et al., 1999).

Recently, Zambrana, Bouza, Shearer, & Gaona (2015) found that only family school engagement was related to children's motivation, persistence, and attitude towards learning, in a sample of Latino and African American Head Start children. It is important to continue to investigate the relationship between family engagement and approaches to learning specifically in Latino families because there is some research to suggest that Latino children, especially those from first generation immigrant families, enter school with higher socio-emotional skills (predominantly as measured by approaches to learning) than other ethnic minority groups (Crosnoe, 2007; Halle et al., 2014; Galindo & Fuller, 2010). Therefore, skills such as approaches to learning may form a strength-based perspective to help identify protective factors to better understand Latino children's

positive development (Cabrera & the SRCD Ethnic and Racial Issues Committee, 2013). However, it is still unclear which dimensions of family engagement may be more important to children's approaches to learning within the Head Start classroom.

Limitations of Research to Date

It is well understood that family engagement is critically important to children's academic achievement but there is little research examining the contribution of multiple dimensions of family engagement to school readiness, specifically for children from low-income Latino families. In addition, few studies have examined family engagement as a multidimensional construct largely because of the gaps in the availability of reliable and valid measures that assess family engagement in a multidimensional way. Until recently, the measurement of family engagement has been limited to a small set of survey items that typically ask parents a few questions about how many hours they have volunteered in the classroom (Reynold, 1992; Stevenson & Baker 1987). These questions only address one dimension of family engagement (the quantity of parent participation at school). There have been some attempts in the field to assess the multidimensional nature of family engagement. For example, the Head Start Family and Child Experiences Survey (FACES 1997; U.S. DHHS, 2005), a national study of the development of Head Start children as they transition to elementary school, collected information from parents about their home and school involvement; However, the internal consistency of these measures were very poor with Cronbach's alpha ranging from .49 to .58. Additionally, these surveys only assessed home and school involvement, and did not measure aspects of home and school collaboration that families could be engaged in with their child's Head Start center.

In order to address these limitations in the field, Fantuzzo and colleagues developed the Family Involvement Questionnaire (FIQ; Fantuzzo et al., 2000). After a long and thoughtful process consisting of working in partnership with teachers and parents and careful psychometric analyses, they successfully created a 42-item measure that was reliable and valid to use with Head Start parents. To reduce the burden on Head Start families, Fantuzzo et al. (2013) validated a short form of the FIQ. This procedure included first, an exploratory factor analysis using all of the 42 items on the original FIQ. Then, the seven highest loading items from each of the three dimensions were identified and included in the FIQ-21. Finally, a confirmatory factor analysis was conducted on FIQ-21 data completed by primarily African American Head Start parents (and a small proportion of Latino parents) from Philadelphia and revealed an adequate fit. To this point, the FIQ-21 had only been accessible to English speaking Head Start parents in the northeast. To extend the use of the FIQ-21, it was translated into Spanish, and initial measurement studies have replicated the three-factor model of the English form, identifying a psychometrically sound latent structure in a culturally and linguistically diverse Spanish-speaking sample in the Miami-Dade Head Start Program (Bouza, Shearer, Fernandez, Bichay, Gaona, & White, in preparation). To date, however, no study has examined the relationship between the dimensions of the Spanish FIQ-21 and school readiness outcomes in Head Start children from Latino families. Given gaps in the early childhood field, more research is needed to examine the relationship between family engagement using the Spanish FIQ and school readiness skills with a more culturally and linguistically diverse sample of Latino children from low-income families.

Purpose of the Present Study

To address these limitations, the purpose of the present study was to examine the relationship between multiple dimensions of family engagement and school readiness skills for culturally and linguistically diverse, Latino Head Start children. The study was guided by two research questions: (a) What is the relationship between family engagement at the beginning of the year and language skills in the beginning of the year?; and (b) What is the relationship between family engagement in the beginning of the year and approaches to learning skills at the end of the year (controlling for child and family demographic variables)?

Based on the limited research conducted with Spanish-speaking Latino children and families, it is expected that there should be a positive relationship between home-based and school-based dimensions of family engagement and children's language and learning-related skills, both concurrently and across the preschool year. Given bioecological and eco-cultural theory, we might expect that with regard to the first research question, that family home engagement would be more strongly related to children's Spanish language development concurrently assessed in the beginning of the school year. With respect to research question 2, given findings from Zambrana, Bouza, Shearer and Gaona (2015) we expected to see that school engagement would be more strongly associated with approaches to learning than the other dimensions.

Chapter 2: Method

Participants

Children. There were 278 Head Start children who participated across 5 centers and 22 classrooms in this study. Centers were chosen that were geographically representative of the Latino neighborhoods served by the Head Start program located in a large urban area in the Southeastern United States. Approximately thirteen children per classroom were randomly selected (stratified by age and sex) to receive direct assessments of their language development and teacher ratings of their approaches to learning skills. In the fall of the Head Start year, their ages ranged from 36 to 59 months ($M = 48.32$, $SD = 6.79$), with 51% boys. Most children were of Hispanic ethnicity (99%) and were born in the U.S. (92.7%). More than 75% of the children had none to little English proficiency as reported by their parents at the beginning of the school year. Most of the children (74.1%) had moderate to high proficiency in Spanish as reported by their parents. All children came from families that met the federal poverty criteria for enrollment in the Head Start program.

Families. In the fall, the parents of the 278 children completed a family demographic form. Respondents were predominantly mothers of the children (90.4%), 5.3% were fathers, .3% were “other” caregivers such as grandmothers, and 4% did not report. The majority of the respondents reported to be the primary caregiver for the participating child (95%). They ranged in age from 15 to 63 years old ($M = 33.82$, $SD = 6.42$). Most considered themselves Hispanic (95.3%) and were born outside of the U.S. (96%), with 38% being born in Cuba, 19% being born in Honduras, and 13% being born in Nicaragua. The remaining 30% of parents were born in 17 countries in the Caribbean,

or Central or South America. Eighty-seven percent reported that Spanish was the primary language spoken in the home and about 10% reported that English was the primary language spoken in the home. According to parent report, the number of total people living in the household ranged from 2 to 10 ($M = 4.13$, $SD = 1.25$), with the number of children living in the household ranging from 1 to 5 ($M = 2.01$, $SD = .89$). About 50% of the caregivers were married and about 30% reported working fulltime. With respect to highest level of education, mothers and fathers were relatively similar with 30% not earning a high school diploma, 30% earning a high school diploma, and 30% earning more than a high school diploma.

Teaching staff. The 22 participating lead teachers were all Hispanic females with the majority born outside of the U.S. (95.5%) and living an average of 17.05 years in the U.S. ($SD = 6.88$, range = 7 to 33 years). Out of the 22 teachers, 77.3% were Cuban, 9.1% were Colombian, 4.5% were Argentinian and 4.5% were Puerto Rican. The majority of teachers had earned a bachelor's degree and had worked as a preschool teacher an average of 12.82 years ($SD = 6.71$, range = 3 to 27 years). On average, teachers started learning English at 25.82 years old ($SD = 13.70$, range = 3 to 44 years). Teachers were asked whether they spoke, wrote, and read English extremely well, very well, average, or not very well. About 50% of them reported average proficiency in speaking English, and 50% reported that they read and wrote in English "very well." The same question was asked about their proficiency in Spanish. Ninety-five percent of the teachers reported speaking, writing, and reading Spanish "extremely well."

Measures

Family engagement. The Spanish form of the Family Involvement Questionnaire-21 item consists of 21 Likert-type items indicating the nature and extent to which parents are involved in their children's education (Bouza, Shearer, Fernandez, Bichay, Gaona, and White, in preparation). Parents completed the FIQ-21 in the fall of their children's Head Start year. Parents rated their engagement by endorsing "Rarely, Sometimes, Often, Always" in response to each of the 21 items. The English form of the measure was developed in collaboration with Head Start parents in Philadelphia (FIQ-21; Fantuzzo et al., 2013). Psychometric analyses were conducted with a predominantly African American sample of 590 Head Start parents from the Northeast who completed the FIQ-21 in the fall. Construct validity provided evidence for three reliable dimensions of family engagement: home, school, and home-school conferencing. Family home engagement consists of behaviors that provide learning opportunities within the child's household or community such as "I take my child places in the community to learn special things (e.g. zoo, museum, etc.)." Family school engagement is characterized by parental involvement with their children within the school context, for example, "I volunteer in my child's classroom." Home-school conferencing refers to communication between parents and school faculty about a child's academic progress and/or difficulties, and learning behaviors such as "I talk to my child's teacher about his/her daily school routine." Each dimension consisted of seven items and was found to be highly reliable, with Cronbach's alphas of .85, .85, and .81, respectively. Criterion-related validity evidence was supported through correlations with children's academic skills, parent-

reported satisfaction with school contact, and teacher-reported conduct problems, inattention, and hyperactivity (Fantuzzo et al., 2013).

Initial psychometric analyses of the Spanish language form of the FIQ-21 with Spanish speaking families in the Miami-Dade Head Start program revealed an identical 3-factor model; each factor demonstrating high internal consistency reliability; with Cronbach alphas of .84, .88, .89 for Home, School, and Home-School conferencing, respectively, in the present study sample (Bouza, Shearer, Fernandez, Bichay, Gaona, and White, in preparation). Criterion-related validity evidence was supported through correlations with children's academic skills, parent-reported satisfaction with school contact, and frequency of parent's engagement in school activities reported by the school.

Language development. The Picture Vocabulary/Vocabulario Sobre Dibujos subtest of Woodcock-Munoz Language Survey- Revised (Woodcock, Muñoz-Sandoval, Ruef, & Alvarado, 2005) was used to assess children's expressive and receptive vocabulary skills in both English and Spanish in the fall of the academic year. This measure was normed in both Spanish and English for children as young as two years of age ($\alpha=.82$; Alvarado, Ruef, & Schrank, 2005). The English version consists of 59 items and the Spanish version consists of 58 items. The English subtest begins with 2 receptive items and the Spanish subtest begins with 6 receptive items. These receptive items ask children to point to a named picture within a small group of pictures. The remaining items on the subtests require the children to name each picture, with the items increasing in difficulty. For the present study, raw scores were converted to *W* scores (Woodcock & Dahl, 1971) based on the published manual scoring program. *W* scores are a transformation of the Rasch ability scale (Rasch, 1960; Wright & Stone, 1979) with a

mean of 500, and variable standard deviations depending on the subscale and age of the child tested (Mather & Woodcock, 2001).

Approaches to learning. The Preschool Learning Behavior Scale (PLBS; McDermott, Green, Francis, & Stott, 2000) was used to assess children's approaches to learning skills in the spring of the Head Start year. The PLBS is a 29-item teacher rating scale, which was validated for use with Head Start children (Fantuzzo et al., 2004). Teachers were asked to rate how often a child exhibits particular behavior in the classroom by endorsing "Most Often Applies, Sometimes Applies, or Doesn't Apply." The three reliable learning behavior dimensions yielded by factor analysis are Competence/Motivation (11 items) ($\alpha=.87$), Attention/Persistence (9 items) ($\alpha=.88$), and Attitudes towards Learning (7 items) ($\alpha=.78$). Competence/Motivation comprises items referring to children's drive to take on new tasks and their willpower to complete the task successfully, such as "Says task is too hard without making an effort to attempt it." Attention/Persistence refers to children's ability to pay attention and perseverance when attempting to complete a difficult task, such as "Accepts new tasks without fear or resistance." Attitude towards learning focuses on concepts such as children's disposition to be helped, willingness to please the teacher, and ability to cope when frustrated with a task, such as "Responds without taking sufficient time to look at the problem or work out a solution." Convergent and divergent validity have been established for urban, low-income preschool children with direct assessments of cognitive ability, receptive and expressive vocabulary skills, teacher-rated social skills, teacher and parent rated social skills, teacher and parent-rated interactive play competencies, and direct observations of children's self-regulation (Fantuzzo, Perry, & McDermott, 2004; McDermott, Leigh, &

Perry, 2002). PLBS T scores ($M=50$, $SD=10$) based on the national normative sample were used (McDermott et al., 2002).

Procedure

This research project was part of a larger University-Head Start partnership research project within a large urban area in the Southeastern United States. Approval for this project was obtained from the University's Institutional Review Board (IRB), from the Director of the local Head Start Program, and from the Head Start Program's Parent Policy Council. Additionally, consent was obtained from the participating Head Center director, curriculum specialist, teachers, and teacher assistants. Parental consent was then obtained for children with the assistance of teachers. In the fall, primary caregivers completed the Spanish form of the *Family Involvement Questionnaire-Short* (Bouza, Shearer, Fernandez, Bichay, Gaona, and White, in preparation) and the family demographic form. In the fall, direct assessment of children's vocabulary skills in both English and Spanish were conducted using the Picture Vocabulary/Vocabulario Sobre Dibujos subtest of Woodcock-Munoz Language Survey-Revised. Only one language assessment was given per day to prevent children becoming fatigued. Children were assessed by trained assessors in a quiet space outside of the classroom and received a sticker for their participation. In the spring, teachers rated children's approaches to learning skills (PLBS).

Data Analyses

Structural equation modeling (SEM) was used to examine the relationship between the dimensions of family engagement and school readiness skills. SEM was the most appropriate data analytic strategy given that the models can account for

measurement error through the creation of latent variables and adjust the standard errors to account for the nested nature of children's school readiness scores. To examine the proportion of variance in school readiness outcomes at the classroom level, unconditional models were conducted. Model results suggested a substantial amount of the variance was attributed to differences between classrooms: 5.3%, .5%, 61.8%, 54.9% and 59.8% for English vocabulary, Spanish vocabulary, motivation/ competence, persistence and attitudes toward learning, respectively. This suggests that these data violates the assumption of independence (Raudenbush & Bryk, 2002). Therefore I corrected for this violation by using a conservative correction (Type = Complex), which adjusted standard errors of the parameter estimates (Muthén & Muthén, 1998–2010). Missing data were accounted for in the models using Full Information Maximum Likelihood (FIML; Kline, 2005). FIML uses all available information for each case when data are missing completely at random (MCAR; Enders & Bandalos, 2001).

First, a measurement model was created to examine whether the 21 items of the FIQ (collected in the fall) load on to the following three dimensions of family engagement: home, school, and home-school conferencing (Figure 1). The fit of the measurement model was assessed based on theory and three fit indices: the χ^2 lack of significance, the Bentler comparative fit index (CFI; Bentler, 1990) with values greater than 0.90 indicating adequate fit, and the root mean square error of approximation (RMSEA; Steiger & Lind, 1980) with values of 0.08 or less considered acceptable model fit (Browne & Cudeck, 1992). It is important to note that in large samples ($N > 200$), the χ^2 has been found to be an unreliable statistic for evaluating model fit (Bollen, & Long, 1993).

Research Question #1: *What is the relationship between family engagement at the beginning of the year and language skills in the beginning of the year?* The relationship between the three family engagement dimensions and language skills in the beginning of the year was first examined through bivariate correlations. Then, two structural SEM models were created for each outcome, one for the English assessment (Figure 2) and one for the Spanish assessment (Figure 3). In these models, three latent variables comprising each of the three dimensions of family engagement (fall) were used to predict concurrent language skills assessed by the Picture Vocabulary/Vocabulario Sobre Dibujos subtests of Woodcock-Munoz Language Survey- Revised, controlling for demographic variables. The significance and magnitude of the standardized parameter estimates were examined to identify the contribution of each family engagement dimension to language outcomes.

Research Question #2: *What is the relationship between family engagement dimensions in the beginning of the year and approaches to learning skills at the end of the year (controlling for demographic variables)?* The relationship between fall family engagement dimensions and approaches to learning was first examined through bivariate correlations. Then, a structural multivariate SEM model was conducted to examine the relationship between the three latent variables comprising the three dimensions of family engagement (fall) predicting the three approaches to learning dimensions (spring) (Figure 4). The significance and magnitude of the standardized parameter estimates were examined to identify the contribution of each family engagement dimension to each approaches to learning dimension.

Chapter 3: Results

Descriptive statistics

To ensure data were normally distributed for the outcome variables (Woodcock-Johnson, Woodcock-Muñoz, and PLBS) all variables were examined for outliers, homoscedasticity, and kurtosis. None of the assumptions were violated. See Table 1 for descriptive statistics, including means and standard deviation of all variables and Table 2 for bivariate correlations between all variables. Home-based engagement was positively associated with direct assessment of children's Spanish vocabulary and two dimensions of children's approaches to learning (Competence/ Motivation and Attitudes towards Learning).

Measurement model

Confirmatory factor analyses revealed an adequate fit of the three-factor structure to our data, $\chi^2(186) = 454.180, p \leq .001$; Comparative Fit Index (CFI) = .979, Tucker-Lewis coefficient (TLI) = .977, the root mean square error of approximation (RMSEA) = .048. Values for both the TLI and CFI were greater than .90 and values for the RMSEA of .08 or less were considered acceptable (Browne & Cudeck, 1993) and indicated adequate model fit (Hu & Bentler, 1999). The first factor "Home-Based Engagement" comprised seven items focused on families actively promoting a learning environment at home for children. The second factor "School-based Engagement" included seven items focused on families participating of activities and behaviors in the school setting that benefit their children. The third factor "Home-School Conferencing" included seven items describing the communication between families and teachers about their children's educational experience and progress.

Research Question #1: What is the relationship between family engagement at the beginning of the year and language skills in the beginning of the year?

To examine the relationship between family engagement and language skills in the beginning of the year, two separate structural models were estimated (one for the English vocabulary and one for Spanish vocabulary). Models controlled for nesting of children's scores within classrooms (see Table 3 for parameter estimates and model fit statistics). In the model with English vocabulary as the exogenous variable, model fit statistics suggest that the model adequately fits our data, $\chi^2(246) = 357.63, p \leq .001$; Comparative Fit Index (CFI) = .989, Tucker-Lewis coefficient (TLI) = .987, the root mean square error of approximation (RMSEA) = .031. Age ($\beta = .42$) and home-based engagement ($\beta = .20$) were positively associated with English vocabulary, after controlling for age, sex, school-based engagement, and home-school conferencing. Children whose parents were more engaged in the home had higher levels of English vocabulary.

In the model with Spanish vocabulary as the exogenous variable, model fit statistics suggest that the model adequately fits this data, $\chi^2(246) = 360.58, p \leq .001$; Comparative Fit Index (CFI) = .988, Tucker-Lewis coefficient (TLI) = .987, the root mean square error of approximation (RMSEA) = .032. Age ($\beta = .39$), sex ($\beta = .15$), and home-based engagement ($\beta = .27$) were positively associated with Spanish vocabulary, after controlling for age, sex, school-based engagement, and home-school conferencing. Children whose parents were more engaged in the home had higher levels of Spanish vocabulary.

Research Question #2: *What is the relationship between family engagement dimensions in the beginning of the year and approaches to learning skills at the end of the year (controlling for demographic variables)?*

To examine the relationship between family engagement at the beginning of year and approaches to learning, a structural model controlling for nesting within classrooms was conducted. Model fit statistics from this multivariate regression suggest that the model adequately fit these data, $\chi^2(282) = 393.18, p \leq .001$; Comparative Fit Index (CFI) = .988, Tucker-Lewis coefficient (TLI) = .986, the root mean square error of approximation (RMSEA) = .029. Age ($\beta = .15$) and sex ($\beta = .09$) were positively associated with Competence/Motivation, after controlling for age, sex, home-based engagement, school-based engagement, and home-school conferencing. None of the family engagement dimensions were associated with Competence/Motivation. Age ($\beta = .14$), sex ($\beta = .17$). Home-based engagement ($\beta = .14$) were positively associated with Attention/Persistence, after controlling for age, sex, school-based engagement, and home-school conferencing. Sex ($\beta = .13$) and home-based engagement ($\beta = .19$) were positively associated with attitude towards learning, after controlling for age, sex, school-based engagement, and home-school conferencing. Children whose parents were more engaged in the home were more persistent and had a more positive attitude towards learning.

Chapter 4: Discussion

Latino children from low-income households are disproportionately at-risk for poor academic outcomes as they enter kindergarten; therefore, it is critical to examine factors that may contribute to positive development during early childhood when children's foundational skills for early school success are emerging. The purpose of this study was to examine the relationship between family engagement, as a multidimensional construct, and school readiness skills in culturally and linguistically diverse Latino families from low-income backgrounds. Partially supporting hypotheses, findings suggested that family home engagement was an important contributor to children's language development, assessed in both Spanish and English, and to children's approaches to learning. Study findings contribute to and extend prior research by using a measurement approach capturing the multidimensional nature of family engagement and a research design focusing on the within-group variability among Spanish-speaking Latino families living in poverty.

The first research question examined the relationship between the three family engagement dimensions and children's language skills, both in English and Spanish, at the beginning of the year. When all three dimensions of family engagement were included simultaneously in the regression models, home-based engagement was the only dimension that was significant. In line with the hypothesis, family home-based engagement was positively associated with children's English and Spanish vocabulary. This association between home-based engagement and children's language abilities is supported by Head Start research documenting that when families are engaged in actively promoting a learning environment for children in the home, children have a more

elaborate vocabulary and better language skills (Fantuzzo, McWayne, & Perry, 2004; Hill & Craft, 2003; Miedel & Reynolds, 1999; Osyerman, Brickman, & Rhodes, 2007; Parker, Boak, Griffin, Ripple, & Peay, 1999).

Contrary to initial hypotheses no relationship was found between family school-based engagement and children's language skills. This finding adds to the mixed evidence regarding the association between school-based engagement and language abilities. In some studies, in which home-based engagement and school-based engagement were entered in the same statistical model, there was no relationship found between school-based engagement and children's vocabulary skills (Fantuzzo, McWayne, Perry, & Childs, 2004). Conversely, other studies suggest that family school-based engagement is related to children's pre-literacy skills such as phonological awareness and letter name knowledge (Powell et al. 2010). Taken together, finding from the extant literature and the present study do not suggest that family school engagement is not important for children's vocabulary skills, but rather it suggests that family home-based engagement is a very powerful predictor of children's early language skills, especially at preschool entry.

The second research question examined the relationship between the three family engagement dimensions at the beginning of the year and children's approaches to learning at the end of the year. Contrary to the hypothesis, results showed that family home-based engagement, but not school-based engagement, was positively associated with children's attention/persistence and attitude towards learning. None of the family engagement dimensions were associated with competence/motivation. Although approaches to learning has been identified as an important school readiness dimension,

few studies have focused on identifying predictors of this construct. One study found a relationship between home-based and school-based engagement and children's attention, persistence, and attitudes towards learning for Head Start children (Fantuzzo et al., 2004). More research is needed to understand whether these findings in our Latino sample of Head Start children are robust and can be replicated.

It is not clear why school-based engagement was not associated with approaches to learning in the present study. A possible reason may be that home-based engagement constitutes families engaging in activities such as working on creative activities (e.g., drawing and storytelling), working on number skills, and working on reading/writing skills. These activities are an ideal context for families to encourage children to be persistent and to motivate them to put more effort in the tasks. This encouragement provided by families for children to have more positive approaches to learning in the home setting, may translate to children's approaches to learning in the classroom setting. School based engagement entails families volunteering in the classroom or going on class trips, when compared to home engagement activities, it is clear that there is much less opportunity for families to promote positive approaches to learning when engaged in the school setting compared to when engaged in the home setting. Another possible reason may be because families did not have an opportunity to be engaged in the school when these were data collected since it was collected at the beginning of the year.

Limitations and Future Directions

Although the present study extends prior research by providing additional evidence to emphasize the importance of families' engagement in the academic development of young children, there are several limitations that should be

acknowledged. This study was conducted within a Head Start sample in a large southeastern U.S. city, representing a very specific educational and cultural context for children from low-income households. These findings may not be generalizable to low-income children in other early care and education programs or representative of non-low-income, Latino populations. Future studies should examine the relationship between family engagement and school readiness in other ethnic minority groups such as Asian Head Start families and in other educational context such as family childcare homes to better understand the generalizability of these findings.

Another limitation of this study was that family engagement was measured at the beginning of the year (second month of the school year). It is possible that families may have not yet had the opportunity to become engaged in the school setting. In fact, families reported much lower school-based engagement ($M = 16.02$), with less variability in their dimension of engagement, when compared to families' report of their home-based engagement ($M = 23.09$) (Table 1). This could explain the lack of associations between family school engagement and school readiness skills. Future research should examine the relationship between family engagement later in the school year and school readiness outcomes, which may allow families to have greater opportunities to be engaged within the school setting.

It is important to note that families did have an opportunity to be engaged in home-school conferencing, since home-school conferencing consists of having one-on-one conversations with the child's teachers about the child's daily routine, accomplishment, challenges, and so forth. These interactions are common between families and teachers on a daily basis when children are being dropped off or picked up

from school. These daily interactions during pick off and drop of may explain why parents reported high home-school conference ($M = 23.09$). Therefore, the lack of association between home-school conferencing and school readiness outcomes may not be due to lack of opportunity to engage in conferencing at the beginning of the year but rather to the lack of action and follow up to that conversation. For example, families and teachers may talk about the child's difficulties in school but if the families and teacher do not co-construct a plan to address the difficulties that then are followed up with other conversation, it may not lead to higher school readiness outcomes for the child. Therefore, future research should not only examine if families and teachers are communicating but if their communication is leading to fruitful action by both parties that will benefit children's school readiness skills.

In addition, future research should examine the relationship between family engagement and other important school readiness domains such as executive functioning and social competence for Latino children, as a way to identify strengths in this at-risk group. Examining executive functioning may be particularly important for Latino children because higher executive function has been associated with speaking more than one language and the majority of Latino children are bilingual (White & Greenfield, under review). Additionally, the relationship between family engagement and social competence should be examined. Studies have suggested that cultural values for Latino families support positive social emotional development, which in turn has been associated with higher school readiness skills (Crosnoe, 2007; DeFeyter and Winsler, 2009; Galindo and Fuller, 2010). These constructs – family engagement, executive

functioning, and social competence – are malleable constructs that can be targeted through interventions for this at-risk population.

This research could also be extended longitudinally. In order to obtain a more realistic picture of the association between family engagement and school readiness skills for Latino children, longitudinal studies should examine how family engagement changes across the school year and if the amount of change is differentially related to children's school readiness outcomes. For example, it would be important to understand whether children whose families become more engaged with children's academic skills in the home throughout the school year show greater academic gains compared to children whose families' engagement was stable throughout the school year.

Finally, as additional validated tools are available to better measure family engagement within Latino families, future studies should use a more culturally contextualized self-report such as the Parental Engagement of Families from Latino Backgrounds (PEFL) (McWayne & Melzi, 2014). This is important because studies suggest that there may be nuanced ways in which Latino families are engaged in their children's learning, which differ from mainstream conceptualizations of family engagement. For example, a recent qualitative study examined the perspectives of a diverse group of Latino parents and found that these families most often conceptualized their engagement as home-focused activities (McWayne, Melzi, Schick, Kennedy & Mundt, 2013). In fact, it was common that families created their own homework for their children, which included material that the older sibling was doing for their homework. Since such Latino families may not consider school engagement as the optimal way to promote school readiness for their children, they may be less likely to participate in

activities such as volunteering in the classroom and attending class field trips. Such differences in how parents' view their engagement are important to consider and incorporate into an assessment to capture these nuances. For example, the PEFL includes a dimension called "Future-Oriented Teaching", which addresses parent's efforts to socialize children around the importance of education and how education is a crucial factor to their child's social mobility in the U.S. Examining family engagement using a more culturally nuanced measure may help us better understand the relationship between family engagement and school readiness skills for Latino families.

Summary and Implications for Policy and Practice

This study addresses a call from the field to identify strengths within naturally occurring contexts for Latino children and families, which are the fastest growing population of children living in poverty in U.S. (National Research Council, 2006, U.S. Bureau, 2013, Cabrera & the SCRD Ethnic and Racial Issues Committee, 2013). Findings from this study underscore the importance of home engagement for Latino children's language skills and approaches to learning, two essential school readiness dimensions. Due to the importance of language skills and approaches to learning for Latino children's school readiness, understanding the strong influence that a malleable construct, such as family home engagement has on these developing readiness skills, can provide valuable information for strategic early intervention efforts within early childhood programs serving Latino children and families living in poverty.

Prior research has identified challenges and barriers to Latino families' engagement in their child's early learning. For example, there have been concerns in early childhood programs that Latino families, especially Spanish-speaking immigrant

families, are less engaged than other groups (Cooper, Crosnoe, Suizzo, & Pituch, 2010; Fraver Xu, Eppe, & Lonigan, 2006; Wong & Hughes, 2006). Studies have found that poor English language ability is an obstacle for these families (Pyle, Bates, Grief, & Furlong, 2005; Wong & Hughes, 2006). The incompatibility between the language used in school (English) and their home language (Spanish) may lead to feelings of helplessness and erroneous thoughts that they are unable to positively influence their children's school readiness skills. Despite these previous findings, results from the present study reaffirm that Latino families have a powerful and important impact in their children's school readiness outcomes, regardless of their English language proficiency.

Considerable research and public policy attention, as well as federal funding, has been directed toward supporting family engagement, particularly for low-income children (Mapp, 2011; Belway, Duran, Spielberg, 2010; U.S. Department of Education, 2000). However, few resources allocated that support efforts to increase family engagement specifically for Latino families. This group has been identified as having low levels of engagement but other than simply translating school memorandum and other materials into Spanish, few national or local efforts have been made to develop thoughtful, appropriate, or culturally responsive approaches to engage these families in their children's early education. Much more research is needed to identify appropriate mechanisms needed within early childhood programs to engage families as a way to promote school readiness for Latino children from low-income families. This study is the first to examine the differential relationship between the three dimensions of family engagement and school readiness skills in a very diverse sample of Spanish-speaking Latino families, representing more than 20 Latin American countries. Findings are an

important step toward understanding the importance of family engagement as a contributor to children's school readiness in this sample of families, and suggest that resources should be allocated to specifically promote home-based engagement in Latino families.

Table 1
Descriptive Statistics for Family Engagement and School Readiness Skills

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
<i>Family Engagement</i>				
Home-Based	276	23.09	4.15	12- 28
School-Based	277	16.02	5.79	7-28
Home-School Conference	278	22.14	5.26	7-28
<i>Language Skills (Fall)</i>				
English	278	403.32	36.82	352- 482
Spanish	278	429.51	28.61	346- 485
<i>Approaches to Learning (Spring)</i>				
Competence/ Motivation	262	52.36	8.85	18-61
Attention/Persistence	263	53.89	9.75	25-62
Attitudes towards Learning	262	54.02	9.02	21-62

Note. Scores for the languages assessment are W scores ($M = 500$, $SD =$ depends on the age of the child). Scores for the PLBS represent standardized T scores ($M = 50$, $SD = 10$).

Table 2
Bivariate Correlations between Family Engagement in the fall and School Readiness Outcomes

	1	2	3	4	5	6	7	8
1. Home-Based Involvement	—	.53**	.67**	.09	.23**	.13*	.07	.13*
2. School-Based Involvement		—	.64**	.01	.10	-.00	-.02	.07
3. Home-School Conferencing			—	.03	.13*	.06	-.01	.03
4. English Vocabulary				—	-.02	.10	.12 ⁺	.04
5. Spanish Vocabulary					—	.21**	.24**	.18**
6. Competence/Motivation						—	.80**	.72**
7. Attention/Persistence							—	.84**
8. Attitudes towards Learning								—

⁺ $p < .10$, * $p < .05$, ** $p < .01$

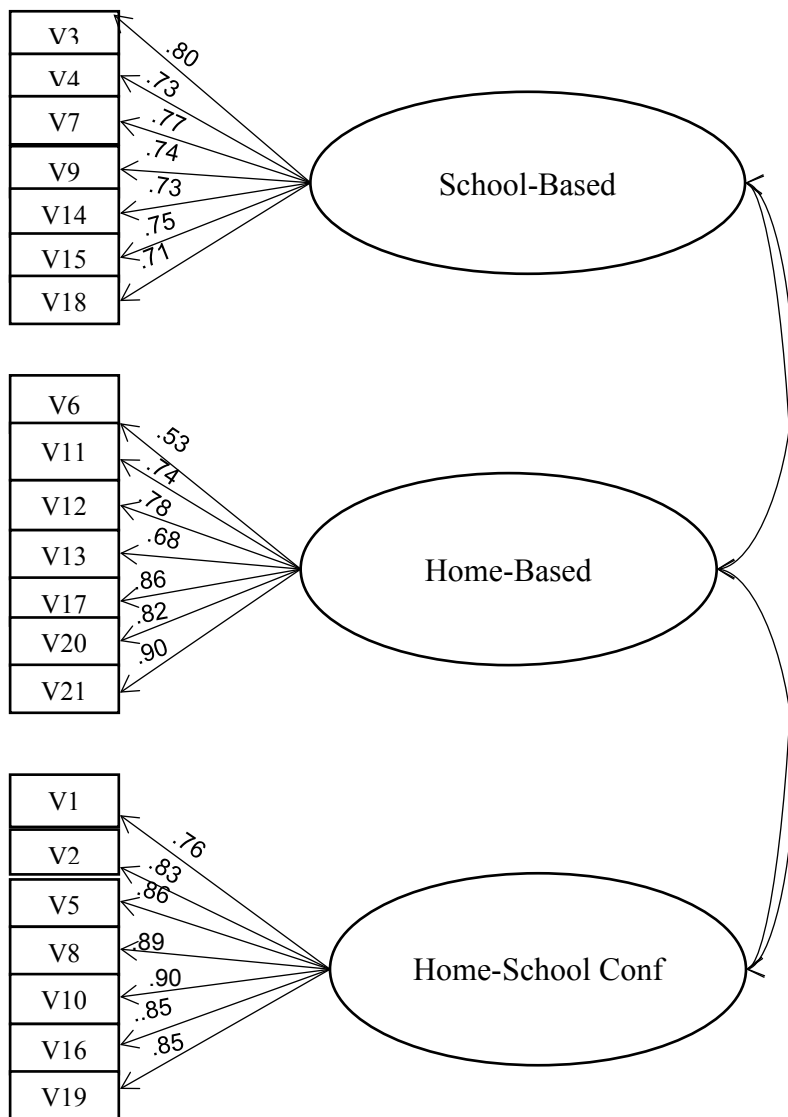


Figure 1. Measurement model

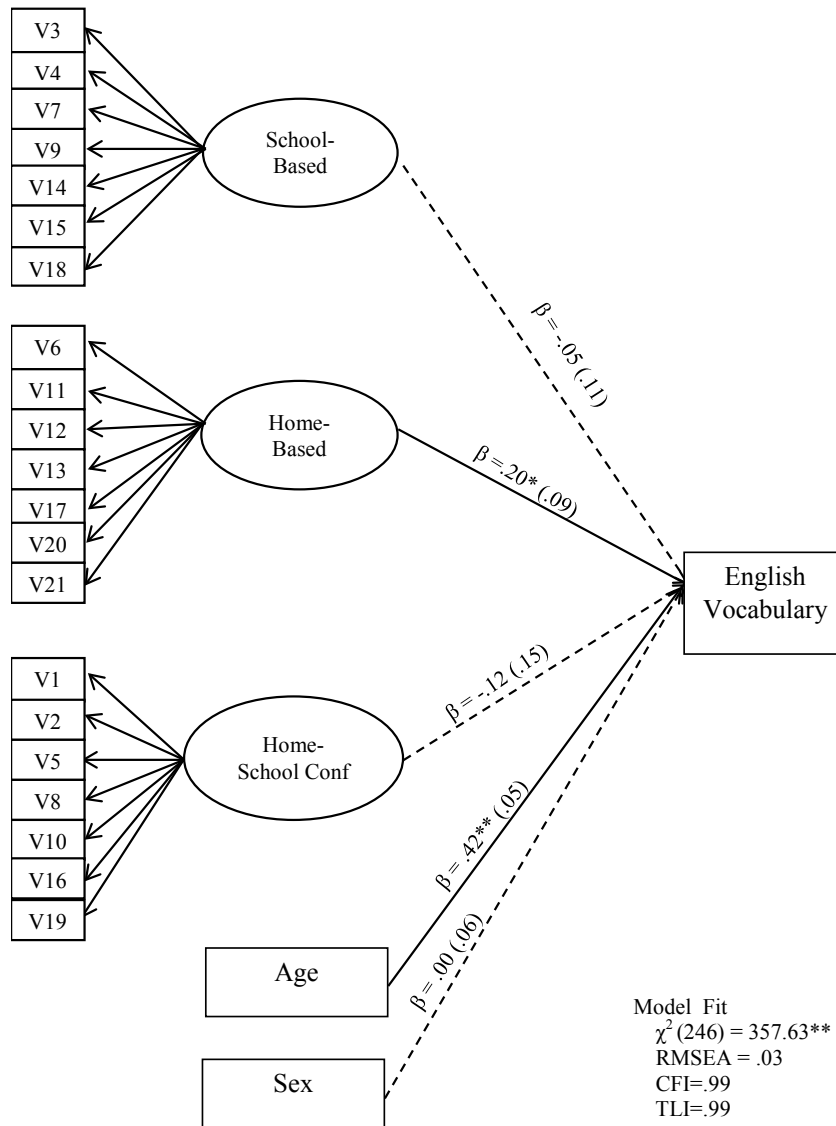


Figure 2. Family engagement dimensions predicting English Vocabulary
 Note: Entries are standardized parameter estimates derived in a structural equation model controlling for nesting (TYPE=COMPLEX). Standard errors are in parentheses. All values reflect the relative contribution of each dimension on the dependent variable (controlling for child age and sex). Tests assess the deviation of each parameter estimate from zero, where $*p < .05$, $**p < .01$

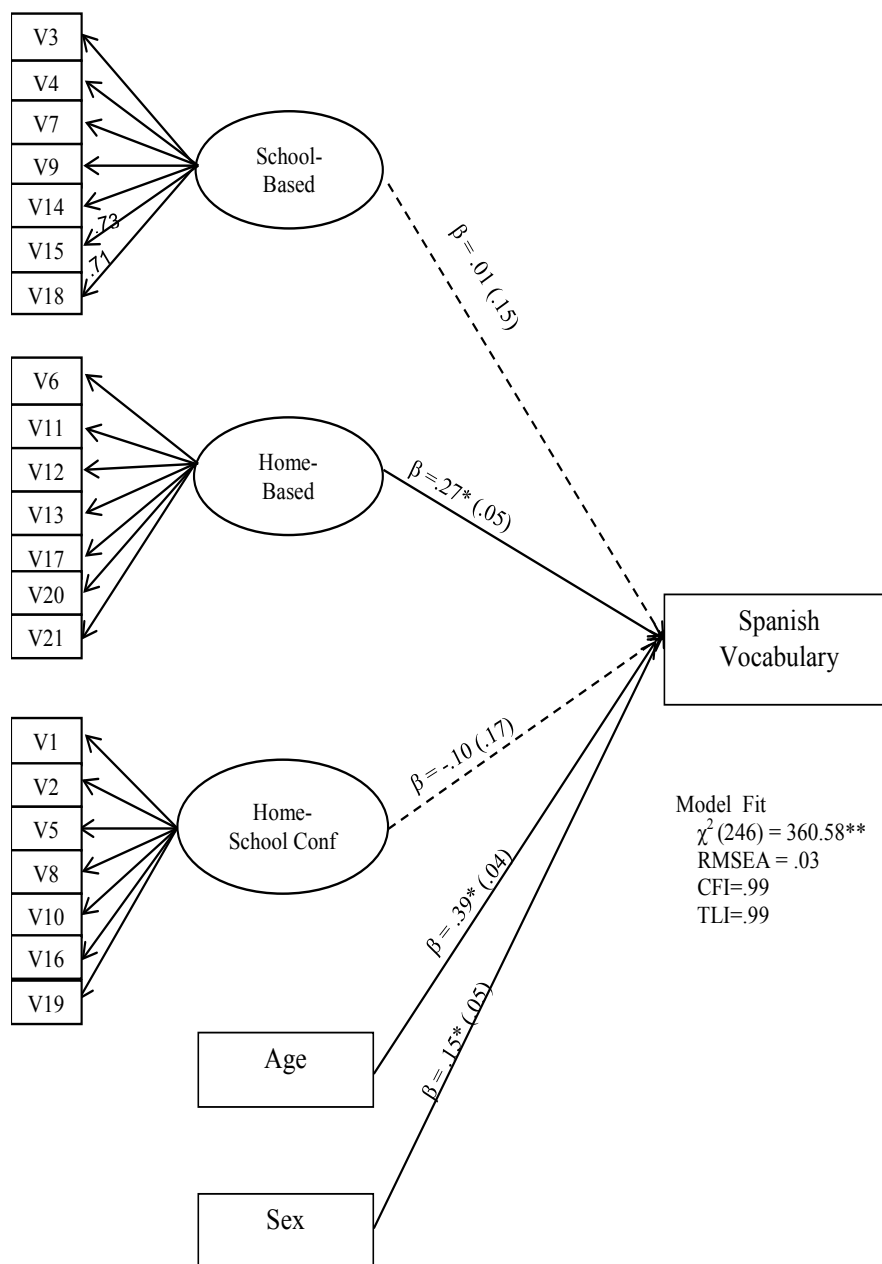


Figure 3. Family engagement dimensions predicting Spanish Vocabulary

Note: Entries are standardized parameter estimates derived in a structural equation model controlling for nesting (TYPE=COMPLEX). Standard errors are in parentheses. All values reflect the relative contribution of each dimension on the dependent variable (controlling for child age and sex). Tests assess the deviation of each parameter estimate from zero, where $*p < .05$, $**p < .01$.

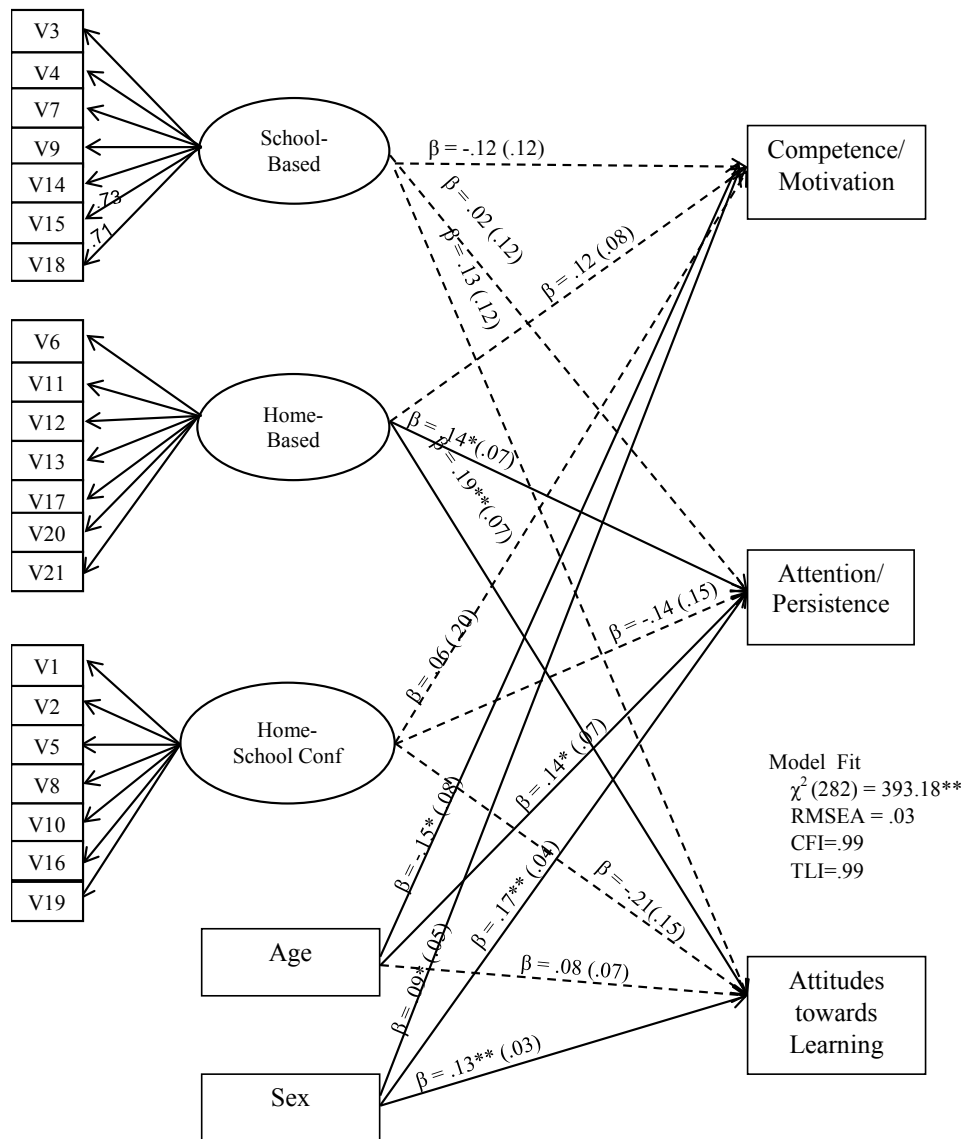


Figure 4. Family engagement dimensions predicting Approaches to Learning Dimensions
 Note: Entries are standardized parameter estimates derived in a structural equation model controlling for nesting (TYPE=COMPLEX). Standard errors are in parentheses. All values reflect the relative contribution of each dimension on the dependent variable (controlling for child age and sex). Tests assess the deviation of each parameter estimate from zero, where $*p < .05$, $**p < .01$.

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