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# Predictors of Behavior Problems in the Context of Peer Play Interactions: A Sample of Low-Income Latino Preschoolers

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Predictors of Behavior Problems in the Context of Peer Play Interactions: A Sample of Low-Income Latino Preschoolers

by

Olivia Hernandez Gonzalez

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Education Specialist  
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University of South Florida

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## **DEDICATION**

I want to dedicate this thesis to my paternal grandfather, Luis, who recently passed away and was a like a father for me. He taught me the skills of perseverance and hard work and encouraged me to follow my dreams. My grandfather also taught me that knowledge is power and convinced me to pursue a career. He is the beacon that guides my road in my life and academic journey. I will never forget his lessons and unconditional love. Thanks grandpa for always believing in me (*Gracias abuelo por siempre creer en mí*).

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## **ABSTRACT**

Latinos are the fastest-growing minority group in the United States and have higher dropout rates compared to other groups. Moreover, problem behaviors are common in preschool classrooms, and the incidence of these problems is higher for children from low-income families. The purpose of this study was to understand Latino children's problem behaviors in the context of peer play interactions and identify those variables that influence such behavior. 265 five and six-year-old Spanish-speaking children (53.6% female) attending Head Start or kindergarten participated in the study. Additionally, 198 mothers and 78 pre-kindergarten and kindergarten lead teachers participated in the study. Child level data were gathered through the Penn Interactive Peer Play Scale, Teacher (PIPPS-T), the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4), and the Test de Vocabulario en Imágenes Peabody (TVIP). Maternal data were obtained from the Demographic Parent Interview, the Brief Symptom Inventory (BSI), and the Breve Inventario de Síntomas (BIS). Both correlations and the multilevel models showed play disconnection related negatively to the child's English proficiency and positively to maternal depression. Results suggest that children with lower English proficiency tend to be more disconnected from their peers as compared to children with higher English proficiency. Similarly, mothers with higher levels of depression symptoms had children with higher levels of play disconnection (internalizing behaviors). The current findings are consistent with previous studies and relevant to both researchers and practitioners.

## **CHAPTER ONE: INTRODUCTION**

### **Statement of the Problem**

**Behavior Problems in the Context of Peer Play Interactions.** Behavior problems have a 10-15% prevalence rate in the preschool population (Campbell, 1995). However, the rates are higher in low-income samples, 16-30% for internalizing and 7-31% for externalizing problems (Qi & Kaiser, 2003). Behavior problems included two broad categories: externalizing and internalizing problems. Externalizing behaviors are overactivity, noncompliance, and aggression towards peers. Children with externalizing problems also experience low impulse control and engage in tantrums. In contrast, preschoolers with internalizing behavior problems experience anxiety, unhappiness, social withdrawal and worriedness (Campbell, 1995). In preschool classrooms, researchers have typically evaluated behavior problems through peer interactions. Specifically, Fantuzzo, Coolahan, Mendez, McDermott, and Sutton-Smith (1998) studied behavior problems presented during free play in Head Start classrooms. The authors assessed a sample of 523 urban African American Head Start children to evaluate the construct and concurrent validity of the teacher version of the Penn Interactive Peer Play Scale (PIPPS). The researchers identified three types of play interactions in preschool classrooms: Play Interaction, Play Disruption, and Play Disconnection. The last two forms, Play Disruption and Play Disconnection, are described as negative peer play interactions. In particular, "Play Disruption describes children's aggressive, antisocial play behaviors that interfere with maintaining ongoing

peer interactions" (p. 424). Teachers in the study reported that children who engaged in play disruption lack self-control. Besides, observations showed children with externalizing behaviors were rejected by peers. On the other hand, "Play Disconnection reflects withdrawn and avoidant behaviors that impede access and active involvement in peer play" (p. 424). Observational data showed that children who engaged in disconnected play observed their peers playing; however, they did not participate in play activities. Children with internalizing behaviors were least likely to be identified as problematic by adults and peers. Negative peer play interactions have been associated with negative outcomes in the areas of school readiness and social-emotional development, while appropriate play is the vehicle for learning in preschool.

**Significance of Play for Preschoolers.** Play is a main component in the early education curriculum because preschoolers learn through play interactions. In particular, Fisher (1992) conducted a meta-analysis to explore the impact of play behavior in child development. He reviewed 46 studies, with a total of 2,565 participants, which demonstrated the importance of play in three main areas of development. In the field of cognitive development, play was related to creative imagination ( $r=.387$ ), problem-solving ( $r=.352$ ), and conservation skills ( $r=.256$ ). Regarding language, play was associated with language acquisition ( $r=.353$ ) and reading readiness ( $r=.384$ ). Additionally, play was related to perspective taking ( $r=.392$ ), and emotional regulation ( $r=.281$ ), demonstrating its impact on social-emotional development as well. The effect sizes were small, but it explained that play improves the child's performance across the domains of development. Fisher (1992) demonstrated the value of play in early childhood for building essential foundations on school readiness skills.

Children who experience problem behaviors in preschool tend to have trouble in the areas of self-regulation and peer interaction in the classroom, which negatively impact school readiness skills. In particular, a study by Bulotsky-Shearer, Fernandez, Dominguez and Rouse (2011) used a stratified random sample of 256 Head Start children, predominantly African Americans. The study found early behavior problems in the context of peer situations predicted lower attitudes toward learning. Behavior problems in structured learning activities were related to poor academic outcomes on both early reading and mathematics ability. Moreover, behavior problems in structured learned activities were negatively correlated with adaptive learning skills, such as motivation, attention, and persistence in academically focused tasks.

### **Theoretical Frameworks: Ecological and Sociocultural**

Researchers suggest looking at behavior problems using an ecological approach since it explains how the environment interacts with the individual (Jones Harden et al., 2015). In particular, the Ecological Models of Human Development includes six subsystems represented by circles, which are nested each inside the next like the Russian wooden dolls. The subsystems starting from the center move from the closest to the more distant and they are the child, the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem (Bronfenbrenner, 1974, 1976, 1977, 1979). As a result, the center of the model includes the child's genetics, such as gender, cognitive ability, and temperament (Bronfenbrenner & Morris, 2006). Then, the following systems represent the interaction of environmental variables and its effects on the developing person. Specifically, the microsystem is the child's immediate environment (e.g., family, school, and peers), since family members play a significant role in shaping the child's development (Bronfenbrenner, 1994). Then, the mesosystem is the

relationship of two immediate settings from the microsystem, such as home-school collaboration (Bronfenbrenner, 1994). The exosystem is the relationship between two settings: one immediate and one more distant. For example, the family includes the child as an active member while neighborhood influences the child without the child's active participation (Bronfenbrenner, 1994). The theory also represented Culture and time. In particular, the macrosystem is the larger cultural and social context including subcultures (e.g., the Hispanic culture). Then, the chronosystem represents the role of time in human development. In particular, it explains the impact of historical events in the person's life and the larger sociocultural context (e.g., The Great Depression; Bronfenbrenner, 1994). This theory is often applied in research. For instance, Jones Harden et al. (2010) used an ecological approach to explore behavior problems exhibited by African Americans in Head Start classrooms. The study found that a child's gender and temperament as well as community violence and media exposure were associated with behavior problems.

Additionally, researchers who study the Latino population recommend a sociocultural approach in addition to the ecological approach because culture plays a significant role in Latinos' development (e.g., Castro et al., 2013; Halle et al., 2014). In particular, researchers affiliated with the Center for Early Care and Education Research: Dual Language Learners have added to the literature of human development. For example, Castro and her colleagues developed a new conceptual framework to understand Dual Language Learners (DLLs) in the U.S. The framework blends the contributions of previous theories to better explain Latinos' development. Vygotsky (1978) proposed studying development within the social, cultural, and historical contexts. Moreover, Rogoff (2003) described the role of cultural practices in which children

participated in allowing them to adapt and make sense of their world. The framework included historical events relevant to the Latino population in the U.S.. Latinos' development is influenced by anti-immigration policies, negative stereotypes, stress related to deportation, separation from family, generational language shifts, and language loss resulting in cultural shame (Castro et al., 2013).

The Latino population is unique and diverse; as a result, researchers should study Latinos within their cultural context. The ecological and the cultural theories give researchers a framework to interpret the results in Latinos' samples. The following section reviews the Latino population in the United States (U.S.) to further understand their cultural context.

### **Latinos in the U.S.**

According to the U.S. Census Bureau (2011), Latinos are the fastest-growing group in the U.S. The Latino population has grown by 15.2 million from 2000 to 2010, resulting in half of the increase of the total population. Specifically, there are 50.5 million Latinos in the U.S., representing 16% of the total population. Additionally, Latinos are spread throughout the U.S. (U.S. Census Bureau, 2011). Some of the Latino subgroups have been living in the U.S. for centuries, such as Mexican Americans who started residing in the U.S. in the 1800s after 40% of their territory became part of the U.S. territory. Other subgroups are more recent immigrants and moved to the U.S. due to political and economic reasons. For instance, Cubans started arriving during the early 1960s after Fidel Castro became president (Marín & Marín, 1991; Rodríguez, Rodríguez, Saenz, & Menjívar, 2008; Suárez-Orozco & Pérez, 2008).

Latinos in the U.S. are a diverse ethnic group from a Latin American origin. The Latino population combines multiple races, languages, and regions. However, Latinos are united by

their culture, since the different Latino subgroups share common cultural values. The core value in the Latino culture is familism, which refers to the close ties that Latinos share with their nuclear and extended family. As a result, Latino families tend to be larger, and close friends are also considered family. For Latinos, family needs are valued over individual needs, which reflects the collectivistic nature of the Latino culture (Marín & Marín, 1991; Rodríguez et al., 2008; Suárez-Orozco & Páez, 2008; Sue & Sue, 2013). In addition to the Latino general population, the Latino school population has to be considered in order to better understand the development of Latino children.

### **Latino Students in U.S. Schools**

Latinos are the largest minority group in the K-12 school population (National Center for Education Statistics, 2015). Additionally, Latinos represent the biggest group of Dual Language Learners (DLLs), with 80% of DLLs identified as Latino (Lazarin, 2006). Latino students are a unique population and their culture impacts their schooling. Latino parents emphasize morals more than academics because they believe that education means to be a good person. Latino parents teach their children to respect the elders, value good behavior, and distinguish between right and wrong (Reese et al., 1995). A review of the National Center for Education Statistics (2015) reported that Latino children have low scores in reading and mathematics in the National Assessment of Educational Progress (NAEP). They have the highest high school dropout rate (12%) and the lowest graduation rate (76%) when compared to other ethnic groups. Only 13% of Latino males between the ages of 15 to 29 years pursued a Bachelor's degree or higher level of education. Moreover, 12% of the children receiving services mandated by the Individuals with Disabilities Education Act (IDEA) are Latinos. Becerra (2012) suggested that the

overrepresentation of Latinos particularly in education is due to a cultural mismatch among Latino students and school staff, while Reese et al. (1995) identified that Latino children underachieving in school are due to low income, the level of education, and linguistic acculturation.

### **Latino DLLs' Behavior Problems in Preschools**

The Latino population is underachieving and represents the largest minority group in both the U.S. and the school community. However, they have been underrepresented in research. In the area of behavior problems in low-income preschools, the majority of the studies targeted African Americans. Halle et al. (2014) reviewed the literature to explore the social-emotional development of dual language learners (DLLs) from birth to the age of five years. The search found only 14 studies in the area of social-emotional development and only 10 of those studies had problem behaviors as the dependent variable. In these studies, teachers reported Spanish-speaking children had fewer behavior problems in preschool classrooms. Similarly, bilingual children (both Spanish and English) were reported to have fewer and less severe behavior problems when compared with their monolingual peers (English only). The studies used an ecological and a sociocultural framework to better understand the factors influencing Latinos' behavior problems. Both approaches consider multiple environmental factors in addition to the child's genetics.

### **Specific Factors that May Impact Latinos' Behavior Problems**

**Language Proficiency.** Children who are unable to understand and communicate with others successfully experience frustration (Hagan-Burke, 2015). As a result, limited English proficiency is a risk factor associated with high rates of behavior problems for both non-Latino

and Latino children (Campbell, 1995; Hagan-Burke et al., 2015; Halle et al., 2014; Qi & Kaiser, 2003). In particular, Campbell's review of the literature found correlations between low scores on language, measured by Peabody Picture Vocabulary Test, and Reynell Developmental Language Test, and frequency of behavior problems in preschool children from various backgrounds and ethnicities. Likewise, the meta-analysis by Qi and Kaiser reported 18 out of 30 studies used a measure of language proficiency, since children with language delays are at higher risk for behavior problems. For Latino DLLs samples, the literature review by Halle and her colleagues reported that limited English proficiency in dual language learners (DLLs) is related to higher rates of learning, conduct, and tolerance problems when the setting has a high rate of English interactions. Likewise, Hagan-Burke et al. found a negative correlation between high English proficiency and internalizing and externalizing problems, suggesting that as English proficiency decreases problem behaviors increases. Additionally, Halle et al. suggested DLLs who scored lower on English tests during kindergarten experienced higher levels of externalizing problems later on when compared to DLLs who scored higher on English language tests, suggesting that limited English proficiency has long-term effects.

**Gender.** In addition to language proficiency, gender may be another risk factor associated with preschoolers' behavior problems. In the literature, there is a mix of evidence of the prevalence of sex differences in behavior problems in preschoolers. The review of the literature by both Campbell (1995) and Qi and Kaiser (2003) reported that some studies found preschool boys had higher rates of problem behaviors, while other studies were not able to find significant evidence for gender differences in preschool children. Jones Harden et al. (2010) found, in their sample of 155 African American Head Start children, externalizing problems

were more prevalent in girls. In particular, 32% of the girls in the study engaged in externalizing problems compared to 15% of the boys. On the other hand, Kaiser et al. (2002) report that males in their sample of African Americans had greater rates of externalizing and internalizing problems. The gender differences in behavior problems are more evident for school-age children such that boys experience more externalizing behaviors and girls more internalizing behaviors (Campbell, 1995). There is a need for more studies to better understand the shift in gender differences.

**Mother's Number of Years in the U.S.** The Latino population is diverse regarding their residency in the U.S. For instance, Mexican Americans have been residing in the U.S. since 1948, while Cuban Americans have been living in the U.S. since 1959 (Marín & Marín, 1991; Rodríguez et al., 2008). Halle et al. (2014) reviewed the literature on DLLs and identified immigration history as a risk factor for problem behaviors since immigrant children engaged in fewer behavior problems when compared to non-immigrant children. More specifically, first-generation immigrants had fewer behavior problems and more interpersonal skills than second-generation immigrants. Researchers explained the generational differences in the Latino population by acculturation. The Latino culture values good behavior in children; as a result, parents focus their efforts on teaching their children how to behave and disciplining unacceptable behaviors, such as being oppositional to adults. Latinos believe that families are responsible for teaching proper manners while the school is in charge of academics. However, second-generation Latinos are more acculturated to American culture and have different beliefs about their role in their child's education (Halle et al., 2014).

**Mother's Level of Education.** The association between maternal level of education and the child's behavioral problems is not clear in the literature because few studies are exploring the interactions between these variables and the findings are equivocal. In particular, Qi and Kaiser's (2003) meta-analysis reported only one out of three studies found a relationship between the mother's level of education and the child's behavior problems (Ducan et al., 1994). Explicitly, a higher level of education served as a protective factor related to fewer rates of both internalizing and externalizing behavior problems because mothers with higher levels of education tend to socialize their children more. They also have higher levels of positive parent-child interactions.

**Mother's Psychopathology.** Research has shown a positive correlation between maternal psychopathology and children's problem behaviors. In particular, Meadows, McLanahan, and Brooks-Gunn (2007) found that maternal generalized anxiety disorder and major depressive disorder was related to children's externalizing and internalizing problems. Moreover, Campbell's (1995, 2006) reviews of the literature established a positive association between maternal depression and externalizing problems in children, because mothers who are depressed have less affective interactions with their children. Likewise, Qi and Kaiser's (2003) findings from eight studies showed maternal depression put low-income preschoolers at higher risk for externalizing and internalizing problems. Mothers who are depressed tend to neglect their children more often due to their illness. Jones Harden et al. (2010) reported that maternal depression related to problem behaviors. Furthermore, maternal stress is another variable associated with both internalizing and externalizing symptoms in low-income samples (Qi & Kaiser). Mothers who are stressed tend to be more irritable and engage in ineffective parenting practices, such as ignoring their children and using punishment more often than positive

reinforcement (Campbell, 2006). In summary, researchers had identified maternal anxiety, depression, and stress as related to problem behaviors.

## **Conclusion**

Both externalizing and internalizing behavior problems are common in preschool classrooms (Campbell, 1995). The rates increase for low-income samples because children living in poverty face multiple stressors, such as hunger, inability to access health care, parental unemployment and incarceration, and high crime neighborhoods (Qi & Kaiser, 2003). Play is an important vehicle for learning in early childhood; as a result, children engaging in disruptive and disconnected play behaviors are at higher risks for underachieving in school (Fisher, 1992).

Behavior problems in early childhood have been examined from an ecological and socio-cultural perspective because the child should be studied in the context of his/her environment and culture (Halle et al., 2014). Studies with Latino children used both approaches and established foundations for understanding the predictors of behavior problems. Even though the literature has mentioned some factors associated with behavior problems, more research is needed to identify the specific factors related to behavior problems in Latino preschoolers.

## **Purpose of the Study**

The purpose of this study was to identify the child and family factors (the child's gender, the child's English language proficiency, the child's Spanish language proficiency, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) that may relate to Latinos' behavior problems (internalizing and externalizing) in the context of peer play interactions. To better understand Latinos' behavior problems, archival data were analyzed from a longitudinal study looking at the school readiness abilities of Latino English

language learner students. Spanish-speaking children age 3-5 years, attending Head Start or kindergarten in five counties in Florida, and their families participated in the larger study.

### **Research Questions**

1. To what extent do child level and maternal level factors (i.e., the child's gender, the child's English language proficiency, the child's Spanish language skills, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) relate to Latino children's externalizing behavior problems (Play Disruption)?

2. To what extent do child level and maternal level factors (i.e., the child's gender, the child's English language proficiency, the child's Spanish language skills, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) relate to Latino children's internalizing behavior problems (Play Disconnection)?

### **Significance of the Study**

Latino students have higher dropout rates when compared to non-Latinos (National Center for Education Statistics, 2015). Previous research has revealed the close relationship between behavior problems and students' academic success. The current study focused on child and maternal factors that may impact young Latino students' behavior during play situations. A better understanding of the factors affecting Latinos' behavior problems in school will inform researchers and practitioners regarding which factors to consider in prevention practices. Furthermore, research in the area of Latinos' problem behaviors is limited, particularly in early childhood. For example, Halle et al. (2014) reported only ten studies that addressed behavior

problems in Latinos attending preschool. The current study adds to the literature in the area of predictors of behavior problems in young Latino children.

### **Operational Definitions of Terms**

There is a brief description of each variable below.

Externalizing problem behaviors in the context of peer play interactions: Frequency of a child's aggressive/antisocial play behaviors that interfere with maintaining ongoing peer interactions.

Internalizing problem behaviors in the context of peer play interactions: Frequency of a child's withdrawn and avoidant play behaviors, described by an absence of interaction with peers.

Child's Gender: Male or female

Child's English language proficiency: Receptive language in English as measured by the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4).

Child's Spanish language proficiency: Receptive language in Spanish as measured by the Test de Vocabulario en Imágenes Peabody (TVIP).

Mother's number of years in the U.S.: Total number of years the child's mother has been living in the U.S.

Mother's level of education: Highest level of schooling achieved by the mothers.

Mother's psychopathology: The average number of symptoms related to mental health. In particular, four distinct scores for four of the dimensions of Brief Symptom Inventory (BSI): depression, anxiety, and distress.

## **Delimitations and Limitations**

The findings of this study may be generalizable to similar populations of students given that this study sampled from a population of low-income families in Head Start residing in five different counties in the state of Florida. More specifically, the findings may be representative of Latino children in the age range of three to five years olds, who are low-income and dual language learners attending preschool programs, specifically Head Start programs. In particular, the findings may not be generalizable to low-income preschool students who do not go to preschool at all or who do not attend Head Start preschool programs. Furthermore, the results of this study may not be generalizable to preschool students who also are from low-income families but who do not reside in the state of Florida and the specific counties that participated in the study.

## **CHAPTER TWO: REVIEW OF THE LITERATURE**

### **Introduction**

The research and the literature on behavior problems in preschool-age children are limited. For the Latino population, there are even fewer studies addressing preschool behavior problems. Researchers suggest looking at behavior problems using an ecological approach, because it explains how the environment interacts with the individual (Jones Harden et al., 2015). Additionally, researchers who study the Latino population recommend using a sociocultural approach, in addition to the ecological approach, because culture plays a significant role in Latinos' development (Castro et al., 2012; Halle et al., 2014). The literature discusses gender and language proficiency as child characteristics associated with behavior problems. Moreover, there are maternal characteristics associated with higher rates of behavior problems. Researchers identified maternal level of education and maternal psychopathology as predictors of behavior problems (Campbell, 1995; Halle et al., 2014; Qi & Kaiser, 2003). Additionally, mother's number of years living in the United States (U.S.) may be relevant for the Latino population (Halle et al., 2014).

This chapter reviews the literature on behavior problems in Latino preschoolers. First, it explains two frameworks that have informed the understanding of Latinos' development. Next, the chapter addresses the demographic characteristics of the Latino population in the U.S.

and in schools. The chapter also describes Latinos' social-emotional development and reviews the studies addressing behavior problems among Latino preschoolers. Lastly, the chapter presents the specific factors related to Latinos' behavior problems in preschool classrooms.

### **Theoretical Frameworks**

**The Ecological/Bioecological Models of Human Development.** Understanding human outcomes is not a simple task, because individuals are unique and complex. A child's development does not occur in isolation; it results from the combination of the child's characteristics and his/her environment. The Ecological Models of Human Development theory explains how the child's interaction with environmental factors shapes development (Bronfenbrenner, 1974, 1976, 1977, 1979). In particular, there are six subsystems nested each inside the next: the child, the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem.

The child, located in the center of the model, represents the child's genetics, such as gender, cognitive ability, and temperament (Bronfenbrenner & Morris, 2006). Researchers have been able to make predictions on children's outcomes based on their temperaments as infants. Specifically, a longitudinal study of shyness predicted two types of children, inhibited and uninhibited, from the behaviors displayed during the experiment. Children who were scared of new toys, showing great reactions in the form of back arching and body movement, were inhibited as adolescents. Inhibited individuals are viewed as shy because they tend to be restrained, cautious, and have avoidant reactions to unfamiliar persons, objects, events, or places. On the other hand, infants who showed a moderate response to new toys, such as being relaxed in the presence, were uninhibited as adolescents. Uninhibited individuals, also known as social

persons, are described as more spontaneous and do not show signs of anxiety or uncertainty (Kagan 1997; 2011). Other studies have also found genetic factors associated with behavior problems. In particular, Jones Harden et al. (2010) found that a child's gender and temperament were associated with behavior problems in Head Start classrooms.

In addition to the child's genetics, environmental variables should be considered in order to have a better understanding of problem behaviors. The microsystem represents the developing person's immediate environment (e.g., family, school, and peers), which directly influences the child. This system can be illustrated through the mother-child relationship. Mothers play a significant role in shaping their child's development (Bronfenbrenner, 1994). For instance, a positive parent-child relationship leads to positive outcomes and serves as a protective factor for children's development. On the other hand, parental psychopathology has been positively correlated with behavior problems. As a result, the greater the level of parental psychopathology (e.g., stress and depression), the more problem behaviors children displayed in the classroom (Jones Harden et al., 2010).

The mesosystem is the relationship between two settings in the microsystem, such as home-school collaboration (Bronfenbrenner, 1994). For example, Epstein (1983) found that high parental involvement in school, defined as a collaborative relationship between teachers and parents predicted higher academic achievement and adaptive skills (e.g., initiative and independence) in high school students.

The exosystem is the relationship between two settings, in which one context contains the child as an active member and the other setting influences the child even though the child is not directly involved (e.g., family and neighborhood; Bronfenbrenner, 1994). Jones Harden et al.

(2010) established important foundations for the use of an ecological approach with low-income samples in order to understand behavior problems. With regard to the exosystem, their study demonstrated how community violence and media exposure are risk factors related to behavior problems. Children raised in low-income neighborhoods, where exposure to these factors may be more prevalent, are at greater risk for problems.

Furthermore, the Ecological Models of Human Development theory also includes broader concepts such as culture and time. In particular, the macrosystem refers to the larger cultural and social context including subcultures (e.g., the Hispanic culture). Then, the chronosystem represents the role of time in human development. In particular, it explains the impact of different events in the person's life and in the larger sociocultural context (Bronfenbrenner, 1994). For example, children who immigrated at a young age tend to be more acculturated than children who immigrated in their adolescence.

The Ecological Models of Human Development theory demonstrates the complexity of human development and emphasizes the importance of considering the interactions with multiple processes in order to understand a developmental phenomenon. However, the ecological theory does not explain all the variables that may influence ethnic/racial minorities' development. As a result, the role of culture in development has been studied in order to better understand minority groups.

**Conceptual Framework for Understanding the Development of Dual Language Learners (DLLs).** Researchers affiliated with the Center for Early Care and Education Research: Dual Language Learners have added to the literature of child development. Castro et al. (2013) developed a new conceptual framework in order to understand Dual Language

Learners (DLLs) in the U.S. DLLs' development takes place between two languages and cultures. DLLs also are a racial/ethnic minority and are more likely to live in poverty and have parents with a low-level of education. The framework incorporated socio-cultural and historical views. The socio-cultural component is based on the work of both Vygotsky and Rogoff. Vygotsky (1978) proposed studying development within the social, cultural, and historical contexts. Rogoff (2003) explained the role of cultural practices in which children participated in allowing them to adapt and make sense of their world. Furthermore, the framework included historical events relevant to the Latino population in the U.S. Latinos' development is influenced by anti-immigration policies, negative stereotypes, stress related to deportation, and separation from family, generational language shifts, and language loss resulting in cultural shame (Castro et al., 2013). The Latino population is unique in terms of their culture; as a result, Latinos must be studied within their cultural context.

Both the ecological and the cultural frameworks demonstrate that child development should be investigated by considering the child's environmental variables and culture. Development does not result from a single variable; it is influenced by different factors. Furthermore, minority groups have to be viewed in their cultural context (Sue & Sue, 2013). The following section provides an overview of Latinos in the U.S. to further understand their cultural context.

### **Latinos in the U.S.**

The U.S. Census Bureau (2011) defined Hispanic or Latino as “a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race” (p.2). Adams (2004) defined Latino as “a heterogeneous mix of cultures, race, and

ethnicity” (p.382). In particular, not all Latinos speak Spanish or practice the Roman Catholic religion. Latinos are not a single race because Latinos are a mixture of multiple races, including European, African, and American Indian. Consequently, Latinos have difference races and the European, African, and American Indian’s roots influence their culture. Despite race and place of origin, Latinos are an ethnic group who share the same culture. Some researchers use the term Hispanic, while others use the term Latino (Marín & Marín, 1991; Rodríguez, Rodríguez, Saenz, & Menjívar, 2008; Suárez-Orozco & Pérez, 2008). This proposal uses the term Latino because it is more neutral in terms of culture and race.

**Demographics.** According to the U.S. Census Bureau (2011), Latinos represent the largest minority group in the U.S. In particular, there are 50.5 million Latinos in the U.S., representing 16% of the total population. Latinos also are the fastest growing group in the U.S., since the increase in 15.2 million from 2000 to 2010 accounts for half of the growth of the total population of the U.S. The biggest three geographic subgroups within the Latino population are Mexicans (63%), Puerto Ricans (9%), and Cubans (4%). Nevertheless, Latinos in the U.S. are from all the areas of Central America, South America, and the Caribbean. Furthermore, the majority of Latinos live in California (27.8%), Texas (18.7%), and Florida (8.4%). However, Latinos resides in most, if not all, states.

**History.** Latinos have 500 years of history on the American continent, which have been characterized by colonization, wars, and treaties. Mexicans, the largest and oldest Latino subgroup, have resided within currently defined borders of the U.S. for centuries, since the Southwest region of the U.S. was once part of Mexico in the 1800s. In particular, the Treaty of Guadalupe Hidalgo signed in 1848 gave 40% of Mexico's land to the U.S. (Marín & Marín,

1991; Rodríguez et al., 2008). As a result, Mexicans have more family members born in the U.S. when compared to other Latino groups (Umana-Taylor & Fine, 2001). Puerto Ricans' immigration increased when Puerto Ricans were declared to be U.S. citizens in 1917. Cubans, the third largest subgroup of Latinos residing in the U.S., have been living in the U.S. since the first half of the 19<sup>th</sup> century. Cubans' first wave of massive immigration, known as the "Golden Exiles," started in 1959 during Fidel Castro's revolution. Upper and middle-class Cubans who disagreed with Castro's ideas moved to the U.S. Because of their generally wealthy status, Cubans who arrived in 1959 and the early 1960s typically had a high level of education. The second wave of Cuban immigration, known as "Marielitos," occurred during the 1980s. This wave included Cubans from a lower class and many of them were prisoners because Castro freed them from jail. In particular, 12,000 Cubans moved to the U.S. after the government opened the Mariel (Marín & Marín, 1991; Rodríguez et al., 2008). In addition to the three biggest groups comprised of Mexicans, Puerto Ricans, and Cubans, there are many other subgroups of Latinos representing Central America, South America, and the Caribbean. Immigrants from other regions tend to follow political and economic patterns as well. Rodríguez et al. (2008) reported that Dominicans' immigration started after the death of Rafael Trujillo in 1961, while Central Americans had a history in the U.S. since the civil wars of the 1970's due to government repression in their countries.

**Culture.** Latinos are a collectivistic culture in which the group is valued over the individual (Sue & Sue, 2013). Latinos prefer "relationships in groups that are nurturing, loving, intimate, and respectful" (Marín & Marín, 1991; p.12). The most critical value for Latinos is family. Latinos have close bonds with both their nuclear and extended family (Marín & Marín,

1991; Rodríguez, Rodríguez, Saenz, & Menjívar, 2008; Suárez-Orozco & Pérez, 2008; Sue & Sue, 2013). Marín and Marín reported that Latinos consider close friends as family members and refer to them as co-parents. Marín and Marín described that Latinos give material and emotional support to family members, rely on family members for help and support, and see relatives as role models. Rodríguez and colleagues stated that Latinos tend to stay close to their family and their households are larger than non-Latino American families. Latino families include nuclear and extended family. A Latino home may have grandparents, uncles, aunts, and cousins in addition to the child and his/her parents. Typically, everyone in the household, especially women, take care of the children. Moreover, everyone who works contributes to the house expenses. Some Latino children live with their parents until they marry, while others never leave home. Latino family members tend to have close bonds with each other. Moreover, immigration is a variable that may cause instability in Latinos' households as some new members may move in or out of the house after their arrival in the U.S.

**Acculturation.** Latinos residing in the U.S. are a unique population because they experience an interaction between their home culture and the American culture, resulting in varying levels of acculturation. Acculturation is “the process of psychological change in values, beliefs, and behaviors when adapting to a new culture” (Merrell, Ervin, & Gimpel, 2012, p. 46). Marín and Marín (1991) stated that a common way to measure acculturation is through language use. For instance, Latinos who are first-generation tend to practice their home culture and language, while Latinos who are second and third generation tend to practice more often the mainstream culture and language. First-generation refers to Latinos who were born outside the U.S. Second-generation are Latinos born in the U.S., but whose parents were born in Latin

America. Mix-second-generation are Latinos born in the U.S. and one of the parents was born in Latin America. Third generation are Latinos who were born in the U.S. as well as their parents, but their grandparents were born in Latin America. Acculturation is an important factor in order to better understand Latinos rising in the U.S. in terms of cultural practices variations across generations (Marín & Marín).

### **Latino Students in U.S. Schools**

In U.S. schools, Latinos are the biggest minority group (National Center for Education Statistics, 2015). Researchers have been studying the population of Latino students for many years. To explore Latino family values in American schooling, Reese et al. (1995) conducted a study using quantitative and qualitative methodologies. Participants included 121 Latino families who had children between the ages of five and nine years old. Results showed that Latino households in the sample defined "education" as being a good person, suggesting a blending between academics and morals. Moreover, parents in the study rated teaching their children the following three as their priorities: respect to adults, ability to distinguish between right and wrong, and good manners and behavior. Parents in the sample placed less emphasis on academics compared to morals. In particular, teaching the alphabet was ranked number nine out of 12 rankings. Parents also reported that they were afraid of negative peer influences on their children. Parents stated that they used corporal punishment to discipline their children, which conflicts with the school's discipline methods.

Latino families in the Reese and colleagues' (1995) study had high education hopes for their children, such as completing a college degree. However, the National Center for Education Statistics (2015) suggested Latinos have the highest high school dropout rate (12%) and the

lowest graduation rate (76%) among other ethnic groups. Furthermore, only 13% of Latino males between the ages of 15 and 29 years pursued a Bachelor's degree or higher level of education. Moreover, Latino children have low scores on reading and mathematics as measured by the National Assessment of Educational Progress (NAEP).

Due to the alarming statistics related to Latinos' underachievement, Becerra (2012) studied the barriers to Latinos' academic achievement. His sample included 1,508 Latino adults with a mean age of 43 years old. Becerra's study was retrospective since he asked participants to recall their K-12 school experiences. Participants identified three variables related to their academic achievement: income, parental level of education, and English language proficiency. Becerra's findings are consistent with the National Department of Education Statistics (2015), which reported that Latino children, regardless of the number of years residing in the U.S., tend to be of a lower socioeconomic status when compared with White non-Latino children.

Vélez and Saenz (2001) reviewed the literature on Latino's school dropout and reported three related ecological factors: individual, family, and structural. At the individual level, researchers have identified the following variables: behavior, attitudes, academic performance, generational status, language, and ethnicity. For example, Latino students who engaged in problem behaviors (e.g. fighting and talking back to teachers) tend to be suspended from the school, which is a predictor of school dropout. Family-related variables included family structure, socioeconomic status, and social capital. For instance, Latinos students with married parents are less likely to drop out of school when compared to Latino students with divorced parents. Likewise, a low socioeconomic status is a risk factor associated with dropout.

Han (2010) suggested that Latino children are more likely to attend public schools and receive more services than their White peers. In particular, 12% of the children receiving services mandated by the Individuals with Disabilities Education Act (IDEA) are Latinos, which exemplify an overrepresentation of Latinos in special education (National Department for Education Statistics, 2015). Latinos in special education are classified as having an intellectual disability, specific learning disability, or emotional/behavior disorder (Garcia-Joslin, Carrillo, Guzman, Vega, Plotts, & Lasser, 2015). Participants in Becerra's study reported that Latinos' overrepresentation in special education is due to cultural misunderstandings among school personnel. Additionally, Lazarin (2006) stated that 80% of English Language Learners in K-12 grades are Latino.

### **English Language Learners/ Dual Language Learners**

According to Florida Department of Education (2015), English Language Learners (ELLs) are students who meet one of the three following categories. First, the child was born outside the U.S. and whose native language is other than English. Second, the child was born in the U.S. but comes from a home in which English is not the primary language. Third, the child is a Native American or Alaskan Native who lives in a home in which English is not the primary language. As a result of one or more of the above conditions, the student demonstrates sufficient difficulty in speaking, reading, writing, or understanding English, preventing him or her from learning successfully in American classrooms in which the primary language spoken is English. In the 2002–2003 school year, about 4.1 million (8.7%) of the U.S. student population in public schools were ELLs. However, in the 2012-2013 school year, the percentage of ELL students in U.S.

public schools increased to about 4.4 million (9.2%) (National Center for Education Statistics, 2015).

ELLs are a heterogeneous group since they speak 300 different languages. However, 74% speak Spanish as their mother tongue (Florida Department of Education, 2015). In the public school system, ELLs participate in language assistance programs, such as English as a Second Language, High-Intensity Language Training, and Bilingual Education. Participation in these types of programs can improve students' English language proficiency, which has been associated with improved academic achievement (National Center for Education Statistics, 2015). Schools held ELLs to the same high expectations outlined in the Common Core State Standards. However, they receive additional time, appropriate instructional support, and aligned assessments as they acquire both English language proficiency and content area knowledge (Florida Department of Education, 2015).

ELLs is the term used by the Department of Education. However, there are there other terms used as synonyms to refer to the ELLs' population. For instance, the Office of Head Start's report (2008) used the term Dual Language Learners (DLLs) and defined it as "children learning two (or more) languages at the same time, as well as those learning a second language while continuing to develop their first (or home) language" (p.2). In addition to ELL and DLL, there other terms related to this population, such Limited English Proficient (LEP), bilingual, English learners, and children who speak a language other than English (LOTE; Office of Head Start, 2008). The current study is going to use the term DLLs in order to refer to Latinos who are acquiring English, simultaneously or sequentially, in addition to Spanish.

## **Social-Emotional Development among Latino Dual Language Learners**

Dual language learners (DLLs) tend to have higher self-control and interpersonal skills than their monolingual peers (Halle et al., 2014). DLLs also show fewer externalizing and internalizing behaviors. However, the area of social-emotional development is underrepresented in research, since the majority of the studies with DLL preschoolers address language and cognition (Halle et al., 2014). As a result, Halle et al. reviewed the literature exploring the social-emotional development of DLLs in early childhood (birth to age five). Their report made significant contributions to the understanding of the social-emotional development of Latinos since 11 out of the 14 studies reviewed included Latinos in their sample.

Social-emotional development includes four components, which are: self-regulation, social competence, social cognition, and problem behaviors. Halle et al. (2014) defined self-regulation as "the ability to focus attention, to manage emotions, and to control behaviors" (p. 739). Six out of 14 studies explored DLLs' ability to self-regulate. Findings showed that first-generation immigrants and fluent bilingual children scored higher in the measures of self-regulation. Furthermore, social competence refers to "the ability to interact effectively with others, and develop and maintain positive relationships" (Halle et al., 2014, p.739). Eight studies analyzed social competence and showed that teachers rated Mexican Americans as having greater social competence than African Americans. Similarly, children from Cuba and South America socialize better than other Latino subgroups. On the other hand, social cognition is "the ability for a child to understand how he or she relates to others and how to interact in social situations" (Halle et al., 2014, p.739). Only two studies in the meta-analysis addressed social cognition and only one of them used a sample of Latinos. In particular, the study by Cervantes

(2002) found that Mexican American girls used more emotional statements in their conversations with their mothers than Mexican American boys or Mexican-born children. Social cognition in preschool has not been explored with other Latino subgroups in early childhood. Additionally, researchers defined problem behaviors as outliers of the three competencies above, resulting in both internalizing and externalizing problems (Halle et al., 2014). Findings in the area of problem behaviors are described in more details in the section below since they are the primary focus of the current study.

### **Behavior Problems in Latino Dual Language Learner Preschoolers**

This section includes a review of the studies already published on behavior problems among Latino preschoolers in the U.S. In particular, Halle et al.'s (2014) meta-analysis found fourteen studies on Latino preschoolers' social-emotional development and ten studies on behavior problems. Four of the studies focused on behavior problems performed secondary analyses using archival data collected by the U.S. Department of Education for the Early Childhood Longitudinal Study, Kindergarten (ECLS-K), in which thousands of children were followed between kindergarten and fifth grade. The studies using the ECLS-K data set used different subsamples in order to explore the potential predictors of problem behaviors.

In 2005, Crosnoe used the ECLS-K data to compare Mexican Americans to Caucasians, African Americans, Asians, and Latinos (excluding those with Mexican origin). The study used ecological variables represented by school characteristics in order to explain the child's outcomes in such areas as mathematics achievement, mental health, and interpersonal functioning. Results showed that Mexican American children in general have better mental health when compared to other groups. However, Mexican American kindergarteners have lower achievement levels in

mathematics, and higher levels of mental disorders and interpersonal functioning compared to the other groups when they attend schools that are dysfunctional. In the sample, dysfunctional schools had a vast number of students, less experienced teachers, and high levels of minority overrepresentation and poverty. For instance, the mental health of Mexican children in the sample was compromised when they came from a low socioeconomic status and their school had an overrepresentation of minority groups. The study highlighted the importance of considering the child's environment in order to understand academic and social-emotional outcomes for Latino children. Crosnoe's study aimed to inform future interventions in schools that have Latino students.

In 2008, Araujo Dawson and Williams used ECLS-K data and selected 2,840 children who were identified as Hispanic in order to explore the impact of language proficiency as a predictor of both internalizing and externalizing behavior problems. Researchers measured language skills with the English Oral Language Development Scale (EOLDS) and behavior difficulties with the Social Rating Scale (SRS). The study found that teachers rated children from a low socioeconomic status and those born in the U.S. higher on internalizing behaviors. Moreover, researchers found three independent variables related to externalizing behaviors: English proficiency, place of birth, and gender. Specifically, teachers rated students with limited English proficiency as showing higher levels of externalizing behaviors. Likewise, children who were born in the U.S and males had greater scores on externalizing behaviors as well. In sum, teachers rated Latino children born in the U.S. as having more internalizing and externalizing behavior problems than Latino children born outside the U.S. These teachers made the place of birth a common variable for both internalizing and externalizing behavior problems.

In 2010, Han used the ECLS-K data to explore the role of bilingualism in the child's social-emotional well-being. One of the variables employed in the study was behavior problems in both externalizing and internalizing forms. Han found that fluent bilingual children (English and Spanish) had fewer internalizing and externalizing problems and experienced a slower rate of increase in these characteristics between kindergarten and fifth grade when compared with white English monolingual children. Additionally, non-English Monolingual (Spanish only) children were at a disadvantage in terms of their school and family characteristics. After controlling for these factors, children who spoke only Spanish had more adverse outcomes. Han's study was well designed. For instance, the sample size was large with a total of 14,853 children. Also, researchers selected children from 1,000 schools. They also included both public and private schools and used a comparison group. However, there were limitations because of teachers' and parents' bias. Teachers rated the children's behavior problems using the SRS, and relatives reported the language that their children used at home.

Galindo and Fuller (2010) also used the ECLS-K data and selected a subsample of 19,590 children in order to study the development of social competence in Latino children. Children's social competence is composed of five factors: approaches to learning, self-control, interpersonal skills, internalizing problems, and externalizing problems. Galindo and Fuller (2010) used an eco-cultural approach because they considered multiple environmentally and culturally specific variables, such as race and ethnicity, region of origin, generational status, home language, and socio-economic status. They found gaps in social competencies among different subgroups. For instance, teachers in the sample rated Latino children as having lower social competence across the five domains when compared to Caucasians and higher when compared with African

Americans. However, researchers found that the gap between Latinos and Caucasians in the area of social competence was small and it could be explained by positive parenting practices within the Latino community. Nevertheless, place of origin was correlated with social competence and demonstrated the diversity of the Latino population residing in the U.S. In particular, children of Puerto Rican origin had a wider gap when compared with Caucasians, while children from Cuban and South American origin had a slight gap or no gap at all when compared to Caucasians. Galindo and Fuller suggested that the differences may be related to parental level of education, since families from Cuba and South America tend to have a higher level of education. However, research is needed in order to better understand the differences between subgroups within the Latino population.

In addition to the ECLS-K data, other researchers have conducted secondary analyses using larger data sets. For instance, De Feyter and Winsler (2009) evaluated a subsample from the Miami School Readiness Project (MSRP). They specifically studied 2,194 low-income children attending preschool. Their study compared first generation immigrants, second generation immigrants, and nonimmigrants to explore multiple domains of school readiness across the groups. Specifically, De Feyter and Winsler investigated the relationship between generation status and race/ethnicity with language, cognitive, and social-emotional development. The researchers also examined problem behaviors. Teachers rated the students' social-emotional factors and problem behaviors using the Devereux Early Childhood Assessment (DECA). The study found that the low-income preschool age children experienced lower levels of language and cognitive development. However, immigrant children do not have significant problems in the area of behavior. In particular, first-generation immigrants had fewer problem behaviors than

second-generation immigrants and non-immigrant children. The greatest concern when considering problem behaviors is the group of non-immigrant children. Specifically, researchers reported an effect size of .42 (medium) for first-generation immigrants and non-immigrants, which indicates that generation status reliably predicts problem behaviors. Furthermore, generation status also played a significant role when ethnicity was taken into account. Latino children who were first-generation immigrants scored lower on problematic behaviors and higher on social-emotional protective factors when compared to other groups. Nevertheless, generation status did not make a difference for children of color who scored lower on those areas despite their years living in the U.S. De Feyter and Winsler highlighted the strengths of Latino children in the area of social-emotional development, which can be used to promote later success and academic achievement within this population. They also had a vast and diverse sample of Latino preschoolers.

Similarly to the study of De Feyter and Winsler (2009), Winsler et al. (2014) used a subsample from the Miami School Readiness Project. However, their sample only included low-income Latino children. The measures applied in the study are the same as De Feyter and Winsler (2009) described above. The goal of the study was to investigate the different variables related to English acquisition among low-income Latino students. The predictors relevant to the current study were social-emotional skills and behavior problems. Findings showed that Latinos who made higher gains on English acquisition by age four had higher social-emotional skills and lower problem behaviors, resulting in greater self-control. Like Crosnoe (2008) and De Feyter and Winsler (2009), Winsler et al. (2014) suggested that fluent bilingual children showed less problematic behaviors in preschool classrooms. Despite their significant contributions in the area

of language and behavior, researchers recommended more longitudinal studies to better understand the possible relationship.

Comparably, Luchtel et al. (2010) conducted secondary analyses using the data from the Early Head Start Research and Evaluation Project. The study compared DLLs (Spanish and English) and native English speakers in the areas of classroom conduct, social skills, and teacher-child relationship quality. The study included a subsample of 3,001 children, 1,034 mothers, and 743 teachers. The average age of children was five years. Families in the study were from a low socio-economic status, since all of them qualified for Early Head Start services. Despite their qualifications for the Early Head Start program, children in the study attended different childcare and preschool programs. The child's home language was gathered from questionnaires and parent interviews. However, the child's receptive language was assessed with the Peabody Picture Vocabulary Test-III (PPVT) and Vocabulario en Imagenes Peabody: Adaptacion Hispanoamericana (TVIP). Moreover, teachers rated participants' classroom conduct, social skills, and teacher-child relationship quality by completing the Behavior Problems Scale (BPS), the Cooperative Classroom Behavior Scale (CCB), and the Student Teacher Relationship Scale (STRS), respectively. Researchers also evaluated classroom quality using the Early Childhood Environment Rating Scale-Revised (ECERS-R).

Results showed that teachers rated DLLs lower on problem behaviors in classroom and higher on teacher-child relationship quality compared to native English speakers. Although the DLLs in the sample had various levels of English proficiency, level of ability did not interfere with the positive evaluations. Other researchers, such as Araujo Dawson and Williams (2008), suggested that limited English proficiency is related to problem behaviors. However, Luchtel et

al., (2010) explained that their sample had younger children than the sample of Araujo Dawson and Williams. As a result, the data should be interpreted considering the context. In particular, children attending preschool are acquiring language while children attending school should have already mastered the language. Luchtel and his team suggested that DLLs encounter a silent period characterized by observations and gestures, resulting in teachers' approval because they do not disrupt the classroom. The researchers also found that gender played a role because teachers rated boys higher than girls on problem behaviors, social skills, and student-teacher relationship. Luchtel's team incorporated ethnicity as an independent variable to test whether ethnicity was related to the outcomes variables. Teachers' reports showed that Latino children scored higher on social skills and lower on negative behaviors when compared to other ethnicities in the sample. Researchers also suggested a possible link between first-generation status and language, since two-thirds of the Latino families spoke Spanish at home, a common practice for first-generation immigrants due to a lack of English proficiency. Luchtel's team provided valuable interpretation of the results, well-established rating scales, a large sample, and significant contributions.

In early childhood, research addressing Latinos' social-emotional development is limited. The number of studies focused on behavior problems are even fewer in the literature. The studies in the area of problem behaviors used large data sets, since many of the studies performed secondary analysis utilizing large national data sets. Their methodology highlights how different questions and subsamples can be generated from shared data sets. Additionally, all of the studies in the area of Latinos' behavior problems addressed the topic from an ecological and socio-cultural perspective, creating the foundations for understanding the factors that may be related to

Latinos' problem behaviors. Typical findings across multiple studies were that internalizing problems are related to socioeconomic status (Araujo Dawson & Williams, 2008; Crosnoe, 2005; Galindo & Fuller, 2010), place of birth (Araujo Dawson & Williams, 2008; Crosnoe, 2005; De Feyter & Winsler, 2009; Galindo & Fuller, 2010), and language proficiency (Han, 2010). Additionally, previous studies suggested that externalizing behaviors are related to socioeconomic status (Crosnoe, 2005; Galindo & Fuller, 2010), place of birth (Araujo Dawson & Williams, 2008; Crosnoe, 2005; De Feyter & Winsler, 2009; Galindo & Fuller, 2010; Luchtel et al., 2010), and language proficiency (Araujo Dawson & Williams, 2008; Han, 2010). Moreover, Crosnoe (2005) and Luchtel et al. (2010) also found that gender was related to externalizing problems, since teachers rated male students as having higher rates of externalizing behaviors. The following section provides more details about the specific variables that may be related to Latinos' problem behaviors.

### **Specific Factors that May Impact Latino DLLs' Problem Behaviors**

**Language Proficiency.** Studies suggest that limited English proficiency is a predictor of problem behaviors. Notably, Campbell's (1995) review of the literature found correlations between low scores on language measures and problem behaviors in preschool children from various backgrounds and ethnicities. Likewise, the meta-analysis by Qi and Kaiser (2003) reported 18 out of 30 studies used a measure of language proficiency, since children with language delays are at higher risk for behavior problems. Then, Qi and Kaiser (2004) explored the relationship between language delays and problem behaviors in low-income preschoolers. In particular, Qi and Kaiser's sample included 60 children, between the ages of four and five years, who were attending Head Start. The majority of the sample were African Americans, specifically

51 African Americans, 8 European Americans, and 1 Latino. Researchers assigned children to two groups, language delayed (n = 38) and typical language development (n = 28), based on language test results. The authors noted that the Latino student in their sample spoke English as the first language and was classified as typical language development. Qi and Kaiser assessed language using the Preschool Language Scale -3 (PLS-3) and the Peabody Picture Vocabulary Test, Third Edition (PPVT-3). Researchers used the Child Behavior Checklist (CBCL) to measure problem behaviors in the classroom. Teachers reported that children with language delays engaged more often in both internalizing and externalizing problem behaviors in structured and unstructured activities. Qi and Kaiser explained that limited communication is associated with higher levels of problem behaviors since frustration expresses children's inability to communicate their needs or understand others.

The research with DLLs is limited, and the number of studies that explore the relationship between language proficiency and problem behaviors is even fewer. In reviewing the literature, Halle et al. (2014) found a total of 14 studies related to DLLs social-emotional development. Out of the 14, 10 explored problem behaviors and five considered the relationship between language and problem behaviors. One of the studies analyzed by Halle et al. demonstrated protective factors associated with bilingualism. In particular, Han (2010) found that fluent bilingual children (English and Spanish) had fewer internalizing and externalizing problems and experienced a slower rate of increase in these characteristics from kindergarten to fifth grade when compared to European American English monolingual children. Likewise, De Feyter and Winsler (2009) and Winsler et al. (2014) found a positive correlation between fluent bilingualism and appropriate behaviors in the classroom.

Halle et al. (2014) suggested that Latino DLL children engage less frequently in behavior problems compared to other ethnicities. However, teacher reports showed that Latino children with limited English proficiency were at risk for experiencing behavior problems. In particular, teachers indicated that DLLs who have low English proficiency experience higher rates of problems in academic, behavior, and tolerance when English is the primary language of discourse. There may be severe consequences when the child's primary language does not match the school language. Longitudinal data showed DLLs who scored low on English tests during kindergarten experienced more externalizing problems in third grade as compared to other DLLs who scored high (Halle et al., 2014).

Hagan-Burke et al. (2015) explored the association between vocabulary and problem behaviors among Latino DLLs attending preschool programs. The sample included 138 children with a mean age of 4.75 years, and the majority were from a low socioeconomic status. Hagan-Burke and her colleagues measured the children's receptive vocabulary using the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) and expressive vocabulary using the Expressive Vocabulary Test, Second Edition (EVT-2). To measure problem behaviors, Hagan-Burke et al., used the Problem Behavior Scale of the Social Skills Improvement System (SSIS) Rating Scales. Results demonstrated an association between vocabulary, receptive and expressive, and internalizing problems.

**Child's Gender.** The relationship between gender and problem behaviors in preschoolers is not clear in the literature. In particular, reviews on the predictors of problem behaviors in early childhood have found mixed results about gender; some researchers reported boys as having higher rates of problem behaviors, while others reported no gender differences (Campbell, 1995;

Qi & Kaiser, 2005). Jones Harden et al. (2010) conducted a study with a sample of 155 African American Head Start children and found that teachers rated 32% of the girls as engaging in problem behaviors more often compared to 15% of the boys. On the other hand, Kaiser, Cai, Hancock, and Foster (2002) had a sample of 332 Head Start children comprised of 88% of African Americans. Kaiser et al. reported that teachers rated boys as having more internalizing and externalizing problems in comparison to girls, suggesting that gender is a significant predictor of problem behaviors. Regarding Latinos, Araujo Dawson and Williams (2008), Crosnoe (2005), and Luchtel et al. (2010) found in their samples that teachers rated Latino preschool boys higher on behavior problems, such as non-compliance with the rules and teacher's requests. Campbell (1995) suggested gender differences in behavior problems are more evident for school age children; boys experience more externalizing behaviors and girls more internalizing. Additional studies are needed to understand better the age at which gender differences become apparent.

**Mother's Number of Years in the U.S.** The Latino population is diverse regarding the number of years residing in the U.S. For instance, Mexican Americans who started arriving during the 1800s have been living in the U.S. longer than Cuban Americans who started coming during the late 1950s (Marín & Marín, 1991; Rodríguez et al., 2008). In research, generational history is the number of year in the U.S.

Research has shown that generational history plays a significant role in Latinos' behaviors since immigrant children engaged less frequently on behavior problems when compared to non-immigrant children (Halle et al., 2014). For instance, Halle et al. described that first-generation immigrants tend to have fewer behavior problems and more interpersonal skills

than second-generation immigrants. In particular, the study by De Feyter and Winsler (2009) found that teachers rated first-generation immigrants as behaving better than second-generation immigrants and non-immigrant children. The effect size for the differences between first-generation immigrants and non-immigrants was .42 (medium), suggesting that generational status reliably predicts problem behaviors. Researchers indicate that first-generation Latino immigrants practice their home culture, which values "Una Buena education" meaning a good education. For Latinos, "Una Buena education" means to respect adults. Some examples are complying with adult requests without questioning and not interfering with adults' conversations. Latinos believe that teaching behavior is the responsibility of the parents and teaching academics is the responsibility of the school. Second-generation immigrants tend to acculturate to the American culture, which gives more autonomy to children, explaining the differences in conduct (Reese et al., 1995).

**Mother's Level of Education.** Mother's level of education has been associated with socio-economic status (Davis et al., 2015). However, the association between the maternal level of education and the child's behavioral problems is not clear in the literature. Qi and Kaiser's (2003) meta-analysis reported only one, Duncan, Brooks-Gunn, and Klebanov (1994), out of three studies found a relationship between mothers' level of education and children's behavior problems. In particular, Duncan et al. analyzed the data from the Infant Health and Development Program (IHDP), a national longitudinal sample which included family and neighborhood levels of poverty. Duncan et al. measured problem behaviors using the Revised Child Behavior Profile (CBP), which included internalizing and externalizing problems. Researchers gathered the mother's level of education, measured in years, via survey at the time the child was born. The

study found a negative relationship between a maternal level of education and both internalizing and externalizing problems, suggesting that as the mother's level of education decreases the child's internalizing and externalizing problems increase. In Latino samples, Galindo and Fuller (2010) reported an association between level of education and behavior among Latino preschoolers. For instance, they found that children from Cuba and South America, who tend to come from families with higher levels of education, typically behave appropriately in preschool and kindergarten classrooms. The study suggested that higher maternal level of education is a protective factor for problem behaviors.

**Mother's Psychopathology.** Previous studies have shown that maternal psychopathology is a risk factor associated with problem behaviors in young children. In particular, Jones Harden et al. (2010) found a moderate positive correlation between maternal psychopathology (depression dimension of the Brief Symptoms Inventory; BSI) and behavior problems. Moreover, Campbell (1995; 2006) reported a positive association between maternal depression and externalizing problems in preschool-age children. One possible explanation was that mothers who self-reported symptoms of depression had less affective interactions with their children, which is characterized by negative and disengaged parenting practices (Campbell, 2006).

Likewise, Qi and Kaiser's (2003) findings from eight studies showed that maternal depression placed low-income preschoolers at higher risk for both externalizing and internalizing problems. In addition to depression, the authors reported that maternal stress was associated with both internalizing and externalizing symptoms in low-income samples. Furthermore, Meadows, McLanahan, and Brooks-Gunn (2007) found that maternal psychopathy is linked to problem

behaviors in preschool children. In order to explore the relationship between parental anxiety/depression and behavior problems in early childhood, Meadows et al. used subsample of 2,120 families from the Fragile Families and Child Wellbeing study. Researchers measured children's problem behaviors using the Child Behavior Checklist and parental mental health using the Composite International Diagnostic Interview Short Form from the Diagnostic and Statistical Manual of Mental Disorders. Results showed that maternal psychopathology, major depressive disorder and generalized anxiety disorder, was related to children's externalizing and internalizing problems.

Furthermore, Alegría et al. (2007) explored the prevalence of anxiety, depression, and substance abuse among the Latino subgroups using the archival data from the National Latino and Asian American Study (NLAAS). The Latino subsample included 2,554 bilingual Latinos, English and Spanish, who were 18 years old or older. The sample represented the major Latino subgroups, such as Mexicans, Puerto Ricans, Cubans, and others. The study found that Latinos who are born in the U.S. are more likely to have psychiatric disorders currently and across their lifetime compared to Latinos born outside the U.S. Moreover, Puerto Ricans on average had higher rates of mental illness compared to Mexicans and Cubans. Alegría and colleagues suggested that Puerto Ricans are at greater risk of developing psychopathology since Puerto Ricans had more considerable gender differences compared to Mexicans and Cubans. Consequently, many Puerto Rican women are single mothers, which generates extra stress. Moreover, Puerto Rican men have higher rates of unemployment and underemployment.

## **Conclusion**

Behavior problems constitute one of the four areas of socio-emotional development and represent a barrier to learning. Moreover, behavior problems do not occur in a vacuum; as a result, the ecological and sociocultural framework established foundations for understanding behavior problems in the context of the child's environment and culture. Studies of Latinos' socio-emotional development are limited, and the numbers get smaller for problem behaviors. Previous studies created the bases for understanding the factors related to behavior problems in Latino preschoolers and suggested that researchers should consider child and maternal level factors.

## **Purpose of the Study**

The goal of this study is to evaluate the relationship between child and maternal factors (the child's gender, the child's language proficiency, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) and Latinos' behavior problems (internalizing and externalizing) in the context of peer play interactions.

## **Significance of the Study**

The current study has both research and practical implications. In particular, there are few studies of Latino DLLs' social-emotional development. As a result, the current study adds to the existing literature on Latino DLLs' social-emotional development. Specifically, the present study contributes to the knowledge on predictors of problem behaviors in preschool classrooms. Regarding practical implications, knowing the possible predictors of problem behaviors may help in prevention and early intervention. In particular, the current study's results may assist in the systematic screening for behavior problems. Additionally, this study will inform behavioral interventions at multiple levels, such as individual, peer, school, and home.

## **CHAPTER THREE:**

### **METHODS**

#### **Data Source**

The current study used archival data from the Florida English Language Learners Attending Head Start (FELLA-HS) project, funded by a Head Start University Partnership Grant awarded from the Administration for Children and Families (ACF). Targeting counties with a high density of Latino households, research assistants collected data from children, parents, and teachers in five different counties in Florida. Twenty-nine Head Start sites from Hillsborough (11), Pinellas (4), Lee (7), Palm Beach (3) and Monroe (4) Counties participated in the study. The sample consisted of 350 children between the ages of three and five years. The goal of the larger study was to measure the children's school readiness abilities and the role of families and classrooms in the child's development; as a result, children completed assessments between the Spring of 2008 and Spring of 2009. Specifically, research assistants collected data at three-time points (Spring 2008, Fall 2008, and Spring 2009) to measure the growth of the children's school readiness skills in both English and Spanish. Two cohorts of students participated in the original study. The first group was evaluated at the end of Head Start and during kindergarten, and the second cohort was assessed at all three-time points during their Head Start program. Research assistants assessed children in both languages in a one-on-one setting. Parents completed a parental interview by phone in Spring 2008 and Spring 2009, while teachers completed different

measures, such as rating scales, demographic teacher questionnaires, and cultural teacher surveys.

## **Participants**

**Children.** This study analyzed data collected from the Spring of 2009 of the larger study, which included 265 three to six-year-old Spanish-speaking children attending Head Start or kindergarten. The majority of children were born in the United States (U.S.), while the remainder were born in Cuba, Puerto Rico, Mexico, Guatemala, Honduras, Peru, or Colombia. All of them lived in a house where at least one parent spoke Spanish at the time of the study.

**Mothers.** Parent participants consisted of 198 mothers originally from Cuba, Puerto Rico, Mexico, Guatemala, Honduras, Peru, Colombia, the Dominican Republic, Panama, El Salvador, Venezuela, Nicaragua, Argentina, Ecuador, and Bolivia. Their place of birth reflects Latino populations in the U.S., especially in Florida. However, the sample did not include all possible countries of origin of Latinos who reside in the U.S. (e.g., Chile, Uruguay, Costa Rica; U.S. Census Bureau, 2010). Families were diverse regarding the level of education, English proficiency, and the number of years residing in the U.S. Nevertheless, the majority of the participants were from a low socioeconomic status since the Head Start program mainly accepts families whose income is below the poverty guidelines.

**Teachers.** A sample of 78 pre-kindergarten and kindergarten lead teachers participated in the study. The years of teaching experience ranged from 0 (new teacher) to 43 years. Regarding gender, 100% of teacher participants were female. The ethnicity of the teachers was diverse: 65.3% Caucasian, 22.9% Latino/Hispanic, 5.9% Black, 1.7% Native American, and 1.7% Multiracial, 1.7% other and 0.8% Asian/Pacific Islander. Educationally, 66.4% had a Bachelor's

Degree, 15.1% had a Graduate Degree, 11.8% had an Associate's Degree, and 6.7% had a High School Diploma or GED. At the time of the study, some of the teachers had less than a Bachelor's Degree because Head Start teachers were not required to hold a Bachelor's Degree as a condition of employment, unlike Kindergarten teachers. Additionally, 49.6 % of the participating teachers were *ESOL Certified*.

### **Ethical Considerations**

Researchers obtained permission from the University of South Florida Institutional Review Board (IRB) before analyzing the data for this study to be in compliance with ethical guidelines. Moreover, the Florida English Language Learners Attending Head Start Project provided consent forms to teachers and parents to address ethical issues. The staff from the Head Start programs distributed informed consent forms in both Spanish and English. They also explained the research project to each participant before they signed the consent form and gave them one week to review before making an informed decision about their participation in the study. Participants signed the informed consent before the interviews.

Furthermore, the principal investigators addressed confidentiality and privacy of the participants by assigning ID numbers to participants to de-identify the data. All informed consent forms and data collected were recorded, reviewed, and kept in a locked cabinet at the University of South Florida.

### **Independent Variables**

**Child's gender.** In this research study, the child's gender is one of the independent variables and was obtained at the time of parental consent.

**Child's English language proficiency.** An additional independent variable included in this project was English language proficiency, which was measured by the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4).

**Child's Spanish language proficiency.** Spanish language proficiency was measured by the Test de Vocabulario en Imágenes Peabody (TVIP).

**Family Factors.** Additional independent variables are different precursors of family factors that may be associated with the child's behavior problems. These variables were obtained from the parent interviews conducted during the study and include the mother's years of residence in the U.S. ("How many years has the mother been residing in the U.S.?" ) and the mother's level of education ("What is the highest level of schooling the mother has completed?").

**Maternal psychopathology.** The Global Severity Index (GSI), the Depression Subscale, and the Anxiety Subscale of the Brief Symptoms Inventory (BSI), which had been completed by the mothers during the study interviews were used to explore the relationship between maternal psychopathology and the child's behavior problems.

### **Dependent Variables**

**Problem Behaviors.** In this research study, the dependent variables were the two types of problem behaviors, externalizing (Play Disruption) and internalizing (Play Disconnection). They were measured using the teacher version of the Penn Interactive Peer Play Scale, (PIPPS-T). Researchers generated one standard score for each type of behavior problem. The next section further describes the measures.

## Measures

**Penn Interactive Peer Play Scale, Teacher (PIPPS-T).** The teacher version of the Penn Interactive Peer Play Scale (PIPPS-T; Fantuzzo et al., 1998) is used in research to measure behavior problems in the context of peer play interactions. The PIPPS-T includes 32 4-point scale items, which range from never to always in order to measure behaviors that promote or interfere with play interactions. Teachers report the behaviors observed during free play in the past few months. The current study used two of the three dimensions of the PIPPS-T: Play Disruption (reversed) and Play Disconnection (reversed), because they reflect behavior problems that interfere with play. Specifically, items on the Play Disruption Scale target aggressive and antisocial behaviors that interfere with play interactions, such as "starts fights and arguments" and "disrupts play of others." Items on the Play Disconnection Scale represent withdrawn and avoidant play behaviors that are described by an absence of interaction with peers, such as "hovers outside play group" and "wanders aimlessly." The PIPPS-T was developed in collaboration with parents and teachers for use with low-income urban Head Start students for research purposes. The Play Disruption dimension has a Cronbach's alpha of .91, while the Play Disconnection dimension has a Cronbach's alpha of .89 on Head Start samples (Fantuzzo et al., 1998). Moreover, Bulotsky-Shearer, Lopez, and Mendez (2016) recently validated the PIPPS-T with a large sample of Latino children attending Head Start, which showed that the PIPPS-T has three evident categories, which are very similar to the previous studies of Fantuzzo et al., (1998) and Mendez et al., (2002). However, some of the items loaded differently into the categories for the Latino sample. As a result, the current study used the norms proposed by Bulotsky-Shearer et al. In term of reliability, Bulotsky-Shearer et al. reported high levels of internal consistency,

which are similar to the previous listed studies. In particular, Play Disruption has a Cronbach alpha of .90 while Play Disruption has a Cronbach alpha of .86. For the current study, Cronbach alphas are .90 for Play disruption and .85 for Play Disconnection, which is similar to previous studies. The study also found concurrent validity, because the measure corresponds to approaches to learning and academic skills, which are two critical components of school readiness (Bulotsky-Shearer et al., 2016). Thus, the scale is valid for the Latino population as well.

**Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4).** English Language Proficiency was measured using the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4, Dunn & Dunn, 2007). The PPVT-4 is a standardized assessment used from preschool to adulthood to evaluate receptive vocabulary for Standard American English. The test has been correlated with cognitive functioning. The PPVT-4 has 125 items and takes from 10 to 15 minutes to administer. The administrator presents a group of four pictures accompanied by a word given verbally. The child then points to the picture that best represents the given word. The items on the PPVT-4 represent 20 content areas and parts of speech that are arranged in increasing levels of difficulty. A standard score is produced based on a large normative sample; as a result, standard scores were used to determine English language proficiency. For the data set from the larger study, Arango (2012) reported a Cronbach's alpha of .86.

**Test de Vocabulario en Imágenes Peabody (TVIP).** The children's Spanish language was assessed with the Test de Vocabulario en Imágenes Peabody (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986), which is the Spanish version of the PPVT-R. The TVIP was normed with participants from Mexico and Puerto Rico with the aim to make it as universal as possible for the

different groups that are considered to be “Hispanic.” This version has the same age group, number of items, and administration time as the English version. Standard scores were used to determine Spanish language proficiency. Arango (2012) reported a Cronbach’s alpha of .78 for this sample.

**Demographic Parent Interview.** The Demographic Parent Interview, developed by the Bilingual School Readiness research team at The University of South Florida, was used to measure family factors such as number of years residing in the U.S. and level of education of the mother. Questions asked included, "How many years has the mother been living in the U.S.?" and "What is the highest level of schooling the mother has completed?" Research assistants contacted the children's mothers via telephone during Time 1 and Time 3 of the larger study in order to fill out an interview in the form of a survey. To obtain information about the family factors, the current study used the data collected by the demographic parent interview during Time 1 and Time 3. There are no data on the reliability of the parent demographic survey because the research team initially developed the measure for the purpose of the larger study. However, a panel of three members of the research team reviewed all questions in the interview and made sure that all questions were clear and appropriate for the objectives of the project to address the content validity of this measure.

**Brief Symptom Inventory (BSI).** The Brief Symptom Inventory (BSI; Derogatis, 1993) was used to measure maternal mental health. The BSI is a standardized, 53-item self-report that evaluates the manifestation of symptoms of psychopathology in the past seven days on individuals as young as thirteen years of age. Items are rated using a 5-point scale, ranging from 0 (Not at all) to 4 (Extremely). It takes approximately 10-15 minutes to complete and requires a

reading ability level equivalent to that of a sixth-grade education. Individual questions from the BSI are not presented due to copyright license requirements. The BSI also includes nine primary dimensions of psychopathological symptoms: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety (panic), hostility, phobic anxiety, paranoid ideation, and psychoticism. There also are three global indices associated with distress: the Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST). This study used the dimensions of depression ( $\alpha=.85$ ) and anxiety ( $\alpha=.81$ ). Furthermore, this study included the GSI index because it is considered the best indicator of general psychological distress and negative emotionality with a reliability score of .90 (Derogatis & Melisaratos, 1983).

**Breve Inventario de Síntomas (BIS).** The Breve Inventario de Síntomas (BIS; Derogatis, 1993) is the Spanish version of the Brief Symptom Inventory (BSI). Both versions target the same age group and have the same number of items and administrative guidelines. Coefficients of internal consistency of this measure have been reported ranging from a low of 0.70 on the hostility dimension to a high of 0.91 on depression (Ruiperez, Ibanez, Lorente, Moro, & Ortet, 2001). This measure was used in the larger study to assess the mother's GSI, depression, and anxiety, symptoms for those participants whose language of preference was Spanish.

## **Procedures**

Using the mother's language of preference (English or Spanish), bilingual research assistants contacted the mothers via telephone to complete the demographic parent interview during Spring 2008 and again in Spring 2009 of the 2008-2009 school year. The interviews were

one-on-one and lasted approximately 30 to 40 minutes. Likewise, mothers completed the Brief Symptom Inventory (BSI) via telephone at Time 3 of the study. Research assistants entered the demographic parent interview data into a computer scanning program and hand-scored BSI data to obtain the T-scores for the specific dimensions as well as the global indices of the BSI. Then, research assistants manually entered the T-scores into an Excel document. Parents received a backpack with bilingual children's books as compensation for their participation in the study.

After researchers received the signed informed consent, children's testing took place between the hours of 9:00 a.m. and 12:00 p.m. at their respective centers. Undergraduate and graduate research assistants assessed each child individually in both languages (English and Spanish). In particular, they assessed each language in different days and at least one week apart to avoid mixing languages during testing. The order of language assessed varied based on the research assistant's availability. Besides, children completed the assessments in a total of four sessions, lasting 80 minutes altogether, to prevent test fatigue. Children received a toy or sticker after each session.

Teachers completed consent forms and received research packets that included a letter explaining that one or more children in their classroom were participating in the FELLA-HS study and the details of the project. In addition to the letters, teachers received the Language and Culture Questionnaire (LCQ), the teacher demographic questionnaire, and multiple child rating scales, including the Penn Interactive Peer Play Scale, Teacher (PIPPS-T). Teachers received survey packets either via mail or hand delivered if the teachers taught at a local school. Teachers had approximately five weeks to complete the package contents and return the questionnaires. Teachers chose between a Wal-Mart, Target or Office Depot \$10 gift card for completing the

Language and Culture Questionnaire (LCQ) and the teacher demographic questionnaire.

Additionally, they received monetary compensation for each child measure completed. Research assistants scanned the survey packet contents upon receipt using Remark OMR software that automatically plugs the data into an Excel spreadsheet. After scanning each questionnaire, a research assistant performed quality checks on each item to ensure the data inputted into the spreadsheet matched the answers on the questionnaire. Once all the questionnaires were scanned, a second research assistant quality checked every fifth entry to ensure accuracy. If errors were found in a particular survey, then every entry was checked to ensure no additional errors were present.

### **Qualifications**

Research assistants were undergraduate students, graduate students, and members of the community fluent in both English and Spanish since they conducted the interviews in the parent's language of preference. Each research assistant received extensive training on administering the demographic parent interview, the Brief Symptom Inventory (BSI), and the child's assessments. Additionally, each assessor spoke only in the language of preference of the child's mother during the interview period to ensure understanding of the questions and better expression.

### **Research Questions**

1. To what extent do child level and maternal level factors (i.e., the child's gender, the child's English language proficiency, the child's Spanish language proficiency, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) relate to Latino children's externalizing behavior problems (Play Disruption)?

2. To what extent do child level and maternal level factors (i.e., the child's gender, the child's English language proficiency, the child's Spanish language proficiency, the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology) relate to Latino children's internalizing behavior problems (Play Disconnection)?

### **Data Entry and Screening**

To ensure the accuracy of the entered data, research assistants performed quality checks on every 10th items and removed missing values. The current study used data from Time 1 and Time 3 of the larger study. To guarantee a complete set of data that included all the variables of interest, participants' ID numbers with complete data from Time 1 (i.e., the mother's level of education) were matched with the corresponding participants' ID numbers with complete data from Time 3 (i.e., the mother's stress and depression).

### **Data Analysis**

Descriptive statistics, such as frequency, mean, standard deviation, range, skewness, and kurtosis, were run to examine the distribution of each variable. Additionally, scatterplots were created to visually analyze the distribution of each variable. Then, bivariate correlations were conducted to determine whether relationships exist between any of the variables of interest and whether the relationships are linear or curvilinear before running the multilevel models.

The research questions were examined by estimating multilevel regression models. In particular, two composite scores from the PIPPS-T were calculated. Play disconnection represents the child's internalizing behaviors. Play disruption represents the child's externalizing behaviors. Play disconnection and play disruption composite scores were calculated based on the findings of Bulotsky-Shearer, Lopez, and Mendez (2016) validated with a Latino preschool

sample. A multilevel model is more complicated than conducting multiple regression models, but has a specific advantage for nested data. In the current sample, children were nested within classrooms. Multilevel models produce more appropriate standard errors for fixed effects estimates. In particular, the independent variables – the child's gender, the child's English language proficiency, the child's Spanish language proficiency, and the mother's number of years in the U.S., the mother's level of education, and the mother's psychopathology – were predicting play disruption and play disconnection. All of the predictor variables were level 2 variables and represent fixed coefficients because they should not vary across classrooms. Moreover, a residual analysis was conducted.

## **CHAPTER FOUR:**

### **RESULTS**

#### **Overview**

Latino children, their mothers, and teachers participated in the study. In particular, children were attending Head Start or kindergarten. Children took both the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) and the Test de Vocabulario en Imágenes Peabody (TVIP). Each of the tests measured the child's receptive language, the first in English and the second in Spanish. Testing took place on different days to avoid the children's mixing the languages. Additionally, mothers completed the demographic parent interview and the Brief Symptoms Inventory (BSI) in their language of preference, since all mothers self-identified themselves as Latinas. To measure the child's play disruption and disconnection levels, teachers completed the Penn Interactive Peer Play Scale, Teacher (PIPPS-T). A standard score for each subscale of play disruption and disconnection was calculated. This chapter provides a description of the results of the current study.

The purpose of this study was to identify the child and family factors that may relate to Latinos' behavior problems in the context of peer play interactions (play disruption and play disconnection). First, descriptive statistics were conducted to evaluate the distribution of the variables. Next, correlations were conducted to analyze the relationship between the variables. Lastly, multilevel models were run to test the relationship between the predictors (child and

maternal factors) and the dependent variables (play disruption and play disconnection).

Multilevel modeling was selected as the statistical test due to the nested structure of the data.

Specifically, children were nested in classrooms.

### **Descriptive Statistics of the Variables**

Descriptive statistics, such as frequency, mean, standard deviation, skewness, and kurtosis, were run to examine the distribution of each variable. Both the play disruption ( $M = 51.35$ ;  $SD = 7.09$ ) and play disconnection ( $M = 49.60$ ;  $SD = 6.03$ ) variables measured by the PIPPS –T were in the average range, suggesting no significant problem behaviors in the sample. Additionally, children’s receptive vocabulary measured by the PPVT-4 and the TVIP were in the moderately low range in both English ( $M = 83.43$ ;  $SD = 9.61$ ) and Spanish ( $M = 79.34$ ;  $SD = 16.89$ ). PPVT-4 has a mean of 100 and standard deviation of 15 (Dunn & Dunn, 2007). Mothers’ average level of education was 10.36 years ( $SD = 4.17$ ), and average of years residing in the U.S was 10.58 ( $SD = 5.81$ ). Furthermore, maternal psychopathology scores were in the average range for all three symptoms of psychopathology, Anxiety ( $M = 44.65$ ;  $SD = 9.00$ ), Depression ( $M = 47.83$ ;  $SD = 7.66$ ), and General Stress ( $M = 45.82$ ;  $SD = 10.39$ ). The GSI has a mean of 50 and standard deviation of 10, and clinically significant scores has a T score of 63 or above (Derogatis, 1993). In terms of distribution, skewness values in all the variables ranged from -1.74 to 1.47 and kurtosis values ranged from -.26 to 5.06. Results are presented in Table 1 below.

Table 1

*Distribution of Variables*

Variable	N	M	SD	Skewness	Kurtosis
DISR	147	51.35	7.09	-.94	.47
DISC	152	49.60	6.03	-1.74	5.06
ENG	130	83.43	9.61	.50	.63
SPA	119	79.34	16.89	-.11	-.26
EDU	227	10.36	4.17	-.24	.55
YRS US	218	10.58	5.81	1.47	3.05
ANX	190	44.65	9.00	1.16	.37
DEP	190	47.83	7.66	1.20	.82
GSI	190	45.82	10.39	.67	.17

*Note.* DISR = child's play disruption; DISC = child's play disconnection; ENG = child's receptive English language; SPA = child's Spanish receptive language in Spanish; EDU = highest level of schooling achieved by the mothers in years; YRS US = total number of years the child's mother has been living in the U.S.; ANX = mother's anxiety symptoms; DEP = mother's depression symptoms; GSI = mother's Global Severity Index.

**Research Questions 1 and 2**

**Correlational analyses.** Bivariate correlations were conducted to determine whether relationships existed between any of the variables of interest and whether the relationships were linear or curvilinear before running the multilevel models. The correlation matrix included both composite scores (play disruption and play disconnection). Visual analysis of the scatter plots showed a linear relationship among the variables. Results from this analysis are presented in Table 2 below.

Table 2

*Correlation between the Variables*

	DISR	DISC	ENG	SPA	EDU	Yrs US	ANX	DEP	GSI
DISR	1.00	<b>.45**</b>	-.14	.11	.07	-.08	.21	<b>.25*</b>	<b>.24*</b>
DISC		1.00	<b>-.28**</b>	.01	.09	.08	.13	<b>.29*</b>	.17
ENG			1.00	.04	.03	-.05	-.01	-.09	-.20
SPA				1.00	.02	-.16	.20	.14	.14
EDU					1.00	.05	-.04	-.08	-.08
YRS US						1.00	-.11	-.03	-.06
ANX							1.00	<b>.52**</b>	<b>.76**</b>
DEP								1.00	<b>.72**</b>
GSI									1.00

*Note.* DISR = child's play disruption; DISC = child's play disconnection; ENG = child's receptive English language; SPA = child's Spanish receptive language in Spanish; EDU = highest level of schooling achieved by the mothers in years; YRS US = total number of years the child's mother has been living in the U.S.; ANX = mother's anxiety symptoms; DEP = mother's depression symptoms; GSI = mother's Global Severity Index.

\* $p < .05$  \*\* $p < .01$

In terms of play disruption, the correlation matrix indicated that play disruption was mildly correlated to mothers' depression ( $r = .25$ ;  $p < .05$ ) and mothers' general psychopathology ( $r = .24$ ;  $p < .05$ ). Moreover, play disruption was moderately correlated to play disconnection ( $r = .45$ ;  $p < .01$ ). In regards to play disconnection, the correlation matrix indicated that play disconnection mildly correlated to child's receptive English proficiency ( $r = -.28$ ;  $p < .01$ ) and mother's depression ( $r = .29$ ;  $p < .05$ ). Findings also demonstrated that mother's anxiety was moderately to strongly correlated to mother's depression ( $r = .52$ ;  $p < .01$ ) and mother's general psychopathology ( $r = .72$ ;  $p < .01$ ). Additionally, mother's depression was strongly correlated to mother's general psychopathology ( $r = .72$ ;  $p < .01$ ).

**Multilevel modeling.** The research questions were examined by estimating multilevel regression models. Eighteen models were analyzed, nine for play disruption and nine for play disconnection. In particular, two composite scores from the PIPPS-T were calculated. Play disconnection represents the child's internalizing behaviors. Play disruption represents the

child's externalizing behaviors. Play disconnection and play disruption composite scores were calculated based on the findings of Bulotsky-Shearer, Lopez, and Mendez (2016) validated with a Latino preschool sample. The independent variables –child's gender, child's English language proficiency, child's Spanish language proficiency, and mother's number of years in the U.S., mother's level of education, mother's anxiety, mother's depression, and mother's general psychopathology - were predictors for play disruption and play disconnection. All of the predictor variables are level 1 variables and represent fixed coefficients since they should not vary across classrooms. Moreover, a residual analysis was conducted.

**Research Question 1: To what extent do child level and maternal level factors relate to play disruption?**

As mentioned above, nine models for play disruption were run. First, the conditional model including no predictors was run. The Intraclass Correlation (ICC) was calculated to determine the degree of dependence between individuals. Additionally, the conditional model predicting level of play disruption including the level 1 predictors (child's gender, child's English language proficiency, child's Spanish language proficiency, mother's number of years in the U.S., mother's level of education, mother's anxiety, mother's depression, and mother's general psychopathology) was run. In order to adopt a more exploratory approach to understanding the association between these variables, each predictor was entered alone into the model to test whether the variable predicted independently the play disruption or play disconnection models. Then, variables with significant correlations were entered together. In particular, depression and GSI were entered into an additional the model for play disruption. This approach resulted in nine models being tested.

**Unconditional model.** The unconditional models including no predictors for predicted level of play disruption was first run. The equation for the unconditional model is provided below.

$$\text{Level-1: Play Disruption}_{ij} = \beta_0j + r_{ij}$$

$$\text{Level-2: } \beta_0j = \gamma_{00} + \mu_{0j}$$

The Intraclass Correlation (ICC) was calculated to determine the degree of dependence between individuals. The ICC for play disruption was .13. The intercepts showed almost no variation across classrooms in the play disruption unconditional model. Tables 3-11 present the parameter estimates and an indication of the precision of these estimates (e.g., standard errors) for the play disruption models.

**Assumptions of normality and homoscedasticity.** Residuals from the unconditional model were examined for homoscedasticity and normality. Visual analyses of the scatter plot of level-1 residuals by predicted values showed no substantial violation of the homoscedasticity assumption, and Levene's test of homogeneity suggested no statistically significant violation of the homogeneity assumption [ $F(40, 98) = 1.09, p = .36$ ]. The overall skewness and kurtosis values of the level-1 residuals were -1.05 and .81 respectively, suggesting a small degree of negative skew in the distribution, and the Shapiro-Wilk test for normality suggested a statistically significant departure ( $W = .92, p < .001$ ). Given that the interest in this study was primarily within the fixed effects of the models and there is robustness for mild violations of the normality assumption, continuation with using multilevel modeling was appropriate.

**Conditional model.** The initial conditional models predicting play disruption included the level-1 predictors (child's gender, child's English language proficiency, child's Spanish

language proficiency, mother's number of years in the U.S., mother's level of education, mother's anxiety, mother's depression, and mother's general psychopathology). Based on an exploratory approach, each predictor was entered independently into the model. The equation for each model is provided below.

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{GEN} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{ENG} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{SPA} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{EDU} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{YRS US} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{ANX} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{DEP} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{GSI} + \mu_{0j} + r_{ij}$$

$$\text{Play Disruption}_{ij} = \beta_{0j} + \beta_{1j}\text{DEP} + \beta_{2j}\text{GSI} + \mu_{0j} + r_{ij}$$

Results of the play disruption conditional models are presented in Tables 3-11. None of the models were statistically significant, suggesting that none of these variables predict play disruption. A residual analysis of each model also was run and no substantial violations of the multivariate normality were found. Because no predictors were significant, no models examining further multiple predictors were examined.

**Research Question 2: To what extent do child level and maternal level factors relate to play disconnection?**

As mentioned above, multiple models for play disconnection were run. First, the conditional model including no predictors was run. The Intraclass Correlation (ICC) was calculated to determine the degree of dependence between individuals. Additionally, the conditional model predicting level of play disconnection including the level 1 predictors was run. In order to adopt a more exploratory approach to understanding the association between these variables, each predictor was entered alone into the model to test whether the variable independently predicted the play disruption or play disconnection models. Then, variables with significant correlation were entered together. In particular, Child's English Proficiency and Maternal Depression for play disconnection. This approach resulted in nine models that were tested.

**Unconditional model.** The unconditional models included no predictors for play disconnection. The equation for the unconditional model is provided below.

$$\text{Level-1: Play Disconnection}_{ij} = \beta_0j + r_{ij}$$

$$\text{Level-2: } \beta_0j = \gamma_{00} + \mu_{0j}$$

The Intraclass Correlation (ICC) was calculated to determine the degree of dependence between individuals. The ICC for play disconnection was .19. The intercepts showed almost no variation across classrooms in the play disconnection unconditional model. Table 12-20 presents the parameter estimates and an indication of the precision of these estimates (e.g., standard errors) for the play disconnection models.

**Conditional model.** The conditional models predicting play disruption included the level 1 predictors. Each variable was entered independently into each model, resulting in eight different models of play disconnection. Since child's English proficiency and mother's depression had significant correlations, those two variables were entered together into an additional model to explore their interaction. There were a total of nine models for play disconnection. See the equations below.

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{GEN} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{ENG} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{SPA} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{EDU} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{YRS US} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{ANX} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{DEP} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{GSI} + \mu_{0j} + r_{ij}$$

$$\text{Play Disconnection}_{ij} = \beta_{0j} + \beta_{1j}\text{ENG} + \beta_{2j}\text{DEP} + \mu_{0j} + r_{ij}$$

Results of the play disconnection models are shown in tables 12-20. The models for child's English proficiency and mother's depression were statistically significant ( $t(66) = -2.93, p = 0.0046$  and  $t(44) = 2.68, p = 0.0104$  respectively), suggesting that these two variables independently may predict play disconnection. The child's English proficiency had a negative effect with a coefficient value of .17, which suggests that for every one unit change in the child's

English proficiency, the predicted play disconnection score will decrease by .17. On the other hand, the mother's depression had a positive effect with a coefficient value of .24, suggesting that for every one unit change in the mother's depression, the predicted child's play disconnection score will increase by .24. A residual analysis on each of the two final models also was run and no violations of the multivariate normality were found.

Table 3  
*Play Disruption Conditional Model for Children's Gender*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	51.05	0.98	52.35	0.00**
GEN	0.27	1.20	0.22	0.82
Variance Estimates			z-Value	
Intercept	5.99	5.39	1.11	0.13
Residual	44.96	6.43	6.99	0.00**

Note. \*p<.05 \*\*p<.01

Table 4  
*Play Disruption Conditional Model for Children's English Receptive Vocabulary*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	60.05	6.43	9.29	0.00**
ENG	-0.11	0.08	-1.40	0.17
Variance Estimates			z-Value	
Intercept	5.94	6.84	0.87	0.19
Residual	48.63	8.57	5.68	0.00**

Note. \*p<.05 \*\*p<.01

Table 5  
*Play Disruption Conditional Model for Children's Spanish Receptive Vocabulary*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	46.53	3.99	11.65	0.00**
SPA	0.05	0.05	1.01	0.32
Variance Estimates			z-Value	
Intercept	4.47	6.57	0.68	0.25
Residual	47.33	9.35	5.06	0.00**

Note. \*p<.05 \*\*p<.01

Table 6

*Play Disruption Conditional Model for Mothers' Number of Years Residing in the U.S.*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	52.03	1.50	34.73	0.00**
YRS in US	-0.11	0.13	-0.83	0.41
Variance Estimates			z-Value	
Intercept	6.15	5.82	1.06	0.15
Residual	43.03	6.85	6.29	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 7

*Play Disruption Conditional Model for Mothers' Level of Education*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	49.44	1.86	26.65	0.00**
EDU	0.13	0.16	0.82	0.41
Variance Estimates			z-Value	
Intercept	6.82	5.87	1.16	0.12
Residual	41.68	6.53	6.38	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 8

*Play Disruption Conditional Model for Mothers' Anxiety*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	43.87	4.01	10.95	0.00**
ANX	0.15	0.09	1.80	0.08
Variance Estimates			z-Value	
Intercept	0	.	.	.
Residual	53.39	8.90	6.00	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 9

*Play Disruption Conditional Model for Mothers' Depression*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	40.25	5.22	7.71	0.00**
DEP	0.22	0.11	2.07	0.05
Variance Estimates			z-Value	
Intercept	1.19	6.44	0.18	0.45
Residual	51.50	10.44	4.93	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 10

*Play Disruption Conditional Model for Mothers' General Psychopathology*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	43.30	3.96	10.93	0.00**
GSI	0.16	0.08	1.97	0.06
Variance Estimates			z-Value	
Intercept	0	.	.	.
Residual	52.94	8.82	6.00	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 11

*Play Disruption Conditional Model for Mothers' Depression and Mothers' General Psychopathology*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	40.22	5.24	7.67	0.00**
DEP	0.14	0.16	0.90	0.37
GSI	0.08	0.12	0.64	0.52
Variance Estimates			z-Value	
Intercept	0.02	6.46	0.00	0.50
Residual	53.06	10.91	4.87	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 12

*Play Disconnection Conditional Model for Children's Gender*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	50.30	0.84	60.20	0.00**
GEN	-1.89	0.97	-1.96	0.05
Variance Estimates			z-Value	
Intercept	7.74	4.21	1.84	0.03
Residual	28.45	3.96	7.18	0.00**

Note. \* $p < .05$  \*\* $p < .01$

Table 13

*Play Disconnection Conditional Model for Children's English Receptive Vocabulary*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	62.73	4.83	12.96	0.00
ENG	-0.17	0.06	-2.93	0.00**
Variance Estimates			z-Value	
Intercept	7.63	4.62	1.65	0.05
Residual	23.59	4.04	5.85	0.00**

Note. \* $p < .05$  \*\* $p < .01$

Table 14

*Play Disconnection Conditional Model for Children's Spanish Receptive Vocabulary*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	50.09	2.85	17.61	0.00**
SPA	-0.02	0.04	-0.60	0.55
Variance Estimates			z-Value	
Intercept	7.98	6.65	1.20	0.12
Residual	21.53	4.80	4.48	0.00**

Note. \* $p < .05$  \*\* $p < .01$

Table 15

*Play Disconnection Conditional Model for Mothers' Number of Years Residing in the U.S.*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	48.03	1.27	37.81	0.00**
Yrs US	0.10	0.11	0.96	0.34
Variance Estimates			z-Value	
Intercept	4.47	3.65	1.23	0.11
Residual	31.85	4.80	6.64	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 16

*Play Disconnection Conditional Model for Mothers' Level of Education*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	48.22	1.52	31.72	0.00**
EDU	0.08	0.13	0.56	0.58
Variance Estimates			z-Value	
Intercept	4.44	3.50	1.27	0.10
Residual	30.81	4.55	6.77	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 17

*Play Disconnection Conditional Model for Mothers' Anxiety*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	45.49	3.46	13.13	0.00**
ANX	0.08	0.07	1.11	0.27
Variance Estimates			z-Value	
Intercept	11.26	7.75	1.45	0.07
Residual	30.80	6.66	4.63	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 18

*Play Disconnection Conditional Model for Mothers' Depression*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	37.37	4.51	8.29	0.00**
DEP	0.24	0.09	2.68	0.01**
Variance Estimates			z-Value	
Intercept	10.38	6.82	1.52	0.06
Residual	28.58	6.04	4.73	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 19

*Play Disconnection Conditional Model for Mothers' General Psychopathology*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	45.06	3.19	14.12	0.00**
GSI	0.09	0.07	1.34	0.19
Variance Estimates			z-Value	
Intercept	10.37	7.52	1.38	0.08
Residual	31.05	6.71	4.63	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

Table 20

*Play Disconnection Conditional Model for Children's English Receptive Vocabulary Mothers' Depression*

Parameter	Estimate	Standard Error	t-Value	p-Value
Fixed Effects				
Intercept	43.56	8.87	4.92	0.00**
ENG	-0.05	0.08	-0.65	0.52
DEP	0.20	0.12	1.74	0.09
Variance Estimates			z-Value	
Intercept	13.36	9.79	1.36	0.09
Residual	18.70	5.71	3.28	0.00**

Note. \*p&lt;.05 \*\*p&lt;.01

## **CHAPTER FIVE:**

### **DISCUSSION**

The aim of the current study was to investigate the child and maternal factors that may play a role in children's externalizing and internalizing behaviors during peer play interactions. Statistical analyses were employed to answer two research questions. The first research question explored the possible predictors of Latino children's externalizing behavior problems (Play Disruption) and the second research question addressed the predictors of internalizing behavior problems (Play Disconnection). Both questions incorporated the same predictors at the child and maternal level (i.e., the child's gender, the child's English language proficiency, the child's Spanish language proficiency, the mother's number of years in the United States (U.S.), the mother's level of education, and the mother's psychopathology). In this chapter, a summary of the findings, as well as implications for research and practice, are discussed.

#### **Factors Associated with Latino Students Externalizing and Internalizing Behavior**

##### **Problems**

Regarding externalizing problem behaviors or play disruption, correlation analyses showed a positive relationship between maternal depression/general distress and children's externalizing behaviors (play disruption). Results suggested that as maternal depression and general distress increase, child problem behaviors tend to increase. However, none of the variables were significant for the multi-level models. On the other hand, both correlation and

multi-level models showed that both children's English proficiency and maternal depression were predictors of child internalizing behaviors (play disconnection). Because some of the variables were associated with play disconnection, possible explanations for such outcomes are explained in the sections below.

### **Child's English Proficiency and Play Disconnection**

Child's English proficiency was negatively correlated with play disconnection (internalizing behaviors) and independently predicted play disconnection. Results indicate as children's English proficiency decreases; children's play disconnection tends to increase. Consequently, language proficiency seems to be related to play disconnection. The current results are similar to previous studies that have reported a relationship between limited language proficiency and internalizing behaviors in preschool classrooms (Campbell, 1995; Qi & Kaiser 2003, 2004). Children with low levels of language proficiency may not be able to communicate their needs or understand others. Despite the findings for the general population, research with Dual Language Learners (DLLs) is limited, and the number of studies that explore the relationship between language proficiency and problem behaviors is even fewer. Halle and colleagues' (2004) review of the literature on the socio-emotional development of DLLs found Latino children with limited English proficiency were at risk for experiencing behavior problems. Teachers indicated that DLLs who have low English proficiency experience higher rates of problems in the areas of academic, behavior, and tolerance when English is the primary language of the classroom. Additionally, longitudinal data showed that DLLs with lower English competence during kindergarten experienced more externalizing problems in third grade compared to other DLLs with higher English skills (Halle et al., 2014). Furthermore, Hagan-

Burke et al. (2015) found a relationship between language and internalizing problems in young DLL students.

Despite the emerging findings of a general relationship between language and problem behaviors, this relationship in the context of peer interactions is ambiguous. Gertner and colleagues (1994) found language competence to be related to peer acceptance in both children with language impairment and DLLs. Notably, preschoolers with higher vocabulary skills tend to be more popular among their peers than children with lower vocabulary skills, resulting in stronger peer relationships. Gertner and colleagues stated language plays a significant role in the formation and maintenance of peer relationships. Moreover, the language match (i.e., English or Spanish) among peers fosters the socio-emotional development of DLLs (Halle et al., 2014). Chang et al. (2007) reported classrooms in which teachers speak Spanish with Latino DLLs facilitates students' peer social skills, in addition to assertiveness and relationships with teachers. Teachers' usage of the child's native language shows approval and gives the student a higher status in the classroom. As a result, these children may feel more related to their peers and have more positive interactions. Previous findings indicate that language match and bilingualism among teachers and students may foster better socio-emotional development of young DLL Latino children.

The present study found limited English proficiency as a predictor of play disconnection or withdrawn behavior in peer play interactions. As a result, the role of bilingualism should be further explored to provide a complete picture of language and its relationship to peer interactions. Development of Latino students' in the U.S. occurs between two languages and cultures. Castro et al. (2013) proposed a framework for studying Latinos within their cultural

context. A variable that may play a role in Latino DLL's development is language acquisition in both English and Spanish. For instance, fluent bilingualism serves as a protective factor for DLLs. Children who are bilingual can interact between the two cultures in which they live, facilitating successful relationships. Bilingualism (Spanish and English) has been associated with following directions, task orientation, and lower rates of problem behaviors (De Feyter & Winsler, 2009; Han, 2010; Winsler et al., 2014). Clearly, future studies should explore the role of bilingualism in peer interactions. Moreover, classroom level factors, such as at classroom make-up and language match between students may also moderate the relationship between language proficiency and play disconnection.

### **Maternal Depression and Child's Play Disconnection**

Maternal depression was positively correlated with play disconnection (internalizing behaviors in children) and independently predicted play disconnection. Results indicate as maternal depression increases; children's play disconnection tends to increase as well. The current findings align with the well-established relationship in the literature between maternal depression and adverse childhood outcomes (Campbell, 1995; Goodman et al., 2011; Jones Harden et al., 2010; Qi & Kaiser, 2003). Specifically, Goodman and colleagues' (2011) meta-analysis of 193 studies confirmed the association between maternal depression and children's externalizing and internalizing problem behaviors. However, the relationship tends to be small across studies, and the specificity and moderators are still emerging in the research. Using a large sample of 2,655 mothers of young children, mostly African Americans, attending kindergarten, Turney (2012) found maternal depression related to both internalizing and externalizing problems. In particular, the study compared children of mothers with a history of depression,

current or lifetime, and children of mothers without a history of depression. ANOVA tests showed a statistically significant difference among the means, with higher symptoms of problem behaviors in children of depressed mothers. Regression models also found maternal depression as a predictor of problem behaviors. Likewise, Madigan, Wade, Plamondon, and Jenkins (2015) found a direct link between maternal depression and preschoolers' internalizing problems. However, most of the studies did not include Latino samples in the analyses.

Previous studies have reported Latinas having more severe depression symptoms, as evident in both self-reports and interviews, when compared to African Americans and Caucasians (Myers et al., 2002). Mendelson, Rehkopf, and Kubzansky (2008) reviewed eight studies addressing major depressive disorders and found Latinos having a lifetime prevalence similar to Caucasians. On the other hand, Mendelson and colleagues, while reviewing studies including depression symptoms ( $N=23$ ), found Latinos in the U.S. having higher depression symptoms compared to Caucasians. Moreover, researchers have identified moderators of depression within Latino samples, such as level of education, immigration status, and language proficiency. In Myers and colleagues' sample, Latinas were foreign-born and were residing in the U.S. for an average of 23 years; however, their level of acculturation was low. The study suggested that acculturation in Latinas played a role in the manifestation of depression symptoms. For example, the study by Perreira et al. (2015) reported Latinos residing in the U.S. for over 21 years having a higher prevalence rate of depression symptoms (31%) compared to Latinos living in the U.S. for less than ten years (23%). Alegría et al. (2007) examined both foreign-born and U.S.-born Latinas and found that generational status seems to play a role in depression among Latinos since 36.8% of U.S. born Latinos had a psychiatric disorder in their

lifetime compared to foreign-born Latinos with a 23.8% lifetime prevalence. Based upon these studies, it appears that Latinos who are born in the U.S. are at a higher risk for developing psychopathology compared to Latinos who are born outside the U.S.

Despite the findings showing Latinos being at risk for depression (Alegría et al., 2007; Mendelson et al., 2008; Myers et al., 2002; Perreira et al., 2015), there are no studies analyzing the relationship between maternal depression and young Latino children's internalizing behaviors. In Halle et al. (2014) reviewed of the socio-emotional development of young DLLs, there was no study exploring the relationship between problem behaviors and maternal depression. Nevertheless, Pachter, Auinger, Palmer, and Weitzman (2006) using the National Longitudinal Survey of Youth compared the impact of maternal depression among Caucasians (N = 884), African Americans (N = 538), and Latino families (N = 404). Children in the study were 6 to 9 years old, making this sample older than the current sample. Results showed that maternal depression as measured by the Center for Epidemiologic Study of Depression scale had a direct effect on child behavior problems, measured by the Behavior Problems Index. Pachter and his colleagues' findings are similar to the results of the present study. Additionally, maternal depression was mediated by parenting in the Caucasian and Latino samples.

Depression affects many areas of daily functioning including parenting. For example, maternal depression has been related to children's maladaptive behaviors because it affects parenting (Campbell, 1995; Lovejoy et al., 2000; Turney, 2011). Mothers who experience depression symptoms tend to engage in inconsistent, withdrawn, and harsh parenting practices (Turney, 2011). Lovejoy et al. further explored parenting practices by reviewing 46 studies addressing maternal depression and parenting behaviors and found three main categories:

negative/coercive ( $d = .40$ ), disengaged ( $d = .29$ ), and positive ( $d = .16$ ). Results suggested mothers with depression were mostly irritable and hostile towards the child (medium effect size), somewhat withdrawn from the child (small effect), and positive with the child to a lesser degree (weak effect). Future studies should further explore the role of parenting in Latino samples.

### **Limitations**

The Latino population is heterogeneous due to a number of variables including the different Latinos countries of origin, subcultures, the level of education, languages, and socioeconomic status. Consequently, the current findings should not be generalized to all Latinos. However, it is important to note that the data used in this study were collected throughout the state of Florida and therefore the results of this study may be generalizable to low-income Latino families in this state. Additionally, the findings may be representative of Latino children who are three to five years old and attend Head Start programs. However, the findings may not be generalizable to children who do not attend preschool programs (i.e. home care). Furthermore, the results of this study may not be generalizable to preschool students residing outside of Florida because Latino populations tend to differ across states.

Other limitations include the use of self-report measures, which despite their validity and reliability tend to be biased due to ratings based on reporters' perceptions of the behaviors. For instance, play disruption and disconnection scores were from the Penn Interactive Peer Play Scale, Teacher (PIPPS-T). Although the PIPPS is a proper measure for Latino samples (Bulotsky-Shearer, López, & Mendez, 2016), it could contain rater bias as any other rating scale. As a result, the score of the teachers may not represent the reality of the students since it embodies teachers' perceptions of problematic behaviors. Moreover, maternal psychopathology

also was self-reported. In this case, mothers rated their symptoms of psychopathology, and data did not include a professional diagnosis. Additionally, the current study only included few variables that may predict problem behaviors. There may be other factors that may also play a role such as a child's self-regulation abilities, attitudes towards learning, family composition, social supports, parenting practices, parent involvement, and many others.

Furthermore, the data set had many missing data points. For instance, Time 3 of a longitudinal study was used, and there were fewer participants compared to Time 1. As in any longitudinal study, retention seems to be an issue. Moreover, the design of the study also had limitations due to being correlational. For example, correlational designs are weaker than experimental designs, in which participants are assigned to different conditions. In this case, the DLL status cannot be randomly assigned. However, children were randomly selected from the classrooms, but the study was still correlational and with limitations.

### **Implications**

Despite the limitations, the current study has implications for both practitioners and researchers. The present study found both child level and maternal level variables associated with play disconnection (internalizing children's behaviors). The implications are below.

**Practitioners.** Findings may inform prevention and intervention practices. The current study found a relationship between language proficiency and play disconnection, suggesting that limited English proficiency is related to play disconnection. As a result, educators in early childhood settings should include in their daily practices strategies that promote language development. Best practices in teaching DLLs recommend bilingual education because it has been related to similar or better outcomes when compared to English-only programs (National

Academies of Sciences, Engineering, and Medicine, 2017). Bilingual education has a positive influence on the child's language, cognition, and socio-emotional development, which is consistent with educating the "whole child." However, bilingual education is not always feasible for various reasons.

Another consideration may be assigning Latino children to classrooms in which the teachers speak Spanish. DLL Latino children attending classes with Spanish-speaking teachers tend to have better social skills, relationship with their teachers, and confidence (Chang et al., 2007). Speaking the child's language shows approval, which helps the child feels better about himself or herself. Nevertheless, schools do not always have bilingual teachers on their staff. Professional development is crucial to having culturally competent teachers who have the skills to work with the Latino population. The National Academies of Sciences, Engineering, and Medicine (2017) recommended to embed the child's culture into the classroom curriculum in daily practices and encourage children to speak their home language.

There also are simple practices that foster language acquisition and are available to any teacher such as scaffold play in which adults interact with children, promotes language development. Teachers can foster language during play by using reflections of the child's statements. Reflections are like an echo and show the correct pronunciation of the words. This practice is also called feedback. Another way is asking open-ended questions during play to allow the child to elaborate on his/her actions. Moreover, wait time is important to foster language in young DLLs because they need extra time to formulate their answers. Teachers should also embed new vocabulary into children's play, such as explaining the names and functions of the different toys (Wasik & Jacobi-Vessels, 2016).

Additionally, maternal depression predicted play disconnection. The current findings suggest that there are environmental variables (i.e., maternal depression) that may play a role in children's outcomes. Consequently, we need to treat the "whole child." For instance, having a family component can be beneficial to children's outcomes. Early childhood providers should communicate with family to help them with stressors. Providers can recommend community resources to treat maternal depression. Children and families may benefit from parent training because depression impacts parenting. Researchers had identified withdraw, inconsistent, and harsh parenting associated with depression. As a result, early childhood centers can offer parenting classes to their parents. Some programs are short and only take a few nights.

**Researchers.** Regardless of the advances in understanding the socio-emotional development of DLLs, limited studies are available focused on the socio-emotional functioning and peer interactions of ethnically diverse preschool children (Halle, et al., 2014). In particular, Halle and her colleagues' review of the literature found only 14 studies in the area of DLL preschoolers' socio-emotional development because most of the DLL studies focused on language and cognition. Likewise, there is a better understanding of the classroom level factors affecting the socio-emotional development of DLLs. For example, researchers have identified classroom factors such as teacher-child relationships, positive climate, a racial-ethnic match between teacher and student, and language match among peers as important factors in the development of socio-emotional skills of ethnically diverse children (Burchinal & Cryer, 2003; Howes et al., 2011; Mendez, Fantuzzo, & Cicchetti, 2002). Child and family factors are still in the early stages of the investigation. Halle et al. (2014) identified bilingualism as a child-level variable and generation status as a family variable. Other variables playing a role in young

Latino children's problem behavior have not yet been identified. As a result, the current study will add to the literature of the socio-emotional development of young Latino DLLs.

### **Directions for Future Research**

As Bronfenbrenner (1994) recommended in his ecological model of human development, different systems (i.e. child, home, school, neighborhood, etc.) interact and influence children's development. Consequently, future studies should take an ecological approach and investigate the different variables that may impact the socio-emotional development of young children. Additionally, researchers should consider the Latino culture and explore variables that may have an effect on Latinos' outcomes, such as level of acculturation, years in the U.S. language, home country, cultural practices, parenting, and stressors related to immigration. Additionally, the National Academies of Sciences, Engineering, and Medicine (2017) proposed to focus on strengths rather than weakness while studying Latinos. This approach may help to improve the academic and socio-emotional outcomes of Latinos. Halle et al. (2014) stated that Latino preschoolers tend to have higher self-control and interpersonal skills, and experience less externalizing and internalizing problems, as compared to their monolingual peers. As a result, play interaction (play strengths) of young Latino children should also be studied to understand which factors foster positive play among Latinos and incorporate these strengths into preschool practices.

### **Conclusions**

The present study explored predictors of problem behaviors in young Latino children. The area of socio-emotional development of Latinos has been understudied, especially in early childhood. There is a need for more research in this field because problem behaviors represent a

barrier to learning, and the early years are fundamental for future academic and socio-emotional development of children. Additionally, play interactions in early childhood constitute the vehicle for learning in young children. The current study took a small step towards finding one of the variables that may have a role in problem behaviors, such as English language proficiency. The study by Araujo Dawson and Williams (2008) suggested that externalizing behaviors increase as children get older and they still have limited English Proficiency. This finding also highlights the importance of bilingualism in Latino children to help them develop successful relationships and participate in their education.

Likewise, this study found consistent results with the vast literature in the area of parental psychopathology as a predictor of problem behaviors. In early childhood, researchers had established a relationship between maternal psychopathology and children's internalizing and externalizing behaviors (Campbell 1995; 2006; Jones Harden et al., 2010; Meadows, et al., 2007; Qi & Kaiser, 2003). However, there are no current studies exploring this relationship in Latino samples. The findings of the present study suggest a need for further investigation of the impact of maternal depression on Latino children's outcomes. Results with the general population may not generalize to Latinos. The present findings may help educators and researchers working with young Latino students inform their daily practices and research methodologies. Despite the contributions, there is not a clear understanding of the specific factors predicting problem behaviors. Future studies should consider ecological and cultural approaches to allow for a broader view of Latinos' development.

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