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The current study explores the relationship between parental beliefs, parental involvement, the home learning environment, and school readiness in the Latino population. Parents' beliefs, involvement, home learning environment as well as children's school readiness were compared in parents and children that had participated in the Parents as Teachers (PAT) program with those who had not participated in the program. No significant differences between the PAT group and the non-PAT group were found. However, descriptive and qualitative findings revealed that Latino parents in this study are involved with their children and believe that children need multiple skills to be ready for school. Implications for the Parents as Teachers program as well as directions for future research are discussed.

PARENTAL BELIEFS, HOME LEARNING ENVIRONMENT, AND SCHOOL
READINESS IN THE LATINO POPULATION: DOES THE PARENTS AS
TEACHERS PROGRAM INFLUENCE THESE THREE VARIABLES?

by

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CHAPTER I

INTRODUCTION

School readiness and closing the achievement gap have become increasingly complicated with the changing societal context today. The No Child Left Behind Act is evidence of increased political pressure by mandating that all students will reach grade level proficiency by the school year 2013 – 2014 (U.S. Department of Education, 2002). Yet, if children enter school already behind, this will have a profound impact on their later achievement (Rouse, Brooks-Gunn, & McLanahan, 2005). Thus, the beginning status of children entering school may prove to be a crucial turning point in the academic achievement of our society's youth.

With the increasingly more diverse population of our schools, it is important to examine school readiness in minority populations. The Head Start School Readiness Act of 2005 addressed this need by including a parameter that is specific to English Language Learners (Snow, 2007). Not only do programs have to demonstrate that participants made gains in language, prereading, premathematics, cognitive abilities, and social-emotional development, but the programs also have to show that English Language Learners have made progress towards the acquisition of the English language and in all the other areas mentioned above. This parameter seems to be in stride with the changing U.S. population especially concerning the Hispanic population. This parameter of the Head Start School

Readiness Act acknowledges that children are becoming increasingly diverse and seeks to hold programs accountable for meeting the needs of a diverse group of children.

Hispanics accounted for one half of the net population growth of 9.4 million from July 2000 to July 2003 (Collins & Ribeiro, 2004). In particular, Hispanics are becoming more prevalent in our youngest society members. From 1993-2003, Hispanic enrollment in America's elementary schools increased by 1.6 million (Pew Hispanic Center, 2006). It has been estimated that by the year 2050, the number of Latino children under age 5 will increase drastically by 146% (Espinosa, 2007). Latino children are quickly becoming the largest minority and Hernandez, Denton, and Macartney (2007) predict that 1 in 4 children (26%) will be Hispanic by the year 2030. Certain geographic areas are the recipients of a large Hispanic population boom. North Carolina is one of those areas. North Carolina boasts the largest increase in the young Latino population over the last decade (Espinosa, 2007). In fact, North Carolina is estimated to have experienced a 417% increase in the population of Latino children under the age of 4 according to Espinosa (2007). This astounding raise in the Latino population will not only affect the diversity in schools, but it will also affect the future status of our nation.

With the rapid increase in the Latino population, the future workforce may consist of mostly the minority population. Hernandez, Denton, and Macartney (2007) suggest that these minority populations will be the ones to provide support and economic resources to the non-Hispanic White baby boomers during their retirement. With the statistics just presented, it is alarming to find that much empirical evidence suggests that Latino children are having limited success in school as compared to their majority peers

(Espinosa, Laffey, & Whittaker, 2006; Lee & Buram, 2002; Gandara, Rumberger, Maxwell-Jolly, & Callahan, 2003; National Task Force on Early Childhood Education for Hispanics, 2007). If minority populations and Latinos, specifically, are the future of our society, then it may be in our best interest to examine factors affecting their readiness and school success. One way of investing in the school readiness of children is through early childhood interventions such as home visiting programs. Research has shown that certain home visiting programs are associated with higher school readiness skills in children (Pfannenstiel & Zigler, 2007). However, much of the empirical evidence on home visiting programs uses mostly Caucasian samples. How then, can we generalize the evidence to apply to minority populations? Still, home visiting programs may be the answer to increasing school readiness and academic success in minority children and needs to be examined specifically in the largest growing population of Latino children. Heckman and Masterov (2004) suggest that early childhood intervention programs will be a “sound investment” in the long run. They propose that intervention programs will actually generate savings for society as well as promote higher economic growth by improving the skills of the workforce (Heckman & Masterov, 2004). Hence, it is of utmost importance to examine the effectiveness of early childhood interventions in increasing school readiness in the Latino population as this can be beneficial for our society in the long run. Furthermore, by examining the effectiveness of interventions on Latinos, it is possible that we can find ways to close the achievement gap and improve the school success of Latino children. If early childhood interventions really do increase

school readiness in Latino children, then this can have future implications for policymakers, schools, and families alike.

The Parents as Teachers program is one such early childhood intervention that aims to yield positive child outcomes by influencing the two contexts of the parent environment and the home learning environment. Parents as Teachers (PAT) is a universal-access, family-focused parent education program that emphasizes parent behavior as the vehicle through which positive outcomes for children, including school readiness, can be achieved (Wagner & Spiker, 2001). The Parents as Teachers program abides by four program goals in the areas of parenting knowledge and practices, early detection of delays and health issues, prevention of child abuse and neglect, and child outcomes (Parents as Teachers National Center, 2005). The program goals help to organize research on the effectiveness of the PAT program. One of the goals of the PAT program is to increase parent knowledge of early childhood development and improve parenting practices (Parents as Teachers National Center, 2005). A second goal of the PAT program is to increase children's readiness and school success (Parents as Teachers National Center, 2007). The research on the effectiveness of the Parents as Teachers program in increasing school readiness has been inconsistent in the literature (Hebbeler & Gerlach-Downie, 2002; Wagner & Spiker, 2001; Wagner, Iida, & Spiker, 2001; Wagner, Spiker, & Linn, 2002; Owen & Mulvihill, 1994; Pfannenstiel & Zigler, 2007). Furthermore, few studies have examined the effectiveness of the PAT program in the Latino population, which are considered one of the most educationally vulnerable minority groups in the U.S. (Espinosa, 1995).

The purpose of this study is threefold. First, this study will explore Latino parents' beliefs of school readiness. In particular, this study will examine the differences and/or similarities in the school readiness beliefs of Latino parents' who have participated in the Parents as Teachers program and those who have not. I am seeking to see if the beliefs of Latino parents differ and if these differences are related to PAT program participation. Second, this study seeks to examine if parents who have participated in the PAT program have different home learning environments than the non-PAT parent group. Do the two groups differ in terms of the activities they are doing with their children in the home environment? Do the two groups differ in terms of the educational learning materials they have available in their home? The factors of socioeconomic status, parent level of education, and child temperament will also be examined in relation to the home learning environment. Lastly, the third purpose of this study is to examine the influence of the Parents as Teachers program on the child outcome of school readiness. Do Latino children that have participated in the PAT program have higher school readiness skills when compared to Latino children that have not participated in the PAT program?

The first chapter will include a discussion on bio-ecological perspective and how it is linked to the different variables proposed in the present study. In addition, research on school readiness, parenting and home environment factors influencing school readiness, and early childhood interventions will be examined in the third chapter. In particular, research on the controversy surrounding the conceptual definition of school readiness will be discussed and a definition of school readiness will be proposed for use

by the present study. This third chapter will also include a discussion of the strengths and limitations of research studies pertaining to parenting and home environment factors that affect children's school readiness and success. Additionally, the third chapter will include a review of the literature on the effectiveness of home visitation programs, including Parents as Teachers, on children's school readiness and academic achievement. Lastly, the fourth chapter will include proposed research questions and hypotheses concerning Parents as Teachers, parents' beliefs on school readiness, home learning environments, and school readiness. The research questions and hypotheses for the present study are based on the research and theory that is presented.

CHAPTER II

THEORETICAL PERSPECTIVE

Bioecological Perspective

It is important to include theory in research studies as it helps to guide and justify the research. Bioecological perspective posits that human development can best be understood by examining development as a function of person and environment. The theory advocates for studying children's school readiness and school success by looking at children in their surrounding environments such as home and school. However, what is unique to bioecological theory is that the environments by themselves do not cause children to develop. In bioecological theory, children's personal characteristics are actually in interaction with the environments in a concept called proximal process. In the bioecological model, there are two defining properties that help to distinguish between the two concepts of "environment" and "process" and are defined in propositions. The first proposition is stated as follows:

Especially in its early phases, but also throughout the life course, human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human

organism and the persons, objects, and symbols in its immediate environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of *time*. Such enduring forms of interaction in the immediate environment are referred to as *proximal processes* (Bronfenbrenner & Morris, 1998, p. 996).

Using the variables in the present study, this proposition suggests that in order for children to develop school readiness skills, they must be active in their interactions with their parents in their immediate environment. Children are not the recipients of environmental factors, but rather are actively interacting with their parents or educational materials in their home learning environment and thus developing school readiness skills. In the absence of either parents or educational materials, children will not develop readiness skills according to this proposition. In the absence of children's participation in interactions perhaps due to limited attention and focusing skills, reciprocal interactions and consequently, development of school readiness skills will not occur. Examples of these reciprocal interactions include parents reading to children, parents talking and learning from parent educators, and children playing with educational materials in solitary.

A second proposition that is crucial to defining the bioecological model is as follows:

The form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the *developing person*; of the *environment* – both immediate and more remote – in which the processes are taking place; the nature of the *developmental outcomes* under consideration; and the social continuities and changes occurring over *time* through the life course and the historical period during which the person has lived (Bronfenbrenner & Morris, 1998, p. 996).

In the present study, this proposition can be used to suggest that children's development varies due to the children's characteristics and the characteristics of the environment in which the reciprocal interaction takes place. If for example, children do not have characteristics that are conducive to paying attention and focusing on a given activity with their parents, readiness skills may not develop. If the home learning environment is lacking in educational materials as well as parent involvement, children may not develop school readiness skills either. Again, development of school readiness skills will not occur unless there is a reciprocal interaction between children and their immediate environment. Thus, it is important to consider the uniqueness of the proximal process in the bioecological model in more detail.

Proximal process. The first main component of ecological theory is that of proximal process. Proximal processes are defined as the interaction between the personal characteristics of the developing children in a particular environment or context. Proximal processes are considered to be the engines of development and are considered to vary systematically as a function of person and context (Bronfenbrenner & Morris, 1998). Proximal processes have several distinctive properties that can determine children's readiness skills and academic achievement. One property of proximal processes is that children must be engaged in activities or interactions in order for development to occur (Bronfenbrenner & Morris, 1998). This first property is important for this study in two ways. First, children's person characteristics must enable them to become engaged in the activities and parents must also be engaged in activities with their children for changes to occur. In addition, for parents' behaviors to change because of the

Parents as Teachers program, parents must be engaged in the program and not just going through the motions. If parents are not engaged in the intervention program, according to ecological theory, their behaviors will not change, and therefore they will not engage in more quality interactions with their children.

A second distinctive property of the component of process is that interactions should occur on a regular basis and occur over an extended period of time. In order for proximal processes to yield positive child outcomes, merely participating in the Parents as Teachers program would not be enough to increase children's readiness and academic skills. According to ecological theory, parents would need to have quality and educational interactions with their children and frequently provide educational materials for their children apart from monthly or bi-monthly participation in the Parents as Teachers program. Since the Parents as Teachers program aims to increase parents' behaviors and interaction with their children, parents in the Parents as Teachers program should be offered advice on ways to increase their interactions with their children. However, just offering advice and suggestions does not always increase parents' behaviors. This study seeks to find a relationship between the Parents as Teachers program and behaviors of parents. Furthermore, this study will use parents' self-report to examine the frequency of PAT parents' interactions with their children in comparison to non-PAT parents. According to bioecological theory, not only do children need to be having quality interactions with their parents on a regular basis, but they also need to have access to educational materials frequently and over an extended period of time so

that interaction with educational materials such as books or puzzles is possible on a regular basis.

There are two additional properties of proximal processes that are important to this study. The idea of bi-directionality is one of them. According to Bronfenbrenner and Morris (1998), there must be influence from both sides of a relationship and “there must be some degree of reciprocity in the exchange” (p. 996) in order for development to occur. In the parent-child dyad, parents and children alike must both be partaking in interactions in order for children to develop readiness skills. If parents are the only side contributing to interactions, then children will not develop readiness skills. If children are the only side contributing to parent-child interactions, then development of school readiness skills will still not occur. The last property of proximal processes is that they can occur not only with other individuals, but with objects and symbols as well. The objects and symbols must attract individuals and be of interest to them in order to evoke stimulation and to start proximal processes. Based on this last property deduced from ecological theory, it becomes important to measure the availability of developmentally appropriate toys, games, and books in the home learning environment.

Person. The role that children’s characteristics play can be found in the Person component of the bioecological model. Children, according to this theory, can be producers of change because of their personal characteristics (Bronfenbrenner & Morris, 1998). Children’s characteristics, such as temperament, can influence how they interact with the environment. For example, if children have low attention characteristics and have difficulty focusing on a given task, this will influence how they interact with their

parents. If parents are trying to teach their children and provide educational learning experiences in their home, but children's temperaments are conflicting with parents' attempts, interactions may not be as beneficial. Children in this sense can have characteristics that greatly influence change in either direction. Also according to bioecological theory's Person component, children can be seen as a product of change. Changes in children can occur through interaction with the environment and thus bioecological theory claims that children's role can be seen as twofold: either the producers or the products.

It is important to note that ecological theory posits that children's characteristics can set proximal processes in motion, sustain those processes already in motion, or even interfere with the processes (Bronfenbrenner & Morris, 1998). Characteristics that interfere with or prevent processes from occurring are appropriately called developmentally disruptive characteristics. These developmentally disruptive characteristics can include impulsivity, distractibility, and difficulty keeping control of emotions or on the other end of the spectrum can include apathy, inattentiveness, or withdrawal (Bronfenbrenner & Morris, 1998). These developmental dysfunction characteristics interfere with interactions that children can have with their parents and their home learning environments and can cause processes to be detrimental to children's development of readiness skills. One strategy to understanding Person characteristics is to use a measure of temperament which taps into underlying behavioral traits in children. Therefore, the present study includes a measure of children's temperament, specifically

attention and focusing, that may interfere with parents' attempts to interact with and support their children in the home learning environment.

Context. Context is considered to be another main component of ecological theory and according to Bronfenbrenner (1988), there are four layers of the environment, which can each have an effect on proximal processes and can impact children's school readiness either directly or indirectly. With these environmental layers, it is possible to analyze the "mediating and moderating processes that constitute the linkages between and within environmental systems shaping the course of human development" (Bronfenbrenner, 1988, p. 39). The first of the four layers of the environmental context is the microsystem, which is the immediate environment that children come into contact with. One microsystem is created when children's characteristics interact with their parents or with materials in the immediate home learning environment. The parent-child dyad can be considered part of the microsystem and in order for the dyad to be effective, there must be a reciprocal interaction from both side involved (Bronfenbrenner & Morris, 1998).

The next layer of the environment is called the mesosystem and is made up of the relationships or links that exist between two or more settings containing the developing children. Mesosystems are formed when children transition into their new school settings. These transitions involve changes in the children's role from being daughters or sons to being students. These transitions also involve children functioning in school environments, which can differ greatly from their home environments. Bronfenbrenner in much of his work, has talked about the isolation rather than the linkage of settings in the

mesosystem such as the home and school contexts, which both clearly impact children's development. The Parents as Teachers program seems to attempt to bridge this isolation by linking parents to their children's school contexts by teaching parents strategies to better prepare their children for school.

The exosystem is the third layer of the environment deduced from ecological theory. This layer encompasses the processes that take place between two settings, but at least one of the settings does not include the developing children. One example of the exosystem would be parent's beliefs on school readiness. Parents' beliefs on school readiness include general beliefs on the skills that all children entering school need to have in order to be successful in school. Parents' beliefs on school readiness does not just include parents' beliefs on their own child, but also takes into account what parents believe is necessary for all children to enter school. Parents' educational level would be another exosystem in the present study as parent's educational level may greatly impact their interactions with their children and thus influence their children's readiness skills. Exosystems are important contexts to examine as they can have indirect influences on children's school readiness skills.

The fourth environmental layer is called the macrosystem which includes not only the beliefs of a culture, but also includes any ideology and values held by a particular culture. Latino culture and beliefs of interdependency, cooperation, collaboration, respect, and moral development (Espinosa, 2007) can have an indirect influence on children's school readiness skills. The macrosystem also includes the government, public policy, or various settings that are constructed from the same set of blueprints. Societal

trends such as closing the achievement gap and increasing school readiness skills in minority populations can also indirectly impact children's skills. If societal trends are leaning towards increasing readiness in minority populations, more research will be conducted on this topic and potentially more interventions for minority populations will be created. Public policy is another example of a macrosystem. Public policy can affect other layers of the environment such as the school environment as policy determines the amount of funding that children's schools receive. Public policy can also affect children's more immediate environments such as determining wages and benefits that parents receive in the workplace. Although these outermost layers of the environment do not directly interact with developing children, they can still have tremendous impact on their readiness skills and academic achievement.

Time. Finally, the last component of bioecological theory is that of time. Time is found in the component of process that was mentioned above as processes must occur at regular intervals and over an extended period of time. The concept of time is also pertinent to the particular time in children's lives that the process is occurring. Since early childhood is a window of opportunity for learning and developing, parent's behaviors and the home learning environment play a crucial role in determining children's school readiness and success. In addition, the concept of time applies to children's school success as this concept implies that children's past experiences can influence their interactions with the school environment. This stresses the importance of parents' behaviors and the children's home learning environments prior to school entry. Children who have had experiences before school entry in which parents are interacting

with them and teaching them and who have had frequent access to educational materials prior to school entry will be better off according to ecological theory. Children will use these past experiences with their parents and with objects to influence their processes during their school career. Therefore it is important to considering the ecological concept of time as it “permits one to identify the impact of prior life events and experiences, singly or sequentially, on subsequent development” (Bronfenbrenner, 1988, p. 41).

The component of Time also represents the historical time period that children are currently living in. Children’s skills of school readiness and academic achievement are shaped by the historical time period experienced throughout their lives. Currently, schools are changing to try and meet the rapidly changing population that exists in this historical time period. As mentioned earlier in this paper, it has been estimated that by the year 2050, the number of Latino children under age 5 will increase drastically by 146% (Espinosa, 2007). As a result of this increase, more research and public policy are focusing on closing the achievement gaps between Latino and Caucasian children. Furthermore, there has been an increased focus on school readiness and factors affecting this construct in children and in minority children in particular. The historical time period of the increasingly diverse school population coupled with a movement in the field of school readiness to promote equality among all children in terms of readiness skills, greatly impacts children’s school readiness and academic achievement.

Bronfenbrenner’s bioecological systems theory consists of four major parts of Process, Person, Context, and Time (Bronfenbrenner & Morris, 1998) and each part can be used to help explain children’s readiness for school and success in school. In

particular, the independent variables used in this study including children's characteristics of attention and focusing as well as participation in the Parents as Teachers program can be explained using bioecological theory. Children's characteristics in combination with the characteristics of the environment can result in development or lack of development of readiness skills. Additionally, parents' participation in the Parents as Teachers program can be considered an environmental context that can affect children's readiness.

In addition the dependent variables of parents' beliefs on readiness, parents' behaviors as well as materials found in the home learning environment, and children's readiness screening scores can also be justified from bioecological theory. As part of an exosystem, parents' beliefs on school readiness can have an indirect effect on children's readiness skills. Furthermore, children interacting with both parents and objects such as educational materials in their home learning environment comprise the proximal process, which is crucial to understanding bioecological theory and proves to be crucial in understanding the impact of the home learning environment on readiness. Lastly, children's characteristics in the form of screening scores are viewed as a Person outcome as Person characteristics can be both producers and products of development (Bronfenbrenner & Morris, 1998). Deduced from bioecological theory, the variables proposed in this study have theoretical justification. In the subsequent section, I will take a closer look at these variables in the research and how they relate to children's school readiness and academic achievement.

CHAPTER III

REVIEW OF THE LITERATURE

School Readiness

School readiness and closing the achievement gap have become popular topics in our present society today. Despite a plethora of discussions and research involving school readiness, the construct of school readiness is surrounded with controversy and confusion. One controversy surrounding this construct is whether it means a readiness for learning or a readiness for school. Crnic and Lamberty (1994) discuss the difference between the two claiming that readiness for learning includes children's capacity to take on specific subject matter. On the other hand, readiness for school is a more structured belief of the set of skills including cognitive, linguistic, social, and motor skills that must be attained to indicate readiness (Crnic & Lamberty, 1994). Importantly, they point out that readiness for learning does include multiple developmental processes that influence the capacity to learn.

The conceptual definitions of school readiness are quite inconsistent across the research as well. In many studies, the definition of school readiness is uni-dimensional and includes only a few academic concepts such as knowledge of numbers, letters, colors, and shapes (Pulsifer, Radonovich, Belcher, & Butz, 2004; Dearing, McCartney, &

Taylor, 2001; Wright, et al., 2001). Other researchers define school readiness as a very specific construct measuring only oral language or letter naming (Lopez & Cole, 1999; McGroder, 2000; Farver, Eppe, & Lonigan, 2006; Ricciuti, 1999). In contrast, other definitions of school readiness were not explicitly defined and simply included skills relevant to school (Butz, Pulsifer, Leppert, Rimrodt, & Belcher, 2003; Hess, Holloway, Dickson, & Price 1984; Brooks-Gunn & Markman, 2005). Even more inconsistent were researchers such as Scott and Seifert (1975) who used a different term called learning readiness while Jayakody and Kalil (2002) suggested readiness skills included following directions and knowledge of color and shapes, but considered social maturity to be separate from readiness skills. Diamond, Reagan, and Bandyk (2000) discussed the inconsistency in the school readiness definition, yet they failed to actually explicitly define it themselves. Having better consistency about the construct of school readiness will enable policymakers as well as educators to better explain to parents what skills are important for children's entrance into school.

Not only is the construct of school readiness defined inconsistently by researchers, but it is also defined differently by state standards, teachers, and parents (Snow, 2006). There is not one nationwide set of school readiness standards. Scott-Little, Kagan, and Frelow (2005) indicate that recently there has been an increase in the standards set for early childhood education and that many states are in the process of developing standards. By November 2003, 36 states had published early readiness standards (Scott-Little et al.). However, these standards are far from uniform across states. Some states have fewer standards than other states. Some states equally emphasize

skills in multiple domains while some states tend to place emphasis on specific areas such as general knowledge, cognition, and language and communication (Scott-Little et al.).

Does this lack of consistency in the state early learning standards help or hurt? Scott-Little et al. argue both sides saying that perhaps it might not be desirable to have consistent early learning standards across states, but at the same time consistent standards may help children to function in a standardized society. Regardless, this confusion at the national and state levels does not help parents understand the importance of readiness skills in all domain areas. Multiple skills seem to be crucial to school and life success. As evidence of this, the North Carolina Partnership for Children along with Smart Start argues that there are key indicators of school readiness which can be found in the domains of health and physical development, social and emotional development, approaches toward learning, language development and cognition (www.ncsmartstart.org, accessed 6/11/07). Yet, if state standards do not boast consistent definitions of school readiness nor do they emphasize the same domains, parents may not know which skills to emphasize at home with their children.

Teachers, on the other hand, tend to emphasize the importance of specific social and emotional skills such as following directions, communicating needs, and not being disruptive (Snow, 2006). There is a larger disparity between parent and teacher beliefs in the area of concepts. In comparison to teachers, parents were 6 to 8 times more likely to believe that the skills of counting and knowing the alphabet were important to being ready for school (West, Hansken, & Collins, 1995). Piotrkowski et al. (2000) also found similar results as three-quarters of the parents surveyed emphasized the necessity of

counting and alphabet knowledge in order to enter Kindergarten while parents in the Diamond, Reagan, and Bandyk (2000) study were also found to emphasize academic concepts as being important for entering school. Since parents are believed to be the first and most influential teachers in their children's lives according to the Parents as Teachers program, then trying to understand parents' beliefs on school readiness should be at the top priority. Consequently, if parents are putting more emphasis on the knowledge of concepts before entering school, should we be concerned that policymakers and teachers are emphasizing different or a broader range of skills that are necessary to enter school? If parents are emphasizing only one area of school readiness, yet children are held accountable by teachers and policymakers for more areas of readiness, this may result in conflict between parents and teachers and policymakers.

Furthermore, readiness should be defined to include all ethnic and cultural groups. Graue (2006) supports a more encompassing definition of readiness by indicating that the construct is often considered "the tag for highly privileged children" (p. 54) and does not take into account children of color or children of poverty. In this study, Latino parents' beliefs on school readiness will be examined. It is possible that there are certain cultural variables that play a role in determining what Latino parents believe are important skills for their children entering school. Espinosa (2007) talks about certain characteristics such as family cohesiveness, respect, and moral development that Hispanic immigrants emphasize and play a role in what Hispanic parents believe is important in the realm of school readiness. For example, Hispanic parents emphasizing the characteristic of respect may mean that they desire for their children to respect and comply with their teachers at

school. Additionally, Hispanic parents and particularly Hispanic mothers, may see their role as caregivers rather than teachers. Brice (2002) alludes to this as he discussed research that showed that Mexican mothers presented little teaching to their children and seemed uncomfortable playing on the floor with their children. Brice also discussed research findings that suggested that Latina mothers believed that teachers and not themselves had the role of teaching their children concepts such as the alphabet, learning to count, and beginning to read. Hispanics may have different beliefs on school readiness due to their cultural values and role beliefs. These beliefs may be evident in their behaviors and interactions with their young children and should be taken into account when defining school readiness.

On the other hand, it is possible that Hispanic parents may become acculturated to a definition of school readiness geared to their White counterparts, either through knowledge gained from having older children in school or through early childhood interventions such as Parents as Teachers. By examining the beliefs of Latino parents on school readiness, we will have a better understanding of their culture and can find ways to help them and their children find success before and during school even with the odds against them. Examining Latino parents' beliefs may enable us to find strengths in their cultural beliefs, which may help to improve or create interventions to close the achievement gap and increase school readiness skills in Latino children.

Definition of School Readiness. Despite being surrounded with controversy and inconsistency, there are certain school readiness skills that are associated with success in school in the U.S. Children's skills at school entry have been shown to be associated

with children's later school success, especially in the area of literacy (Snow, 2006). The findings in Hair et al. (2006) suggest that children who display a wider range of characteristics (for example, physical health, social/emotional development, approaches to learning, language, and cognitive development) perform better in first grade when compared to their peers who only have a few strengths in certain areas. Although research has shown that parents emphasized concepts, the Parents as Teachers program may emphasize multiple school readiness skills rather than just concepts and thus it is important to consider multiple skills to define school readiness. Therefore, based on the findings presented in this section, a definition of school readiness should include multiple skills and characteristics in multiple domains such as concepts, social-emotional development, language, and physical health. For the parameters of this study, school readiness is conceptualized as the intellectual, language, physical, social, health, and self-help skills and characteristics that children need in order to enter school ready to learn.

Parental and Home Characteristics

Parent behaviors. According to ecological theory, parental characteristics, which are part of the parent environment, can affect children in their school environment. Parent characteristics include behaviors that are associated with parenting. According to Brooks-Gunn, Rouse, and McLanahan (2007), parenting behaviors can fall into the seven categories of nurturance, discipline, teaching, language, monitoring, management, and materials. Many of these behaviors have been found to be correlated with academic school readiness (Farver, Xu, Eppe, & Lonigan, 2006; Hess, Holloway, Dickson, & Price, 1984, McGroder, 2000; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Hill, 2001;

Schaefer, 1991). Hess, Holloway, Dickson, and Price (1984) found evidence that parenting factors such as strategies for controlling behavior, communication technique, and being affective in the dyadic relationship predicted at significant levels both school readiness and academic performance. Likewise, Burchinal, Peisner-Feinberg, Pianta, and Howes (2002) found that parent factors such as parenting practices and attitudes were the best predictors of academic achievement. Parents in the Burchinal et al. study who had more education and reported more progressive parenting beliefs and practices had children who showed better academic skills across time. Hence, both Hess et al. and Burchinal et al. show evidence that parenting factors may spill over into the children's school environment.

Also finding a relationship between parenting behaviors and children's school readiness were Farver, Xu, Eppe, and Lonigan (2006). They found that parent involvement with literacy activities as well as affective quality of the home environment were associated positively with school readiness skills. Unlike other studies measuring the effects of the environment on school readiness skills in children, Farver et al. also examined the impact that child characteristics can play in this relationship. Farver et al. found that this relationship was mediated by children's interest in literacy and thus found support for the bidirectionality of the parent-child relationship. One of the strengths of this study was that the authors tried to examine the processes leading to increased parental involvement in literacy. They acknowledged the context of culture and found that the number of years in the United States was positively associated with parents' literacy habits. By examining the macrosocial context as well as the microsocial context,

the findings in Farver et al. seem to propose a more complete picture of environmental factors affecting school readiness. In the current study, parent reported child behavior will be examined as a potential factor influencing the home learning environment and therefore influencing school readiness.

In a study by Hill (2001), some parenting behaviors were found to be related to school readiness, while other behaviors were not related. Maternal warmth and acceptance were positively correlated with school readiness. On the other hand, shortness of temper and lack of patience were found to be negative correlated with school readiness. The variables of income and ethnicity moderated the relationship between parenting behaviors and school readiness. Hill (2001) argues that parenting behaviors may buffer stresses for children coming from a low socioeconomic background. For example, children living in poverty may benefit more so than their middle class peers from parents who have portrayed more acceptance towards their children. Davis-Kean (2005) found support for the relationship between parenting behaviors and achievement as well. Davis-Kean found that reading, parent-child behavior, and warmth were all associated with achievement. Parents' education and income were indirectly related to achievement through the three parenting behaviors mentioned above.

Similarly, findings from McGroder (2000) suggested that mothers' parenting patterns of being cognitively stimulating or patient and nurturing contributed to greater school readiness skills in their children. Like Farver et al. (2006), McGroder also looked at the processes leading to the cognitively stimulating parenting and found that risk factors such as low educational attainment contributed to less cognitively stimulating

parenting and thus lower school readiness skills in children. If parents feel stress due to other environmental factors, that stress may spill over into the environmental level of parenting. With more demands from other environments, parents will have fewer resources to utilize in their parent environment and thus their parenting skills may decrease and their children may have lower readiness skills. McGroder found support for the ecological assumption that environmental levels can overlap and factors in one environment can affect individuals in other environments. The empirical evidence discussed above shows that there are many parent factors that can be associated with school readiness.

It is important to note that both McGroder (2000) and Hess et al. (1984) used a resilience perspective in their research studies. Rather than using a deficit perspective, these researchers tried to find the qualities in parenting behaviors that led to better school readiness skills. Sometimes the parenting behaviors valued by certain populations are not examined as readily and it is important to look at each population of parents as having qualities that give their children the opportunity to be resilient. Therefore, it is important to consider the cultural factors that may play a role in parenting behaviors or parental beliefs that may in turn affect children's readiness. Like Hess et al. (1984), Burchinal et al. (2002), Hill (2001), and Davis-Kean (2005), research conducted by McGroder (2000) used a less than diverse sample and did not really examine this relationship in the Latino population. By examining the relationship of parenting behaviors and school readiness in mostly majority populations, this research fails to take into account any cultural factors that may influence this relationship.

Both Brooks-Gunn and Markman (2005) and Brooks-Gunn et al. (2007) argue that some early childhood interventions can alter parenting behaviors and therefore improve school readiness. Furthermore, Brooks-Gunn et al. (2007) argue that “if the disparity in parenting styles were reduced, racial school readiness gaps would decrease by 25-60%” (p. 293). They claim that parenting styles can predict a large amount of the variance in school readiness gaps among racially diverse students. This is a strong statement, but what is important is that Brooks-Gunn et al. emphasize that parents in interaction with their children can have an influence on their children’s readiness skills.

Lastly, Brooks-Gunn et al. (2007) claim that parenting behaviors fall into the seven categories of nurturance, discipline, teaching, language, monitoring, management, and materials. Of these seven categories, there are two categories, specifically language and teaching, which are considered to be more highly correlated with academic readiness. The category of language can include parents talking to their children as well as reading to them. Teaching is defined as any didactic strategy parents use to provide skills or information to their children (Brooks-Gunn & Markman, 2005). With the category of teaching, the quality of the assistance is often examined. Research has shown that Hispanic parents read less to their children and interact less in literacy activities (Espinosa, 2007). If language and teaching are two crucial parenting behaviors that are linked to school readiness, then the research stating that Latinos fail to emphasize these two parenting behaviors may explain some of the gaps in school readiness. Yet, examining the specific teaching behaviors of Latino parents and continuing to examine the language behaviors of these minority parents will prove to be a useful task.

Parental beliefs. Parents' beliefs about school readiness may influence parents' behaviors, the home learning environment and therefore impact school readiness. A number of research studies have examined parental beliefs concerning school readiness (Taylor, Clayton, and Rowley, 2004; West, Hansken, & Collins, 1995; McAllister, Wilson, Green, & Baldwin, 2005); Diamond, Reagan, & Bandyk, 2000; Holloway, Rambaud, Fuller, & Eggers-Pierola, 1995). Parents' beliefs have been described as "a combination of recollections of their own school experiences and their attitudes, values, and beliefs about school [and this] influence[s] parenting behaviors with children making the transition to school" (Taylor, Clayton, & Rowley, 2004, p.164). These authors also discuss the perspective of "what parents do" which encompasses interactions in the home learning environment. In this perspective of parent's beliefs on school readiness, the authors claim it is important to focus on the behavioral features of the parent-child relationship (Taylor et al.).

Other research has focused only on what parents believe and has left out the importance of considering the behavior of parents in association with what they believe (West, Hansken, & Collins, 1995; Holloway, et al., 1995, Diamond et al., 2000). In one study, parents were surveyed on their school readiness beliefs and results found that parents believed it was necessary for children to know the alphabet, count to twenty, and be able to use pencils and paint brushes (West, Hansken, & Collins, 1995). In another study, low income, minority mothers were more likely to place an emphasis on didactic school preparation than their Caucasian, middle income counterparts (Holloway, et al.). Didactic school preparation includes parent or teacher-directed activities coupled with the

use of “school-like” materials (i.e. doing worksheets). Didactic school preparation is different from what early childhood professionals consider developmentally appropriate practice. Therefore, parents believing in a more didactic approach to school readiness may cause conflicts with early childhood professionals and may not necessarily be in the best interest of their children. Similarly, Diamond et al. (2000) found that although parents believed both preacademic and behavior skills were important for school readiness, they emphasized academic skills more. With this research, it appears that parents believe that academic skills are what will help their children be ready for school. However, these findings strongly contrast with McAllister et al. (2005) who found that parents emphasized social emotional health as an area that is equally important for school readiness. With parents having such varied beliefs, it becomes important for early childhood professionals and educators to create a more consistent definition of school readiness, which is culturally sensitive, so all parents will be more knowledgeable about what skills their children may need to be ready for school.

Hence the research on parenting beliefs related to school readiness is contradicting as parents emphasize cognitive skills in one study and noncognitive skills in another. Only one of these studies examined the relationship between parent beliefs and parenting behaviors (Diamond, et al. 2000). It is important to examine the actual behaviors of parents as they prepare their children for school because even though parents may believe that certain skills are necessary for school, they may not be doing anything to teach their children these skills. Moreover, these studies did not examine the relationship between parent beliefs and children’s school readiness. This relationship

would help determine if there are certain parental beliefs that lead to increased or decreased readiness skills. Seemingly taking note of all of these criticisms were Sy and Shulenberg (2005), who included the three concepts of parental beliefs, parenting behaviors, and children's readiness skills in a model they tested. Using a sample of Asian American and European American parents, they found that parental beliefs were indirectly related to children's readiness through parenting behaviors that included home and non-home involvement. By including all three concepts in their study, Sy and Shulenberg give us a better understanding of the dynamic relationship between parental beliefs and children's school readiness. With this better understanding, intervention programs can be developed to increase parental beliefs on school readiness, which will increase parenting behavior and ultimately school readiness. This relationship becomes crucial when looking at minority populations who are entering school academically behind their Caucasian peers.

Other studies have examined the specific relationship between parent beliefs and children's school readiness using diverse samples (Okagaki & Sternberg, 1993; Galper, Wigifield, & Seefeldt, 1997; Julian, McKenry, & McKelvey, 1994; Baker & Scher, 2002; Okagaki & Frensch, 1998). In one study, Okagaki and Sternberg studied parental beliefs about child rearing, what teachers should teach, and characteristics of an intelligent child to see if correlations existed with children's school performance. Using a diverse subsample of cultural groups including Mexican immigrant and Mexican-American, the authors found that parents of different ethnic groups placed different emphases on factors that are characteristic of child intelligence. For example, Hispanic parents believed that

noncognitive behaviors such as motivation, social skills, and practical school skills were just as important as cognitive behaviors such as problem-solving skills, verbal ability and creative ability. Anglo-American parents, on the other hand, believed that cognitive skills were more important than noncognitive skills.

It is possible that this difference is due to cultural factors such as the Latino concept of “familia.” When looking at differences in child-rearing beliefs, immigrant parents placed more emphasis on conforming to external standards when compared to American-born parents. Conformity in this study was defined as being able to follow directions, being obedient, doing work according to external standards, and being truthful (Okagaki & Sternberg, 1993). Parent beliefs about children-rearing skills (i.e. conformity) were found to be negatively associated with children’s school performance.

Although Okagaki and Sternberg (1993) examined the differences across parents’ beliefs in certain areas and examined the relationships between beliefs and school readiness, they failed to look at the processes that lead to child outcomes. For example, if Hispanic parents believe that noncognitive behaviors are important when characterizing intelligence, did their interactions with their children also emphasize the development of noncognitive behaviors in their home? Or when looking at immigrant parents’ beliefs of conforming to external standards, it would have been interesting to more closely examine the behavior of these parents to see if they were acting on their beliefs.

Similarly, Galper et al. (1997) explored parents’ beliefs about their children’s abilities and parents’ expectations on school performance. Findings showed that parents in general were quite optimistic about their children’s capabilities and that parents’

beliefs were positively related to children's attitudes toward school and school performance. Specifically, parental beliefs about specific school-related tasks such as the alphabet and numbers, were positively related to children's performance in the areas of reading and math. Additional findings suggested that there were very few differences across ethnic groups. However, parents of Hispanic children were found to be less confident than White and Black parents that their children would get a good education. Also examining between group differences were Okagaki and Frensch (1998). They found that Latino parents emphasized the importance of the development of children's autonomous and conforming behaviors more so than parents in other ethnic groups. This finding was similar to the finding in Okagaki and Sternberg (1993) in which immigrant parents placed more emphasis on the importance of skills of conformity than non-immigrant parents. In addition, Okagaki and Frensch found that Latino parental beliefs were significantly associated with children's school performance.

The finding from Okagaki and Frensch (1998) may support the effect that culture has on parental beliefs as traditionally certain ethnic groups seem to have limited opportunities as compared to Caucasians. However, if minority parents have certain beliefs on the importance of readiness skills and act on these beliefs, their children may demonstrate increased readiness skills. It is possible that parents' beliefs of their children's abilities on school related tasks can be attributed to their behavior and enhancement of the home learning environment. Therefore, the relation between parents' beliefs and children's school readiness or performance may be mediated by the home learning environment, which includes parenting behaviors of school readiness. This could

be an important relationship to look at as it may serve to support interventions such as home visitation programs that attempt to increase children's school readiness through an enhanced home environment. If interventions really can help minority parents and children, would they be receptive to them?

Striving to get a better understanding of the beliefs of Latino parents, Delgado and Ford (1998) examined within-group differences among Mexican parents. Delgado and Ford interviewed and observed eight Mexican American families in order to explore parental perceptions of child development. After interviews and observations, three themes emerged including family views and values related to parenting, developmental changes that are important for children, and experiences faced by immigrant parents with children growing up in the United States. Findings showed that parents believed that they were influential in social aspects of child development and not influential in physical development such as learning to talk or walk. Since school readiness encompasses not only social development, but also having developmentally appropriate language skills and motor skills, this belief could negatively affect children as they might not have all the necessary skills for school success. Additional results found that parents portrayed a relaxed attitude about child rearing and encouraged independence and confidence in their children, which are important skills encouraging optimal learning in children.

Although what Delgado and Ford (1998) found is important to understand the beliefs of Mexican parents, they did not examine the relationship of beliefs to parenting behaviors nor to children's readiness skills. Presumably, parents who believe that they are influential in certain skill areas will have corresponding behaviors. Furthermore, if

parental beliefs and parenting behaviors are working together to improve the skills of children, school readiness should increase. However, research needs to be conducted to examine these particular relationships especially in the Latino population. In addition, the results of Delgado and Ford show mixed strengths and weaknesses of Mexican American parents. On the one hand, teaching and emphasizing children's social-emotional development is a strength of these parents. On the other hand, parents' beliefs that they have a minimal influence on physical skills such as talking and walking may be a cause for concern. If parents just let nature take its course, they might be missing out on an important window of opportunity to teach their children and positively influence their development. However, the sample was quite limited in size.

The research on parents' beliefs on readiness yields different research questions as well as different findings. Some research studies only looked at parental beliefs and failed to examine the relationship between beliefs and children's readiness. Other research found parents' beliefs to be associated with readiness skills, but failed to look at the processes behind the relationship. Still, other researchers have noted cultural differences in what parents believe. For example, the Anglo-American culture has been understood to mainly emphasize individual achievement (Ogaki & Sternberg). Hispanic parents appear to have different beliefs based on their culture. In sharp contrast to the Anglo-American culture, Hispanics value interdependence, cooperation, collaboration, respect, and moral development (Espinosa, 2007). The Hispanic concept of "familia" promotes a strong connection between family members both in the immediate and extended family (Espinosa, 2007). This concept includes ideas that the family will offer

support as well as loyalty and that the family will be the primary socializing influence for children (Espinosa, 2007). Even though Julian et al. (1994) found that culture only accounted for 4% of the variance in parenting attitudes, parenting behaviors, and parenting involvement, it is possible that culture may account for more of the variance if beliefs are measured within one particular ethnic group. Furthermore, if these different beliefs result in finding strengths of Latino children's readiness skills, they are important to examine and build upon.

Home learning environment. School readiness can be best understood as a complex interaction of biological factors and of various factors in children's environments (Snow, 2006). One of the factors is the context of the parent environment, which according to Snow (2006) should be considered as "an agent of change in promoting school readiness" (p. 29). In addition, parents are inexplicably linked to the home learning environment through interactions with their children and with the materials that parents provide in this environment. In a qualitative study by Delgado-Gaitan (1992), strengths of the home environments of Mexican-American families were examined. The Mexican-American families studied were found to have the strengths of physical resources, emotional climate, and interpersonal interactions in their home environment. Included in the construct of physical resources are resources, visual stimulation, and physical arrangement of the environment (Delgado-Gaitan, 1992). Emotional climate was defined to include the emotional relationships within the environment as well as family members' expectations for children's school experience. In these households, findings suggested that parents provided their children with the

emotional support to value education. Lastly, the concept of interpersonal interactions included children's literacy opportunities and interactions with family members relating to school experiences such as explanation and indirect teaching. All three themes came up as being strengths of Mexican-American families.

The home learning environment is an important layer of the microsystem in Bronfenbrenner's ecological perspective (Bronfenbrenner, 1979). The home learning environment includes the physical attributes, opportunities for learning, and educational activities that are associated with children's homes that lead to enhanced development and learning. Lamb Parker, Boak, Griffin, Ripple, and Peay (1999) examined the impact of parent involvement in the Head Start program on parenting behaviors and the home learning environment. This sample included 173 mothers who were mostly low income, poorly educated, and Latino, and their children who were recruited from two urban Head Start centers. Results found that parent involvement in Head Start led to an enhanced parent-child relationship and home learning environment, which improved school readiness. Degree of acculturation and length of time in the United States were not associated with child outcomes, which seems to downplay the context of culture as a determining factor in child outcomes. Additional results found that negative child outcomes were associated with certain factors in the home learning environment. Parents doing more school-related tasks or talking with their children more about school had children who were less considerate, less task-oriented, and more depressed. In contrast, parents who understood the value of play had children who made greater gains in skills pertaining to school readiness.

Lamb Parker et al. (1999) found a positive relationship between parent involvement and school readiness while acknowledging the role of parent-child relationship and home learning environment, which many studies fail to acknowledge. The relationship children have with their parents may actually determine how much they can absorb or learn. If this relationship is a warm, nurturing one, children are comfortable and able to reach their full potential and the home environment is enhanced. One of the strengths of this study was that the sample was 99% Latino, which acknowledges the trend of Latino growth in many areas.

Furthermore, Lamb Parker et al. (1999) looked at parent involvement only from the perspective of the Head Start program, which limits the generalizability of the results. An additional weakness was that parental involvement was defined by volunteering or taking workshops offered by the Head Start program and therefore the authors assume that parents are learning strategies to increase school readiness solely from being “involved.” This parent involvement model would be interesting to compare to a more direct form of parent education such as those seen in home visitation programs. Research should also be done to look at specific factors of parent involvement that may lead to a better home learning environment.

More support for the home learning environment increasing school readiness comes from Votruba-Drzal (2003). Votruba-Drzal examined whether increases in income influence cognitive stimulation in the home learning environment. The author measured cognitive stimulation in the home learning environments of 2,174 children. Results from Votruba-Drzal (2003) showed that increases in families’ economic resources were

associated with increased cognitive stimulation in the home learning environment. Although she found a positive correlation between income and the home learning environment, Votruba-Drzal did not measure the direct effects of income on children's school readiness. In the present study, factors that may cause parents stress such as low income or low education will be examined in relation to both the home learning environment and children's school readiness.

Additional findings indicated that improving the home environment may positively affect school readiness. Thus, changes in income may change the home learning environment and consequently may affect children's school readiness. The author utilized Bronfenbrenner's theory, which includes proximal processes and how environment are a crucial part of child development. Looking at changes in income partially accounts for the effects of another layer, the exosystem. However, there are many other factors of the exosystem that still could be taken into account such as parents' job satisfaction or parents' social support system. Within the microsystem of the home, Votruba-Drzal did not look at parent beliefs of school readiness as related to changes in cognitive stimulation in the home environment. Moreover, the sample in this study was predominantly White making the study difficult to generalize to other populations. In particular, Latino families may have resiliency factors such as social support from other family members or cultural beliefs that may make seemingly threatening factors insignificant in altering the home environment.

Farver, Xu, Eppe, and Lonigan (2006) looked at home environment as it directly impacted school readiness. In this exploratory study, the authors looked at different

characteristics in the home environment to see if they were related to two school readiness variables, oral language and social functioning. They looked at environmental characteristics such as factors that may limit learning opportunities, level of parenting stress, and the extent to which parents are active promoters of their child's learning. The other variable that was measured was child interest in literacy-related activities, which acknowledged the bi-directionality in parent-child relationships. Results indicated that school readiness skills were positively associated with parental involvement and encouragement of literacy-related activities and negatively associated with parental stress with children's interest in literacy-related activities serving as a mediator. Number of years living in the United States was found to be positively correlated with parents' literacy habits, but this finding was not explored any further. It would have been interesting to try and understand why parents living in the U.S. longer had better literacy habits. For example, did these parents have older school-aged sons or daughters that shared with them the importance of literacy habits or did these parents participate in home visitation programs such as Parents as Teachers?

Limitations of Farver et al. (2006) included the fact that the children were already enrolled in a Head Start program so effects of being in a preschool setting and the parent involvement component of Head Start may have biased the results. Research should focus on children that are not being served in early education programs. In addition, by focusing only on oral language and social functioning, other findings relating to other important school readiness skills may have been omitted (e.g. pre-math skills).

Despite two of the studies having a large Latino population, the differences found may not be attributable solely to ethnicity as the effects of other contexts may not have been controlled for. The contexts of acculturation could affect the home learning environment. If Latino parents are not willing to learn about the American culture, which drives our school systems, they may have completely different views on school readiness. Therefore their home learning environment may be completely different from Latino parents' who chose to acculturate. Because there are many factors that make up the home learning environment, such as culture, parent education level, parent knowledge of school readiness, and parent-child relationships, looking at only one or two will not necessarily give an accurate picture of what the home learning environment has to offer or what it lacks. Moreover, these studies fail to identify specifically what is happening to better enhance the home learning environment in order to enable children to increase their early learning and increase their school readiness. In particular, did parent's knowledge of school readiness help them to better equip their home learning environments which in turn prepared their children for school? This study will examine the relationship between parent beliefs on school readiness *and* the home learning environment.

The academic success of children has been linked to parenting behaviors such as language and teaching and to parenting beliefs on school readiness (Farver, Xu, Eppe, & Lonigan, 2006; Hess, Holloway, Dickson, & Price, 1984; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Sy & Shulenberg, 2005; Galper, Wigifield, & Seefeldt, 1997). Early childhood interventions such as home visiting programs have been found to change

parenting behaviors and parental beliefs that are thus linked to children's school readiness (Culp et al., 2004; Lopez & Cole, 1999). Although many early childhood interventions have been shown to influence parenting factors, few home visiting interventions have been shown to actually lead to increase school readiness in children (Brooks-Gunn, Rouse, & McLanahan, 2007). Perhaps that is because of the inconsistency in defining the construct of school readiness and measuring the construct. Nevertheless, it is still important to examine the effectiveness of early childhood interventions because there may be specific interventions that impact certain areas of children's school readiness. The more we can discover pertaining to school readiness, the closer we will be to reaching a consensus on what the construct means and how it should be measured.

Television. Television viewing is another environmental component that has been found to influence the home learning environment as well as children's school readiness (Clarke & Kurtz-Costes, 2001; Schmidt & Anderson, 2007; Shin, 2004; Ennemoser & Schneider, 2007; Uchikoshi, 2006). According to Shin (2004), television is one of the most important environmental factors affecting children's development. In a research study by Clarke and Kurtz-Costes (2001), television viewing time was found to be negatively related to environmental factors such as parental instruction and number of children's books in the home. In addition, Clarke and Kurtz-Costes found that television viewing time was found to be negatively correlated to children's school-readiness. However, the sample used in the Clarke and Kurtz-Costes research study was primarily African-American, making the findings difficult to generalize to the Latino population of interest in the current study.

Other research studies have examined the direct effect that television has on academic achievement and school readiness (Schmidt & Anderson, 2007; Ennemoser & Schneider, 2007; Uchikoshi, 2006). Through their research review, Schmidt and Anderson (2007) concluded that entertainment television negatively impacts children. In particular, Schmidt and Anderson claim that television interferes with reading in the elementary school years. Similarly, Ennemoser and Schneider (2007) found that the relationship between entertainment television and reading performance was generally negative. They also found that children who viewed more television per day showed lower progress in reading over time (Ennemoser & Schneider). Ennemoser and Schneider also examined the relationship between educational viewing and reading achievement and found that although correlations were generally positive, they were not significant. Research findings by Uchikoshi (2006) revealed support for the relationship between educational television viewing and early reading skills in Latino children. Children who watched the show *Between the Lions* demonstrated higher growth in blending and elision skills than children in other groups. Moreover, this difference remained even after controlling for other variables such as initial English vocabulary and total number of children's books in the home. These research studies seem to have found a link between television and achievement and readiness skills, yet the findings yield mixed results depending on the genre of the television programming. However, television is still an important variable in the home learning environment because it has been found to influence the home learning environment and school readiness skills (Clarke & Kurtz-Costes, 2001; Schmidt & Anderson, 2007; Shin, 2004; Ennemoser & Schneider, 2007;

Uchikoshi, 2006). The current study will explore the impact of television viewing behaviors on school readiness. In addition, the present study will explore the television viewing patterns in the environments of parents who have participated in the PAT program as well as parents who did not participate in PAT. It is possible that home visitation programs such as Parents as Teachers can affect television viewing patterns as well as other environmental factors. In the following section, the research on the effects of home visitation programs will be explored.

Early Childhood Interventions

Because the parents in the current study are minority parents, it is important to consider the research on the impact that early childhood interventions have on minority parents. Julian et al. (1994) examined cultural variations in parenting as well as examining parent attitudes on enhancing their children's academic success. They found that ethnic parents seemed to be highly motivated to enhance their children's success. Thus ethnic parents may be more receptive to various intervention strategies that would benefit their children in comparison to Caucasian parents. However, the finding that ethnic parents may be more receptive to interventions does not mean that these interventions will be successful. More research should be done to look at the effects of parenting interventions on families from diverse ethnicities because interventions are often based on the stereotypical view of the White American family (Julian et al.).

The theme that parents are receptive to interventions to help their children is also found in a study by Holloway, Rambaud, Fuller, and Eggers-Pierola (1995). Holloway et al. (1995) found that mothers were quite receptive and willing to incorporate the views of

experts concerning child development. However, Holloway et al. used a small sample of 4 White mothers, 6 Black mothers, and 4 Latino mothers. Importantly, they did find that if parents are open to learning about child development, research should focus on finding ways to support parents' learning and increase their knowledge of child development and school readiness. The Parents as Teachers program claims to do just that and will be examined in this study.

Home visitation programs. Home visitation programs enable parent educators or home visitors to better assess the home learning environment as well as build a lasting relationship in an environment where most parents feel comfortable, as opposed to a lab or office setting. Despite having some advantages in altering parenting behaviors, the research on home visitation programs is contradictory with respect to whether these programs positively contribute to increased parental knowledge of child development. In a meta analysis of home visiting programs, Kendrick et al. (2000) found that twenty-one out of twenty-seven studies reported showed significant relationships between the program and parenting and home environment. Some studies show evidence that home visitation programs increase parents' knowledge of child development (Hammond-Ratzloff, & Fulton, 2001; Culp, Culp, Blankemeyer, & Passmark, 1998; Culp et al., 2004).

The effectiveness of Healthy Families America (HFA) as a home visitation program was examined by Hammond-Ratzloff and Fulton (2001). Health Families America is a program that is designed to enhance parents' knowledge of infant development while improving parent-child relations. Results showed that mothers who

participated in HFA showed an increase in their knowledge of child development, that more knowledge was attained in the areas of infant and school-aged development, and that both older and younger mothers showed gains in knowledge. Despite having positive findings that mothers' knowledge can be attributed to the home visitation program, Hammond-Ratzloff and Fulton did not look to see if the mothers were actually applying their knowledge to the home environment and to benefit their children. Even if mothers have better knowledge of child development, they may not have knowledge of how to enhance their children's development nor may they actually be acting on their knowledge. In addition, the home visitation program may have positively affected one characteristic of the mother, but there was nothing to indicate that positive child outcomes could be attributed solely to the program. An additional weakness was the lack of ethnic diversity in the sample as the sample consisted of only one ethnicity of parents.

Culp, Culp, Blankemeyer, and Passmark (1998) also found a home visitation program to increase parents' knowledge of infant development. The goal of the home visitation program in this study was similar to the Hammond-Ratzloff and Fulton (2001) study. The program's curriculum goal was to enhance parent and child development and foster a positive parent-child relationship with a child-centered focus. Results indicated that first-time adolescent mothers experienced a significant increase in their child development knowledge and non-adolescent mothers also showed increases in their developmental knowledge. Areas of knowledge that were significantly higher after the program included knowledge on empathy, parent/child roles, and infant development among others. Like other research in this area, there were no measures to identify if

mothers were using this knowledge in daily interactions with their children. A second limitation was that the sample was predominantly White so results would not be generalizable to the Latino population.

Culp et al. (2004) boasted similar results as the two aforementioned studies, but used a more diverse sample with approximately 30% minority parents and also included a control group. Culp et al. found that mothers in the home visitation group demonstrated increased knowledge of child development and had a more enhanced home environment and behavior towards their child when compared to the control group. Mothers who had received the home visits showed more acceptance and respect for their infants and also had safer homes. Like Culp et al. (2004), Lopez and Cole (1999) examined the effectiveness of a home-based intervention in eliciting the appropriate parenting behaviors to teach children letter identification. This study had a sample of solely Hispanic parents and children and was based on the premise that Hispanic parents have limited knowledge on how to help their children. Parents were educated on how to teach their children letter identification and results suggested that the parent implemented intervention was associated with increased readiness skills in the form of letter identification.

In contrast, some research on home visitation programs have not found as positive effects on increased parent knowledge of child development (Norr et al., 2003; Goodson, Layzer, St. Pierre, Bernstein, & Lopez, 2000; Wagner & Clayton, 1999). A study by Norr et al. (2003) looked at the effects of a home visitation program that focused on increasing child health. The authors examined maternal and parenting environment, infant

developmental status as well as infant health problems, immunizations, abuse or neglect, and mother's mental status and found differences between ethnic groups. In comparison to a control group, African American mothers experienced an increase in positive attitude concerning child development. In the Mexican American group, results suggest small but significant increases in the availability of appropriate play materials in the home learning environment suggesting that it is possible for home visitation programs to influence the home environment. Strengths of this study included the use of a control group, as well as the use of minority participants who were two-thirds African American and one-third Mexican American. While looking at differences among groups is important because it parallels the current ethnicity changes in our educational institutions, it would have been interesting to see if there were any particular differences within groups as ethnic groups vary greatly.

Also unable to find support for home visitation programs increasing parental knowledge or increasing positive child outcomes were Goodson, Layzer, St. Pierre, Bernstein, and Lopez, (2000). The mixed results of the effects of home visitation programs continue with the findings in Wagner and Clayton (1999) who found small and inconsistent effects on increasing parent knowledge. However, children from Spanish-speaking Latino families in the program were found to benefit more when compared to the Spanish-speaking Latino control group. Children in this group demonstrated significant gains in cognitive, communication, social, and self-help development while no differences on parenting knowledge were found in comparison to a matched control group. This finding suggests that Latino children may actually benefit more than others

from home visitation programs. If home visitation programs benefit Hispanic parents more than others, these programs could help to reduce the gaps in school readiness (Brooks-Gunn & Markman, 2005). In fact, some research shows that Latina mothers actually increased the amount of time they spent doing literacy activities as a result of participating in a home visitation program (Espinosa, 2007).

The research on home visitation program suggests that programs are quite diverse in goals and function. This could be a reason that the research on the effects of home visitation programs is so contradicting. However, several of these studies allude to the fact that it may be possible to change parent knowledge and beliefs which may lead to an enhanced home learning environment and thus improved school readiness in children. Despite trying to pinpoint how home visitation programs change parent beliefs or knowledge, few studies have looked at the impact that home visitation programs have on the home learning environment. An increase in parental knowledge does not necessarily mean that the child benefits from this newly acquired knowledge. Parents must put their knowledge to work in the home learning environment for a positive child outcome to be evident. Yet, few studies have ventured into this idea.

Moreover, even fewer studies have explored in depth the impact that home visitation programs can potentially play in minority families, in particular immigrant Latino families. With school readiness being a current topic of interest in the literature and the idea of “closing the gap” being a priority in our nation’s schools, it may be beneficial to policymakers and families alike to take a closer look at the effects of home visitation programs on Latino families. Research should focus on looking at the effects

of home visitation programs using a model that suggests that these programs influence parents' beliefs on what is necessary for school readiness, which therefore improves the home learning environment, and consequently boosts children's school readiness.

Moreover, there is a need for continued research on parenting beliefs and behavior as this serve as a guide for the design of effective parent education programs (Schaefer, 1991).

Parents as Teachers program. Parents as Teachers (PAT) is the “overarching program philosophy of providing parents with child development knowledge and parenting support” (Parents as Teachers National Center, 2007). In the 1970s, early childhood professionals wanted to develop a program that could help parents understand their role in encouraging their children's development from birth as well as pave the way for school success. The Parents as Teachers program originated from early childhood professionals who were trying to find a way to even the playing field for all children in the area of school readiness. Today, Parents as Teachers programs can now be found in all 50 states and in some other countries. The Parents as Teachers program is available to all families. However, the target population of each individual program may depend on the program itself. For example, many programs aim to serve families that meet one or several risk factors such as low socioeconomic status, English Language Learners, single parent families, etc. The mission of Parents as Teachers is “to provide the information, support and encouragement parents need to help their children develop optimally during the crucial early years of life” (Parents as Teachers National Center, 2007).

One of the Parents as Teachers program areas is called Born to Learn. Born to Learn is a four-part intervention model that uses parent educators to delivery the four

main components. The four service delivery components are personal visits, group meetings, screenings, and resource network (Parents as Teachers National Center, 2007). The personal visit component is the main component of the Born to Learn Model. It includes parent educators sharing information that is developmentally appropriate, teaching parents how to be good observers of their children, addressing parents' concerns, and engaging parents in meaningful activities with their children. In the group meetings component, parents are given the opportunity to discuss parenting issues and child development. Parents are also given the opportunity to receive support from other parents, observe their children, and practice parenting skills (Parents as Teachers National Center, 2007). Children in the PAT program are screened in development, hearing, vision, and health. This component offers the opportunity for early identification of delays or problems in any of these areas. Parent educators in the PAT program help participating families connect to and access resources in the community as the last component of the program. As part of this component, parent educators also help families to access resources by overcoming barriers that they may come across.

The goals of the Born to Learn Intervention Model are to first increase parental knowledge of child development and improving parenting practices. A second goal of the program is to provide early detection of health issues and developmental delays through screenings. Third, the Born to Learn model strives to prevent child abuse and neglect. Lastly, the program aims to increase children's school readiness and school success. Unlike some of the other home visiting programs mentioned earlier, the Parents as Teachers Born to Learn program seeks not only to improve parental knowledge and

behavior, but also to increase children's school readiness. One advantage of having these explicit goals is that the intervention model is tailored to meet each one of these goal through the four service delivery components.

Despite having explicit goals, research aimed specifically at examining the effectiveness of the Parents as Teachers program yields mixed results. The concept of "theory of change" shapes the goals behind Parents as Teachers program and has lead to research evaluating the effectiveness of the PAT Programs in achieving its desired outcomes. Hebbeler and Gerlach-Downie (2002) developed a theory of change for the PAT program, which describes how the parent educators interact with parents during the home visit to produce the intended outcomes. The theory of changes assumes that parent educators give information to the parent and that the parents learn new information. Parents then take this information and use it to interact more positively with their children and in return, children experience better developmental outcomes (Hebbeler & Gerlach-Downie, 2002). Results of this qualitative study showed that the intended goals such as improving parenting behaviors and increasing children's school readiness were not achieved. A limitation of this study is that parents participated in the program from around 3 months old and only until their children reached age 3, thus leaving a critical period of no services immediately before the children enter school. It is possible that once children get closer to school-age, parents will interact and teach their children more in order to better prepare them for school. It is possible that parents may see the goal of being ready for school a little clearer if children are older and only have limited amount of time to prepare for school.

In an evaluation of a Multisite Parents as Teachers program, program impacts on parenting attitudes, knowledge, and behaviors yielded small, but positive effects on several dimensions (Wagner & Spiker, 2001; Wagner, Iida, & Spiker, 2001; Wagner, Spiker, & Linn, 2002). The researchers found that the most consistent positive effects were for parenting behaviors, indicating that some parents are indeed interacting more with their children. When looking at the goal of achieving positive child outcomes, the results of this study demonstrated that children who had participated in the PAT program were not any different than those who did not participate in the program. This is an important finding, which greatly discounts Hebbeler and Gerlach-Downie's (2002) theory of change. From these findings, Parent as Teachers appears to have modest effects on parent characteristics, and no effects on child outcomes. A limitation of this study was that only 12.4 percent of the sample was Latino while over half of the sample was African-American. Therefore, these results might not necessarily be generalizable to the Latino population. Another limitation to this study was that similar to the parents in Hebbeler and Gerlach-Downie (2002), parents were followed only through participation through children's second birthdays. As a result, the effectiveness of the Born to Learn 3-Kindergarten Curriculum is not taken into account here.

An additional potentially important finding in this Multisite Evaluation is that positive effects for both parents and children were more likely to be found in the very low income population as opposed to a higher income population. Although Owen and Mulvihill (1994) found that middle-class participants did benefit from the PAT program in certain areas (i.e. enhanced home environment), they failed to compare them to a lower

income group. If Parents as Teachers does benefit lower income families more, it “could help close some of the gap between income groups in some aspects of parenting and child development” (Wagner, Spiker, & Linn, 2002, p. 76). By closing the gap in income groups, this intervention could also potentially close the gap between ethnic groups, in particular Hispanics, as Hispanics overwhelmingly fall into the lower income bracket as compared to their Caucasian peers (National Task Force on Early Childhood Education for Hispanics, 2007).

In Wagner and Clayton (1999), the Parents as Teachers program was found to produce more benefits for Latino families when compared to non-Latino families. Latino mothers in the PAT program were found to have significantly higher scores than Latino mothers not in the PAT program on a parent efficacy scale. On that same efficacy scale, non-Latino mothers in the PAT program scored significantly lower than non-Latino mothers that did not participate in the PAT program. Latino children in the PAT program also seemed to reap more benefits than non-Latino children in the PAT program. For example, Latino children in the PAT program scored significantly higher in cognitive development when compared to the control group while non-Latino children did not show a positive effect in cognitive development when compared to their control group. In general, research on the effectiveness of the Parents as Teachers program shows modest effects on parenting characteristics and alarmingly no effects on child outcomes. In other research, Parents as Teachers has been criticized by participating families of color as being “white people stuff” (Wagner, Spiker, Gerlach-Downie, & Hernandez, 2000). So it

is still advantageous to examine the program's effectiveness in within the Latino population as all of these studies performed a between group comparison.

Furthermore, from 1984 – 2003, only 13 outcome studies were performed on the PAT program effects (Parents as Teachers National Center, 2003). Most studies collected data when children were 2 to 3 years of age. The Parents as Teachers National Center (2003) suggested that PAT program improvement efforts need to be expanded to look at minority populations as the demographics of the U.S. is drastically changing. The most recent piece of research to come out of the Parents as Teachers National Center suggests that children are more ready for school if they have participated in Parents as Teachers and preschool (Pfannenstiel & Zigler, 2007). Findings also suggested Parents as Teachers helped to close the readiness gap between children living in poverty and those not living in poverty. Children living in poverty who participated in the PAT program at least 2 years and participated in a Preschool program for 1 year were deemed just as ready for school as compared to their middle class counterparts who had no exposure to PAT or preschool (Pfannenstiel & Zigler, 2007). Additional findings suggested that Parents as Teachers parents engaged in more home literacy activities than parents who did not participate in the program. However, this study focused on the gaps in income versus the gaps in ethnic groups, which may be similar but are not the same. Hence, it is still of utmost important to study the effects of Parents as Teachers on the Latino population to see if it influences parent behaviors and the home learning environment as well as children's school readiness.

CHAPTER IV

RESEARCH QUESTIONS

In this paper, I will explore the following research questions and hypotheses based on the literature and theory I have previously reviewed.

1.) Do Hispanic parents that have participated in the PAT program have different beliefs of school readiness when compared to Hispanic parents who have not participated in the PAT program?

Hypothesis 1a.) After controlling for any covariates, parents who have participated in the PAT program will report that items in the domain of General Readiness Resources of the CARES are more necessary for school readiness than parents who did not participate in Parents as Teachers.

2.) Do Hispanic parents who have participated in the PAT program have different home learning environments than those Hispanic parents who have not participated in the PAT program?

Hypothesis 2a.) After controlling for any covariates, PAT parents will report being involved in significantly more literacy activities with their children in the home environment than parents who did not participate in Parents as Teachers.

Hypothesis 2b.) After controlling for any covariates, PAT parents will report that they have significantly more educational materials, toys, and books than parents who did not participate in Parents as Teachers.

3.) Do children who participated in the PAT program have higher DIAL-3 screening scores than children who have not participated in PAT?

Hypothesis 3a.) After controlling for any covariates, children who have participated in the PAT program will have significantly higher DIAL-3 screening scores than those children who did not participate in the PAT program.

4.) What is the relationship between the amount of time families participate in the PAT program, parents' beliefs of readiness, and children's screening scores?

Hypothesis 4a.) There will be a positive relationship between parent scores on the beliefs scale and the amount of time they spent in the PAT program.

Hypothesis 4b.) There will be a positive relationship between amount of time families participated in the PAT program and children's screening scores.

5.) What is the relationship between participation in the PAT program and children's screening scores?

Hypothesis 5a.) The Parents as Teachers program will still be a significant predictor of screening scores after SES, parent level of education, and child temperament are entered into the model.

Exploratory Research Questions. 6.) Do PAT parents sing to their children, tell oral stories to their children, and engage in math-related and physical activities more than parents who have not participated in the Parents as Teachers program?

Hypothesis 6a.) Parents from the PAT group will sing, tell oral stories, and engage in math-related and physical activities with their children more than parents that have not participated in the PAT program.

7.) What is the relationship between watching TV, the PAT program, and children's screening scores?

Hypothesis 7a.) There will be a significant negative relationship between the amount of time children spend watching television and their screening scores.

Hypothesis 7b.) Children who participated in the PAT program will watch significantly less television than children who do not participate in the PAT program.

Qualitative Research Questions. 8.) How did parents help prepare their children for school?

9.) What did parents think were the most important things that their children needed to start school?

CHAPTER V

METHODOLOGY

Sample/Participants

Parents. The necessary sample for this study was obtained through Pre-Kindergarten programs in the Randolph County School System and the Asheboro City School System. The sample included the guardians of children entering Pre-Kindergarten classrooms in these two school systems as well as their Pre-Kindergarten aged child. All parents of children in the Pre-Kindergarten classrooms of Donna Lee Loflin Elementary, the Early Childhood Development Center, Liberty Elementary, Lindley Park Elementary, Ramseur Elementary, and Randleman Elementary were invited to participate in the study. However, only Latino parents were selected to be interviewed as this was a study to examine Latino parents' beliefs. Twenty-four participants actually participated in this study.

Initially, fifty-nine parents agreed to participate in the study by checking "Yes" on the letter given to them either through their Pre-K child's teacher or at a parent meeting. Out of the 59 parents, 31 were confirmed as being of Latino origin by children's teachers. Parents of Latino origin were then called to set up a time for the interview, but three out of these 31 parents had either written incorrect phone numbers on the letter or had phone numbers that were not in service. Two others called to cancel their already scheduled

interviews and did not respond to follow-up calls to reschedule. Another parent changed her mind about participating in the study and verbally refused to be interviewed saying she had too much going on in her life. Another parent was contacted three different times over the phone and each time, the adult who answered claimed she was not there. This parent did not return phone messages and therefore was not interviewed. Therefore out of these 31, 24 parents (77%) who had initially agreed to participate were actually interviewed. Half of the participants were interviewed from December through February while the other half was interviewed from May through August. Specifically, parents were interviewed anywhere from 15 to 51 weeks after their children began their Pre-Kindergarten school year. The extended time frame for the interviews is due to the fact that the IRB modification of oral recruitment was submitted later in the year.

Overall, all parents that were interviewed were of Latino background. Nineteen of the 24 parents were mothers, one was a father, and there were four interviews in which both the mother and father participated. The average age of participants was 32-years-old, while the ages ranged from 20-years-old to 44-years-old. Fifty-four percent of the sample had completed an educational level anywhere from ninth to twelfth grade. Twenty-one percent of the sample had completed their GED or had their high school diploma. The other twenty-five percent of the sample had not completed anything higher than eighth grade. The majority of the sample (63%) reported an income level of 130% of Poverty or below.

In regards to family characteristics, half of the parents in the study had school-aged children in addition to their Pre-K child, while the other half did not have school-

aged children. Most of the sample (83%) was born in Mexico, 4% were born in the United States, and 13% percent were born in other countries such as Nicaragua and El Salvador. Of the participants that were born outside the United States, the number of years in the United States varied, but ranged from 6 to 23 years with a mean of 13 years (See Tables A1 and A2).

Data from parents that were interviewed were then organized into two groups: those who participated in the Parents as Teachers program and those who did not participate in the program. Although twenty participants in each group were targeted, only six of those 24 did participate in the PAT program, while the other 18 did not participate in the PAT program. Initially, parents that did not participate in the Parents as Teachers (PAT) program were to be matched as closely as possible based on children's school, income level, and parents' educational attainment to parents in the first group. Because of the lower than expected number of PAT parents that were interviewed, non-PAT parents were not able to be matched with PAT parents. Participation in the study was completely voluntary. Because only six participants had participated in the PAT program, their answers on the amount of time involved with PAT were collapsed into one category. Therefore for the variable of amount of time participated in PAT, the number of categories was reduced from five to two (0 = no time with PAT, 1 = any time with PAT).

Children. There were twenty-four children that were also part of the current study. The average age of children at the time of screening was 53 months. Two children attended Pre-Kindergarten at Donna Lee Loflin Elementary, seven attended the Early Childhood Development Center, six were at Liberty Elementary, one child attended

Lindley Park Elementary, four children were at Ramseur Elementary, and four children attended Randleman Elementary. There were ten girls and fourteen boys that were included in this study and all twenty-four children were reported as being Hispanic/Latino. Nineteen of the children did not attend child care centers nor did they receive early intervention services prior to Pre-K. Of the 18 non-PAT children, two children attended child care centers and two children received early intervention services prior to Pre-Kindergarten entry. One child in the PAT group received early intervention services prior to Pre-K entry. In addition, 22 children were screened with the DIAL-3 at the beginning of the Pre-K year in August/September. One child was screened upon late enrollment in the program in February of the Pre-K year, while another child was not screened due to being labeled developmentally delayed before entering Pre-Kindergarten. The mean screening standard score was 84, which was slightly below the DIAL-3 standardization sample standard score of 94.

Procedures

Parent Interviews. All parents of Pre-Kindergarten children were informed about the study with a letter sent home with their children. In the letter, parents were told that the study was learn about parents' beliefs on school readiness and they were asked to send back the letter in which they were to check either one of two choices: 1.) Yes, I would like to participate and receive a free children's book; and 2.) No, I would not like to participate. Parents that checked the choice of "Yes" were then asked to write down their name and phone number on the letter as well. A second letter was sent to parents who did not return the initial one through their Pre-K children. When many parents were

not returning letters, a third strategy for recruitment was implemented through an IRB modification. Recruitment was conducted orally at Pre-Kindergarten parent meetings at the Early Childhood Development Center, Liberty Elementary, Ramseur Elementary, and Randleman Elementary. During oral recruitment, parents were given information about the study and asked to fill out a form on whether or not they wanted to participate in the study.

Parents who agreed to participate by checking “Yes” on the letter/form were all entered into a random drawing to win one of two \$25.00 Wal-Mart gift cards. Winning names were randomly selected and gift cards were sent to the two winners. Parents that agreed to participate by checking “Yes” on the form were examined to determine eligibility to be interviewed. Specifically, parents of Latino background were considered eligible to participate. Classroom teachers confirmed Latino background of parents that agreed to participate and these were the parents that were contacted to be interviewed. Parents were contacted via a phone call within two weeks of returning the letter and they were asked to set up an appointment for the interview at a place of their choice.

During the interview session with the parents, the parent educator first explained the reason for the study which was to better understand parents’ beliefs on what their children need to be ready when starting school. Parents were asked to give their honest opinions and were assured that everything they said was completely confidential. The interview was in the form of a questionnaire and was administered by one of two trained parent educators. Interviews were administered orally to facilitate all parents being able to read and understand each question. Most parents also followed along reading the

questionnaire as it was administered. Parent educators conducted the interviews in the language that parents suggested was most comfortable for them. The majority (83%) of interviews were conducted in Spanish. Parent educators also brought along crayons, paper, and books to entertain any children present, which was a strategy implemented to help the parents focus on the task at hand. At the completion of the interview, parent educators asked parents if they had any questions, answered any related questions, thanked the parents for their participation, and gave them their free children's book.

Child Screenings. Children's school readiness was measured using the Developmental Indicators for the Assessment of Learning – Third Edition (DIAL-3), which is a developmental screening test that measures skills that are directly related to classroom functioning. Screening scores were obtained from each child's Pre-K program. All children in the Pre-Kindergarten classrooms were given this screening within 90 days of enrollment in their first language of either Spanish or English. Pre-Kindergarten teachers in each school administered the DIAL-3 screenings for each child as a required part of the enrollment process. Scores in the domains of motor, concepts, and language as well as total scores are reported to the Randolph County Partnership for Children, which is a non-profit organization that plans, identifies, and funds programs for young children and their families (www.randolphkids.org, accessed 8/5/07). Parents gave consent for the researcher to access their children's DIAL-3 screening scores, which were then obtained from the Randolph County Partnership for Children and specific school site and used in data analyses for this study.

Demographic information. In order to enroll their children into Pre-Kindergarten, parents were required to fill out a two-page application. The application was then analyzed by either the Randolph County Partnership for Children or on-site at the school. All parents that participated in the study gave their consent to be able to access the Pre-Kindergarten application to obtain demographic information. Demographic information such as ethnicity, family income, parents' educational attainment, and number and ages of children other than Pre-K children in the family were collected from these applications and used in data analyses. Household income was divided into two income levels and based on the 2006 Federal Poverty Levels. Parents' educational level was divided into the following categories: eighth grade or below, ninth grade through twelfth grade, high school diploma/GED, or more than high school/GED. The presence of school-aged children in addition to Pre-K children present in the household was also reported on Pre-K applications.

Measures

The measures in this study consisted of a series of questionnaires that were administered to parents in the form of an interview in either English or Spanish depending on parental preference. Instrumentation included a demographics section, the CARES survey, the Home Literacy Questionnaire, Home Toy Questionnaire, and the Children's Behavior Questionnaire. The Developmental Indicators for the Assessment of Learning – Third Edition (DIAL-3) was used as secondary data to measure children's school readiness.

Demographics. In addition to the demographic information collected from the Pre-K applications, several questions about demographics were included in the questionnaire that was administered to parents. Questions pertaining to the relationship to the child, age of participant, and degree of acculturation (years in US) was included in the questionnaire. Questions concerning whether or not the parents have been involved in the Parents as Teachers program and the amount of time participated in the program were also asked.

CARES survey. The Community Attitudes on Readiness for Entering School (CARES) survey was designed to assess beliefs about the importance of readiness resources such as health; basic self-care; socio-emotional maturity and self-regulation; interaction with peers; interest and engagement in the world; motor skills; cognitive knowledge; communication; and adjustment to the classroom setting such as following teacher directions and classroom routines (Piotrkowski, Botsko, & Matthews, 2000). According to Piotrkowski et al. (2000), these readiness resources were based on five dimensions of school readiness that were identified by the National Education Goals Technical Planning Group for Goal 1, a review of the literature, and the conceptualization of school readiness as resources. The survey was created to be appropriate for both parents and teachers who have low educational attainment (Piotrkowski, Botsko, & Matthews, 2000). In the CARES survey, parents are asked to rate the various school readiness resources with a “1” if they think the skill is *Not too Important* for children starting Kindergarten, a “2” if they think the skill is *Somewhat Important*, a “3” if they

the skill is *Very Important, but not Essential*, a “4” if they think the skill is *Absolutely necessary* for a child beginning Kindergarten (See Appendix B).

After completing a factor analysis, the authors reported that parents’ scores indicated that beliefs on school readiness were divided into two separate domains (See Appendix C). The first domain is called General Readiness Resources and includes parent’s beliefs that pertain to children’s everyday lives (Piotrkowski et al., 2000). There are seven readiness beliefs included in this first domain and consist of health, peer relations, communicates in own language, emotional maturity, self-care, interest and engagement, and motor skills. Of the seven readiness beliefs included in this first domain, the first two beliefs of health and communicates in own language contained only one item. The remaining five General Readiness Resources beliefs (Peer relations, Emotional Maturity, Self-Care, Interest and Engagement, and Motor Skills) included more than one item and therefore an average of the items was taken across each belief to form one score. Because of the nature of this measure, single items each measured different concepts and could not be combined into one subscale. The single items were treated as exploratory in the current study.

For the current study, the internal consistencies of the General Readiness Resources beliefs that contained more than one item were within a normal range. For both the English and Spanish surveys, the internal consistency for the peer relations belief was acceptable ($\alpha = .76$) as were the internal consistencies for Emotional Maturity ($\alpha = .86$), Self-Care ($\alpha = .81$), and Interest and Engagement ($\alpha = .72$). Health and

communicates in own language were not checked for reliability since they included only one item each.

The second domain is Classroom-related Readiness Resources and represents beliefs that parents think are pertinent to the classroom setting (Piotrkowski et al., 2000). This domain includes the five beliefs of communicates in English, compliance with teacher authority, basic knowledge, compliance with classroom routines, and advanced knowledge. The domain of Classroom-related Readiness Resources was not used in data analysis. Since the first domain included beliefs regarding children's everyday lives rather than skills pertinent to the classroom setting, the General Readiness Resources seemed more applicable to children in early childhood programs such as Pre-Kindergarten. Therefore, for the purposes of this study the first domain, General Readiness Resources, was the only one used.

The CARES survey was first created in English and then Spanish by Piotrkowski, Botsko, and Matthews (2000). Upon assessment of the equivalence of the English and Spanish CARES survey, Piotrkowski et al. (2000) found that language was significantly related to response style. Participants using the Spanish CARES were also significantly more likely to use check marks rather than the four-point scale and were also less likely to report a "4" or a "1" as a response (Piotrkowski et al., 2000). Furthermore, language of the survey was found to be significantly related to parents' ratings. Therefore, the Spanish version of the CARES was excluded from analysis in the Piotrkowski et al. (2000) study.

Consequently, a new Spanish version of the CARES survey in the present study was created through a method of “back translation”. The CARES survey was translated from Spanish to English by a bilingual teacher employed by Randolph County Schools. The translated Spanish version was then compared with the English version and differences were fixed using recommendations from several bilingual early childhood professionals. In order to pilot the new Spanish version of the CARES, two Spanish-speaking parents were asked to review the survey to see if the questions made sense. Hence, this new Spanish version of the CARES survey was treated as exploratory and the reliability was measured during this current study (See Appendix D). For the current study, results showed that the reliability for the Spanish version of the CARES was good. Reliability for peer relations belief was acceptable ($\alpha = .75$) as were the internal consistencies for Emotional Maturity ($\alpha = .88$), Self-Care ($\alpha = .78$), Interest and Engagement ($\alpha = .76$), and Motor ($\alpha = .74$). In the second domain, internal consistencies for Compliance with Teacher Authority ($\alpha = .79$), Basic Knowledge ($\alpha = .87$), Compliance with Classroom Routines ($\alpha = .85$), and Advanced Knowledge ($\alpha = .89$) were all acceptable. Internal consistency for the entire Spanish General Readiness Resource Domain ($\alpha = .86$) and the entire Classroom Related Readiness Resources ($\alpha = .92$) were also good.

Home literacy environment questionnaire. The Home Literacy Environment Questionnaire was created to be used with parents with limited educational attainment (Farver et al., 2006). The Questionnaire can be used in both English or Spanish and aims to measure parents’ literacy involvement with their children, parents’ literacy habits, as

well as children's literacy interest. The questionnaire consists of 13 items that are rated on a seven-point scale where "1" means *never* and "7" means *daily*. The questionnaire is divided into three subscales, which are parents' literacy involvement, parents' literacy habits, and children's literacy interest. An average score for each subscale was calculated and used in data analysis. The internal consistency for the three subscales in past research ranged from .83 to .88. For the present study, internal consistency was also within normal ranges for the parents' literacy involvement ($\alpha = .71$) and children's literacy interest subscale ($\alpha = .75$). The Parents' Literacy Habits subscale did not have good internal consistency ($\alpha = .54$) and therefore was dropped from data analysis.

In the current study, this measure was used to examine parenting behaviors and interactions with children in the home learning environment. The measure was used to examine what parents are doing with their children related to school readiness. One disadvantage of this questionnaire is that it only focuses on parents' behaviors targeted towards literacy. Therefore, additional questions were added to fill in this void, including how often parents sing to their children, how often parents tell oral stories to their children, and how often parents engage in math and physical activities with their children. For the purposes of this study, these added questions were treated as exploratory. The Home Literacy Questionnaire as well as the four additional questions were translated into Spanish by a bilingual parent educator. Again, this part of the questionnaire was reviewed by two Spanish-speaking individuals to evaluate the translation (See Appendix E).

Home toy questionnaire. The Home Toy Questionnaire, developed for the NICHD Study of Early Child Care, measures via parent-report the types of toys and games that are available in the children's home environment. The Home Toy Questionnaire was converted into questionnaire format from the Learning Materials subscale of EC-HOME (Phase II Instrument Documentation. Retrieved August 24, 2007 from the NICHD Study of Early Child Care and Youth Development Web site: <http://secc.rti.org/>). Cronbach's alpha for the total score of the EC-Home for participants in the NICHD Study of Early Child Care and Youth Development was computed at .82 and the alphas for individual subscales ranged from .26 to .57. In the Home Toy Questionnaire, participants are asked to circle "Yes" or "No" when asked 11 questions concerning toys or games that enable children to learn in a variety of areas including colors, size, shapes, numbers, fine motor skills, etc. A total score for this questionnaire was created by adding the number of "yes" responses to all 11 items (See Appendix F).

For the purposes of this study, the Home Toy Questionnaire was translated into Spanish by a bilingual parent educator. It was piloted with two individuals to review the translation of the questionnaire. This measure examined the materials that are available for use in the home learning environment. For this study, internal consistency for this scale was not acceptable ($\alpha = .50$) and therefore was not used in data analysis. It is possible that translation affected internal consistency of this questionnaire.

Additional home learning environment questions. Three additional questions adapted from the Home and Life Interview were added and translated into Spanish to examine the use of television in the home learning environment. Questions pertaining to

when the television is on, how long children are watching the television, and children's favorite shows are included in this short section. The Home and Life Interview was created by the investigators of the Project on Human Development in Chicago Neighborhoods. It was adapted from the Caldwell and Bradley Home Observation for Measurement of the Environment (HOME) measure revised edition (1984). Since the present study is only using three adapted questions from the Home and Life Interview, reliability and validity on these three items was not previously calculated. An additional question about use of computer and video games was added to this short section. These items were treated as exploratory in the present study (See Appendix G).

Children's behavior questionnaire. This measure was created for use in a research study by Rothbart, Ahadi, and Hershey (1994). It is a caregiver report used to assess temperament in children ages 3-7 (Rothbart, Ahadi, Hershey, & Fisher, 2001). There are fifteen areas of temperament that are measured in 196 items in the questionnaire. Parents are asked to rate items on a seven-point Likert scale ranging from "1" which means *extremely untrue* to "7" which means *extremely true*. Because of the length of the original version of the Children's Behavior Questionnaire, only one subscale was used in the current study. Cronbach's alpha for the subscales in the parent-reported Children's Behavior Questionnaire in the NICHD Study of Early Child Care ranges from .60 to .85, while the subscale used in this study (Attention/Focusing) was reported as having moderate internal consistency ($\alpha = .80$). The 8-item subscale of Attention/Focusing was chosen because of the importance of attention in both parent-child interactions as well as learning in school (See Appendix H).

Because of the nature of the wording of the items, four items were reverse coded before calculating a mean score. After reverse coding the items, the mean of the items answered in the subscale were calculated to create one mean score. Therefore, the lower the mean behavior score, the worse children are able to focus on tasks as reported by parents. The higher the mean behavior score, the less difficulty children are having on attention and focusing on tasks as reported by their parents. If parents are trying to teach their children with certain activities, yet children have trouble paying attention or focusing, this characteristic may moderate the relationship between parenting behaviors in the home learning environment to children's school readiness skills. In addition, several research studies have shown a link between attention characteristic and academic achievement (Howse, Lange, Farran, & Boyles, 2003; McClelland, Morrison, & Holmes, 2000; Raver, Smith-Donald, Hayes, & Jones, 2005; Yen, Konold, & McDermott, 2004). The attention/focusing subscale of the Children's Behavior Questionnaire was translated into Spanish by a bilingual parent educator. Two parents reviewed the questionnaire to verify the translation. When reliability was checked for this study, it did not fall within a normal and acceptable range ($\alpha = .57$) and therefore this subscale was not used in data analysis. It is important to note that the Children's Behavior Questionnaire was normed on a sample of only White children perhaps explaining why this subscale did not have acceptable internal consistency with a Latino sample.

Qualitative questions on school readiness. Finally, participants were asked if they did anything special to prepare their children for school as well as what they perceived was the most important thing children need to start school. These two questions were

asked in an open-ended format to gather qualitative data. Two parent educators reviewed the answers for each question separately. Each parent educator noted patterns in the answers and organized the answers into themes. Themes were recorded and then the two parent educators came together to discuss the patterns and themes they found. Themes for the first and second qualitative question were found to be similar and therefore the findings were confirmed. The two parent educators discussed the similar themes and agreed on the specific themes for each qualitative question to be used for analysis. Due to triangulation by researcher or in this case parent educator, the confirmed themes were verified and considered reliable. To further explore the qualitative data, themes for each qualitative question were examined to compare the PAT parents' answers versus non-PAT parents' answers.

DIAL-3. The Developmental Indicators for the Assessment of Learning – Third Edition (*DIAL-3*) is a developmental screening designed to identify young children in need of further diagnostic assessment (Mardell-Czudnowski & Goldenberg, 1998). The *DIAL-3* addresses the domains of language, motoric, and conceptual behaviors that are demonstrated by children from the ages of 3 years 0 months to 6 years 11 months (Mardell-Czudnowski & Goldenberg). Mardell-Czudnowski and Goldenberg claim that the *DIAL-3* assesses developmental skills that are directly related to classroom functioning and are considered the foundation for academic learning. The *DIAL-3* is scored according to a rating scale based on the child's age in years and months. The *DIAL-3* screening has reliabilities based on the age of the child and the median reliability for the three domains of motor, concepts, and language are reported as .66, .84, and .77

respectively. The median reliability for the total score of the DIAL-3 is reported as .87. The raw score from each of the three domains of motor, language, and concepts were added together to produce a total score which was then converted to a standard score for use in data analysis.

CHAPTER VI

RESULTS

Preliminary Analyses

Demographics. First, descriptive statistics on the data from the demographics section of the interview were analyzed so the sample could be described appropriately. Descriptive statistics were run on participants' relationship to the children, age of participants, birthplace of participants, years of residence in the United States, participation in a Parents as Teachers program, and amount of time of participation in a Parents as Teachers program. Other demographic data collected from Pre-K applications including household income, parents' level of education, and number and ages of additional children were also analyzed (See Tables A1 and A2).

Next, preliminary analyses were conducted to assure that the scores were normally distributed and to check for outliers. Normality was examined for the following variables: each of the 12 subscales for parents' beliefs, two subscales for the Home Literacy Environment as well as the four additional parent involvement questions that were added, and three quantitative television questions from the Home and Life Interview. The results indicated that there were no outliers for any variable in the data.

Results also indicated that skewness as well as the ranges for each variable were appropriate. Both the General Readiness Resources and Classroom Related Resources were examined to describe what parents thought were the most important school readiness resources. Each Resource belief from the CARES survey, except for health, communicates in own language, and communicates in English was analyzed separately. Results indicated that skewness for each of the General Readiness Resources beliefs was acceptable. Mean scores for each belief ranged from 2.90 – 3.46 (See Table A3). Latino parents in this study believed that the resources of health or being well rested, compliance with teacher authority, and emotional maturity were the most important. On the other hand, parents believed that the resources of motor skills and advanced knowledge were the least important for school readiness.

The variable of the home literacy environment was analyzed based on responses to the Home Literacy Environment Questionnaire. Results indicated that for the Parents' Literacy Involvement subscale and children's literacy interest subscale, skewness was acceptable as shown in Table A4. On average, parents were involved in literacy with their children about 3 times a week, while parents reported that their children showed interest in literacy activities about 4 times a week. The third subscale, Parents' Literacy Habits subscale was excluded from data analysis due to low internal consistency ($\alpha = .54$). The Home and Life Interview additional questions were also analyzed. Over half of parents reported that there TV is on whenever they are at home, while half of parents reported that their children watched 1-2 hours of TV per weekday. Furthermore, the majority of

parents (67%) reported that their children played less than an hour per weekday of computer or video games (See Table A5).

Covariates. An additional preliminary analysis was performed to assure that there were no differences between the two groups so that further analyses could continue with greater certainty that any other differences are based on the PAT program rather than other confounding variables. A One-Way ANOVA was used to compare the PAT group and the non-PAT group in the demographic variables of income ($p = .487$), education ($p = .240$), age ($p = .562$), years in US ($p = .239$), presence of additional school-age children ($p = .368$), and time of interview in weeks since the start of school ($p = .002$). This analysis revealed that there were significant differences between the PAT and non-PAT groups with time of interview. Since about half of parents were interviewed during 15-25 weeks since the start of school, their experiences may have been different than those parents that were interviewed from 39-51 weeks after school started. As time passed, it was possible that parents were exposed and educated on the school readiness skills their children need either through their children's Pre-K teacher or participation in Pre-K parent meetings offered by the schools. Therefore, the variable of time of interview was used as a control variable throughout data analysis. All variables discussed have been included in further data analysis except for Parents' Literacy Habits, Materials/Toys available in the home (Home Toy Questionnaire), and Children's Behavior (Attention and Focusing) due to low internal consistency.

Parental Beliefs

Research Question 1. Do Hispanic parents that have participated in the PAT program have different beliefs of school readiness when compared to Hispanic parents who have not participated in the PAT program?

Hypothesis 1a. It was hypothesized that parents who have participated in the PAT program would report that items in the domain of General Readiness Resources of the CARES are more necessary for school than parents who did not participate in Parents as Teachers. An Analysis of Variance (ANOVA) was run to compare the means of the two parent groups. Four of the subscales were found to be significantly different between the groups. These subscales were Communicates in Own Language ($F(1,22) = 5.68; p = .026$), Peer Relations ($F(1,22) = 4.79; p = .040$), Emotional Maturity ($F(1,22) = 5.85; p = .024$), and Interest and Engagement ($F(1,22) = 6.64; p = .017$). Non-PAT parents actually reported that the four General Readiness Resources subscales were more necessary than PAT parents, which is the reverse of what was expected. However, an ANCOVA analysis revealed that when covarying out the variable time of interview, all significant differences were eliminated, suggesting that time of interview may be a more influential factor on parents' beliefs than the Parents as Teachers program. Therefore, this hypothesis was not supported (see Table A6).

A post hoc analysis was run to explore what could be happening over time with PAT and non-PAT parents. The variable time of interview was collapsed into two groups: 15-25 weeks and 39-51 weeks to examine if there were differences in General Readiness Resources beliefs and parental involvement in parents that were interviewed early in the

school year versus those that were interviewed later in the school year. Twelve out of 24 parents were interviewed at the beginning of the year, while the other twelve were interviewed later in the year. All six of the parents that participated in the Parents as Teachers program were interviewed at the beginning of the year from 15-25 weeks after Pre-K started. Parents that were interviewed later in the year answered that two beliefs were significantly more important for school readiness than parents who were interviewed earlier in the year. Those two beliefs were Communicates in Own Language ($F(1,21) = 6.74; p = .017$) and Interest and Engagement ($F(1,21) = 6.84; p = .016$).

A second post hoc analysis was run to explore if non-PAT parents were changing in their beliefs and involvement over time. Findings suggested that there were no significant differences in General Readiness Resource beliefs in non-PAT parents that were interviewed earlier in the school year versus later. Parents that were interviewed later in the year reported that they did significantly more physical activities with their children than those who were interviewed earlier in the year ($F(1,16) = 5.63; p = .031$). This could be due to the fact that the weather was getting warmer and that more parents were going outside and doing physical activities with their children at the end of the year. Other than that significant difference, it did not seem to make a difference when the non-PAT group was interviewed.

Home Learning Environment

Research Question 2. Do Hispanic parents who have participated in the PAT program have different home learning environments than those Hispanic parents who have not participated in the PAT program?

Hypothesis 2a. It was hypothesized that that PAT parents would report being involved in more literacy activities with their children in the home environment. An Analysis of Variance revealed that there were no significant differences between PAT parents and non-PAT parents when regarding overall involvement with literacy activities in the home ($F(1,22) = .002$; $p = .969$). Therefore, this hypothesis was not supported.

Hypothesis 2b. It was hypothesized that PAT parents would report that they have more educational materials, toys, and books in comparison to the non-PAT parent group. The internal consistency of the Total Home Toy subscale was not within a normal range so this hypothesis was not tested. However, preliminary analyses did reveal that on average, parents reported having about 9 out of 11 types of toys/educational materials on the Home Toy Questionnaire. Fifty-eight percent of parents reported that they did have real or toy instruments available in their homes. About 67% of all participants reported having ten or more children's books in their home and 71% of parents reported having a music player with five or more children's songs for it. Eighty percent of parents reported that they had two or more toys that helped their children learn numbers such as games and puzzles, while 88% of parents reported having toys that help children learn about sizes. Over ninety percent of parents reported that they had the following in their homes: toys to help children learn colors, toys to help children learn shapes, toys that help children express themselves creatively, toys that require fine motor skills, and toys that help children learn the names of animals. Although the majority of parents had the above-mentioned types of toys, there was one type that parents did not report having in

their homes. An overwhelming 75% of parents reported that they did not have three or more puzzles with at least 5 pieces intact in their homes.

Children's Screening Scores

Research Question 3. Do children who participated in the PAT program have higher DIAL-3 screening scores than children who have not participated in PAT?

Hypothesis 3a. It was hypothesized that children who had participated in the PAT program would have higher screening scores than those children who did not participate in the PAT program. An Analysis of Variance revealed that this was not true ($F(1,21) = .094$; $p = .762$). Although children enrolled in the PAT program had an average screening score of 85.0 ($SD = 10.00$), while non-PAT children had an average screening score of 83.7 ($SD = 12.70$), this difference was not significant. This hypothesis was not supported.

Time with PAT, Beliefs, and Screening Scores

Research Question 4. What is the relationship between the amount of time families participate in the PAT program, parents' beliefs of readiness, and children's screening scores?

Hypothesis 4a. It was hypothesized that there would be a positive relationship between parent scores on the beliefs scale and the amount of time they spent in the PAT program. Due to the low sample size ($n = 6$) for the PAT group, it was not appropriate to run an SPSS analysis and therefore an analysis was not run for this hypothesis.

Hypothesis 4b. It was hypothesized that there would be a positive relationship between amount of time of participation in the PAT program and children's screening

scores. Again, due to low sample size of the PAT group ($n = 6$), it was not appropriate to run an SPSS analysis and therefore an analysis was not done for this hypothesis.

Research Question 5. What is the relationship between participation in the PAT program and children's screening scores?

Hypothesis 5a. It was hypothesized that participation in the Parents as Teachers program would be a significant predictor of children's screening scores even after entering income, parent level of education, and child attention/focusing into the model. Since child attention/focusing (children's behavior) did not have good internal reliability, it could not be used in this analysis. So in order to find other variables that were the most related to children's screening scores, a Spearman correlation was first performed with the demographic variables. The two highest correlated variables shown in Table A7, were not income, but rather were parents' education ($r = -.409$) and parents' age ($r = .293$). Therefore, these two variables as well as the PAT participation variable were entered into a regression analysis, which revealed that PAT participation was not a significant predictor of children's screening scores and neither were parents' education nor parents' age.

Exploratory Research Questions

Research Question 6. Do PAT parents sing to their children, tell oral stories to their children, engage in math-related and physical activities more than parents who have not participated in the Parents as Teachers program?

Hypothesis 6a. It was hypothesized that parents from the PAT group would sing, tell oral stories, and engage in math-related and physical activities with their children

more than parents that have not participated in the PAT program. For this hypothesis an Analysis of Variance did not reveal any significant differences between groups in singing ($F(1,22) = 1.18$; $p = .290$), oral story-telling ($F(1,22) = 1.74$; $p = .201$), doing math-related activities ($F(1,22) = .22$; $p = .647$), or engaging in physical activities ($F(1,22) = .26$; $p = .618$). This exploratory hypothesis was not supported.

Research Question 7. What is the relationship between watching TV, the PAT program, and children's screening scores?

Hypothesis 7a. It was hypothesized that there would be a significant negative relationship between amount of time children spent watching television and their screening scores. An Analysis of Variance revealed that there were no significant differences between the groups ($F(4,18) = .51$; $p = .732$). This hypothesis was not supported.

Hypothesis 7b. It was hypothesized that children who participated in the PAT program will watch significantly less television than children who did not participate in the PAT program. Again, an Analysis of Variance did not reveal any significant differences between groups ($F(1,22) = .13$; $p = .726$). This hypothesis was not supported.

Qualitative Themes

The first question during the parent interview asked if parents did anything special to prepare their children for school. All twenty-four parents answered this question and their answers were categorized into six main themes. Themes included doing literacy activities including reading and speaking (29%), teaching basic concepts such as ABC's, colors, and numbers (25%), and teaching their children the English language (12.5%).

Remaining themes included practicing writing (12.5%), teaching social skills such as sharing things and being independent (12.5%), and enrolling in the PAT program (8.5%).

The second question asked parents to report the most important thing they thought their children needed to start school. Out of the 24 parent interviewed, 23 of them answered this question. One participant took a while to answer, seemed uncomfortable, and repeatedly said “What could it be?” so the interviewer moved to the next question. Of the 23 answers, six themes were created including knowledge of basic concepts such as colors, numbers, and letters (26%) and having social skills such as following directions and paying attention (22%). Seventeen percent of parents reported that it was important for their children to have prior knowledge of the school such as attending Pre-K and to be excited about going to school. Other themes included learning the English language (13%), being able to communicate/speak well (13%), and being able to write (9%).

To further explore the qualitative questions, the answers of parents in the PAT subgroup and non-PAT subgroup were compared. For the first question, PAT parents’ responses fell into four categories. Two PAT parents said they did literacy activities with their children such as “I brought lots of books to her and explained the words to her. I looked at words with her to better explain them and help her understand them.” Two other PAT parents reported that enrolling them in the PAT program was their preparation for their children. One PAT parent reported that she taught her child basic concepts including “show[ing] him colors and counting and teaching him the letters of his name.” Yet, another PAT parent reported that she taught her child social skills, which was demonstrated by her saying, “we let her eat by herself, dress herself, and taught her to

share things – that is the most important thing...we [taught her] to be obedient to the teacher, how to behave in school, and how to coexist with other kids.” PAT parents did not have any answers that were categorized into the themes of teaching children the English language or teaching children writing skills.

For the second question, PAT parents had answers that were in three of the six thematic categories. Three PAT parents thought that knowledge of basic concepts was important and verbalized that it was important for their children to prepare by “reading, learning colors, numbers, letters, and her name...[also by] mak[ing] cards to Santa, aunts, etc. and [to know] where to begin writing.” Two PAT parents reported that having appropriate social skills was important and said that children needed to be able to “manage what to do and what goes on around him [and] to follow directions and listen to the teacher” as well as “to get rid of [their]fear and being timid and to be more social.” Another PAT parent reported that having knowledge of the school beforehand was important such as “to know the teacher beforehand.” No PAT parents reported that English language, writing skills, or being able to communicate well were the most important things children needed to start school.

Non-PAT parents’ answers were also reviewed to see if any patterns emerged. For the first qualitative question, no major patterns emerged. About 28% of non-PAT parents reported that they did literacy activities with their children such as this parent who said, “we went to the library.” Another 28% of non-PAT parents reported that they taught their children basic concepts, which is demonstrated in this parent’s response, “I spoke a lot. I questioned him about colors and numbers. We did different activities.” Other non-PAT

parents reported that they did various other activities with their children to prepare them for school. For example, one non-PAT parent reported that she prepared her child for writing by saying “[I] gave her work to do and I gave her a little old notebook I bought in the Dollar Store. [I want her] to be able to use her hands to draw and write letters.”

Another parent in the non-PAT group tried to prepare her child with learning the English language. This parent reported that she “made an effort to put her in daycare at \$85/week so she could learn the English language. This was about when she was 8 months old.” In general, non-PAT parents answered reported various ways that they prepared their children for school and their answers did not fall into specific patterns.

For the second qualitative question, the answers of the non-PAT group were reviewed and again no major patterns emerged. One non-PAT parent did not answer this question due to being seemingly uncomfortable so a total of seventeen non-PAT parents responded to what they believed was the most important thing for their children to start school. Non-PAT parents’ responses were evenly distributed across the six themes as about 18% of parents responses were categorized into 5 of the 6 themes including English language, social skills, basic concepts, school/classroom related, and speaking, while about 11% of non-PAT parents’ responses fell into one category of writing. More specifically, non-PAT parents’ responded that the most important thing to start school varied from being able “to speak English because that is the only language they speak in school,” to “learn numbers, writing his name, and phonics,” “to have [good] behavior and to pay attention.” In general, qualitative responses from both PAT and non-PAT parents were distributed across the various themes.

CHAPTER VII

DISCUSSION

The present study aimed to empirically address several pertinent questions regarding parents' school readiness beliefs, home learning environments, and children's school readiness outcomes. There were two factors that made this study unique. First, these questions were addressed in the framework of an early childhood intervention home visitation program called Parents as Teachers. This is important as many programs such as Parents as Teachers are being funded to support both positive parenting and children's positive school outcomes. What was also unique about this study was that it addressed these questions in the Latino population. Because Latinos are becoming increasingly more prevalent in our society (Collins & Ribeiro, 2004), it is important to examine this population to learn more about them, their beliefs, and their behaviors.

In general, results from this study did not support differences in between parents and children that had participated in the Parents as Teachers program and those that did not. PAT parents and non-PAT did not significantly differ in their beliefs of the importance of General Readiness Resources when time of interview was controlled for. Similarly, PAT parents and non-PAT parents did not significantly differ in their home learning environment, including literacy involvement and amount of educational materials found in the home. When looking at readiness screening scores, PAT children

also did not significantly differ from non-PAT children. This string of results may be better understood within Bronfenbrenner's bioecological perspective. According to the bioecological perspective, merely participating in the PAT program may not be enough to increase parents' literacy involvement nor increase children's readiness screening scores. Based on the proximal process component of this perspective, children's screening scores may be more likely to increase only if participation in PAT was combined with parent's literacy involvement and the presence of educational materials in the home. Since no differences were found between groups in parents' literacy involvement and presence of educational materials in the home, it is not surprising that there were no differences between PAT and non-PAT children's screening scores.

The early childhood period is considered a critical time for children to develop basic skills that will lead them to school success, which aligns with the Time component of bioecological perspective. Evidence from the current study suggested that parents believed that all of the General Readiness Resource skills were very important to their children's school readiness. Because parents reported that all General Readiness Resources were very important with mean scores ranging from 3-3.5, it suggests that parents understand that early childhood is a critical time in their children's lives. However, even though they seemed to believe in this window of opportunity for their children, their actions on the parents' literacy involvement subscale, did not seem to match their beliefs. It is possible that parents do not have the prior knowledge in how to involve themselves in educating their children.

Parental Beliefs

Significant differences were found between PAT and non-PAT groups in General Readiness Resources without covarying out time of interview. Non-PAT parents believed that these Resources were more necessary for school than PAT parents. It is possible that PAT parents better understood the developmentally appropriate skills for their Pre-K children. It is also possible that PAT parents seemed more at ease and comfortable with their children's development because of the support offered from the program. According to the proximal process component of bioecological theory, if PAT parents are engaged in the program, they will start to believe in its teachings and have behavior that coincides with the program. PAT parents may have been very engaged in the program that they trusted the parent educator and trusted that their children were going to be successful in school. Perhaps non-PAT families did not have the knowledge about their children's appropriate development and as a result felt worried about their children's school readiness skills and therefore thought that each Resource was much more crucial for school readiness.

Evidence revealed that these differences between groups were no longer significant when time of interview was controlled for in the analysis. Results from covarying out the variable of time of interview can be deduced from the bioecological perspective component of time. As time progresses, parents are using many of their past experiences to influence their beliefs and behaviors. As their Pre-K children progress in the Pre-K program, parents may be gaining more insight into the skills that their children will need in Kindergarten from their children's teachers, progress reports, etc.

Furthermore, as the Pre-K year progresses, any problems or delays that children have may be more evident in this Pre-K setting than they were at home. Therefore, it is possible that parents may be feeling anxious about specific skills that their children have yet to develop. Additionally, each Pre-K site held monthly parent meetings in which education about child development and transitioning to Kindergarten was given. From these meetings over the year, parents add new ideas they have learned to their repertoire and use these ideas to influence their current beliefs. Perhaps the time of interview made a difference in parents' beliefs of how important these skills were for school readiness because any experiences they gained during the Pre-K year influenced their beliefs at the time of interview.

Research has shown that parents believe that academic skills such as knowledge of the alphabet and counting, are most important in helping their children prepare for school (West, Hansken, & Collins, 1995; Holloway, et al., 1995; Diamond, et al., 2000). Evidence from the current study contrasted with this research. Parents' believed that the resources of health or being well rested, compliance with teacher authority, and emotional maturity were the most important skills their children needed to be ready for school. These findings are similar to findings from Delgado and Ford (1998) who reported that Mexican parents emphasize teaching their children social and emotional skills. Furthermore, research has shown that Latinos value the characteristic of respect. In the current study parents reported that compliance with teacher authority was important which is evidence that parents in this study also value respect. Additionally, parents' responses from the second qualitative question did not just concern academic skills,

which again contrasted with previous research. Rather, the Latino parents in this study seemed to emphasize the importance of having more well-rounded children. Twenty-two percent of parents reported that the most important thing their children needed to start school was to have appropriate social skills such as following directions and paying attention. Seventeen percent of parents emphasized that the non-academic skill of having prior knowledge of the school was important for their children's school success.

In addition, when the PAT parent group and non-PAT parent group's answers were examined separately, parents' answers on what was most important for their children to start school were not overwhelmingly found in just one category. Rather, PAT parents' beliefs on the most important thing children need to start school ranged from knowledge of basic concepts, social skills, to prior knowledge of school. While non-PAT parents' believed that skills in all categories were important. This finding suggests that even within groups, parents believe that children need to have a variety of skills in order to be successful to start school. Because all of these parents are of Latino background, it is possible that these parents are influenced by culture variables. According to Okagaki and Sternberg (1993), Hispanic parents believed that non-cognitive behaviors such as social skills were just as important as cognitive behaviors such as problem-solving skills. It is also possible that the parents in the PAT program are being exposed to the importance of many different skills, which reinforces their cultural beliefs of the importance of both cognitive and non-cognitive skills. Although some parents did talk about academic skills, overall parents' responses suggested that they believe that children with multiple skills in multiple domains would fair best in school.

Parental Involvement

Research has shown that Hispanic parents read less to their children and interact less in literacy activities (Espinosa, 2007). Qualitative evidence from the present study revealed that almost a third of parents (29%) reported that they were doing literacy activities such as reading and speaking with their children to prepare them for school. Quantitative evidence revealed that Hispanic parents in this study were doing literacy activities with their children an average of three times per week, such as reading to their children, pointing out words giving them the meaning of the words, and teaching their children the letters of the alphabet. Additionally, results indicated that Hispanic parents in the current study were singing to their children and telling oral stories to their children three times a week as well. Singing and oral story-telling may be specific to certain cultures and are important to consider since they are both considered literacy activities. If these parents are rotating the days in which they are doing these literacy activities, then they could potentially be doing literacy activities with their children everyday. Although Espinosa (2007) did not give frequencies of how much Hispanic parents were involved in literacy activities in her research, the Hispanic parents in this study seem to at least be doing literacy activities three times a week, showing that they are at least partially involved in literacy with their children.

Utilizing the findings from the Home Literacy Questionnaire, children in this study seemed interested in literacy activities as parents reported their children showing literacy interest 4.2 times per week. This is an important characteristic for children to show as the Person component in bioecological theory posits that children's

characteristics can set proximal processes in motion or can sustain those already in motion (Bronfenbrenner & Morris, 1998). Even though parents reported doing literacy activities with their children less than three times a week, it was encouraging to find that the children in this study had an interest in literacy activities since their interest could serve to influence parents' involvement more. Future research should examine the factors interfering with parents' literacy involvement with their children. For example, maybe parents are worried about meeting their family's basic needs and do not have the time nor energy to do literacy activities with their children. Or perhaps parents have the desire to be involved in literacy activities with their children, but do not have the knowledge on how to be involved. If the latter is the case, then providing parents with direct instruction on how to carry out literacy activities with their children would be a recommendation for early childhood interventions.

Children's Screening Scores and Television

It was somewhat surprising that parents' education was not a significant predictor of children's screening scores, but when considering the Person component of biocological perspective, parents' education not predicting screening scores does make sense. The Person component claims that children's characteristics, such as temperament, can influence how children interact with the environment. Therefore, it may be important to consider child temperament, such as being shy or anxious, when examining predictors of children's readiness screening scores as shy children may not interact nor answer questions during the screening, thus resulting in lower scores than more outgoing children.

The finding that television viewing time was not related to children's screening scores was surprising as television is one of the most important environmental factors affecting children's development (Shin, 2004). However, in the current study, over half of parents reported that their children were watching two hours or less television per day, which according to the American Academy of Pediatrics does not exceed the maximum recommended per day (<http://www.aap.org/family/smarttv.htm>, accessed 10/14/08). Therefore it is possible that because over half of the children in the current study were reported to be watching only minimal amounts of television, television viewing time did not impact screening scores. Additionally, the small sample size may account for why there were no significant differences found between PAT and non-PAT children in television viewing time. It is also possible that no differences between groups were found because the PAT program may not directly address television viewing throughout the curriculum. Rather, it may be the case that the PAT program indirectly teaches parents that less television viewing time is better for their children; however parents may need more specifics on this topic. For example, parents may need to be informed about the ill-advised effects of extended amounts of television viewing time and the PAT program may need to address this directly.

Resiliency in Parents

Both McGroder (2000) and Hess et al. (1984) used a resilience perspective in their research studies by trying to find positive qualities in parenting that related to school readiness skills. The current study also used a resilience perspective and found that Latino parents overall seemed to be involved with their children either in literacy

activities, physical activities, or math activities and had about 9 types of toys or educational materials available for use by their children in their home. Furthermore, the majority of parents reported that they did have certain types of toys/materials in their home that help children learn colors, sizes, shapes, numbers, the names of animals as well as types of materials that help children to express themselves creatively and that require fine motor skills. On the other hand, seventy-five percent of parents reported that they did not have three or more puzzles with at least 5 pieces intact in their homes. It is possible that parents of young children cannot keep all pieces of the puzzle intact because Pre-K children are active learners and may misplace the puzzle pieces. It is also possible that parents may not buy as many puzzles as other toys/materials because puzzles are a type of toy that do not have specific benefits spelled out for parents. Regardless, the majority of parents did report having many types of toys/educational materials in their homes. Despite more than half of participants (63%) living below 130% of the poverty level, these parents showed resiliency by being able to provide educational materials for their children to enhance their children's home learning environment. This finding suggests that we should not discount families living in poverty from being resourceful and from having the knowledge to provide their children with educational materials.

Lastly, parents in this study seemed to be motivated to enhance their children's success based on their responses for the first qualitative question. This is consistent with findings from Julian et al. (1994) who showed that ethnic parents seemed to be highly motivated to help their children be successful academically. All 24 parents in this study reported that they were doing something special to help prepare their children for school

suggesting that they are trying their best to help their children. Although parents' responses on this question varied by skill/domain, every response was appropriate for the developmental age of the children in this study and was appropriate for preparing children for school readiness and success.

Implications for Parents as Teachers

Findings from the qualitative questions in the current study revealed that PAT parents were not emphasizing learning English and the skills of writing when they reported the important skills their children needed to start school or what they did to prepare their children for school. The idea that PAT parents were not concerned about their children learning English might suggest that the PAT parent educators were effectively teaching parents that it is important for children to have a good base in their native language. It is important that PAT parent educators and programs continue to encourage the development of skills in children's native languages. Additionally, PAT parents did not report being overly concerned with their children's writing skills. PAT programs may want to ensure that they are emphasizing writing as a skill that is important for school readiness.

Other findings from Lopez and Cole (1999) showed that Hispanic parents with limited knowledge on how to prepare their children for school actually benefited from interventions of directly teaching parents how to better teach their children. Although the personal visit component of the Parents as Teachers program aims to share developmentally appropriate information with parents and engage parents in meaningful activities with their children, this may not be enough. Parents may need more specific

instruction on how to teach their children rather than just sharing information and being involved in meaningful activities.

In addition, although a meta analysis by Kendrick et al (2000) found that 21 out of 27 studies reported significant relationships between home visiting programs, parenting, and the environment, results from the current study was not consistent with the findings in the meta analysis. Although the current study is limited in its small sample size, it still is important to examine the underlying factors of why the Parents as Teachers program was not linked to parenting factors or factors in the home learning environment. It is possible that the lack of appropriate measures for specific populations such as the Latino population could impact the effects of the PAT program on parenting and the environment. In order to evaluate the PAT program effectively for specific populations, there is a need for new measures that are sensitive to the needs of those specific populations.

Furthermore, it is possible that significant results between the PAT program, parenting, and the home environment, were not found due to the variability in the different PAT programs. The outcomes of better parenting and an enhanced home learning environment may depend on characteristics of parent educators, relationship of parent educator with parents, if the Born to Learn curriculum is administered appropriately, or even the population of parents such as having many risk factors or few risk factors. These types of factors need to be taken into consideration because even though the Parents as Teachers program has certain components, it does not mean that it is implemented in the exact same way from program to program. There is a need to

control out these characteristics in future PAT program evaluations in order to examine the true relationship between the Parents as Teachers program and parenting and the home environment.

Strengths of this Study

For the current study, results showed that the reliability for both the General Readiness Resource Domain ($\alpha = .86$) and the entire Classroom Related Readiness Resources ($\alpha = .92$) domain of the Spanish version of the CARES was strong. Because the Spanish version of the CARES in the Piotrkowski et al. (2000) study was excluded from analysis due to poor reliability, this finding in the current study is a strength. In Piotrkowski et al. (2000), participants using the Spanish CARES were significantly more likely to use check marks rather than the four-point scale and were also less likely to report a “4” or a “1” as a response. During this study, parent educators verbally explained the directions of the CARES survey and tried to assure that parents understood what the survey was asking. Parents in this survey rated most of the beliefs with a mean score of “3”, which differs from the original Spanish version in Piotrkowski et al. (2000).

Another strength of this study included that the data was collected in interview format, which decreases the chance for error due to parents not understanding the questionnaires or not being able to read the questionnaires. In addition, this study utilized mixed methods by analyzing data collected from interviews as well as secondary data such as Pre-K applications and Pre-K screening scores and by using both quantitative and qualitative data collection techniques. In addition, the sample was unique in that it was composed of participants of a Latino background only. In order to better understand the

Latino parents and their culture on the topic of school readiness, an entirely Latino sample was considered a strength of the current study. Lastly, another strength of the current study was that the two interviewers/parent educators were bilingual and had prior experience working with Latino families.

Limitations of this Study

The sample size was a limitation of the current study. There were only six parents who were interviewed who had participated in the Parents as Teachers program, while the non-PAT group was larger with 18 participants. Due to this small sample size, it is difficult to draw conclusions on any differences between the PAT group and the non-PAT group. Additionally, the internal reliability of parents' literacy habits, the Home Toy Questionnaire, and Children's Attention/Focusing were not acceptable so they had to be excluded from analyses. It is possible that translation into Spanish may have affected the reliability of these measures since this was the first time that these measures have been translated into Spanish.

The translated measures of the current study were considered limitations. All of the measures for the current study were taken from an English version and then translated into Spanish. Very few questionnaires on parental beliefs on school readiness and parental involvement were found in Spanish. There were no measures on this topic that were designed to examine beliefs and involvement in the Latino population. Therefore, new measures should be created in an effort to better measure this population. The current study used existing questionnaires that may have been suitable for English-speaking populations, but may not necessarily be suitable for Spanish-speaking

populations such as the parents in this study. Moreover, there was not any previous knowledge of how these English questionnaires, other than the CARES survey, worked with Spanish-speaking populations so the results found using these translated measures can only be used as exploratory. Finally, there is a continued need to research this population to create measures that are sensitive to the needs of Latinos.

Other limitations of the current study include collecting data throughout the year rather than at one time point as well as the potential for misadministration of the DIAL-3 screenings. Because parents were not interviewed at one time point, there were many factors such as involvement in the Pre-K program, which could have influenced them in responding to the interview questions. Lastly, the DIAL-3 screenings were administered by different individuals at different sites. The actual environment where the screenings were administered may have varied from site to site. Also, it is possible that not all sites were administering the DIAL-3 Spanish version to Spanish-speaking children. It is possible that sites administered the English version of the DIAL-3 translated into Spanish rather than the DIAL-3 Spanish version, which was developed specifically for Spanish-speaking children. Since there was no way of controlling how and where the DIAL-3 was administered, this is another limitation of the current study.

Conclusion

In conclusion, this study did not find significant differences between the PAT group and the non-PAT group. However, this study did give us a glimpse into the beliefs and involvement of Latino parents. They are involved in their children's education and they do believe that children need a plethora of skills to be successful in school. If

minority populations and specifically Latinos are the future of our society, then more research needs to examine Latino parents' beliefs and behaviors as well as their interactions with their young children. Finally, it is important to continue to study the best strategies to help Latino parents and their children breeze down the pathways to school readiness and school success.

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Appendix A

TABLES

Table A1

Demographic Characteristics of Parents

	n	Percentage
Ethnicity		
Latino	24	100
Income		
<130%	15	63
>130%	9	37
Education		
8 th or below	6	25
9 th – 12 th	13	54
H.S./GED	5	21
School-aged children		
None 5 or older	12	50
School-aged children	12	50
Relation to child		
Mother	19	79
Father	1	4
Both	4	17
Birthplace		
Mexico	20	83
USA	1	4
Other	3	13

Table A2

Parents' Age and Years in US

	Mean	SD	Min	Max	Skewness
Age	32.208	5.718	20	44	-.228
Years in US	13.125	5.408	6	23	.733

Table A3

Descriptive Statistics of CARES Resources

	Mean	SD	Min	Max	Skewness
<i>General Readiness Resources</i>					
Health (1 item)	3.46	.88	1.00	4.00	-1.51
Communicates in Own Language (1 item)	3.17	.87	1.00	4.00	-.78
Peer Relations (2 items)	3.21	.99	1.00	4.00	-1.08
Emotional Maturity (7 items)	3.31	.74	1.14	4.00	-1.42
Self-Care (4 items)	3.04	.78	1.50	4.00	-.18
Interest and Engagement (5 items)	3.14	.62	2.00	4.00	-.51
Motor Skills (4 items)	2.97	.74	1.25	4.00	-.38
<i>Classroom Related Resources</i>					
Communicates in English (1 item)	3.29	.86	2.00	4.00	-.63
Compliance with Teacher Authority (3 items)	3.33	.86	1.00	4.00	-1.19
Basic Knowledge (6 items)	3.26	.78	1.67	4.00	-.73
Compliance with Classroom Routines (6 items)	3.16	.73	1.50	4.00	-.79
Advanced Knowledge (11 items)	2.90	.62	1.73	4.00	-.06

Table A4

Descriptive Statistics of Home Literacy, Home Toy, and Children's Behavior Questionnaires

	Mean Overall	Mean PAT	Mean non- PAT	SD	Min	Max	Skewness
<i>Home Literacy Questionnaire</i>							
Parents' Literacy Involvement	2.94	2.92	2.94	1.45	.50	6.00	.30
Parents' Literacy Habits	2.98	*	*	1.62	.00	6.00	.09
Children's Literacy Interest	4.20	4.20	4.20	1.44	1.20	6.00	-.67
<i>Home Toy Questionnaire</i>							
Toy Total Yes's	8.58	*	*	1.64	4.00	11.00	-.94
<i>Children's Behavior Questionnaire</i>							
Children's Attention/Focusing	4.66	*	*	.90	2.50	6.50	-.28
<i>Additional Home Questions</i>							
TV 1: TV on at home or just for certain programs	.46**	.33**	.50**	.51	.00	1.00	.18
TV 2: Hours TV per day	1.54	1.67	1.50	.98	.00	4.00	.79
TV 4: Hours computer/video per day	.46	.50	.44	.72	.00	2.00	1.30

Note. * The subscales of Parents' literacy habits, Toy Total Yes's, and Children's Attention/Focusing were not included in analyses because they were not high enough on internal consistency.

** A score of 0 means that the TV is on while the family is at home while a score of 1 means that the TV is on only for certain programs.

Table A5

Numbers and Percentages of TV variables

	n	Percentage
<i>TV I</i>		
TV on while at home	13	54
On for certain programs	11	46
<i>TV hours per day</i>		
Less than an hour	2	8
1 to 2 hours	12	50
2 to 3 hours	6	25
3 to 5 hours	3	13
More than 5 hours	1	4
<i>Computer/Video per day</i>		
Less than an hour	16	67
1 to 2 hours	5	21
2 to 3 hours	3	12
3 to 5 hours	0	0
More than 5 hours	0	0

Table A6

Summary of Analysis of Variance of General Readiness Resources with and without a Covariate

	Mean (SD) PAT group	Mean (SD) Non- PAT	F (1,22)	p
CARES: General Readiness Resources				
Health	3.17 (1.33)	3.56 (.70)	.867	.362
<i>Health with Covariate</i>			.072	.791
Communicates in Own Language	2.50 (1.22)	3.39 (.61)	5.677	.026**
<i>Communicates in Own Language with Covariate</i>			1.252	.276
Peer Relations	2.50 (1.26)	3.44 (.78)	4.788	.040**
<i>Peer Relations with Covariate</i>			1.331	.262
Emotional Maturity	2.74 (1.02)	3.50 (.52)	5.850	.024**
<i>Emotional Maturity with Covariate</i>			1.833	.190
Self-Care	2.67 (.68)	3.17 (.79)	1.929	.179
<i>Self-Care with Covariate</i>			.003	.959
Interest and Engagement	2.63 (.64)	3.31 (.53)	6.638	.017**
<i>Interest and Engagement with Covariate</i>			1.276	.271
Motor Skills	2.71 (.40)	3.06 (.81)	.995	.329
<i>Motor Skills with Covariate</i>			.045	.835

Note. * $p < \text{or} = .10$; ** $p < \text{or} = .05$; *** $p < \text{or} = .01$. Covariate was the variable “When Interviewed.”

Table A7

Intercorrelations between DIAL-3 Scores and Demographic Variables

	1	2	3	4	5	6
1. DIAL-3 score	—					
2. Income	.043	—				
3. Education	-.409	.303	—			
4. Age	.293	-.121	-.372	—		
5. Years in US	-.255	-.067	.211	-.230	—	
6. Add'l Children in family	.110	-.602**	-.432*	.484*		—

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

Appendix B

CARES SURVEY (ENGLISH)

This survey asks your opinions about what children need to know and be able to do in order to become ready for Kindergarten. There are no wrong or right answers.

I. Your Opinions about the Readiness for Kindergarten

A. Think about a child who will BEGIN Kindergarten in the Fall. For each item below, enter one number to indicate how IMPORTANT or NECESSARY it is for a child STARTING Kindergarten.

Write "1" if you think it is *not too important*.

Write "2" if you think it is *somewhat important*.

Write "3" if you think that it is *very important, but not essential*.

Write "4" if you think that it is *absolutely necessary*.

1. Physical and Motor Development

- Is well rested and well-nourished. Health care needs are met.
- Can write on the line. Can color inside the lines.
- Throw the ball, skips, runs, hops, walks up/down stairs.
- Stacks 5-6 blocks by him/herself.
- Can hold a pencil.
- Can use scissors.
- Cuts simple shapes with scissors.
- Hold pencil properly.

2. Self-Care

- Buttons own clothes.
- Feeds self with fork.
- Find own belongings.
- Zips own jacket.

3. Social and Emotional development

- Plays well with other children. Shares.
- Is self-confident. Proud of his/her work.
- Does not hit/bite. Has self-control.
- Has sense of right or wrong.
- Shows independence.
- Takes turn.

4. Approach to Learning

- Is curious.

- Asks lots of questions about how and why.
- Is interested in world around him/her.
- Likes to solve puzzles.
- Is eager to learn.

5. School Routines and Work Habits

- Cleans up work-space and spills.
- Uses classroom equipment correctly.
- Lines up and stays in line. Waits quietly.
- Pays attention to the teacher.
- Moves from one activity to the next with no problems.
- Listens during group discussions or stories.
- Completes tasks on time.
- Follows the teacher's direction.

6. Language and Reading

- Can express feelings/needs in primary language.
- Writes first name, even if some letters are backwards.
- Can express feelings/needs in English.
- Recognizes rhyming words that rhyme like "cat, hat"
- Is interested in books and stories.
- Knows ABC's.
- Can read a few simple words.
- Can read simple stories.

7. General Knowledge

- Knows the basic colors like "red, blue, yellow."
- Can count to 10 or 15.
- Can count to 50 or more.
- Understands big/small.
- Sorts by colors or size.
- Knows names of body parts (eyes/nose/legs).
- Understands yesterday/today/tomorrow.
- Knows the days of the week in correct order.
- Knows own address/telephone number.

Appendix C

CARES DOMAINS

General Readiness ResourcesHealth

Is well-rested and well-nourished.

Communicates in Own Language

Can express feelings/needs in primary language.

Peer Relations

Plays well with other children.

Shares.

Emotional Maturity

Does not hit/bite.

Has self-control.

Has sense of right and wrong.

Is self-confident.

Proud of his/her work.

Takes turns.

Shows independence.

Self-Care

Buttons own clothes.

Feeds self with fork.

Finds own belongings.

Zips own jacket.

Interest and Engagement

Asks lots of questions about how and why.

Is curious.

Is interested in world around him/her.

Is eager to learn.

Likes to solve puzzles.

Motor Skills

Can hold a pencil.

Can use scissors.

Throws ball, skips, runs, hops, walks up/down stairs.

Stacks 5-6 blocks by him/herself.

Classroom Related Resources*Communicates in English*

Can express feelings/needs in English.

Compliance with Teacher Authority

Pays attention to teacher.

Follows the teacher's directions.

Listens during group discussions/stories.

Basic Knowledge

Knows names of body parts (eyes/nose/legs).

Knows ABC's.

Knows basic colors like "red, blue, yellow."

Can count to 10 or 15.

Understands big/small.

Sorts by color/size.

Compliance with Classroom Routines

Uses classroom equipment correctly.

Cleans up work space and spills.

Lines up and stays in line.

Waits quietly.

Moves from one activity to the next with no problems.

Completes tasks on time.

Advanced Knowledge

Knows own address/telephone.

Writes first name, even if some letters are backwards.

Understands yesterday/today/tomorrow.

Knows days of week in correct order.

Cuts simple shapes with scissors.

Recognizes words that rhyme like "cat, hat."

Can read a few simple words.

Can read simple stories.

Can count to 50 or more.

Can write on a line.

Can color inside lines.

Appendix D

CARES SURVEY (SPANISH)

This survey asks your opinions about what children need to know and be able to do in order to become ready for Kindergarten. There are no wrong or right answers.

I. Sus Opinones sobre el Preparamiento para Kindergarten

A. Piense sobre un niño que EMPEZARÁ el Kindergarten este Otoño. Para cada artículo debajo, escribe el numero que indica lo IMPORTANTE o NECESARIO que es para un niño que va EMPEZAR el Kindergarten.

Escriba “1” si usted piensa que no es *DEMASIADO IMPORTANTE*.

Escriba “2” si usted piensa que es *ALGO IMPORTANTE*.

Escriba “3” si usted piensa que es *MUY IMPORTANTE, PERO NO ESENCIAL*.

Escriba “4” si usted piensa que es *COMPLETAMENTE NECESARIO*.

1. Desarrollo Físico y Motora

- Descansa y bien alimentado.
- Puede escribir en la línea.
- Puede dibujar entre las líneas.
- Tira la pelota, salta, corre, brinca, sube y baja por los escalones.
- Alinea hacia arriba 5 o 6 cubos sin ayuda.
- Puede aguantar un lapiz.
- Puede usar unas tijeras.
- Corta las figuras basicas.
- Sostiene el lapiz correctamente.

2. Maneras de cuidarse

- Abotona sus propias ropas.
- Come con un tenedor.
- Encuentra sus propias pertenencias.
- Se cierra el cierre de la chamarra.

3. Desarrollo Social y Emocional

- Juega bien con otros niños.
- Comparte.
- Es seguro(a) de si mismo.
- Orgulloso(a) de su trabajo.
- No golpea/muerde.
- Tiene control propio.
- Tiene sentido de lo malo y lo correcto.
- Demuestra independendencia.
- Toma turnos.

4. Se enfoca para aprender

- Es curioso(a).
- Hace muchas preguntas sobre como y por que.
- Esta interesado(a) en mundo alrededor del o de ella.
- Se gusta hacer o resolver rompecabezas.
- Esta entusiasta para aprender.

5. Rutinas Escolares y Habitos de Trabajo

- Limpia el espacio de trabajo y los derramamientos.
- Utiliza el equipo del salón de clase correctamente.
- Se alinea y se queda en linea.
- Espera calladamente.
- Le pone atención al maestro(a).
- Se mueve de una actividad a la próxima sin problemas.
- Escucha durante discusiones de grupo o cuentos.
- Completa las tareas a la hora.
- Sigue las direcciones del maestro(a).

6. Lenguaje y Literatura

- Puede expresar sentimientos/necesidades en idioma primario.
- Escribe su primer nombre, aun cuando algunas letras quedan al revés.
- Puede expresar sentimientos/necesidades en ingles.
- Reconoce palabras que riman como “gato, plato.”
- Esta interesado(a) en libros y historias.
- Sabe el abecedario.
- Puede leer algunas palabras fáciles.
- Puede leer cuentos fáciles.

7. Conocimiento General

- Conoce los colores básicos como “rojo, azul, amarillo.”
- Puede contar hasta 10 o 15.
- Puede contar hasta 50 o mas.
- Entiende grande/pequeño.
- Clasifica por color o tamaño.
- Sabe los nombres de partes del cuerpo (ojos/nariz/piernas).
- Entiende ayer/hoy/mañana.
- Sabe los dias de semana en orden correcta.
- Sabe su propia dirección y número de teléfono.

(Adapted from Piotrkowski, Botsko, & Matthews, 2000).

Appendix E

HOME LITERACY ENVIRONMENT QUESTIONNAIRE

	Never	Once a week	Twice a week	Three times a week	Four times a week	Five times a week	Daily
1. About how many times per week do you read to your child?	1	2	3	4	5	6	7
2. About how many times per month do you go to the library with your child?	1	2	3	4	5	6	7
3. About how often do you try to teach your child the letters of the alphabet?	1	2	3	4	5	6	7
4. About how often do you play rhyming games with your child (for example, dog, log)?	1	2	3	4	5	6	7
5. About how often do you point out words to your child and tell him/her what they say?	1	2	3	4	5	6	7
6. About how often do you read for fun and pleasure?	1	2	3	4	5	6	7
7. About how often does your spouse read for fun and pleasure?	1	2	3	4	5	6	7
8. How often does your child see you or your spouse reading for enjoyment?	1	2	3	4	5	6	7
9. About how many times per week does your child ask to be read to?	1	2	3	4	5	6	7

	Never	Once a week	Twice a week	Three times a week	Four times a week	Five times a week	Daily
10. About how many times per week does your child look at books by himself/herself?	1	2	3	4	5	6	7
11. About how often does your child ask you what printed words say?	1	2	3	4	5	6	7
12. About how often does your child attempt to write words?	1	2	3	4	5	6	7
13. About how often does your child play with alphabet games (for example, matching letter cards, I Spy the letter A)?	1	2	3	4	5	6	7
14. About how often do you sing to your child?	1	2	3	4	5	6	7
15. About how often do you tell oral stories to your child (for example, making up your own stories or telling stories without using a book)?	1	2	3	4	5	6	7
16. About how often do you do physical activities with your child, like playing ball or riding a bike?	1	2	3	4	5	6	7
17. About how often do you do math activities with your child like counting or talking about bigger or smaller things?	1	2	3	4	5	6	7

(Adapted from Farver, Xu, Eppe, & Lonigan, 2006).

Appendix F

HOME TOY QUESTIONNAIRE

We are interested in learning about the types of toys and games your child has available to use in your home. Circle “Yes” if your child has any of the toys described in the items below or shares them with brothers or sisters. Circle “No” if s/he does not have any of the toys/games. The toys must be available in your home at all times or brought out when s/he asks.

1. One or more toys which help children learn colors. (Some examples are: books about color, colored blocks, colored pegs, crayons, computer games, color games, etc.)	Yes	No
2. One or more toys which help children learn sizes. (Some examples are: books about sizes, stacking/nesting toys, matching/flash cards, different sized toy animals, etc.)	Yes	No
3. One or more toys which help children learn shapes. (Some examples are: books about shapes, computer games, shape blocks, matching/flash cards, etc.)	Yes	No
4. One or more musical instruments – real or toy. (Some examples are: piano, drum, horn, guitar, xylophone, radio, etc.)	Yes	No
5. Three or more puzzles with at least 5 pieces in each puzzle and all pieces are present.	Yes	No
6. A music player (e.g. CD player, tape recorder, or I-Pod) with 5 or more children’s CD’s, tapes, or songs. The child is allowed to operate the music player by him/herself.	Yes	No
7. Two or more toys that children can use to express themselves creatively. (Some examples are: crayons, paint, markers, chalk, play dough, craft materials, etc.)	Yes	No
8. Two or more toys which require fine motor skills (using fingers to do things). (Some examples are: scissors, pegs and pegboards, legos, toy tools, dolls with doll clothes.)	Yes	No
9. Two or more toys which help children learn numbers. (Some examples are: number books, games and puzzles, clocks, computer game, cash register, number blocks, dominoes, playing cards, etc.)	Yes	No
10. Ten or more children’s books.	Yes	No
11. Two or more toys which help children learn the names of animals. (Some examples are: animal books, stuffed animals, plastic animals, matching/flash cards, farm sets.)	Yes	No

(Adapted from NICHD Study of Early Child Care).

Appendix G

ADDITIONAL HOME LEARNING ENVIRONMENT QUESTIONS FROM HOME
AND LIFE INTERVIEW

1. Does your family generally have the TV on while you are home or do you just turn it on for certain programs?

- TV on while at home just turned on for certain programs

2. On a typical weekday, about how much TV does your Pre-K child watch?

- less than 1 hour 1 to 2 hours 2 to 3 hours
 3 to 5 hours more than 5 hours

3. What are your child's favorite TV shows? _____

4. On a typical weekday, about how much does your child play video or computer games?

- less than 1 hour 1 to 2 hours 2 to 3 hours
 3 to 5 hours more than 5 hours

Appendix H

CHILDREN'S BEHAVIOR QUESTIONNAIRE

<u>My 4 ½ year old:</u>	Extremely <u>untrue</u>	Quite <u>untrue</u>	Slightly <u>untrue</u>	Neither true nor <u>false</u>	Slightly <u>true</u>	Quite <u>true</u>	Extremely <u>true</u>	<u>Not</u> <u>Applicable</u>
When practicing an activity, has a hard time keeping her/his mind on it	1	2	3	4	5	6	7	8
Will move from one task to another without completing any of them	1	2	3	4	5	6	7	8
When drawing or coloring in a book, shows strong concentration	1	2	3	4	5	6	7	8
When building or putting something together, becomes very involved in what s/he is doing, and works for long period of time	1	2	3	4	5	6	7	8
Has difficulty leaving a project s/he has begun	1	2	3	4	5	6	7	8
Is easily distracted when listening to a story	1	2	3	4	5	6	7	8
Sometimes becomes absorbed in a picture book and looks at it for a long time	1	2	3	4	5	6	7	8
Has a hard time concentrating on an activity when there are distracting noises	1	2	3	4	5	6	7	8

(Rothbart. Ahadi. & Hershev. 1994).