



Contents lists available at ScienceDirect

Early Childhood Research Quarterly



The early developmental competencies and school readiness of low-income, immigrant children: Influences of generation, race/ethnicity, and national origins[☆]

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ARTICLE INFO

Article history:

Received 25 June 2008

Received in revised form 20 July 2009

Accepted 21 July 2009

Keywords:

Q1 Immigration
Immigrant children
School readiness
Preschool
Early childhood

ABSTRACT

Though much valuable research has been conducted on the academic achievement of school-age immigrant youth, less is known about the early developmental competencies of immigrant children during the preschool years. This study describes the school readiness of 2194 low-income children receiving subsidies to attend child care with emphasis on how nativity status (generation), race/ethnicity, and national origins might be related to children's preparedness for kindergarten. The Learning Accomplishment Profile–Diagnostic (LAP-D) was used to measure cognitive and language skills, while teacher-report on the Devereux Early Childhood Assessment (DECA) measured socio-emotional protective factors and behavior concerns. Results demonstrate that variation does exist in school readiness according to nativity-based factors. First- and second-generation immigrants lagged behind children in non-immigrant families in cognitive and language skills but excelled by comparison in socio-emotional skills and behavior. In many cases, first-generation immigrant children showed more advanced development than second-generation immigrant children, providing some evidence in the early years for an *immigrant advantage*. The present study raises awareness regarding some of the strengths immigrant children demonstrate from a very young age—strengths that can be built upon to encourage their later success and academic achievement.

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The extent to which children enter kindergarten with the skills needed to be successful has become a burgeoning topic in the fields of education, developmental psychology, and child policy. Research indicates that children who begin kindergarten behind their peers have a hard time “catching up” later in schooling (NICHD Early Child Care Research Network, 2005) and are at-risk for low academic achievement, grade retention, special education placement, and high school dropout (Ramey & Ramey, 1998). Given that immigrant children are the fastest growing sector of the U.S. population, with one in four children in the U.S. residing in an immigrant family (Hernandez, Denton, & Macartney, 2008), it is imperative that we understand the educational achievement patterns of this diverse and growing population. Research with school-aged immigrant youth has found great heterogeneity in educational outcomes across race, ethnicity, and national origins (Kao & Tienda, 1995; Leventhal, Xue, & Brooks-Gunn, 2006; Portes & Zady, 2001; Rong & Brown, 2001). However, there is a paucity of such research in the early childhood years, when children are building their foundation for their educational future (Glick, Bates, & Yabiku, in press).

[☆] Portions of this paper were presented at the On New Shores Conference, Guelph, Ontario, Canada, October 2007. This work will also appear in part as a book chapter in E. Grigorenko & R. Takanishi (Eds.), *Immigration, diversity, and education*. New York: Routledge.

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In addition to a deeper understanding of immigrant children's early development, there is a need for increased complexity in our conceptualization of immigrant and/or nativity status itself. Many studies compare children in immigrant and non-immigrant families, but this dichotomy often obscures within-group variability and larger patterns that may exist across multiple generations. Additionally, at least in older youth, generational achievement patterns have been found to depend somewhat on race, ethnicity, and national origins (Fuligni, 1997; Hao & Bonstead-Bruns, 1998; Kao & Tienda, 1995; Leventhal et al., 2006), suggesting complex interactions between individual characteristics and family background factors. Identifying whether similar interactions exist in preschool children's school readiness is a first step toward understanding the processes underlying early development and later academic achievement for diverse groups of immigrant children.

School readiness has been defined in many ways, but most often it refers to a set of skills and competencies that relate to a child's preparedness for kindergarten. These generally include aspects such as physical well-being, emotional maturity, social confidence, cognitive skills, language richness, and general knowledge (Boethel, 2004; Pianta, 2002). The present study examines school readiness strengths and concerns among a large and diverse sample of low-income, four-year-old children receiving subsidies to attend child care. The study focuses on nativity status, generation, race/ethnicity, and country of origin, and how these factors act and interact to predict school readiness as measured by a wide range of pre-academic and socio-emotional developmental domains considered important for early schooling in the U.S. This allowed us to more fully represent the combination of strengths and weaknesses that is often used to describe the immigrant population (Perreira, Chapman, & Stein, 2006). Overall, the present study addresses the need for a more nuanced understanding of the developmental competencies of very young immigrant children-information that can be used by early educators to guide practice and by policy-makers to focus funding efforts in a more targeted manner.

1. Research on school-aged immigrant youth

Over the last half-century, scholarly interest has resulted in numerous empirical studies on adjustment processes and educational outcomes for immigrant youth. Though the majority of these studies focus on middle childhood and adolescence (partly due to greater access to educational data), their results provide an anchor for our investigation into early childhood outcomes. Perhaps the most profound outcome of this line of research is deeper understanding of the sheer diversity of the immigrant population and, in turn, the educational achievement patterns of immigrant children. There truly is no single, coherent story to tell about the state of education for immigrant children today. Some groups appear to thrive while others struggle, with outcomes resulting from a complex interaction of social, economic, historical, cultural, familial, school, community, and individual child factors (Zhou, 1997).

Many studies on older immigrant youth find them to be at an academic disadvantage when compared to their native-born peers and the question of why this pattern occurs is an area of debate among researchers (Kao & Tienda, 1995; Leventhal et al., 2006; Portes & Zady, 2001; Rong & Brown, 2001). That many immigrant youth struggle academically is not surprising considering the extensive challenges their families face while navigating a new social context (Fuligni, 1997; Leventhal et al., 2006; Perriera et al., 2006). For instance, in a series of extensive interviews with first-generation immigrant parents living in North Carolina, Perriera et al. found they were coping with significant personal losses, such as being separated from family and unexpected shifts in socioeconomic status. They were also experiencing generalized anxiety associated with a new environment and overcoming a language barrier. In navigating this new environment, families were encountering unfamiliar racial, socioeconomic, and community dynamics, and some reported experiencing negative stereotypes or discrimination from school personnel. Finally, many immigrant parents noted obstacles in accessing healthcare for themselves and for their children (Perriera et al., 2006). Other research finds that, compared to native-born children, immigrant children are more likely to come from families with low socioeconomic status, more parental stress, and less exposure to English in the home (Farver, Xu, Eppe, & Lonigan, 2006; Hernandez, 2004; Leventhal et al., 2006).

Though many immigrant children face difficulties that put them at risk for low academic achievement and psychological well-being, they also have a number of protective factors that may help them excel. For instance, immigrant children often possess valuable assets such as within-family and between-family social capital (Berry, Phinney, Sam, & Vedder, 2006; Fuligni, 1997; Hao & Bonstead-Bruns, 1998; Portes, 1999), a responsive parenting environment (Perreira et al., 2006), and strong socio-emotional skills (Crosnoe, 2006, 2007). Further, the difficult decision made by immigrant parents to migrate to a new, unfamiliar country can itself be understood as a bold act of protective parenting. Many Latino parents report moving to the United States so their children can obtain a better education, secure a better economic future, grow up in a safer environment, and reconnect with family (Perreira et al., 2006). These immigrant parents are certainly taking an active role in fostering the well-being and success of their children. The close-knit family structure of many immigrant families has also been found to facilitate the transmission of educational expectations from parents to children, and many immigrant families settle in ethnic communities that provide support during and after the transition (Hao & Bonstead-Bruns, 1998). So while many immigrant families face a variety of challenges in the U.S., their capacity to support their children's education is best described as mixed, with many notable facilitating factors as well.

1.1. Nativity status and generation

Though there would appear to be a clear distinction between immigrants (those who are foreign-born) and non-immigrants (those who are native-born), these broad conceptualizations are often insufficient to answer questions related

to the achievement of immigrant children. This is because children's migration histories can be quite complex in terms of generation (whether it is the child [first generation], the parent [second generation], or the grandparent [third generation] who was born in another country), children's ages at the time of migration, parents' ages at their time of migration, years spent in the U.S., and whether the child lives in a single status (both parents are immigrants) or mixed-status (only one parent is foreign-born) household (Oropesa & Landale, 1997; Rumbaut, 2004). When the focus is on very young immigrant children, the nativity status of the parent may be more important than the child's own status. First, we know that parenting practices and the home environment are important factors for the development at the younger ages (before schools and peers typically begin to exert influence). Second, parental nativity can influence children's individual outcomes through parenting practices, parental knowledge of child development, and aspects of the home environment (Bornstein & Cote, 2004, 2007; Glick et al., in press)

Studies with older youth have looked beyond simple "immigrant vs. non-immigrant" contrasts to understand what effect migration may have on educational motivation and attainment across multiple generations. For instance, Rong and Brown (2001) found that second-generation Black immigrants between the ages of 5–24 made educational progress relative to the first-generation, while third and later generations exhibited a persistent pattern of lower educational attainment. Generational decline has also been observed in the academic motivation and performance of many youth, as with Suarez-Orozco and Suarez-Orozco's (1995) findings that recent Mexican immigrant youth display strong academic motivation and desire for upward mobility, while U.S. born Mexican-American youth tend to have more oppositional attitudes toward schooling and achievement. These and other studies reveal that, when possible, it is worth making finer distinctions regarding the specific generation of the child when investigating educational processes and outcomes.

1.2. Race, ethnicity, and national origins

Another finding in the literature on older immigrant youth is that educational outcomes are often segmented by race, ethnicity,¹ and country of origin (Hao & Bonstead-Bruns, 1998). For example, as part of the Project on Human Development in Chicago Neighborhoods, Leventhal et al. (2006) found distinct, longitudinal patterns of verbal competence for each immigrant-race/ethnic group (Mexican-American, Black-American, White-American, Puerto Rican) reflecting the "unique socioeconomic, historical, and cultural circumstances of each sub-group" (p. 1372). Researchers studying the achievement and adjustment of immigrant youth have stressed that educational practitioners need to move away from the conventional notion that equates each racial group with one culture and one ethnic identity (Fuligni, 2001; Ferreira et al., 2006). For example, Mattis (2002) explains that, "broad labels such as 'Latino' and 'African American' obscure intracultural differences and lead researchers to assume homogeneity of culture where little homogeneity may exist" (p. 3). Inclusion of data on family migration history in addition to race/ethnicity is one way researchers can uncover some of this heterogeneity. For example, one study found that immigrant Black children generally live in neighborhoods with higher SES (Leventhal et al., 2006) and have shown higher academic achievement (Kao & Tienda, 1995) than their non-immigrant Black peers. Further, at least for the first and second generations, the median family income of African Americans (\$21,548) is typically lower than that of Black immigrants from Africa, Trinidad, Jamaica, Haiti, and the Dominican Republic (\$30,000) (Portes & Zady, 1996).

2. Theoretical models for the study of immigrant children

Just as our national demographics have evolved with increasing waves of immigration, so has theory surrounding processes of adaptation and adjustment. Writings emerging after early 20th century European immigration generally supported classic assimilation theory, suggesting that immigrants struggle initially but then experience increasing assimilation and accomplishment with each successive generation in the host country (Gordon, 1964; Lieberman, 1980; Park, 1928). More contemporary theories, however, highlight that these notions of assimilation are based on the ethnocentric notion that uni-directional cultural assimilation into the mainstream is not only desirable, but also necessary for success (Alba & Nee, 2003). In fact, the body of research on processes of adaptation and acculturation has found a much more complex story of bi-directional influences between immigrants and society—one that cannot be fully explained by classic assimilation theory.

Research addressing this complexity has spurred the development of selective or segmented assimilation theory (Portes & Rumbaut, 1996; Portes & Zhou, 1993; Rumbaut, 1997; Suarez-Orozco & Suarez-Orozco, 2001; Zhou, 1997), providing evidence for a segmented process through which different immigrant groups take different assimilative paths at different rates, as determined by characteristics of the group and the larger social context receiving them (Rong & Brown, 2001; Zhou, 1997). In an analysis of the segmented assimilation process, Zhou (1997) elaborates this point. "In the long journey to becoming American, [immigrants children's] progress is largely contingent upon human and financial capital that their immigrant parents bring along, the social conditions from which their families exit as well as the context that receives them,

¹ The terms "race" and "ethnicity" are sometimes used interchangeably in social research. However, "race" more commonly refers to one's skin color, while "ethnicity" may include skin color as a trait but also more meaningful group characteristics that relate to a common heritage, such as language and religion. When possible, the distinction will be made between the two terms, but otherwise we will use the term race/ethnicity to refer to such characteristics as skin color, language, and culture, that may lead individuals to identify with a particular group.

and their cultural patterns – including values, family relations, and social ties – reconstructed in the process of adaptation” (p. 999).

Some evidence suggests that aspects of this process lead many immigrants to experience an *immigrant advantage*. One reason this advantage may occur is that immigrants appear to have a more optimistic view of succeeding in U.S. society than involuntary minority groups (Kao & Tienda, 1995; Ogbu & Simmons, 1998; Suarez-Orozco & Suarez-Orozco, 1995) and have been shown to have greater academic motivation than domestic groups (Frome & Eccles, 1998; Fuligni, 1997). Familial influences certainly have a role in academic motivation and many immigrants have a strong sense of family obligation and responsibility that may motivate them academically (Berry et al., 2006; Fuligni, 1997). Immigrant children are also more likely than children from non-immigrant families to have parents who are married (Brandon, 2002; Leventhal et al., 2006) which can provide greater overall stability and parental support for development.

Ogbu and Simmons (1998) concur that recent immigrants often have an optimistic outlook on society and strong desire for upward mobility, and add that these characteristics can contribute to higher self-regard, values, and academic motivation. They also offer insight into why domestic minority groups often lack similar characteristics. They highlight the importance of considering that involuntary minority groups like Native-Americans, Mexican-Americans, and African-Americans have a history of oppression related to colonization and, in turn, have experienced widespread discrimination that has been institutionalized. This experience can then lead to feelings of marginalization that affect academic attitudes, motivation, and academic success. These processes of social stratification and identity formation can contribute to what is described as an immigrant advantage (or non-immigrant disadvantage) when comparing recent immigrant children with same-race peers whose families have been here for generations (Portes, 1999).

These theoretical models and the data that support them are the foundation for both our research questions and analytical approach. We compare multiple subgroups of children with varying racial/ethnic backgrounds and family migration histories to investigate how important these factors are for predicting school readiness. However, in order for the theoretical issues just discussed to apply to children as young as four years old, we must put them in a developmental context. Children of different ages face different developmental tasks and contexts of socialization, and therefore, each age group will likely experience the processes of migration and subsequent acculturative change differently (Glick et al., in press; Oropesa & Landale, 1997; Rumbaut, 2004). Preschool children, depending on their early care experiences, spend more time in the home than in any other context. Therefore, we expect that if family migration influences children’s school readiness skills, it most likely does so through family characteristics, parenting, and aspects of the home environment.

3. Family characteristics and parenting

Though the particular influence of the home environment may differ with the age and developmental stage of the child, structural family characteristics and parenting practices are undoubtedly important. Indicators of human capital, such as family socioeconomic status and parental education, consistently predict outcomes for all children (Gershoff, Aber, & Raver, 2005; McLoyd, 1998), including those in immigrant families (Crosnoe, 2007; Magnuson, Lahaie, & Waldfogel, 2006), with higher income and parental education related to more favorable educational outcomes.

Aside from parental income and education, differences in early childhood outcomes can result from nativity-based differences in influences more proximal to the child, such as the home environment or family processes. In fact, studies have found that home resources, parenting practices, parental knowledge of child development, and within-family social capital all vary between immigrant and non-immigrant families in ways that can lead to differential outcomes for children. For instance, Glick et al. (in press), using data from the Early Childhood Longitudinal Study–Birth Cohort (ECLS-B), found that differences in child cognitive skills as a function of mother’s age at migration and ethnicity were mediated by family resources (income, health insurance, maternal education), responsiveness of parenting practices, and frequency of reading to the child.

General knowledge of how to care for a child, how children develop, and what parents can do to foster children’s development all contribute to a parent’s ability to provide a developmentally appropriate environment for their children’s growth (Bornstein & Cote, 2007). Bornstein and Cote (2004) surveyed middle-class Japanese and South American immigrant mothers on their knowledge of child development and care and found that, though immigrant mothers had strong knowledge about issues of health and safety, they had less knowledge than native-born mothers about normative aspects of children’s development—those that are considered universal (Bornstein & Cote, 2004). The authors explain that immigrant mothers often have less community support with child rearing than they are accustomed to in their home countries. Nonetheless, these knowledge gaps could impact mothers’ responsiveness to their children’s needs, the mother–child relationship, and reporting of developmental progress to the child’s pediatrician.

Finally, in an investigation of the educational expectations of immigrant families, Hao and Bonstead-Bruns (1998) found that within-family social capital was often generated from parent–child interactions in learning activities. Social capital is generally defined as “a unique resource generated from social relationships” (p. 177), and within-family social capital is an important mechanism through which parents transmit and reinforce educational expectations, as well as strengthen the parent–child bond (Hao & Bonstead-Bruns, 1998). So, while we may not expect that children as young as four are able to experience optimism about their life circumstances or be aware of real or perceived institutional barriers to the success of their subgroup, it is certainly possible that such processes in parents could, in turn, influence outcomes for the child through family processes and the home environment.

4. Early education and child care

One common decision parents make, either by necessity or preference, is to enroll their child in non-parental child care. Although high-quality, center-based child care can be an important facilitating factor for low-income, immigrant children, research consistently shows that, on average, children in immigrant families are enrolled at much lower rates than those in non-immigrant families (Brandon, 2004; Capps, Fix, Ost, Reardon-Anderson, & Passel, 2004; Crosnoe, 2007; Hernandez, 2004; Magnuson et al., 2006; Matthews & Ewen, 2006; Takanishi, 2004). Additionally, as with educational outcomes, there is great variation in enrollment *within* immigrant groups depending on generation, ethnicity, and country of origin (Brandon, 2004; Chiswick & DebBurman, 2006; Matthews & Ewen, 2006). Though nativity-based variation in early education enrollment is well documented, the reasons for it are a continued subject of investigation. One frequently speculated explanation is that immigrant families have a cultural preference for parental care, but studies are beginning to find that lower enrollment among immigrant families is also related to barriers accessing affordable child care (Chiswick & DebBurman, 2006; Matthews & Ewen, 2006; Takanishi, 2004).

That immigrant children are, on average, more likely to live in low-income households and have parents with less educational attainment provides one explanation for their reduced ability to afford child care (Brandon, 2004; Capps et al., 2004; Hernandez, 2004; Matthews & Ewen, 2006). Beyond financial concerns, however, immigrant families also experience unique social barriers to accessing child care. Some immigrant parents, for example, may have difficulty locating the mainstream public service channels that inform parents about child care options in the community (including child care subsidies). Others could hold reservations about applying for public assistance due to concerns about the legal status of someone in their household, even if their child qualifies as a U.S. citizen (Matthews & Ewen, 2006; Matthews & Jang, 2007). Regardless of whether the relatively low enrollment of immigrant children in non-parental child care is due to familial preference or barriers to access, there are limited data available on the school readiness of immigrant children attending child care. In the present investigation, we had the opportunity to study large groups of low-income, immigrant children who were attending various types of non-parental child care via subsidies. The increased knowledge about the early school readiness competencies of immigrant children who attend child care, as this study will provide, can help guide early childhood education programs and policy.

5. The school readiness of young immigrant children

The school readiness of young immigrant children is a relatively new but growing area of study. The studies that do exist have shed light on their overall levels of preparedness for schooling, their progress in specific domains (e.g., cognitive and socio-emotional development), and the effectiveness of the early education programs in which they participate. Using data from the nationally representative sample provided by the Early Childhood Longitudinal Study (ECLS-K), Magnuson et al. (2006) found that preschool had a larger positive effect (22% increase) on the English language proficiency of children of immigrant mothers than it did for other children. Though there were no differences in the reading scores of English-proficient children in immigrant families and those in non-immigrant families, children in immigrant families did lag slightly behind children in non-immigrant families in math. Importantly, the study found that preschool was just as beneficial for children in immigrant families as it was for children in native families, and it was most beneficial (in terms of the child acquiring English) for children whose mothers spoke a language other than English in the home.

Like Magnuson et al., and again using data from the ECLS-K, Crosnoe (2007) found that upon entering kindergarten, children in Mexican immigrant families lagged behind their native peers in mathematics. However, these differences were virtually eliminated when family socioeconomic (e.g., poverty status and presence of father) and family environmental factors (e.g., learning environment and parental involvement) were taken into account. On the other hand, children in Mexican immigrant families showed socio-emotional strengths by exhibiting fewer externalizing behavior problems than children in native families, an effect that persisted even after family background factors were controlled. Immigrant children also showed more emotional maturity and competence in peer relations and in-class behavior (Crosnoe, 2006). This is notable because kindergarten teachers often consider these areas of socio-emotional and behavioral competence to be more important for kindergarten readiness than academic knowledge and skills (Heavyside, Farris, & Carpenter, 1993; Lin, Lawrence, & Gorrell, 2003; West, Hausken, & Collins, 1995).

Crosnoe highlights that without knowledge of child care quality, family socioeconomic factors proved to be the most important factor for children's math achievement in kindergarten. Finally, he expresses concern at the findings that, in general, children in center-based care have been shown to exhibit slightly more behavior problems in later schooling than children who experience parental care (Belsky, 1999; NICHD ECCRN, 2005; Magnuson, Ruhm, & Waldfogel, 2007), and stresses that increasing access to preschool for immigrant children is worth the investment as long as it does not jeopardize their socio-emotional strengths. It is apparent from even these few studies conducted on the school readiness of immigrant children that many show both strengths and challenges in areas considered important for healthy development, suggesting we should refrain from making global evaluations of their preparedness for kindergarten until we know more. Future studies that address multiple developmental domains for young immigrant children will give us a more nuanced understanding of where their strengths and concerns lie, and how their strengths can be built upon to foster better long-term educational outcomes.

Because the literature on adolescent immigrant children consistently finds that some groups of immigrant youth tend to thrive while others struggle (Fuligni, 1997; Hao & Bonstead-Bruns, 1998; Kao & Tienda, 1995; Leventhal et al., 2006; Portes & Zady, 1996), it is important to examine whether these same patterns of disparity are found in very young children, prior to starting formal schooling. Indeed, the major goal of this study was to investigate whether the same heterogeneity of educational outcomes found among older immigrant youth (according to factors like generation, ethnicity, and country of origin) would be found in the school readiness outcomes of ethnically diverse, low-income preschool children. A second goal was to determine whether there was any evidence for the immigrant advantage, or the finding that overall, first-generation immigrant children demonstrate advantages in educational domains when compared to second-generation and non-immigrant children, and whether these advantages appear to diminish with successive generations. If there prove to already be substantial nativity group differences in the school readiness of children at age four, the situation may call for programming that is more targeted to the unique issues faced by preschoolers with different nativity histories. If however, these diverse groups are virtually indistinguishable in terms of school readiness, and disparate patterns of achievement appear only later in development, there would be implications for focusing on the early grade school years for offsetting nativity-based sources of educational disparity.

6. The present study

The present study examines multiple indicators of young immigrant children's school readiness during their pre-kindergarten year in Miami, Florida. Miami has long been known as a "melting pot" with a large, diverse immigrant population, and is the city with the highest foreign-born population in the world at 59% (UNDP Human Development Report, 2004). Miami has three official languages (English, Spanish, and Creole), with much sociolinguistic support for use of the Spanish language in public circles. In fact, 71% of Miami-Dade County residents speak a language other than English in the home, substantially more than the U.S. average of 19% (U.S. Census Bureau, 2005). Miami is also an important community in which to study early childhood issues from a policy perspective. Considerable change is underway in the community with the recent implementation of a universal voluntary pre-k program in Florida (Florida House of Representatives, 2004) and unprecedented local taxpayer support for early childhood programs and services (statute 125.901, F.S.; Florida Senate, 1988). Specifically, this study examines data from the Miami School Readiness Project (Winsler et al., 2008), a large-scale, 5-year, university-community collaborative project. This project involved the school readiness assessment of ethnically and linguistically diverse, low-income preschool children receiving subsidies to attend a variety of early childhood programs (center-based child care, family daycare, public school pre-kindergarten programs) in the context of community-wide efforts to evaluate and improve the quality of early childhood programs and services delivered in the county. Thus, the Miami preschool sample offers an important and unique opportunity to examine the school readiness of large subgroups of young, immigrant children.

This investigation contributes to the rather limited literature to date in several important ways. First, it adds much-needed data on immigrant children's early developmental competencies in preschool, prior to entering school, whereas most studies of immigrant children have been conducted with older children (Glick et al., in press). Second, the size of the sample ($n = 2194$) allows for the examination of child outcomes separately based on children's ethnicity, generational status, and country of origin. Third, by considering multiple domains of early development (socio-emotional, behavioral, cognitive, and language), the study continues to paint a more complete picture of immigrant children's strengths and challenges in the competencies that are linked to later educational outcomes. Fourth, the sample consists entirely of children already attending various types of community-based child care and public school pre-k programs, and policy efforts often attempt to increase access to early childhood programs for low-income, immigrant children (e.g., Takanishi, 2004). Therefore, we are able to examine the school readiness of a large and growing group of at-risk children who largely had enrollment barriers removed through subsidies. Fifth, we are in a position to specifically examine whether the socio-emotional strengths of immigrant children appear to be put in jeopardy by attending such programs, as feared by Crosnoe (2006). Finally, given the longitudinal nature of the study, we are not only able to provide information about children's overall levels of school readiness, but also examine their development over time in various domains across the pre-kindergarten year.

The following research questions were addressed in this study: (1) How do the school readiness skills (socio-emotional, behavioral, cognitive, and language) of low-income preschool children, as well as gains in school readiness across the four-year-old preschool year, vary between first-generation, second-generation, and non-immigrant children? (2) Do relations between generation and school readiness outcomes vary across different ethnic groups? (3) What variation exists in the school readiness skills, or gains in school readiness skills, as a function of (a) region of origin (e.g., Central America, South America, Caribbean, etc.) or (b) country of origin for children in immigrant families?

Though prior research on school readiness for immigrant children in this specific age group and community is limited, research and theory on educational outcomes for older immigrant youth offered some guidance on what we expected to find with our sample. If the patterns of academic outcomes for older children also held true for preschool-aged children, we would see at least some heterogeneity in outcomes according to family immigration history, ethnicity, and national origins. With regard to how ethnicity might be related to school readiness for immigrant and non-immigrant children, we expected the restricted SES of the sample (including only low-income families) would likely reduce observed ethnic differences in children's outcomes. Some studies have found ethnic differences in children's early outcomes or program effects even after controlling for SES (Gormley, Gayer, Phillips, & Dawson, 2005; NICHD ECCRN, 2005). However, a previous study with this

Miami sample (Winsler et al., 2008) found no consistent ethnic differences in either early skills or program effects after controlling for SES. Rather than investigating main effects of ethnicity, this study was concerned with how ethnicity may moderate the relationship between nativity status and children's early competencies. These interactions have been found with regard to the academic performance of older youth, but we know little about how the combined effects of ethnicity and nativity are related to outcomes for preschool children.

With respect to variation in outcomes by region and country of origin, we did expect some variation based on the literature with older children, though again, given the similarity of the sample on socioeconomic factors, and the strength of these factors as predictors of child outcomes (Duncan, Brooks-Gunn, & Klebanov, 1994), the variation by national origins may be less than typically seen in a more economically diverse sample. Further, many of Miami's immigrants, irrespective of national origins, likely faced similar circumstances in their home countries and emigrated for similar reasons – in search of more promising opportunities for themselves and their families – making them more similar than different in a number of ways. We did hypothesize, however, that Cuban immigrant children may show some relative advantages in schools readiness, due both to the elevated socioeconomic status of Cubans as a group in Miami, as well as their large numbers, close-knit community, and status of many as political refugees. Finally, in terms of socio-emotional skills and behavior, the only study we could find that specifically addressed social or emotional skills of preschool immigrant children (Crosnoe, 2007) found that immigrant children had some advantages over non-immigrant children in these areas. Therefore, it was expected that the immigrant children in our sample would also show relative advantages in the areas of social skills and behavior.

7. Method

7.1. Participants

Child participants consisted of 2194 four-year-old preschoolers attending either community-based child care via child care subsidies (80% attended center-based care and the remainder a mix of family daycare and informal relative care) or Title-1 supported public school pre-k in the Miami community during the 2003–2004 academic year. This is a subsample of a larger group of children participating that year in the Miami School Readiness Project (see Winsler et al., 2008). The larger group reflects the entire (consenting) population of four-year-old children in the county that year who were receiving child care subsidies to attend some kind of (non-Head Start) child care arrangement.² Subsidy receipt (Temporary Assistance for Needy Families–TANF or Child Care and Development Block Grants–CCDBG) was determined by active eligibility and attendance status within the administering county agency's records as of September 1 that year, and children were only assessed if they were still active and eligible at the time of assessment. The sub-sample discussed in this paper consists only of those children who (a) had sufficient data on child country of origin and parent country of origin to determine generational status of the child (which limits the sample to mostly children in community-based child care), and (b) had at least some repeated-measures (pre and post) child assessment data during their four-year-old preschool year.

Table 1 shows available family demographic information for the entire sample broken down by nativity status (first generation [$n = 153$] = child and parent born out of U.S.; second generation [$n = 982$] = only parent born outside of U.S.; and non-immigrant [$n = 1059$] = both parent and child born in the U.S.). There were several statistically significant differences across the nativity groups with regard to child and family characteristics. One notable difference is that children from non-immigrant families were more likely to attend public school pre-k (18.3%) than either first-generation (7.2%) or second-generation immigrant children (8.1%). Public-school pre-k programs in Miami are generally assumed to be of a higher average quality than community-based child care settings because they possess a number of important structural features (higher paid and more educated teachers, certified teachers, and use of a standard curriculum) (Winsler et al., 2008). Additionally, first-generation immigrant children (born outside the U.S.) were more likely to be Latino (89%) than the other two groups, while non-immigrant children with native-born parents were more likely to be Black (57%).³ Though our sample is, by definition, composed entirely of low-income children qualifying for child care subsidies, even a few hundred dollars might make a difference in the resources parents can contribute to their child's needs (Gershoff et al., 2005; McLoyd, 1998). Though the average income for the sample was around \$17,000, we found that parents of second-generation immigrant children made approximately \$1000 more than either of the other groups of parents. With the largest family size (3.5) and second lowest income of the three groups, native-born parents may have had to stretch their resources the furthest of the three groups.

Foreign-born parents of first-generation immigrant children were the most highly educated group (89.5% with H.S. diploma/GED or above) and this result may partially reflect the high numbers of foreign-born parents with children that migrate for educational purposes. Native-born parents followed in terms of education-level (83.8%), and foreign-born parents of second-generation immigrant children were the least likely to hold a H.S. diploma or GED (80.5%). Native-born parents

² 3% of the sample did not give consent and 22% were unreachable for assessments.

³ While we would have liked a more descriptive variable for race/ethnicity that included distinctions such as "Latino-White" and Latino-Black," agency records used only a 5-level variable that included the categories "White," "Hispanic/Latino," "African American/Black," "Asian/Pacific Islander," and "Other." For this reason, we refer to the variable as race/ethnicity. The reporting parent selected the race/ethnic designation of the child from the list.

Table 1
Nativity group differences on child and family characteristics.

	1st generation (n = 153)	2nd generation (n = 982)	Non-immigrant (n = 1059)	Overall (n = 2194)
Child				
Age in month ^a				
M	54.3	53.7	53.5	53.6
SD	3.7	3.6	3.5	3.5
% Male	53.6	52.4	51.9	52.3
Ethnicity ^a				
% Latino	88.9	78.4	38.1	59.7
% Black	8.5	19.9	56.5	36.8
% White	2.6	1.7	5.4	3.6
% English proficient ^a	21.6	34.6	81.5	56.5
Type of care ^a				
% community-based child care	92.8	91.9	81.7	87
% public school pre-	7.2	8.1	18.3	13.0
Family				
Parent income ^a				
M	\$16,630	\$17,640	\$16,690	\$17,110
SD	\$7,460	\$7,150	\$7,310	\$7,260
Family size ^a				
M	3.0	3.2	3.6	3.4
SD	1.0	1.1	1.2	1.2
% Parents with H.S diploma or above ^a	89.5	80.5	83.8	82.7
Parent age ^a				
M	32.8	33.4	29.4	31.4
SD	6.6	6.6	6.7	6.9
% Parents married ^a	31.4	10.1	3.0	8.2
Parent language ^a				
% English	4.6	13.8	79.5	44.9
% Spanish	90.8	73.9	19.5	48.8
% Creole	4.6	12.2	1.0	6.3

^a Difference between groups as determined by ANOVA or Chi-square test significant, $p < .05$.

were the youngest at approximately 29 years of age, while both groups of immigrant parents averaged approximately 33 years in age.

One striking difference between the three nativity groups was in the marital status of the parents. Few parents in the overall high-risk sample were married at the time of the study, only 8.2%. However, foreign-born parents of first-generation immigrant children were much more likely to be married (31.4%) than the other two groups.⁴ Only 3% of the native-born parents in the sample were married, followed by only 10% of parents of second-generation immigrant children. Parent language followed the expected pattern, with the highest rates of English among native-born parents and the highest rates of Spanish among foreign-born parents of first-generation immigrant children. One interesting finding is that the greatest incidence of Creole (12%) was found among parents of second-generation immigrant children. With high levels of Spanish-speaking parents also in that group, only 14% of parents of second-generation immigrant children listed English as their strongest language.

In summary, though the entire sample was in poverty and therefore at elevated risk for educational difficulties, it appears that, on average, non-immigrant children with native-born parents had slight disadvantages in terms of child and family background characteristics as compared to first and second-generation immigrant children. Parents of non-immigrant children were the youngest, on average, of the three groups, the least likely to be married, and their families' low-incomes were divided amongst more family members. Though non-immigrant children were most likely to be English proficient, there were still almost 20% of non-immigrant children whose strongest language was not English.

First-generation immigrant children were highly likely to be Latino and highly unlikely to be English proficient. Two distinct advantages first generation immigrant children had over the other groups is that their parents were much more likely to be married and hold a high school diploma or GED, which could translate into more social capital and resources

⁴ Though the percentage of first- and second-generation immigrant children in our sample with married parents is greater than children in non-immigrant families, it is still quite a bit lower than the U.S. (84%) (Hernandez et al., 2008) or Miami-Dade County average (80%) (Matthews & Jang, 2007) for children in immigrant families. This figure demonstrates just how high-risk these children were at the time of the study. Though their receipt of subsidies was based on income, they were living with a number of other risk factors, including many living in single-parent households.

available to their children. Second-generation immigrant children were also likely to be Latino and only 35% were English proficient. Immigrant parents of second-generation children had the highest income of the three groups but the lowest levels of education. Further, only 10% of these parents were married. These parents were also more likely than the other two nativity groups to speak Creole as their primary language. This snapshot of the family lives, on average, of the different nativity groups helps to provide some context when interpreting their relative competencies in school readiness skills.

Finally, univariate ANOVA analyses were conducted to determine whether children who had data at both pre and post (and were therefore included in the analyses of the study) differed on any of the outcome variables from children who had only pre data. Results indicated that, although the two groups did not differ on measures of language skills, fine motor skills, or teacher-rated behavior concerns, children who had data at both time points scored slightly higher on the measure of cognitive skills (+3.7 percentile points; $F(1,2538) = 5.96, p < .05$) and on the measure of teacher-rated socio-emotional skills (+4.6 percentile points; $F(1,2038) = 7.00, p < .05$) at pretest. It is possible that these differences are associated with differences between the groups in mobility, preschool attendance patterns, or other unmeasured differences. However, because (1) the vast majority of the sample did have repeated-measures data (84%), (2) the nativity groups did not differ with respect to their missing data, and (3) the population of interest is children who attend child care during the entire four-year-old preschool year, the exclusion of children without repeated-measures data does not appear to negatively affect inferences made about the population of interest. It is still important to note, however, that because less competent children were more likely to be missing at post, estimates given here for how immigrant children in poverty overall are doing in terms of school readiness may be slight overestimates.

8. Measures

Cognitive and language skills. The Learning Accomplishment Profile-Diagnostic (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992) was administered individually to children in a separate room of the child's school, both around the beginning (PRE: September–October) and end (POST: April–May) of the academic year. For children receiving subsidies in the participating child care centers, LAP-Ds were administered by educated, bilingual (English–Spanish) assessors. These assessors were typically M.A. (but at least B.A.) level social workers or educational/school psychologists who had completed extensive multi-day trainings on the instrument conducted by personnel from the local collaborating university and the publisher of the instrument. These assessors arrived at the center early in the day and escorted children individually into another room for the approximately hour-long assessment. The assessor chose the language to use for assessment after asking the teacher to report the child's strongest language.⁵ In cases where this was not clear, the assessor made the language choice after talking with the child and establishing which language was more comfortable for the child. The LAP-Ds for children attending public school pre-k programs were administered by children's pre-k classroom teachers, who also completed the same training program and conducted the assessments in the same way as above.

The LAP-D was selected by the participating community's multi-agency, early childhood assessment task force because it (a) corresponded well with the State's Early Learning Performance Standards (Florida Partnership for School Readiness, 2003), (b) is a nationally standardized, norm-referenced instrument designed with authentic, curriculum-based program assessment in mind (Nehring et al., 1992), and (c) was available in both English and Spanish with technology to assist with large-scale administration. The LAP-D scale scores used in the present study were cognitive (matching and counting subscales combined), and language (comprehension and naming subscales combined). For the current study, age-standardized national percentile domain scores are reported. Internal consistency reliabilities for the LAP-D within the Miami sample were .93 for cognitive and .95 for language (Winsler et al., 2008).

Socio-emotional protective factors and behavior. Children's socio-emotional strengths and behavior problems were measured by teacher report using the Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999). Like the LAPD, the DECA was chosen by the community task force because it possessed qualities that fit with the goals of the initiative. These included that the DECA (a) created a profile of children's socio-emotional strengths or "protective factors" within a resilience framework (Werner & Smith, 1992), (b) included rating scales of both socio-emotional skills and behavioral concerns, and (c) was available in both Spanish and English. When using the DECA, teachers report on the frequency of children's behaviors by rating them on items comprising four subscales: initiative, self-control, attachment/closeness with adults, and behavioral concerns. Example items for the initiative subscale are "choose to do a task that was challenging for her/him" and "start or organize play with other children." For the self-control subscale, example items include "listen to or respect others," "control her/his anger," and "handle frustration well." Example attachment subscale items include "respond positively to adult comforting when upset" and "act happy or excited when parent/guardian returns." The behavior concerns scale includes items such as "fight with other children" and "have temper tantrums." The first three subscales are combined to create an overall socio-emotional total protective factors score (bigger numbers indicating greater strengths) and the behavior concerns scale is scored such that larger numbers indicate greater problems with behavior. Total protective factors and behavior concerns are the two scales reported here in the form of national percentiles. Teachers had the choice of completing the form in either English or Spanish. Internal consistency reliability within this diverse sample was .94 for total protective factors and .81 for

⁵ Though it was not possible to assess children in Creole, most children with Haitian origins also spoke English, and thus 98% of children with Creole-speaking parents were assessed in English.

behavior concerns (Winsler et al., 2008). Reliability did not vary as a function of language of form (Spanish, English; Crane et al., submitted for publication)

Generation. Parents reported on their country of birth upon registration for subsidized child care services. For the purposes of this study, and as is common in other research on immigrants, generational status of the child was determined by a combination of the country of origin of the child and the country of origin of the reporting parent. Three groups were created, namely, first-generation immigrant children, second-generation immigrant children, and non-immigrant children.⁶ A first-generation immigrant child was defined as being born in a country other than the United States. Using Rumbaut's (2004) delineation of the immigrant first generation, this group, given they are only four-years-old, would technically be considered part of the 1.75 generation. A second-generation immigrant child was defined as having a U.S. country of origin with the reporting parent having a non-U.S. country of origin. A non-immigrant child was defined as having a U.S. country of origin with the reporting parent also having a U.S. country of origin. Therefore, first- and second-generation immigrant children both have parents who are immigrants, while non-immigrant children have parents who are native-born.

Region. Regions were created geographically and were based on the most common geographical regions of immigrant parents in the sample, namely, South America, Central America, Cuba, and (non-Cuban) Caribbean Islands. Because Cubans represent such a large and influential group in Miami, and are therefore strongly represented in the preschool population, we decided to analyze their data in two ways—as a separate “region,” as well as include them when analyzing by country. Given the unique historical circumstances of the relationship between Cuba and United States, and the status of most Cubans as political refugees, we found it appropriate to analyze outcomes for Cuban children separately in both cases.

The countries that comprised each region of origin are as follows in descending order by largest *n* to smallest. Countries in the South American region include Colombia, Venezuela, Peru, Chile, Brazil, Argentina, and Bolivia. Countries in the Central American region include Nicaragua, Honduras, Mexico, Panama, and Costa Rica. Countries in the non-Cuban Caribbean region include Haiti, Dominican Republic, Puerto Rico, Jamaica, Bahamas, Virgin Islands, and Other West Indies. It should also be noted that because the sample is composed only of children receiving subsidies to attend child care, these countries of origin are not likely representative of the entire population of Miami preschoolers, nor Miami immigrants in general. The preschoolers in this sample are those whose families were in need of and accepted financial assistance in order to provide their children with some type of child care. There are surely countries not represented in our sample that are more represented in the higher income demographic in Miami, and are therefore able to pay for child care out of pocket. Also, there are likely other low-income immigrant families in the area with preschoolers who do not receive child care subsidies and who are systematically not in our sample.

9. Results

Following the order of the research questions, we start with broad conceptualizations of the term “immigrant” and reach finer levels of specificity with each analysis. We first compare first-generation immigrant children, second-generation immigrant children, and children from non-immigrant families on multiple domains of school readiness. We then ask what importance race/ethnicity (Latino, Black) has for the school readiness of children with and without immigrant parents and examine whether the overall generational patterns persist within each ethnic group. Next, we look deeper into the specific national origins of first and second-generation immigrant children and ask whether diversity of school readiness outcomes exists according to region of origin and country of origin. Group differences in children's developmental and educational outcomes can sometimes be explained by differences in contextual risk factors (even among low-income children). Therefore, we found it important to conduct our analyses with and without controlling for family background factors that differed significantly between nativity groups, including parental education, income, marital status, and family size. Each approach is important and informative for our understanding of the school readiness of immigrant children. First, the assessments used in this study are ecologically valid in the sense that they are used every day to make real decisions that affect children's lives, such as placement into special education. Therefore, results obtained without covariates in the models inform us about where these children stand, in an applied sense, with respect to national norms. Second, if covariates are included, and group differences disappear, this would tell us that differences found as a function of nativity status can be attributed to differences in family risk. However, if group differences do not disappear, we may need to look to other cultural, socio-historical, or selection factors to explain why children's outcomes differ by nativity status. Our analyses indicated that substantive results did not differ with and without inclusion of the covariates (and group differences are not due solely to variation in family risk), so results presented here are without covariates in the models. Finally, Cohen's *d* statistics for significant between-subject effects are reported below and represent the size of the effect between the group with the highest mean and the group with the lowest mean.

⁶ For ease of reporting, native-born children with native-born parents are referred to herein as “non-immigrant” children, though they could more precisely be referred to as belonging to the “third or later” generation.

Table 2
School readiness percentile scores at pre and post for each nativity group.

Assessment scales	1st generation (n = 153)		2nd generation (n = 982)		Non-immigrant (n = 1059)		Total (n = 2194)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Cognitive^a								
M	40.9 _b	45.1	39.0 _b	43.9	44.7 _a	51.3	41.9	47.6
SD	27.4	25.5	26.1	27.0	28.4	28.4	27.5	27.8
Language^a								
M	31.0 _b	39.7	26.3 _c	35.4	35.0 _a	46.4	30.8	41.0
SD	24.7	27.1	22.5	26.7	26.9	29.2	25.2	28.4
Total protective factors^a								
M	59.2 _b	65.9	52.1 _a	58.2	49.7 _a	55.8	51.3	57.5
SD	25.4	26.5	27.4	28.4	28.2	29.4	27.8	28.9
Behavior^a								
M	46.0 _b	45.9	52.5 _c	51.5	57.8 _a	56.9	54.8	53.9
SD	30.0	28.7	28.1	29.3	29.2	28.3	29.0	29.0

Notes: Means sharing a subscript within a row are not significantly different at $p < .05$. Subscripts on Pre means indicate group differences averaged across both time points.

^a Difference between groups as determined by mixed ANOVA significant, $p < .05$.

10. Nativity status/generation

Cognitive skills. The first research question addresses variation in the school readiness of first-generation, second-generation, and non-immigrant children. Table 2 lists the means and standard deviations for each of the dependent measures at the beginning and end of the pre-kindergarten year by nativity status. A series of repeated-measures ANOVAs was conducted with immigrant group (non, first, and second generation) as the between-subjects variable and time (pre, post) as the repeated measure with the relevant school readiness score entered as the dependent variable. Fig. 1 shows the overall pre and post scores in the area of cognitive skills for the three nativity groups. The first noteworthy pattern is that all three nativity groups of children in poverty are clearly at-risk in terms of cognitive skills. However, they are all making important and similar gains from the beginning to the end of the pre-kindergarten year in terms of cognitive skills, significant time effect, $F(1,2061) = 37.16$, $p < .001$, nonsignificant group-by-time interaction, $F(2,2061) = 1.09$, $p = .34$. It is also important to point out that these results are reported in national percentiles, so it is not just maturation being observed here—children are improving their relative standing compared to national norms for their specific age group by about 5–6 percentile points over the year. Also notable is that the nativity groups differed in their overall level of cognitive competence at both time points, group effect $F(2,2061) = 18.64$, $p < .001$. Post hoc analyses using Fisher's LSD showed that children in non-immigrant families displayed higher cognitive skills ($M = 48.0$) than both first-generation ($M = 43.0$) and second-generation ($M = 41.4$) immigrant children who were not significantly different from each other. The effect size for the difference between non-immigrant children (the group with the highest mean) and second-generation immigrant children (the group with the lowest mean) was $d = .24$. Further, children in non-immigrant families reached the national average of the 50th percentile by the end of the year as a group whereas both generations of children in immigrant families started and ended the year at greater risk—below national averages in terms of cognitive skills.

Language skills. A similar ANOVA analysis was conducted on children's language scores. The language measure was administered in what appeared to be the child's strongest language (either English or Spanish) and thus was intended to measure general linguistic competency. Fig. 2 shows the pre and post language scores (not broken down by language of administration) for first-generation, second-generation, and non-immigrant children. As was seen earlier for cognitive skills, all three groups of children are at considerable risk but are making excellent and similar gains (i.e., 10 national percentile points) in language skills across the preschool year, time $F(1,2051) = 122.27$, $p < .001$; nonsignificant group-by-time interaction, $F(2,2051) = 1.97$, $p = .14$. Again, they differed in overall level of competence at both time points, group $F(2,2051) = 45.18$,

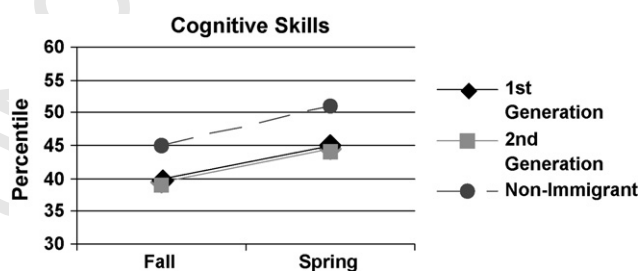


Fig. 1. Cognitive percentile scores for each of the three nativity groups.

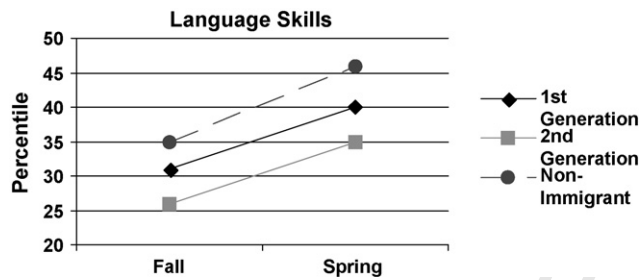
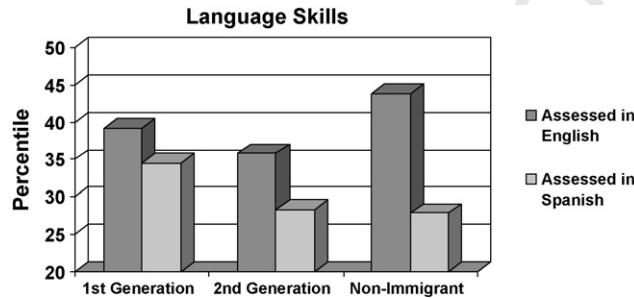


Fig. 2. Language percentile scores for each of the three nativity groups.



Note: 2nd generation immigrant children demonstrated less general facility with language than the other two nativity groups, regardless of whether they were assessed in English or Spanish.

Fig. 3. Language percentile scores for Latino children, by language of assessment.

$p < .001$. Non-immigrant children (about 82% of whom were assessed in English) demonstrated the strongest language skills (averaged across time $M = 40.7$). First-generation immigrant children (78% of them assessed in Spanish) showed intermediate levels of language facility ($M = 35.3$), whereas second-generation immigrant children (65% of them assessed in Spanish) scored the lowest in language skills ($M = 30.9$). All pair-wise LSD contrasts were statistically significant, and the effect size for the difference between non-immigrant and second-generation immigrant children was $d = .37$.

To help reduce the confound of language of administration, we analyzed just Latino children's language outcomes by nativity group and included language of administration as an independent variable in the ANOVA (Fig. 3). This analysis revealed that differences between nativity status groups in language score depended on the language of administration, as indicated by a significant nativity-by-language of administration interaction, $F(2,2019) = 7.13, p = .001$. English-dominant/assessed Latino children followed the overall pattern discussed above and shown in Fig. 2, where non-immigrant children ($n = 787$), averaged across time, were more linguistically advanced (in English) ($M = 43.7$) than first-generation immigrant children ($n = 27; M = 39.1$) who, in turn, were more advanced than second-generation immigrant children ($n = 315; M = 35.8$). However, for Spanish-dominant/assessed Latino children, first-generation children were more linguistically advanced (in Spanish) ($n = 115; M = 34.5$) than both second-generation ($n = 598; M = 28.3$) and non-immigrant children ($n = 183; M = 27.9$) who were not significantly different from each other.

Socio-emotional skills. In the area of socio-emotional protective factors, which includes initiative, attachment/closeness with adults, and self-control, we see from Table 2 and Fig. 4 that children in all groups started the year at less risk (around the national average for four-year-olds) than they did in the pre-academic areas and made good and similar gains in social skills across the year, time $F(1,1501) = 38.54, p < .001$. The nativity groups did differ, however, in teachers' ratings of their overall

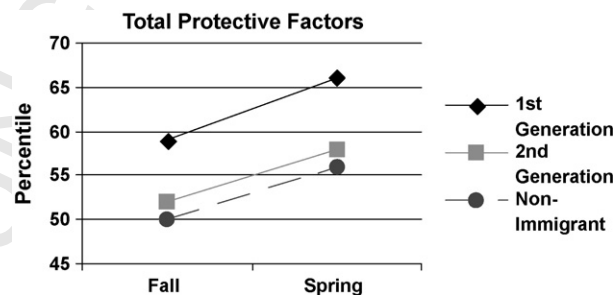


Fig. 4. Social skill percentile scores for each of the three nativity groups.

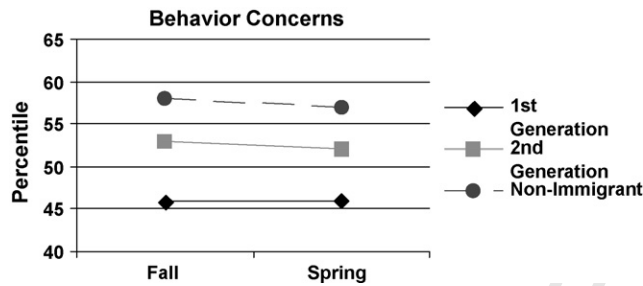


Fig. 5. Behavior concerns percentile scores for each of the three nativity groups.

strengths in these areas, group $F(2,1501) = 7.29, p = .001$. Notably, we see that first-generation immigrant children showed considerable strengths in socio-emotional protective factors and were rated as significantly higher in this area across time points ($M = 62.6$) than both second-generation immigrants ($M = 55.1$) and non-immigrant children ($M = 52.8$). The difference between second-generation children and non-immigrant children was also significant, and the effect size for the difference between first-generation immigrant and non-immigrant children was $d = .36$.

Behavior concerns. Fig. 5 shows the overall pre and post percentile scores for children's behavior concerns by nativity group (bigger numbers indicate more problems). Overall, children in all groups either remained stable or improved slightly in their behavior over the course of the school year according to teachers, $F(1,1501) = .40, p = .53$. Thus, it certainly does not appear that behavior problems are increasing over time as a function of attendance in child care. However, as was seen with protective factors, the groups differed with respect to the mean levels of behavior problems displayed, group $F(2,1501) = 13.74, p < .001$, with first-generation immigrant children displaying the fewest behavior concerns ($M = 45.9$) at about national averages for problem behavior for four-year-olds, followed by second-generation immigrant children ($M = 52.0$), and then non-immigrant children, who posed the greatest behavior problems for preschool teachers ($M = 57.4$). All three pair-wise post hoc group differences were statistically significant, and the effect size between first-generation immigrant and non-immigrant children was $d = .42$.

11. Race/ethnicity

The overall pattern observed so far is for immigrant children in poverty to show relative weakness in the areas of cognitive and language skills at age four compared to non-immigrant children, yet relative strengths in the areas of social skills and behavior. Also, it was often the case that first-generation immigrant children outperformed second-generation immigrant children. The goal of the second research question was to determine the extent to which this general pattern held true across different race/ethnic groups. The ethnic composition of each nativity group differed substantially and a full crossing of child ethnicity [Black, White, Latino] with immigrant group [non, first, and second] was not possible due to some prohibitively small cell sizes. We decided instead to, when possible, select each child ethnic group individually (for Blacks and for Latinos) and rerun the ANOVA to see if the same general pattern described above emerged within each ethnic group. In each case, the significant time effects (and lack of group-by-time interactions) were the same, so we focus here just on whether the between-subjects main effect for nativity group was significant and showed the same pattern within ethnic groups.

Cognitive and language skills. When just Black children were selected ($n = 752$), the same main effect appeared showing non-immigrant advantage for cognitive skills, group effect $F(2,749) = 5.31, p < .01$. Post hoc analyses using Fisher's LSD showed that Black non-immigrant children displayed significantly higher cognitive skills ($M = 50.9$) than Black second-generation immigrant children ($M = 44.61$). The means for both these groups were higher than the mean for Black first-generation immigrant children ($M = 39.2$), however, this post hoc difference did not reach statistical significance (likely due to the small cell size for Black first-generation immigrant children [$n = 12$]). Within just the Latino group, the nativity group effect was also still significant, $F(2,1232) = 3.05, p < .05$, but a slightly different pattern emerged. For Latino children, non-immigrants ($n = 378; M = 44.0$) again scored significantly higher than second-generation immigrant children ($n = 728; M = 40.5$) (similar to Black children) but the mean for first-generation immigrant children ($n = 129; M = 42.9$) fell between the two other groups.

The same within-group patterns reported above were found for language skills when analyses were conducted separately by ethnic groups. Among Black children, the group difference $F(2,749) = 13.02, p < .001$, was such that the non-immigrant group ($n = 561; M = 44.4$) had higher language skills than the second-generation immigrant group ($n = 180; M = 34.1$) with the mean for first-generation immigrants falling below the other two groups ($n = 11; M = 33.4$) but not statistically different from either. For the Latino children, the nativity group difference held, $F(2,1223) = 6.77, p = .001$; second-generation Latino immigrant children ($n = 725; M = 30.0$) lagged behind the non-immigrant ($n = 373; M = 34.4$) and first-generation groups ($n = 128; M = 34.7$) who did not differ from each other in terms of language skills.

Socio-emotional skills and behavior. When examined separately among Latino children, first-generation immigrant children still had a socio-emotional advantage over both non-immigrant and second-generation immigrant children, group $F(2,857) = 6.54, p < .05$, who (unlike with the overall sample) were not significantly different from each other. However, there were no nativity group differences in total protective factors among Black children ($n = 585$), group $F(2,582) = .71, p = .49$,

Table 3

School readiness percentile scores at pre and post for each region and country.

	Cognitive ^a		Language ^a		TPF		Behavior	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
<i>Region of origin</i>								
Caribbean Islands (<i>n</i> = 263)								
<i>M</i>	39.2 _a	46.7	26.0 _a	38.2	53.0	55.8	55.9	51.6
<i>SD</i>	27.4	28.8	23.7	27.8	29.4	30.8	29.3	30.7
Central America (<i>n</i> = 184)								
<i>M</i>	38.0 _a	40.3	22.7 _b	30.0	49.3	56.8	50.4	49.3
<i>SD</i>	27.0	25.0	21.0	24.6	28.0	27.9	28.1	26.6
Cuba (<i>n</i> = 426)								
<i>M</i>	37.9 _a	42.4	28.7 _a	36.3	52.5	59.6	52.0	51.8
<i>SD</i>	24.9	26.0	22.3	26.5	25.3	27.2	27.8	30.2
South America (<i>n</i> = 99)								
<i>M</i>	45.8 _b	48.4	29.3 _a	39.5	59.7	60.7	45.7	47.9
<i>SD</i>	26.7	25.5	23.2	27.4	26.9	28.0	27.2	27.8
<i>Country of Origin</i>								
Colombia (<i>n</i> = 55)								
<i>M</i>	40.8 _a	46.7	24.2 _a	41.8	58.7	60.5	43.6	44.0
<i>SD</i>	26.5	26.6	19.4	26.6	29.4	31.7	32.6	28.7
Cuba (<i>n</i> = 426)								
<i>M</i>	37.9 _{a,b,c}	42.4	28.7 _a	36.3	52.5	59.6	52.0	51.8
<i>SD</i>	24.9	26.0	22.3	26.5	25.3	27.2	27.8	30.2
Dominican Republic (<i>n</i> = 46)								
<i>M</i>	29.0 _{b,c,d}	40.4	19.2 _{b,c}	32.1	43.8	47.3	59.0	59.7
<i>SD</i>	24.8	25.9	20.6	26.8	29.8	31.1	29.6	31.9
Haiti (<i>n</i> = 152)								
<i>M</i>	39.4 _a	48.5	25.2 _a	39.4	55.7	56.0	58.6	50.5
<i>SD</i>	26.9	28.6	23.3	28.2	29.1	30.4	29.3	29.5
Honduras (<i>n</i> = 44)								
<i>M</i>	27.7 _{c,d}	31.6	17.3 _{b,c}	25.5	53.9	55.0	47.2	47.5
<i>SD</i>	23.0	21.9	15.4	21.6	27.0	29.8	28.9	22.9
Nicaragua (<i>n</i> = 122)								
<i>M</i>	40.3 _{a,b,c}	42.9	22.9 _b	31.1	47.7	57.4	51.8	50.7
<i>SD</i>	26.9	25.0	20.2	24.9	29.8	25.9	29.0	27.7
Puerto Rico (<i>n</i> = 42)								
<i>M</i>	48.8 _a	44.1	30.9 _{a,b}	34.8	53.2	61.2	45.4	47.2
<i>SD</i>	28.9	32.8	25.9	25.7	28.6	32.9	27.5	33.7

Note: Means sharing a subscript (a–d) within a column are not significantly different at $p < .05$, while means not sharing a subscript are significantly different. Subscripts on Pre means indicate group differences averaged across both time points.

^a Difference between groups as determined by mixed ANOVA significant at $p < .05$ for both analysis by region and by country.

though the means followed the same overall pattern of first-generation immigrant advantage. A similar story emerged for behavior problems when generational groups were compared separately within ethnic group. For Black children, there were no significant differences by generation in behavior concerns, group $F(2,582) = 1.06, p = .35$. However, there were generational differences for Latino children, group $F(2,857) = 7.78, p < .001$, with non-immigrants being the group with the most behavior concerns, more than both first- and second-generation Latino immigrant children

12. Region and country of origin

The next step was to go beyond the consideration of nativity status and ethnicity to include region and country of origin when examining the school readiness skills of first- and second-generation immigrant children. Using the country of origin of the parent, the following regions were included in the analysis: South America ($n = 103$), Central America ($n = 188$), Cuba ($n = 452$), and Caribbean Islands ($n = 285$). We also examined country of origin, with the following seven countries having large enough cell size representation ($n > 40$) to be included in the analyses: Cuba ($n = 452$), Haiti ($n = 165$), Puerto Rico ($n = 46$), Colombia ($n = 56$), Dominican Republic ($n = 50$), Nicaragua ($n = 126$), and Honduras ($n = 44$).

Cognitive and language skills. Table 3 displays the pre and post means for each of the different school readiness domains separately by region and country of origin for immigrant children (first and second generations combined). Fig. 6 provides a visual representation of the heterogeneity in cognitive skills, as well as gains in those skills, according to country of origin. A series of mixed ANOVAs was run with either region or country as the between-subjects variable and time as the repeated

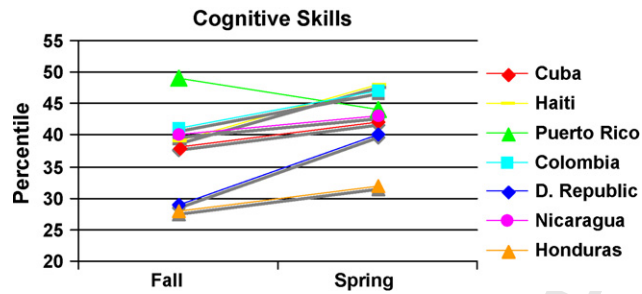


Fig. 6. Cognitive percentile scores for immigrant children of different national origins.

measure. First- and second-generation immigrant children from all regions of origin made good and similar gains over time in cognitive skills across the year, time $F(1,968) = 18.85, p < .001$; group-by-time interaction ns. $F(3,968) = 1.70, p = .17$, but differed with respect to mean levels of competence, group $F(3,968) = 3.51, p < .05$. Specifically, the cognitive scores of children from South American families (averaged across time $M = 47.1$) were higher than both children from Cuban ($M = 40.1$) and Central American families ($M = 39.2$). The mean for Caribbean island children ($M = 42.9$) fell between the means of South American and Cuban children and was not different statistically from either region. The effect size of the difference between South American children (the group with the highest mean) and Central American children (the group with the lowest mean) was $d = .31$. In terms of country of origin, we saw main effects for country, group $F(6,880) = 3.53, p < .01$, but also a significant country-by-time interaction, $F(6,880) = 2.19, p < .05$ (see Fig. 6). Children with family origins in Puerto Rico started the year showing the most cognitive competence but actually declined slightly over the year in terms of national percentile ranking (time $d = .15$). Comparatively, immigrant children from Honduras and the Dominican Republic appeared to be struggling the most with regard to cognitive skills at the beginning of the year, but Dominican-origin children made excellent gains across the year, and by Spring, showed similar levels of cognitive skills as the other six groups. Children from Haiti began the year in the middle of the pack with regard to cognitive skills, but made great gains across the year as well and by Spring, they showed the highest levels of cognitive skills of any immigrant group (time $d = .32$). So with regard to country of origin, we not only see group differences in overall levels of cognitive competence, but also in the gains children from different countries make across the year.

For language skills, the story for country and region of origin is similar to what was found for cognitive skills—children from all regions made good gains across the year, $F(1,963) = 82.03, p < .001$, but with differences in mean levels of language competence, $F(3,963) = 4.96, p < .05$. Immigrant children with origins in South America ($M = 34.4$), Cuba ($M = 32.5$), and the Caribbean Islands ($M = 32.07$) all showed similar levels of language skills, but children from Central America tended to be struggling by comparison ($M = 26.4$). The effect size between South American children and Central American children was $d = .33$. There was also a significant interaction between country of origin and time, $F(6,875) = 2.33, p < .05$. Puerto Rican and Cuban children started the year more advanced in language skills than children from other countries, and both groups made modest gains across the year (time d 's around $.15$). Children from Colombia and Haiti, on the other hand, began the year in the middle of the group in terms of language competence, but made large gains across the year so that by Spring, they were scoring higher than all other groups (time d 's around $.75$). Immigrant children from Honduras and the Dominican Republic appeared to be struggling the most with language. Dominican-origin children made good gains and by the end of the year were more similar to other groups in language skills, while Honduran children still lagged behind.

Socio-emotional skills and behavior. Unlike what was seen in the cognitive and language domains, there were no significant differences in overall levels (no significant group effects), or gains (no significant group-by-time interactions) in socio-emotional protective factors or behavior according to either region or country of origin. Children with immigrant parents from all regions and countries showed similarly high socio-emotional protective factors and low behavior concerns when compared to children with native-born parents.

13. Discussion

Immigrant children are extremely diverse in terms of language, culture, skin color, religion, and national origins, and this diversity has been shown to translate into variation in educational outcomes for different groups (Fulgini, 1997; Garcia Coll et al., 1996; Hao & Bonstead-Bruns, 1998; Leventhal et al., 2006; Magnuson et al., 2006). The first step in understanding this variation and closing the achievement gaps between children with different national and ethnic backgrounds is to start early and focus on how they are doing developmentally before entering formal schooling. Once we have a good understanding of overall patterns of school readiness, we can begin to identify the familial, cultural, or socio-historical processes that mediate these relationships, and be more prepared to develop and implement policy and practice that give all children an equal chance to succeed.

The major goal of this study was to investigate whether the same heterogeneity of educational outcomes found among older immigrant youth would be found in the school readiness outcomes of a sample of ethnically diverse, low-income

preschool children. A second goal was to determine whether there was evidence for an immigrant advantage, or the finding that overall, first-generation immigrant children demonstrate educational advantages when compared to second-generation and non-immigrant children, and whether these advantages appear to diminish with successive generations. With regard to the first goal, we find that even at the preschool age, children differ in a number of important ways according to family immigration history, generation, ethnicity, and national origins. Though the entire sample was low-income and all these families likely faced a number of challenges, non-immigrant children tended to be more disadvantaged in terms of family socioeconomic factors than either first- or second-generation immigrant children. Their parents were the youngest, least educated, and least likely to be married. The two groups of immigrant children on the other hand, had a few comparative advantages that could translate into additional resources available to the child. For instance, parents of first-generation immigrant children were most likely of the three groups to hold a high school diploma and to be married, and parents of second-generation children had a slightly higher income than either of the other two groups. Though these differences in family background existed between the three groups, they did not fully account for group differences when used as covariates, suggesting other cultural, familial, or selection effects are at work.

There was also substantial heterogeneity in terms of school readiness outcomes, mirroring work on the academic outcomes of older immigrant youth (Fulgini, 1997; Hao & Bonstead-Bruns, 1998; Kao & Tienda, 1995; Leventhal et al., 2006; Portes & Zady, 1996). The general pattern that emerged with regard to nativity status was that, on average, children in non-immigrant families demonstrated stronger pre-academic (cognitive and language) skills than both generations of children in immigrant families, while children in immigrant families, particularly first-generation immigrant children, were rated as having more initiative, self-control, and attachment with adults, and fewer behavior concerns than children in non-immigrant families. It is possible these generational differences in pre-academic skills are related to the greater familiarity of American-born parents with the types of parent–child interactions that prepare children for success in Western schooling (Rogoff, 2003). Further, the U.S. has experienced a recent upsurge in public and federal support for early childhood programs (Kagan & Neuman, 1998), so American-born parents may also have more familiarity with early education or may enroll their children at younger ages. These differences could potentially give children with native-born parents an advantage over children with immigrant parents in skills like cognition and language as measured by an instrument standardized in the U.S. In terms of socio-emotional skills and behavior, however, experience with formal education may be less important. Parents often migrate to escape unfavorable circumstances in their home country and secure a better future for their children (Perreira et al., 2006). This considerable sacrifice could signify an overall parenting style characterized by deep investment and care, even when financial security is lacking. In fact, the “immigrant advantage” has been described as high motivation for achievement, upward mobility, and capitalization on opportunity (Hao & Bonstead-Bruns, 1998; Perreira et al., 2006), and it is quite possible that these qualities are “passed down” (e.g., through parenting or the home environment) to the children of immigrant parents, even as early as preschool.

For some of the school readiness domains, the effects of generational status depended somewhat on children’s ethnicity. For example, though the result was only marginally significant, we saw different trends in the means for Black and Latino children in cognitive skills. For both ethnic groups, non-immigrants had an advantage in cognitive skills. However, first-generation immigrants tended to do better than second-generation immigrants if they were Latino, but if they were Black, second-generation immigrants outperformed first-generation immigrants. We also saw differences in cognitive and language skills according to national origins, whereby South American immigrant children showed the strongest skills and Central American immigrant children tended to be struggling, especially those from Honduras. Contrary to our expectations, Cuban children did not stand out as having particular advantages in cognitive or language skills when compared to other groups. Finally, there was also evidence that the size of the gains children made across the year in cognitive and language skills sometimes depended on country of origin.

In the areas of socio-emotional protective factors and behavior concerns, generation seemed to matter more for Latino children than it did for Black children. For Latino children, first-generation immigrant children showed greater protective factors than both second-generation immigrant children and non-immigrant children, and first- and second-generation children both displayed fewer behavior concerns than non-immigrant children. For Black children, however, there were no significant differences according to generation in either total protective factors or behavior concerns. Further, unlike with cognitive and language skills, national origins did not seem to matter as much for socio-emotional skills and behavior. First- and second-generation immigrant children displayed more protective factors and fewer behavior concerns than non-immigrant children regardless of the area from which their family migrated. Thus, to elaborate on an earlier point, perhaps there is something more universal about being in an immigrant family that leads to stronger socio-emotional skills in preschool children that does not seem to be related to country of origin. It could be accounted for by selection factors—that parents who chose to migrate already had children who were more socio-emotionally skilled before the change of residence, or there could be something about the immigration experience and the hardships and joys that come with it, that lead young immigrant children to develop stronger social skills. Perhaps another explanation is that parents from these non-U.S. countries simply emphasize traits like initiative, self-control, closeness with adults, and good behavior to a greater extent than do mainstream American parents, who often put great emphasis on academic goals. Increased emphasis on social and behavioral competence by immigrant parents has been documented in other literature (Hao & Bonstead-Bruns, 1998; Okagaki & Sternberg, 1993; Perreira et al., 2006; Yearwood, 2001) and may be an area that educators can leverage in concert with immigrant parents to promote the academic achievement of immigrant children.

Another interesting finding was that first-generation children, if they were strong in their native language and were assessed in their native language, did quite well compared to the other groups in language skills considered important for kindergarten. Since parents of first-generation children in our sample have higher levels of education and are more likely to be married than second-generation and non-immigrant children, they may be able to provide more in terms of social capital and resources (e.g., reading more at home), contributing in positive ways to their children's language development. On the other hand, second-generation and non-immigrant children tend to do better if they take their assessments in English. For them, knowing English appears to be beneficial for overall language development.

One potential explanation for this language effect could involve a relationship between the English language proficiency of second-generation immigrant children and the acculturation of their parents. It is possible that a second-generation immigrant child who is stronger in English (and thus took the assessment in English) has parents who are more acculturated, speak more English at home, and are more familiar with the U.S. education system and parenting practices that prepare children for language and literacy in Western schooling (Rogoff, 2003). On the other hand if a second-generation immigrant child is stronger in Spanish it may be related to having parents who are less acculturated, speak more Spanish at home, and are less familiar with the U.S. education system and parenting strategies that promote the kinds of language and literacy skills helpful for Western schooling. Alternatively, the low language performance in general (regardless of language of assessment) for second-generation immigrants could indicate that the child's language development is under transition, or the language input the child is receiving in both English and Spanish is limited and not sufficiently promoting their language development (Reyes, 2006; Tabors & Snow, 2001). Perhaps second-generation children's home language is not being supported to a great extent at school, making it difficult to develop strong skills in either language. We unfortunately do not have measures of the home literacy environment for these children, but clearly, further research is needed on how the early home language and literacy environments differ between first- and second-generation immigrant children and may shed more light on language patterns such as those found here.⁷

The second goal of our study was to explore whether an immigrant advantage might be present in children as young as age four. Though the second wave of our ongoing study will allow us to look longitudinally at individual children's trajectories into kindergarten and early schooling, this first wave gave us the opportunity to compare children of different generations to determine whether first-generation immigrant children have any advantages over second-generation immigrant children in terms of initial school readiness. We did find some evidence for this pattern. First-generation immigrants showed advantages over their second-generation counterparts in language skills regardless of whether we looked at the overall sample, at Latino children only, or separately for children who were assessed in English or Spanish. First generation immigrant children were also rated as higher in socio-emotional protective factors and lower in behavior concerns than second-generation immigrant children. For the overall sample, non-immigrant children performed better than either immigrant group in cognitive and language skills. However, for Latino children, first-generation immigrant children performed just as well as non-immigrant children in language skills, while second-generation immigrant children lagged behind the other two groups. If Latino children were stronger in and thus assessed in Spanish instead of English, first-generation immigrants performed better than either non-immigrants or second-generation immigrants in language skills. Overall, first-generation immigrant children do tend to have an advantage over their second-generation counterparts in several domains considered important for school readiness, and in some cases have advantages over non-immigrant children as well.

Interpretation of some of the findings (e.g., a larger first-generation advantage for Latino than for Black children) may benefit from consideration of the local Miami context and political climate. First, there cannot be a discussion of the dynamics of the Miami community without acknowledging the rich ethnic diversity and recent immigration history that make it unique among American cities. Miami contains large, close-knit communities of recently emigrated families from all over the Spanish-colonized Caribbean, Central America, and South America. In fact, there were so few White children within our low-income, center-based sample, that we were only able to include Black and Latino children in some of our analyses. It is possible that immigrants in Miami, specifically minority immigrants, are afforded certain advantages that might not exist elsewhere. Second, not only is the Latino population large and the Spanish language widely supported, but Miami legislators have implemented certain local policies that may serve to elevate the social status experienced by Latino versus Black immigrants. For example, there exists a controversial U.S. policy toward the differential treatment and repatriation of Cuban (the largest Latino immigrant group) versus Haitian immigrants (the largest Black immigrant group) seeking refuge on the Miami shores. Since the beginning of the Cold War, the U.S. has taken in Cubans who make the 90-mile ocean voyage to U.S. soil, defining them as political refugees seeking asylum from a Communist regime. Haitians, on the other hand, make a similar voyage to escape economic, and in some cases political, oppression, but have historically been sent back to Haiti (Dawkins, 2000), and more recently, detained indefinitely. Because this policy is applied specifically to Haitians, it has been described as "discriminatory" and "anti-Haitian" by advocacy organizations like the American Civil Liberties Union (ACLU)

⁷ Another potential reason for the lower language scores of the second generation (and Haitian children in particular) is that children of Creole-speaking parents (12% of the second generation) were overwhelmingly assessed in English (98%). It is possible that the English version of the LAPD may not have adequately assessed the language skills of Haitian children, resulting in lower scores. In fact, the large language gains made by Haitian children across the year suggest increasing exposure to English over time may have boosted their scores. However, the fact that second-generation immigrant children still lagged behind other groups when the sample was restricted to just Latino children suggests the lower language scores of the second generation are not just an artifact of language of administration for Haitian children.

(U.S. Commission on Civil Rights, 2002). It seems likely that such policies contribute to, and certainly do not help, racial tensions in the community. Further, they could add to social and economic marginalization for Black immigrant parents, somewhat neutralizing the immigrant optimism and advantage that has been described in other studies (Ogbu & Simmons, 1998; Portes, 1999).

Third, it is possible that U.S. government support of Cuban refugees has “spillover effects” for Latino immigrants in general, at least in terms of language accommodations and resources. Research on older immigrant youth has found that retention of ethnic identity, values, and community ties can be beneficial for their educational attainment (Rong & Brown, 2001; Rumbaut, 1997). While the Miami context likely facilitates the process of cultural retention for Latino immigrants, the same may not be the case, at least not to the same extent, for Black Caribbean immigrants, who may assimilate at a faster rate. We may be seeing this reflected in lower cognitive and language skills for their children because again, aspects of the immigrant advantage may be somewhat neutralized. Though these are some of the unique immigration policy issues facing the Miami community, each community across the nation is experiencing increased recent immigration in its own way, and the local policies that are enacted directly affect the opportunities and resources available to immigrant children. A better understanding of how these local policies, in Miami and around the country, influence the lives of immigrant children is needed to evaluate their effects and drive policy toward more effective strategies for educating our diverse nation.

14. Limitations

Though we were very fortunate to have access to school readiness data for such a large and diverse sample of low-income children, there are some limitations to what we can conclude and to the generalizability of the results to other groups of low-income children. As mentioned previously, the sample is entirely low-income and therefore not representative of young children overall. Immigrant groups themselves vary in their average socioeconomic status, and our sample includes only those groups who tend to struggle the most financially. We also see this limitation as a strength, however, because young, low-income immigrant children represent a large, at-risk group about which we know little. In terms of race/ethnicity, the sample was comprised almost entirely of children whose parents identified them as Black or Latino, and we could not therefore include a group of White children in some of our statistical analyses. Additionally, Miami immigrants are largely from Central/South America and the Caribbean, so our sample did not include enough immigrant children from global regions like Africa, Asia, or the Middle East to analyze their outcomes separately. Had these groups been included, we may have seen even more variation in school readiness outcomes.

With regard to selection effects, the sample consists of low-income children in Miami whose families were offered, and took advantage of, state-funded child care subsidies. Not included in the sample, however, are children of parents who were offered the subsidy, but did not participate for some reason. This may be problematic because the decision to take or refuse subsidies could be related to factors like ethnicity, nativity status, or national origins, thereby biasing the results. As discussed previously, though the financial barrier to child care may have been largely removed via the subsidies, other social barriers unique to immigrant families may have affected their ability to participate, such as lack of access to informational resources or concerns regarding legal status (Matthews & Ewen, 2006; Matthews & Jang, 2007). Unfortunately, we do not have data on children and families who did not apply for and/or refused the subsidy, or their reasons for refusal. We do know that Latino parents often decline to put their children in formal care because they prefer Spanish-speaking, Latino caregivers and are unable to find them (Matthews & Jang, 2007), and in Miami there is no shortage of Latino caregivers. Further, the subsidies were not offered for only one type of care. Parents could use the subsidies to pay for a variety of non-parental child care settings, including community center-based care, family daycare, and even care by a non-parental relative. Nonetheless, there may be other real or perceived barriers that cause parents to not receive child care subsidies, and the exclusion of these parents from the sample limits generalizability. On a positive note, because child care utilization rates, subsidy or not, are generally lower for minorities and immigrants, especially Latinos, this study did give us a rare opportunity to study large groups of low-income, immigrant and Latino children who do attend non-parental child care.

15. Conclusion

The patterns found here among ethnically diverse, low-income children receiving subsidies to attend child care suggest the immigrant advantage often attributed to recent immigrants may even be evident in the school readiness of preschool-aged children. This is especially true for socio-emotional protective factors and behavior. Regardless of region or country of origin, teachers rated first-generation immigrant children as strongest of the three groups in these domains. These findings are similar to Crosnoe's (2006, 2007), where Mexican immigrant children showed fewer externalizing behavior problems and more emotional competence and maturity when compared to their non-immigrant peers. Considering kindergarten teachers often place more importance on social skills and behavior than on academic skills for success in kindergarten (Heaviside et al., 1993; Lin et al., 2003; West et al., 1995), the strong initiative, self-control, attachment, and good behavior of immigrant children could be a valuable asset to build upon when they enter kindergarten.

If kindergarten teachers are aware of and can leverage these skills in immigrant children, then it is possible that socio-emotional strengths could serve as a “bootstrapping” mechanism by which immigrant children can raise their level of skills in academic domains, perhaps through enhanced teacher–child and child–child interactions in the context of learning. By following the educational progress of these immigrant children into kindergarten and through third grade, we will

soon be able to answer the question of how they are faring in the U.S. educational system after making their transition into formal schooling. Until then, more detailed knowledge of the combinations of strengths and challenges displayed by immigrant children in early childhood will help teachers and parents be more prepared to implement educational practices that acknowledge their challenges *but also* build on their strengths, which will, in turn, serve to foster their later educational and occupational success as members of U.S. society.

Finally, the provision of quality early childhood education programs is seen by many as an important policy strategy for improving the school readiness and academic trajectories of children in poverty, immigrant or not, and for reducing the achievement gap (August & Hakuta, 1997; Brooks-Gunn & Duncan, 1997; Entwisle & Alexander, 1993; Takanishi, 2004; Zill, 1999). The nature of the project did not leave us in a position to secure a matched comparison group that did not attend child care, and we therefore cannot make any causal inferences regarding the effects of child care in this study. However, results from the Miami School Readiness Project so far (Winsler et al., 2008), and those presented here, suggest that immigrant and non-immigrant children who attend even garden-variety child care and pre-k programs make considerable progress (in terms of national percentile rankings) in multiple domains of school readiness during their four-year-old pre-kindergarten year. Further, the fact that there were no nativity group-by-time interactions found here suggests that such early care and education experiences likely benefit both immigrant and non-immigrant children equally.

As discussed insightfully by Crosnoe (2007), good quality child care and early education programs are a worthy investment for young immigrant children if they can build upon and not jeopardize their existing socio-emotional and behavioral strengths. Evidence from our study in Miami suggests that immigrant children's social skills only increased over the course of the year in child care and their behavior problems as reported by teachers certainly did not increase over time. Thus, it would appear that early childhood programs have much potential for improving the health and welfare of a diversity of immigrant families. However, as we found in our study, substantial nativity group differences are being observed as early as age four in the pre-academic skills considered important for kindergarten and before immigrant children even begin elementary school. In light of these findings, the situation may call for early intervention and preschool curricula that are more targeted to address the unique issues and needs faced by diverse groups of immigrant and non-immigrant preschoolers.

Uncited references

Florida Partnership for School Readiness (2005), United Nations Development Programme (2004), and United States Commission on Civil Rights (2002).

Acknowledgements

Data collection for this study was supported by the Early Learning Coalition of Miami Dade/Monroe (ELCMDM) and time for data analysis and writing was sponsored by the Children's Trust. The Children's Trust is a dedicated source of revenue established by voter referendum to improve the lives of children and families in Miami-Dade County. We would like to thank the dedicated staff at the Early Learning Coalition of Miami-Dade/Monroe, Miami-Dade County Child Development Services, and Miami-Dade County Public Schools, as well as the participating children, families, and teachers. Finally, we wish to acknowledge Walkiria Oliver, Beatriz Hernandez, Evelyn Borrell, Maria Binelo, Juanita De La Cruz, Betty Key, and Bethany Sands for their key administrative and substantive contributions to the project. Finally, we would like to dedicate this paper to the memory of Ms. Maria Binelo, whose kindness, warmth, and genuine concern during her tireless efforts to help families and children at Miami-Dade County Child Development Services is sorely missed.

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