



# Preparing Low-Income Latino Children for Kindergarten and Beyond: How Children in Miami's Publicly-Funded Preschool Programs Fare

Arya Ansari and Michael López

September 2015

## *Why research on low-income Hispanic children and families matters*

Hispanic children currently make up roughly one in four of all children in the United States,<sup>a</sup> and by 2050 are projected to make up one in three,<sup>b</sup> similar to the number of non-Hispanic, white children. Given this, how Hispanic children fare will have a profound and increasing impact on the social and economic well-being of the country as a whole. Notably, though, two-thirds of Hispanic children live in poverty or near poverty,<sup>c</sup> defined as less than two times the federal poverty level.<sup>d</sup> Despite their high levels of economic need, Hispanics, particularly those in immigrant families, have lower rates of participation in many government support programs when compared with other racial/ethnic minority groups.<sup>e</sup> High-quality, research-based information on the characteristics, experiences, and diversity of Hispanic children and families is needed to inform programs and policies supporting the sizable population of low-income Hispanic children and families.

- a. U.S. Census Bureau. (2014). State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permit Retrieved from <http://quickfacts.census.gov/qfd/states/00000.html>
- b. Federal Interagency Forum on Child and Family Statistics. (2012). America's Children: Key National Indicators of Well-Being, 2012, Tables POP1 and POP3. from <http://www.childstats.gov/americaschildren/tables.asp>
- c. Hernandez, D., & Napierala, J. (2013 ). Diverse Children: Race, Ethnicity, and Immigration in America's New Non-Majority Generation New York Foundation for Child Development from <http://fcd-us.org/sites/default/files/DiverseChildren%20-%20Full%20Report.pdf>
- d. The Kaiser Commission on Medicaid and the Uninsured. (2013). Health Coverage for the Hispanic Population Today and Under the Affordable Care Act. Washington, D.C.: The Henry J. Kaiser Family Foundation. <https://kaiserfamilyfoundation.files.wordpress.com/2013/04/84321.pdf>
- e. Chau, M., Thampi, K., & Wight, V. (2010). Basic facts about low-income children, 2009: Children under age 6. New York, NY: National Center for Children in Poverty.

## Overview

Today, roughly one in four children entering kindergarten in the United States is of Hispanic or Latino origin.<sup>1,a</sup> Despite the high proportion, we know little about the approaches to education that best support their long-term needs. We do know from prior research that when Latino children enter school, they tend to lag behind their non-Latino white classmates in early language, literacy, and mathematics.<sup>2</sup>

A large body of research also shows that the early years of life are critical for children's later academic achievement.<sup>3</sup> In light of this recognition, policymakers, researchers, and parents have focused increasingly on providing high-quality early care and education programs as a way to prepare children for school. These programs may play a significant role in reducing the racial/ethnic disparities in school readiness, especially for non-English-speaking Latino children, as it is often in these programs that they are first formally exposed to the English language.<sup>4-6</sup> Despite growing evidence of the short-term benefits of early care and education programs for children's early academic development, their long-term benefits remain in question; this may be especially true for Hispanic children.<sup>7-9</sup>

To address questions regarding the influence of early care and education programs on Latino children's early academic development, we analyzed data from the Miami School Readiness Project (MSRP) in Miami-Dade County, Florida, which has a large Latino population. The MSRP represents a unique, large administrative data source that has followed, over time, children who participated in various types of publicly-funded early care and education programs at age four. Two of these programs are the focus of this brief: **public-school-based pre-K**, and **center-based programs that accepted child care subsidies**. These programs, referred to hereafter as **public school pre-K**

<sup>a</sup> We use the terms Hispanic and Latino interchangeably except when referring to estimates produced with federal data and by the Hispanic Research Center, where we use the term Hispanic.

**and center-based care, respectively,** were offered in a variety of settings and by a variety of sponsors.<sup>b</sup> In this brief, we examine how well low-income Latino children who attended these two program types were prepared for kindergarten and how they performed academically by the time they were in third grade.

It is important to note that the design of the MSRP data set does not permit causal inference and therefore the present study is descriptive in nature. There may be differences, not captured in the MSRP, in the characteristics of families who enroll their children in different types of care, and those differences may have some bearing on children's outcomes beyond the influence of early care and education programs themselves. For example, we cannot inform questions as to how or why low-income Latino families select different types of subsidized early care and education from the available options. We also do not report on children who received subsidies and attended home-based settings, children who attended centers but had not received a subsidy, or children who attended Head Start, for example. Nonetheless, these descriptive results offer a lens into the ways low-income Latino children's participation in publicly-funded early care and education programs is associated with their early school success and later academic outcomes.

## Key findings

In general, low-income Latino children who attended public school pre-K or center-based care in Miami-Dade County entered kindergarten ready to learn and fared well academically through the end of the third-grade year. We did, however, uncover different patterns of school readiness and subsequent academic performance among the low-income Latino children in our sample.

### School readiness:

- On average, low-income Latino children who attended public school pre-K or center-based care in Miami-Dade County entered kindergarten scoring above national averages in the areas of pre-academic and social-behavioral skills.
- Latino children who had attended public school pre-K in this community demonstrated somewhat higher pre-academic and social-behavioral skills at the start of kindergarten than did children who had been in center-based care.
- In addition, Latino children classified as dual-language learners who attended public-school pre-K were more proficient in English than were their peers who had attended center-based care during the prior year.

### Academic performance in third grade:

- On average, low-income Latino children who had attended either type of early care and education program in Miami-Dade County fared well on: (a) third-grade tests of reading comprehension, with nine in ten passing the test; and (b) their end of year GPAs, earning the grade equivalent of a B.
- At the same time, on both these educational markers, Latino children who had attended public school pre-K in this community performed somewhat better than children who had attended center-based care the year before entering kindergarten.

## Background

To date, much of the discussion about the positive long-term benefits of early care and education programs has centered on evaluations of the Perry Preschool Project and the Abecedarian Project, two small-scale experimental programs from the 1960s and 1970s that did not include Latino children.<sup>10,11</sup> The scientific evidence for the value of early care and education programs has grown in the decades since, as seen, for example, by research showing the short-term benefits of these programs in Chicago, Boston, Miami, and Tulsa.<sup>12-15</sup>

### Troubling signs

Although most U.S. children attend some form of preschool in the two years before they start kindergarten, this is not the case for many Latino children. Their preschool enrollment remains relatively low: generally less than half attend some form of preschool immediately prior to kindergarten entry.<sup>16</sup> Moreover, Latino children often enter school less ready to learn than do their non-Latino white classmates; this pattern seems to hold true regardless of the level of English fluency in their homes.<sup>2</sup>

In particular, at the start of kindergarten, Latino children are less likely to recognize all 26 letters of the (English) alphabet (15 versus 36 percent for white children); to count to 20 (42 versus 69 percent for white children); and to write their names (50 versus 64 percent for white children).<sup>17</sup> A 15- to 25-percentage-point gap exists between Latino children and their white peers in these school readiness skills, which are considered necessary for later school success. This finding is cause for concern for two interrelated reasons: the academic skills children bring into kindergarten are foundational, setting the stage for later school success; consequently, those who enter school behind often stay behind.<sup>3,18,19</sup>

<sup>b</sup> For more information on these programs, see text box: "Early care and education settings examined in the present study."

## Positive signs

Despite the gap in school readiness skills between young Latino and white children, evidence suggests that Latino children can make gains in these areas of early school success if they attend quality early care and education programs.<sup>20</sup> In fact, recent studies reveal that Latino children who attend public school pre-K can enter kindergarten more ready to learn than is the case for their classmates who attend either informal or center-based programs outside the public school system.<sup>c, 13-15</sup> Additionally, while there is growing evidence that children (including Latinos) benefit from more-formal ECE programs (as opposed to family child care and other non-center-based care), the longer-term benefits of such programs, through middle childhood and adolescence, are less clear.<sup>7-9</sup>

With the growing recognition of the importance of intervening early, states have sought to expand the availability of early care and education options, especially for children from low-income families. These efforts have taken many forms. Two of the most frequently targeted approaches include providing state-funded prekindergarten for children (either universal or targeted), and making child care subsidies available to low-income families so they can afford to enroll their children in early care and education programs (both center-based and non-center-based options). Child care subsidies, unlike pre-K programs, are also explicitly intended to serve as a work support for low-income parents.

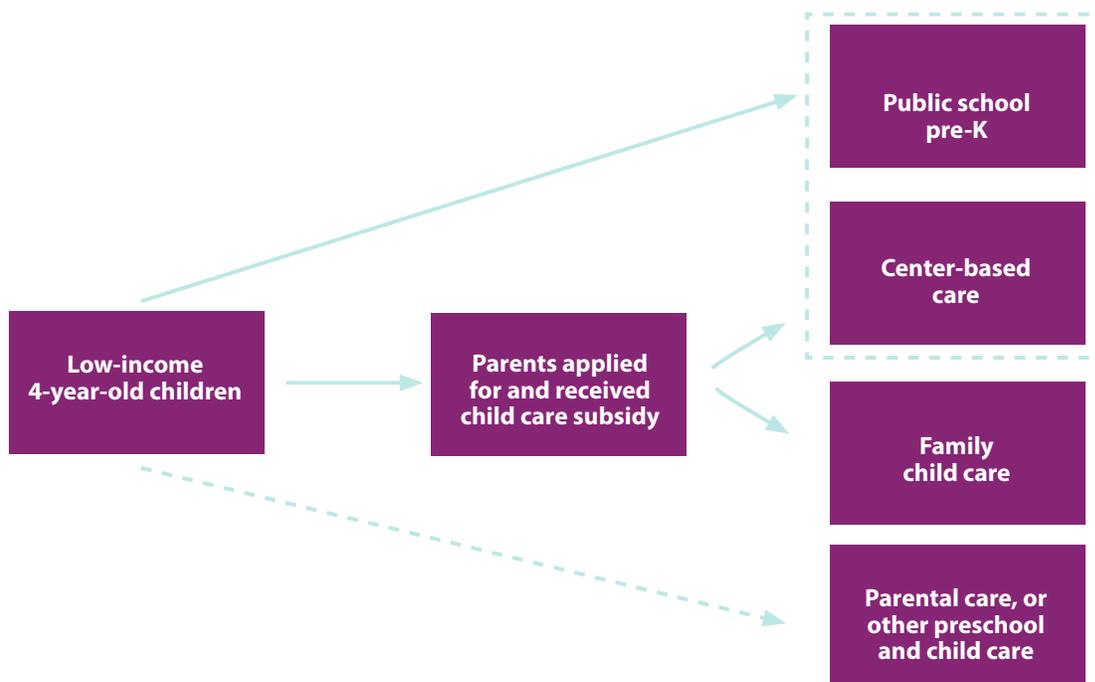
Although both public school pre-K and center-based care may focus on supporting children's development during the early years, it remains unclear whether the type of setting matters for children's subsequent academic achievement upon entry into the public school system.

## About the study

### Research sample

The dataset we used for our analyses comes from the Miami School Readiness Project (MSRP), a unique, large-scale, long-term study that to date has followed 41,339 children from preschool age into the Miami-Dade County public school system.<sup>15</sup> As can be seen in Figure 1, the present study sample is drawn from the overall MSRP sample, which included almost the entire population of four-year-olds from low-income families who had received subsidies to attend center-based care and those attending public school pre-K programs, between the 2002 and 2006 school years.

**Figure 1. Families with Latino children in the MSRP had a range of early care and education options.**



*Note. Dashed box represents the Latino children included in our study sample. Dashed line represents the children who were not in the overall MSRP.*

<sup>c</sup> In some studies the comparisons being made are strictly between public school pre-K programs and center-based care, whereas other studies compare public school pre-K programs to other types of care, including center-based and non-center-based programs. These studies do not provide much information on early care and education quality.

## Early care and education settings examined in the present study

1. *Public school pre-K*: Half-day programs that were housed in public schools
  - a. Seventy-seven percent of MSRP public school pre-K programs were subsidized by Title I funds, while the remaining 23 percent were supported by fees. At the time (2002-2005), public school pre-K programs in Miami operated for three to four hours a day and were using the High/Scope (2002-2004) or Houghton Mifflin (2005) preschool curriculum. Programs were required to be staffed by certified teachers with a child-adult ratio of no more than 20:2.<sup>a</sup> Although these were half-day programs, some children may have attended wrap-around care for the other half of the day.
2. *Center-based care*: Licensed, community-based programs that accepted child care subsidies and were operated by local, individual, and—in some cases—national providers in both the nonprofit and for-profit sectors
  - a. Center-based programs were, on average, of mediocre quality (as measured by the Early Childhood Environment Rating Scale - Revised), and fewer than 10 percent were accredited. These centers had approximately 16 children per teacher and, on average, children received care there for seven-to-eight hours a day.<sup>b</sup> Even so, the group of center-based programs included a diverse set of programs and, thus, there was great variability in both quality and dosage.

a. The MSRP did not have a complete set of information on both types of early care and education programs (e.g., data on program quality, teachers' education, teacher-child interactions, or curriculum).  
b. Winsler, A., Tran, H., Hartman, S. C., Madigan, A. L., Manfra, L., & Bleiker, C. (2008). School readiness gains made by ethnically diverse children in poverty attending center-based childcare and public school-based pre-Kindergarten programs. *Early Childhood Research Quarterly*, 23(314-329).

All children across both groups (center-based and public school pre-K) examined in the present study were considered low-income, and the vast majority were living in poverty. Seventy-two percent of children who had attended public school pre-K received free or reduced-price lunches in kindergarten, compared with 86 percent of children who had attended center-based care.<sup>d</sup> The children in the two groups were from similar and sometimes overlapping neighborhoods, and census data suggest that all the children studied, regardless of their early care and education setting, were living in similarly low-income neighborhoods (\$35,000 - \$37,500 per year median household income).<sup>21</sup>

It should be noted that the following groups of low-income children from Miami were not included in the overall MSRP sample: those whose families did not receive child care subsidies; those who participated in other types of publicly- or privately-funded preschool programs (such as Head Start); or those who stayed home under the care of parents or other family members. The MSRP, therefore, included information on all low-income children who attended public school pre-K or whose families received child care subsidies to attend center-based care settings, and who agreed to participate (the participation rate was roughly 90 percent). At the end of their third-grade year, those children—the overall MSRP sample—represented approximately 25 to 30 percent of the entire low-income third-grade population in the Miami-Dade County public school system.<sup>e</sup>

Because we set out to examine low-income Latino children's experiences in early care and education settings and the relation of those experiences to later academic outcomes, in this brief we report primarily on outcomes for low-income Latino children from a subset of the larger MSRP sample ( $n = 24,275$ ). In keeping with the aim of our investigation, we excluded certain children from our sample.

We excluded children who were considered as having special needs during preschool ( $n = 2,090$ ), because they were not in the mainstream preschool programs that more typically developing children were attending. We also excluded children who left the public school system before third grade ( $n = 4,645$ ); children who were held back in school *prior* to entering third grade ( $n = 2,366$ ); and children who skipped a grade ( $n = 62$ ). There were several reasons for these exclusions. For example, we excluded children who had to repeat a grade based on our recognition that grade retention during the early years can be the result of a variety of social and academic factors. Thus, in excluding these various subgroups of children, we could isolate comparisons among typically developing Latino children.

Due to these exclusion criteria, the children who remained in our sample were slightly more advantaged across indicators of socioeconomic status, compared with children who were excluded. We also limited our sample to children who experienced early care and education between the 2002 and 2005 school years, because only a small number of children who attended early care and education during 2006 had completed school readiness assessments ( $n = 2,932$ ). Finally, we excluded 177 children who did not take the standardized reading test during third grade as well as 109 children who did not attend center-based care even though their families received child care subsidies.

<sup>d</sup> Considering the difference in free/reduced-price lunch receipt across those who had attended public school pre-K and center-based care, all models accounted for this indicator of socioeconomic status.

<sup>e</sup> These estimates were derived by dividing the total number of children in the overall MSRP sample who subsequently attended third grade in the public schools and took Florida's standardized reading test in MDCPS by the total number of low-income children who took the test across the 2006-2010 school years. The denominator for this estimate was derived from data obtained from the Florida Department of Education<sup>22</sup>

After taking all these factors into consideration, we ended up with a final sample of 11,894 low-income four-year-old Latino children. Of these children, 82 percent were from non-English-speaking households, and thus were considered to be dual-language learners by the public school system. Overall, 58 percent of the children in the sample attended public school pre-K, whereas 42 percent attended center-based care.

## Measures

During the end of the preschool year, teachers reported on children’s socio-emotional and behavioral strengths using a nationally normed test that examines children’s behavior problems, attachment, self-control, and initiative.<sup>23</sup> Children’s pre-academic skills were also assessed directly, using a test of children’s motor, language, and cognitive skills that allows for national comparisons.<sup>24</sup> In addition, upon kindergarten entry, an English for speakers of other languages specialist at the school assessed the English proficiency of children who came from Spanish-speaking households.<sup>25</sup>

During third grade, all children took the Florida Comprehensive Assessment Test (FCAT), a standardized test used by the state of Florida to measure children’s reading comprehension, with those performing poorly on the test facing mandatory retention.<sup>f</sup> At the end of the school year, children also received grades from teachers in nine subject areas that were used to determine children’s overall end-of-year third-grade grade point average (GPA).

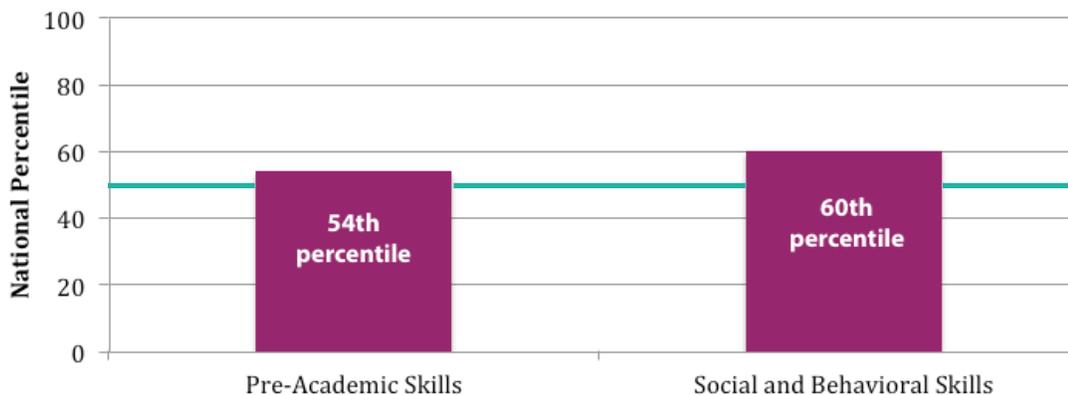
The first set of our analyses looked at how low-income Latino children fared both upon kindergarten entry and at the end of the third grade. To address the second set of questions about the short- and long-term benefits of early care and education programs, we controlled for children’s background and demographic characteristics, specifically: their preschool entry cognitive skills, age, gender, nativity (U.S.- versus foreign-born), home language (Spanish versus English), free/reduced-price lunch receipt, special needs status, and year of preschool attendance. It is important to reiterate that the design of the MSRP data set does not permit for causal inference, particularly with respect to why parents may select one type of care versus the other, and therefore the present study is descriptive in nature.

## Findings

In general, Latino children from low-income families within the MSRP sample who attended either public school pre-K or center-based care fared well on assessments of kindergarten readiness, and continued to do well through the end of the third-grade year.

**Latino children who participated in the MSRP entered school ready to learn.** Overall, children in either type of early care and education setting entered kindergarten demonstrating pre-academic skills that were above national averages (54th percentile). What is more, in general, these students were scoring at the 60th percentile on national assessments of social and behavioral skills (see Figure 2 for both statistics). What these data suggest is that Latino children from low-income families who attended center-based care or public school pre-K entered kindergarten with above average social and behavioral skills, when compared with their same-aged peers across the nation. These comparison groups include both low- and high-income children and non-Latino children from other racial/ethnic groups.

**Figure 2. Low-income Latino children in the MSRP entered kindergarten with pre-academic and social and behavioral skills that were above national averages.**

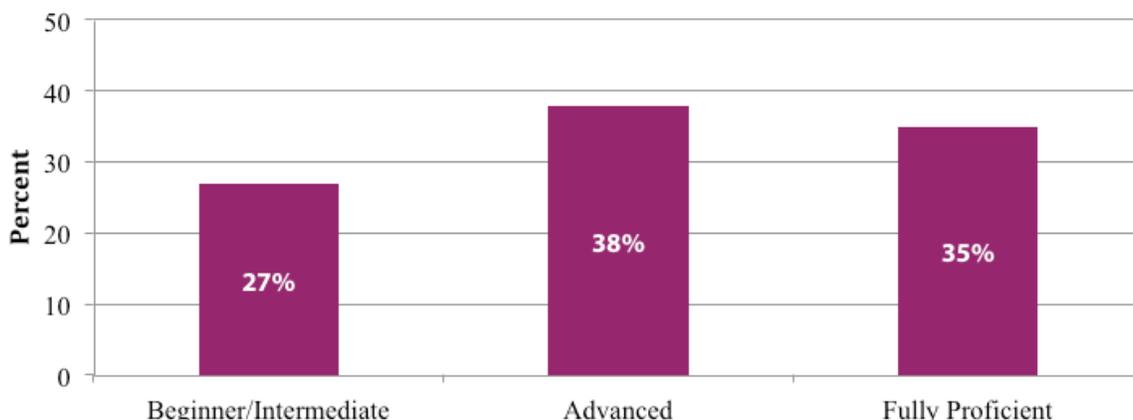


Note. Solid turquoise line=national average

<sup>f</sup> To be promoted to fourth grade in the state of Florida, children must earn a Level 2 or higher on the FCAT (range 1-5); however, to be considered at grade level, children must score at a Level 3 or higher. Because promotion in the state is based on a score of 2 or greater, we use this benchmark for our focal analyses.

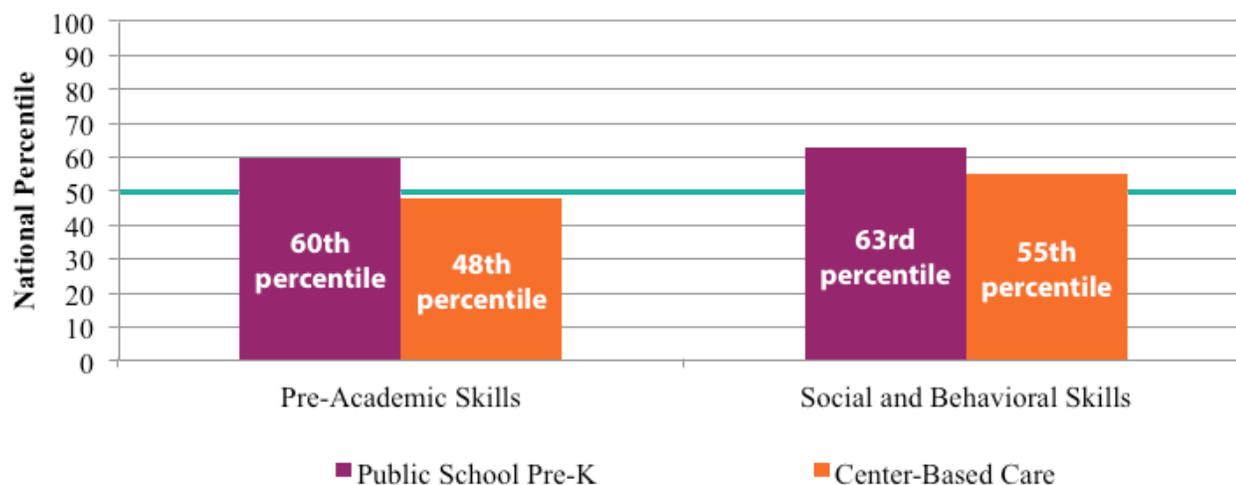
Upon kindergarten entry, the majority (73 percent) of low-income Latino children in this study who were considered to be dual-language learners were demonstrating advanced English skills (38 percent) or were fully proficient in English (35 percent), whereas approximately 27 percent of these children were considered to have beginning- or intermediate-level English skills (see Figure 3).

**Figure 3. The majority of low-income Latino children in the MSRP entered kindergarten with strong English language skills.**



**Latino children who attended public school pre-K or center-based care entered kindergarten with a strong start on pre-academic and social and behavioral skills.** Latino children from low-income families, who attended either type of early care and education program entered school ready to learn, based on national standards, even when controlling for other factors. Specifically, Latino children from low-income families who attended public school pre-K programs scored 10-percentile points *above* national averages on assessments of pre-academic skills, and Latino children participating in center-based programs scored two-percentile points just *below* national averages (see Figure 4, left columns).

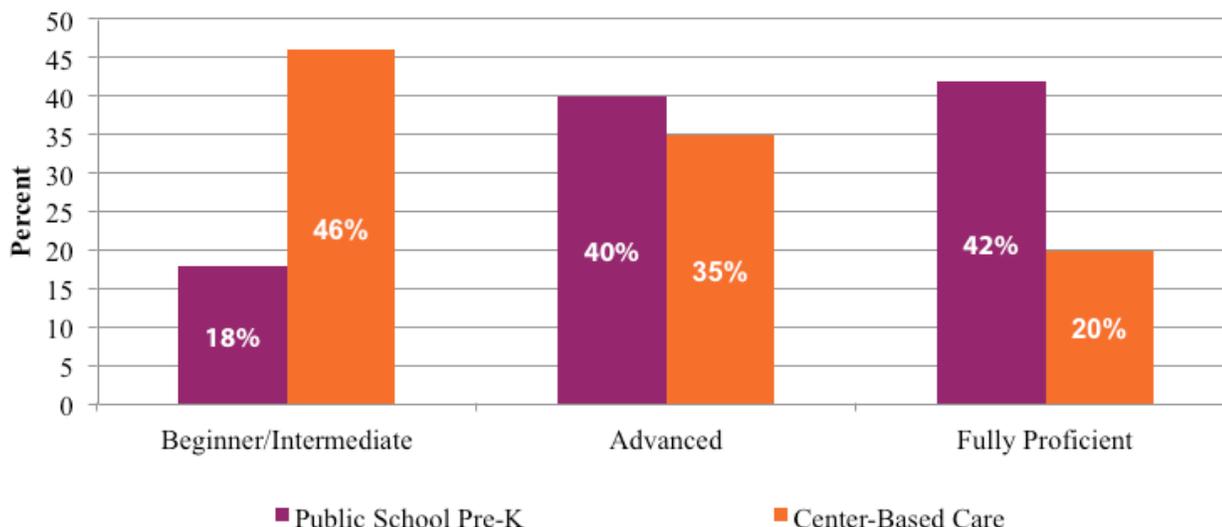
**Figure 4. Low-income Latino children who attended either public school pre-K or center-based care had above-average social and behavioral skills.**



Further, Latino children in both public school pre-K and center-based care entered kindergarten with social and behavioral skills that were above national averages. Those who were in public school pre-K scored at the 63<sup>rd</sup> percentile, and those in center-based care scored at the 55<sup>th</sup> percentile (see Figure 4, right columns).

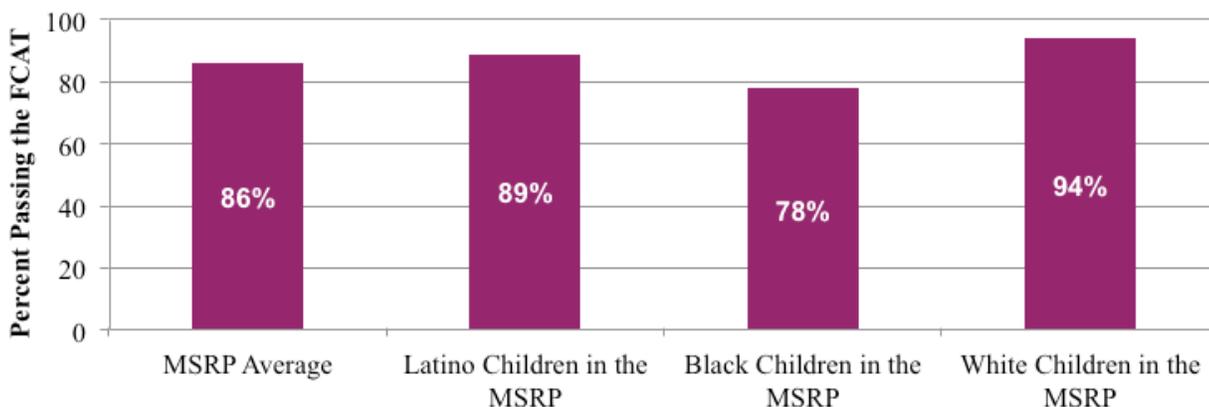
Forty-two percent of Latino dual-language learners who attended public school pre-K and 20 percent of children who attended center-based care were considered to be fully proficient in English. Similarly, 40 percent of Latino, dual-language-learning children in public school pre-K and 35 percent of children in center-based care demonstrated advanced English language skills (see Figure 5). Finally, 18 percent of Latino dual language learning children in public school pre-K and 46 percent in center-based care scored at beginner and intermediate levels of English proficiency.

**Figure 5. Low-income Latino children in public school pre-K had strong English language skills.**



**The majority of Latino children who participated in the MSRP passed the state’s standardized reading test in third grade.**<sup>9</sup> Nine in 10 Latino children who attended either public school pre-K or center-based care when they were four years old passed the reading section of the FCAT (see Figure 6). Of special note: The proportion of low-income Latino children in the MSRP passing this test (89 percent) was higher than the proportion of children passing the test in the total MSRP sample average (86 percent), a number that also included low-income non-Hispanic black (78 percent) and low-income non-Hispanic white children (94 percent).<sup>h</sup>

**Figure 6. Nine in ten low-income Latino children in the MSRP passed the third grade standardized reading test.**



Of the low-income Latino children in the study sample, 91 percent of those who attended public school pre-K programs the year before kindergarten and 86 percent of those attending center-based care passed the FCAT reading assessment at the end of third grade (see Figure 7, left columns).<sup>i</sup>

Similar patterns emerged for children’s third grade GPA. Overall, Latino children in the MSRP were doing well in terms of their end-of-year third grade GPA, as evidenced by an average GPA of 3.14 (the equivalent of a B). Latino children who attended public school pre-K or center-based pre-K earned, on average, an end-of-year GPA of 3.23 and 3.03, respectively (see Figure 7, right columns). In short, both groups of Latino children were doing well in terms of their third-grade scores on both the standardized reading test and their end-of-year GPAs.

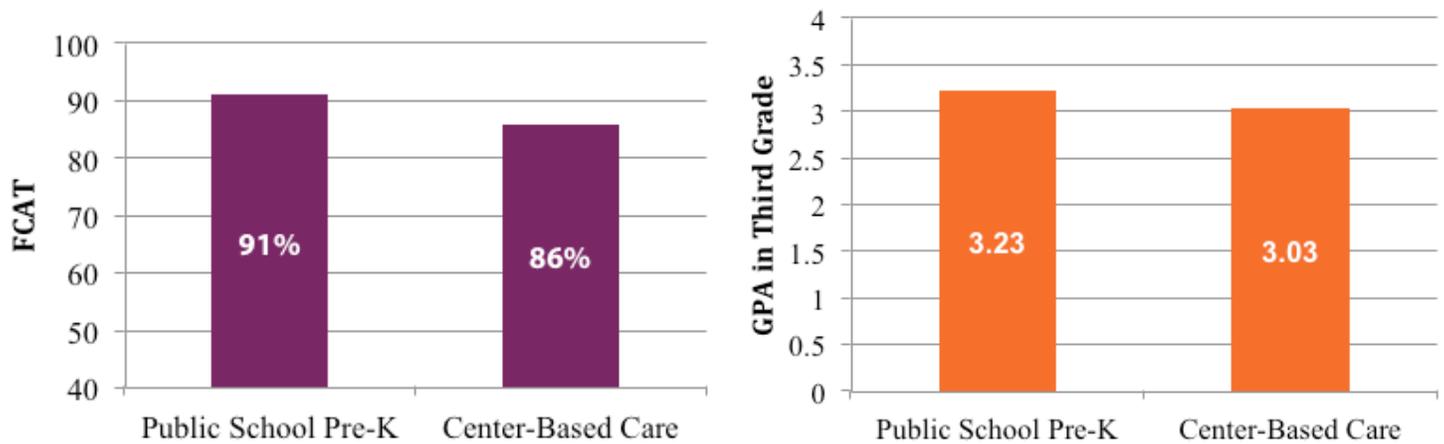
<sup>9</sup> For these analyses, “passing” was defined as a score of Level 2 or higher on the FCAT (range 1-5) in order to be promoted.

This is different from the criteria for grade level performance, which requires that children must score at a Level 3 or higher.

<sup>h</sup> The same exclusion criteria used for the Latino sample were implemented for the racial/ethnic group comparisons.

<sup>i</sup> Similar patterns emerged when looking at the percent of Latino children who scored at grade level on the FCAT (Level 3 or greater). Although the majority (77 percent) scored at grade level on the reading test, 82 percent of the Latino children who attended public school pre-K and 74 percent of those who attended center-based care scored at grade level.

**Figure 7. Low-income Latino children in the MSRP generally performed well on the third grade standardized reading test and end-of-year GPA.**



## Conclusions

The findings from this study of low-income Latino children who attended publicly funded early care and education programs in Miami-Dade County confirm and extend prior research on early care and education across the United States in several ways. Overall, the results of our descriptive analyses show that low-income Latino children in our research sample were doing well throughout the early elementary school years, regardless of the type of preschool program they attended at age four. However, while not causal, we found that Latino children in our sample who attended public school pre-K entered kindergarten with a stronger foundation than did those who attended center-based care, in terms of their pre-academic skills, social-behavioral skills, and English language proficiency. These descriptive findings are particularly important given the growing body of knowledge indicating that children's early developmental outcomes are related to their later life success.<sup>18,19</sup>

This study begins to inform gaps in the existing literature regarding the potential influences of organized/center-based pre-K settings on subsequent achievement among low-income Latino children. Whether low-income Latino children who attend other types of settings might perform as well is still an open question. Relatedly, child care subsidies are an important resource for low-income parents that support their ability to maintain employment, and thus should be considered when examining the outcomes of children participating in the different types of early care and education options.<sup>26</sup>

## Caveats

Despite these promising findings, there are some important limitations that need to be acknowledged. Perhaps the most important limitation is that the design of the study described in this brief does not allow for inferences about cause and effect; therefore, results of our analyses should be interpreted with caution. A second limitation is that although we examined public school pre-K programs and center-based care, as noted above, our primary comparisons did not include the full range of low-income children served by Head Start, family or home-based, non-parental child care, or parental care—additional early care and education options that were available to Latino families. For this reason, we could not make conclusions about Latino children who attended any center-based care versus those Latino children who were in non-center-based programs or who had no formal preschool experience (e.g., because they were in the care of parents or relatives). Thus, it remains a question if children from low-income families who attend center-based programs fare better in the long-term when compared to their classmates who experienced non-parental or parental care.

## Next steps

The findings presented in this brief suggest the need for additional research about early care and education programs as they relate to low-income Latino children. For example, it would be important to replicate and validate the findings from the present study in other localities, including with studies employing more rigorous study designs, such as those using random assignment to program types or other similarly rigorous study designs. Another critical area of inquiry would be to examine why Hispanic families choose to enroll their children in one type of early care and education program instead of another type. For example, understanding the role of proximity, availability, and flexibility of early care and education programs, as well as family demographic characteristics, child care needs, and the cultural match between the home and early care setting can provide important insight into Latino families' decision making regarding

the selection of early care and education options. It also would be important to carefully explore which features of different early care and education programs are most strongly associated with differences in low-income Latino children's outcomes and to look specifically at program quality, teachers' qualification and education, teacher-child interactions, curriculum, and classroom instructional practices as part of this exploration. Research is also needed to find out more about the early care and education experiences of children who we excluded in our study for methodological reasons, such as children with special needs.

Although the results reported in this brief can provide important insights into Latino children's early care and education exposure within a specific low-income and urban community, we do not yet know whether our results apply to other parts of the nation or to higher-income children from other racial/ethnic backgrounds who attend public school pre-K versus center-based care. Finally, given the diversity of the Latino population, it is important to consider the interplay between early care and education and more specific background characteristics of Latino families, such as their country of origin, recency of immigration, level of acculturation, and other factors.

Although these findings are specific to Miami, this study is of inherent national value. It emphasizes the importance of examining the educational trajectories of the largest and one of the fastest-growing populations of low-income children in the nation, and it sets the stage for replication in other major early care and education evaluations.

## References:

- <sup>1</sup> Fry, R., & Lopez, M. H. (2012). *Now Largest Minority Group on Four-Year College Campuses: Hispanic Student Enrollments Reach New Highs in 2011*. Washington, D.C.: Pew Research Center. from [http://www.pewhispanic.org/files/2012/08/Hispanic-Student-Enrollments-Reach-New-Highs-in-2011\\_FINAL.pdf](http://www.pewhispanic.org/files/2012/08/Hispanic-Student-Enrollments-Reach-New-Highs-in-2011_FINAL.pdf)
- <sup>2</sup> Reardon, S. F., & Galindo, C. (2009). The Hispanic-white achievement gap in math and reading in the elementary grades. *American Educational Research Journal*, 46(853-891).
- <sup>3</sup> Heckman, J. J. (2008). Schools, skills, and synapses. *Economic Inquiry*, 46(289-324.)
- <sup>4</sup> Loeb, S., Bridges, M., Bassok, D., Fuller, B., & Rumberger, R. W. (2007). How much is too much? The influence of preschool centers on children's social and cognitive development. *Economics of Education Review*, 26(52-66).
- <sup>5</sup> U.S. Census Bureau. (2012). *Language spoken at home by the ability to speak English for the population 5 years and over*.
- <sup>6</sup> Garcia, E., & Jensen, B. (2007). *Language development and early education of young Hispanic children in the United States*. Tempe, AZ: National Task Force on Early Childhood Education for Hispanics.
- <sup>7</sup> Hill, C., Gormley, W., & Adelstein, S. (2015). Do the short-term effects of a strong preschool program persist? *Early Childhood Research Quarterly*, 32(60-79).
- <sup>8</sup> Magnuson, K. A., Ruhm, C., & Waldfogel, J. (2007). The persistence of preschool effects: Do subsequent classroom experiences matter? *Early Childhood Research Quarterly*, 22(18-38).
- <sup>9</sup> Puma, M., Bell, S., Cook, R., Heid, C., Broene, P., Jenkins, F., et al. (2012). *Third grade follow-up to the Head Start impact study: final report*. Administration for Children & Families.
- <sup>10</sup> Campbell, F. A., Ramey, C. T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6(42-57).
- <sup>11</sup> Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: the high/scope Perry Preschool study through age 40*. Ypsilanti, MI: High/Scope Press.
- <sup>12</sup> Reynolds, A. J. (2000). *Success in early intervention: The Chicago Child-Parent Centers*. Lincoln, Nebraska: University of Nebraska Press.
- <sup>13</sup> Weiland, C., & Yoshikawa, H. (2013). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. *Child Development*, 84, 2112-2130.
- <sup>14</sup> Gormley, W. T., & Phillips, D. (2005). The effects of universal pre-kindergarten in Oklahoma: Research highlights and policy implications. *The Policy Studies Journal*, 33(65-82).
- <sup>15</sup> Winsler, A., Tran, H., Hartman, S. C., Madigan, A. L., Manfra, L., & Bleiker, C. (2008). School readiness gains made by ethnically diverse children in poverty attending center-based childcare and public school-based pre-Kindergarten programs. *Early Childhood Research Quarterly*, 23(314-329).
- <sup>16</sup> Child Trends Databank. (2015). *Preschool and prekindergarten*. from <http://www.childtrends.org/?indicators=preschool-and-prekindergarten>
- <sup>17</sup> Child Trends Databank. (2012). *Early school readiness*. from [http://www.childtrends.org/wp-content/uploads/2012/10/07\\_School\\_Readiness.pdf](http://www.childtrends.org/wp-content/uploads/2012/10/07_School_Readiness.pdf)
- <sup>18</sup> Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., et al. (2007). School readiness and later achievement. *Developmental Psychology*, 43(1428-1446).
- <sup>19</sup> Reardon, S. F. (2011). The widening achievement gap between the rich and the poor: New evidence and possible explanations. In G. J. Duncan, & R. J. Murnane (Eds.), *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances* (pp. 91-113).
- <sup>20</sup> Crosnoe, R. (2007). Early child care and the school readiness of children from Mexican immigrant families. *International Migration Review*, 41(152-181).
- <sup>21</sup> U.S. Census Bureau. (2012). *Community facts*. from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>
- <sup>22</sup> Florida Department of Education. (2000-2010). *Student performance results: Demographic report*. from <http://app1.fldoe.org/FCATDemographics/>
- <sup>23</sup> LeBuffe, P. A., & Naglieri, J. A. (1999). *The Devereux early childhood assessment*. Lewisville, NC: Kaplan Press Publishing.
- <sup>24</sup> Nehring, A. D., Nehring, E. F., Bruni, J. R., & Randolph, P. L. (1992). *Learning Accomplishment Profile—Diagnostic standardized assessment*. Lewisville, NC: Kaplan Press.
- <sup>25</sup> Oral Language Proficiency Scale. (1978). *ESOL placement interview guidelines-revised*. Miami, FL: Dade County Board of Public Instruction.
- <sup>26</sup> Forry, N. & Hofferth, S. L. (2011). Maintaining work: the influence of child care subsidies on child care-related work disruptions. *Journal of Family Issues*, 32 (346-368).

## Acknowledgments

The project on which this brief is based was originally funded by the Early Learning Coalition of Miami-Dade/Monroe and The Children's Trust. The Trust is a dedicated source of revenue established by voter referendum to improve the lives of children and families in Miami-Dade County. The authors would also like to thank Adam Winsler, Lina Guzman, Julia Mendez, Lisa Gennetian, Aletha Huston, and other members of the National Research Center on Hispanic Children & Families for their feedback, and Harriet Scarupa for her editing assistance.

## About the Authors

Arya Ansari, M.A., was a 2014 summer fellow at the National Research Center on Hispanic Children and Families and is a doctoral student in the department of Human Development and Family Sciences at The University of Texas at Austin. His research focus is on the antecedents and outcomes of early care and education programs as well as the racial/ethnic and socio-economic disparities in children's school readiness. Michael López, Ph.D., is a principal associate at Abt Associates with over 25 years of experience conducting policy-relevant early childhood research at the state and national levels, with an emphasis on culturally- and linguistically-diverse populations. He is a co-principal investigator for the National Research Center on Hispanic Children & Families.

## About the Center

The National Research Center on Hispanic Children & Families is a hub of research to help programs and policy better serve low-income Hispanics across three priority areas—poverty reduction and economic self-sufficiency, health marriage and responsible fatherhood, and early care and education. The Center was established in 2013 by a five-year cooperative agreement from the Office of Planning, Research, and Evaluation within the Administration for Children and Families in the U.S. Department of Health and Human Services to Child Trends in partnership with Abt Associates and New York University, University of North Carolina at Greensboro, and University of Maryland, College Park.

The views expressed in this publication do not necessarily reflect the views or policies of the Office of Planning, Research and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.

Copyright 2015 by the National Research Center on Hispanic Children and Families

We welcome your feedback! Email us at [Info@HispanicResearchCenter.org](mailto:Info@HispanicResearchCenter.org).

[HispanicResearchCenter.org](http://HispanicResearchCenter.org)

