

Early Childhood Education of Hispanics in the United States

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Executive Summary

One of the most important educational challenges for the United States is to markedly increase the percentage of Hispanic children who enter kindergarten “ready” for school and who, subsequently, get off to a good start academically in the primary grades. This has become a pressing need for several reasons. First, Hispanics are now the nation’s largest minority group and their share of the population is expected to continue to grow rapidly for several decades. For example, Hispanics now account for over one-fifth of the babies born in the United States, up from about one-sixth only a decade ago.

Second, Hispanics, on average, continue to achieve at much lower levels from kindergarten forward than the non-Hispanic white majority as well as Asian Americans. Moreover, this relatively low academic achievement is not limited to Hispanic youngsters from economically and educationally disadvantaged circumstances. On average, Hispanics at all socioeconomic levels achieve at lower levels than their white and Asian counterparts.

Third, available evidence suggests that the early childhood years provide possibly the best window of opportunity for improving the academic trajectories of Hispanic youngsters. This conclusion reflects evidence that high quality preschools can improve the school readiness of many children, especially those from disadvantaged backgrounds. It also reflects growing evidence that some approaches to improving K-3 education can provide valuable academic achievement benefits for disadvantaged youngsters, and that high quality programs for infants and toddlers can provide significant readiness benefits as well. These are very important findings for Hispanics, because a substantial

percentage of Hispanic children are from economically and educationally disadvantaged circumstances (and many also are English language learners).

Nonetheless, currently available early childhood strategies are capable of closing only part of the “achievement gap” between Hispanics and whites and Asians. Thus, there is a need both to expand Hispanics’ access to high quality versions of the most effective current approaches to early education and to find ways to improve the effectiveness of infant and toddler programs, preschools, and K-3 schooling for Hispanic youngsters.

Pursuing this agenda will require a number of things. Importantly, much better information will be needed regarding who young Hispanics are and how they are doing developmentally and academically. Hispanics are very diverse in terms of SES, national origin, nativity, generational status, and English language proficiency. Available evidence also indicates that developmental and academic achievement patterns and trajectories vary considerably during the early childhood years. Having more precise information about the sizes of various Hispanic subpopulations and their developmental and achievement patterns could help guide efforts targeted to their needs. For instance, much more needs to be known in these areas about the growing number of Mexican American youngsters from low SES immigrant families who are also English language learners.

In a related vein, if the quality of early education is to be improved for Hispanics, much better information will be needed regarding factors that influence the developmental and achievement patterns of the Hispanic population. These, of course, include characteristics and conditions of the preschools and elementary schools available to Hispanic youngsters, including the education and skills of the educators, what

educational and developmental opportunities are actually provided, and so forth.

Relevant factors also include such things as the economic resources of their families and communities, the education levels of their parents, the children's health, and the like.

Central to efforts to improve early education opportunities will be initiatives designed to expand understanding of the productivity of existing early childhood programs and strategies for Hispanic youngsters. Few model preschool strategies or large-scale programs have been extensively evaluated with Hispanics youngsters as a whole. Probably more important, there are few that have been tested and evaluated with a number of different subpopulations, e.g., middle class Puerto Ricans or ELL Mexican American children from low SES immigrant families. This is the case for strategies for improving K-3 education as well. Finding ways to expand both quantitative and qualitative assessment of existing strategies for several subpopulations should be regarded as a very important near-and-medium-term priority for those concerned with improving early education of Hispanics.

Even if efforts to assess existing strategies are greatly expanded, there also is a need to engage in a similar expansion of efforts to design and test new or modified early childhood strategies for different segments of Hispanic students. This is because available evidence suggests that, in general, existing preschool and K-3 produce modest improvements in school readiness and academic achievement for children.

Yet another challenge for educators and policymakers in the years ahead will be to develop stronger capacities and systems to support full and consistent implementation of effective approaches to early childhood education. While this is a general need, there also are undoubtedly a number of Hispanic-specific considerations. For example, there is

a general continuing need to improve the knowledge and skills of preschool educators, both on a preservice and an inservice basis. But, in the case of educators who will be working with large numbers ELL Hispanic children from low SES immigrant families, there also may be a need to help more of these individuals learn to communicate effectively in Spanish with the parents and the children.

Finally, because Hispanic children continue to be underrepresented in preschool programs and full-day kindergartens, more information is needed on why this is the case and what might be done to increase participation.

Introduction

Social demographics document that the racial/ethnic composition of the United States is changing rapidly, especially among the nation's young. As recently as 1950, African Americans, Hispanics, Asian Americans, and Native Americans constituted about 15% of the nation's under-18 population. Collectively, these groups currently constitute about 40% of American children and youth, and are projected to reach half or more of the under-18 age segment within another generation or so.

Leading this rapid "demographic shift" has been the extraordinary growth of the Hispanic population. Although Hispanics were only a few percent of the nation's children and youth in 1950, they are now the largest racial/ethnic minority segment of the child population. In 2002, there were nearly 13 million Hispanic children and youth in the United States, about 18% of the nation's under-18 population (Ramirez and de la Cruz, 2003). Hispanics were an even larger share of the very young that year. Of the 4 million babies born in the United States in 2002, nearly 877,000 were Hispanic, about 22% of the total—up from 16% of the births a decade earlier (Martin et al, 2005).

It is anticipated the number of Hispanic children and youth will continue to grow rapidly for years to come. For example, the under-18 Hispanic population is projected to grow to over 17 million by 2020 (U.S. Census Bureau, 2003).

An important characteristic of the growing Hispanic population is the low average level of educational attainment of Hispanic adults, especially relative to the non-Hispanic whites and to Asian Americans. In 2002, among Hispanics over 25, about 27% had less than a 9th grade education, and only 11% had completed a bachelor's degree or more,

while the comparable percentages for whites were 4% and 29% (Ramirez and de la Cruz).

On a more positive note, the Hispanic immigrant population has become better educated over time, and some segments are now generally well educated. Among Hispanic adult immigrants in the 1990s, about 59% had completed high school or college—41% had a secondary degree and another 18% had finished college (Lowell and Suro, 2002). Immigrants from South America led the way, with 86% having completed at least a high school degree and a third having completed college; but, among the largest Hispanic immigrant segment, Mexican Americans, only 44% had completed high school or more (Lowell and Suro, 2002).

The impact of education levels of adult Mexican immigrants can be seen on the composition of Hispanic births. In 2002, about 70% of the 877,000 Latino babies born in the United States had a mother of Mexican origin. And, among the 877,000 Hispanic babies, only 52% had a mother who had a high school degree or more, and only 8% had a mother with a college degree. In contrast, 88% of the white babies had a mother who had graduated from high school or more, and 34% had a mother with a college degree (Martin et al, 2003). Therefore, children from low income and Mexican-origin families seem to be a prime group to target via improved research outcomes, policy, and practice.

The low average educational attainment level (and associated low average income) of Hispanic parents—especially of Mexican-origin—is important, because it is correlated with the much lower academic achievement (lower grades and standardized test scores) that Hispanic students have relative to Whites throughout the K-12 years and in higher education as well. This is unsurprising, as there is now an extensive body of research

going back four decades documenting that children and youth from families with little formal education achieve at much lower levels in school, on average, than those from families in which the parents have completed bachelor's or graduate and professional degrees (Coleman et al, 1966; Campbell, Hombro, and Mazzeo, 2000; College Board, 2000).

Despite extensive efforts over the past few decades in the United States to raise academic achievement among educationally and economically disadvantaged elementary and secondary school students, including low socioeconomic status (SES) Hispanics, progress has been slow (Grigg, Duane, Yin, and Campbell, 2003; Braswell et al, 2001). It has been especially difficult to raise achievement levels in high school, a problem of increasing concern to policymakers (Olson, 2005).

On a more promising note, there is a growing body of evidence that high quality prekindergarten programs (those for 3- and 4-years-old) can have a positive impact on the school careers of many children, particularly those from low SES families (Bowman et al., 2001; Gormley, Gayer, and Dawson, 2004; Gormley and Phillips, 2003; Heckman and Masterov, 2004; Reynolds, 2003). There also are some promising approaches to nurturing the cognitive development of infants and toddlers from disadvantaged circumstances (Love et al, 2002). In addition, some elementary school improvement strategies seem to be producing meaningful academic achievement benefits for low SES students (Borman, Hewes, Overman, and Brown, 2002). As a result, there is reason to believe that the period from birth through age eight currently constitutes the best window of opportunity for making improvements in the educational trajectories of disadvantaged children, including Hispanics, in the United States.

Nonetheless, it is important not to overstate the capacity of currently available early childhood education strategies to produce developmental and academic achievement gains. For instance, programs for disadvantaged infants and toddlers still constitute an “emerging” component of the early childhood system in the United States. Not only is institutional capacity limited for infants and toddlers, much needs to be learned about what constitutes the most effective approaches from a developmental standpoint.

Also, even the most effective approaches to prekindergarten education are only able to narrow school readiness gap between low SES youngsters and their middle and high SES counterparts, including for low SES Hispanics (Gormley, Gayer, and Dawson, 2004; Magnuson and Waldfogel, 2005). Similarly, at the elementary school level, there still is much to be learned about what strategies, especially in the K-3 period, may be most academically beneficial for Hispanic students (Borman, Hewes, Overman, and Brown, 2002).

Furthermore, Hispanics have been less likely over the years to attend center-based prekindergarten than their African American and white peers. For instance, in 1999, Hispanic children represented 30% of poor children, but only 24% of participants in Head Start, the federally funded pre-school program for low-income children (National Council of La Raza, 2004). Thus, low SES Hispanic children have had less opportunity over the years to use preschool to develop school readiness skills needed to get off to a good start academically in the primary grades. Fortunately, Hispanic participation in Head Start programs has been growing. In 2002, Hispanics constituted nearly 30% of Head Start enrollment (Head Start Bureau, 2003). Using data from the Head Start Bureau and the 2000 decennial census, Magnuson and Waldfogel (2005) estimate that 15% of Hispanic

three- and four-year-olds are enrolled in Head Start, compared to over 20% of black three- and four-year-olds.

The two broad purposes of this review are: 1) to describe what is currently known about early childhood education for Hispanic children in the United States; and 2) to suggest what might be done to expand and improve early childhood education in ways that will help more Hispanic youngsters become well prepared to start school and, subsequently, to be academically successful during the primary grades. Consistent with these purposes, this review focuses on Hispanic children from infancy through the third grade, roughly 0-8 years of age. The first section reviews the demographics of the burgeoning young Hispanic population in the United States. The second section reviews academic achievement patterns of U.S. children in kindergarten through third grade from the perspective of how Hispanic youngsters fare compared to their peers from other racial/ethnic groups. The third section discusses evidence on the capacity of K-3 school improvement efforts to raise student achievement, especially for underrepresented minority students, including Hispanics. The fourth section reviews information on preschool access and program quality. The fifth section discusses how much high quality preschool programs are actually able to improve the school readiness of young children, and what might be done to help them to become more effective in this area, especially for Hispanic youngsters. The final section identifies a number of topics and questions that need to be addressed, if the early childhood education of Hispanics is to be markedly improved in the United States.

Demographic Foundations

The growing Hispanic population

In January 2004, the U.S. Census reported that the Hispanic population overtook the African American population as the nation's largest minority. Between the 1960s and 2000, the Hispanic population in the United States multiplied five-fold, growing from 6.9 to 35.3 million (see Table 1). By 2002, one in eight people in the United States were of Hispanic origin (see Table 2) (Ramirez and de la Cruz, 2003). It is projected that there will be about 101 million Hispanics in the United States by 2050, who would constitute about one-quarter of the nation's population (Passel, 2003)

Not only are Hispanics the largest ethnic minority in the U.S., they also are the youngest (Montemayor and Mendoza, 2004). Consistent with this pattern, the total fertility rate of Latinos is considerably higher than those of whites and most other groups. In 2001, the total fertility rate for Hispanics was 2.75 babies per Hispanic woman, while it was 1.84 babies for non-Hispanic whites, 2.10 babies for non-Hispanic blacks, 1.84 babies for Asians/Pacific Islanders, and 1.75 babies for American Indians (Ventura, Hamilton, and Sutton, 2003).

Significantly, the total fertility rate for native-born Hispanic women is not much higher than that of African Americans. The major source of the high total fertility rate for Hispanic women is the foreign-born segment. The latter have about 3.5 babies per woman, while the native-born have about 2.2 babies per woman (Bean et al., 2004).

The role of immigration in the rapid growth of the Hispanic population in the United States can be seen in some other statistics. In 2002, two-fifths of the Hispanic population in the United States was foreign-born. Moreover, over half of foreign-born Hispanics have arrived since 1990, and over three-quarters have arrived since 1980 (Ramirez and de

la Cruz, 2003). Since 1980, at least 75 percent of the Hispanic population growth in the United States has been due to immigration, whether directly by new arrivals (43%) or by children born to immigrants (28%).

Although Hispanics in the United States have diverse national origins, those of Mexican ancestry have historically been the largest Hispanic national group. As shown in Figure 1, about 67% of Hispanics in the United States in 2002 were of Mexican origin, while 14% were of Central and South American origin, 9% were Puerto Rican, 4% were Cuban and 7% were other Hispanic (Ramirez and de la Cruz, 2003).

Immigration and Children

In the past, European immigration to the United States presented educators and policy makers with the challenge of providing educational opportunities that would facilitate rapid educational advancement of the newcomers, who were quite diverse in terms of their levels of formal education, their national origins, their primary languages, and so forth. Certainly, this was the case during the period of large scale immigration to the United States from Eastern and Southern Europe from 1890 to 1920. Similarly, the current large Hispanic immigrant stream is providing a substantial challenge to this generation of policymakers and educators, as they work to find ways to enable our education system, including the early childhood component, to be more responsive the needs of Hispanic youngsters (García-Coll and Szalacha, 2004).

In that regard, the population of the United States in 2003 included 33.5 million foreign-born, representing 11.7 percent of the U.S. population (see Table 3). The Hispanic share of the foreign-born had reached 53%—an all time high.

Children of immigrants (defined as children with at least one foreign-born parent) represent an even larger share of the under-18 population than immigrants constitute of the overall population, i.e., they are now about one in five of the nation's children and youth—about 11 million individuals (Fix and Passel, 2003; Shields and Behrman, 2004). Moreover, given the current immigration trends, demographic projections suggest that by 2040, 1 in 3 children will be in immigrant families (Suárez-Orozco, 2001).

Reflecting the high percentage that Hispanics constitute of the immigrant population, about 62% of all children of immigrants in the United States were Hispanic. In contrast, a century earlier, during the last great wave of European immigration, only 2% of the children of immigrants were from Latin American immigrant families (Hernández, 2004).

It is important to recognize that most of the children in immigrant families are not themselves immigrants. Rather, about three-quarters of the children in immigrant families are American-born; and, a large majority of these children are Hispanics (Conchas, 2001; Fix and Passel, 2003). Furthermore, recent demographic data indicate that 93% of young children (under 6) of immigrants are U.S.-born citizens (Capps et al., 2004).

Because Mexico has long been the largest source of Hispanic immigrants to the United States, it is unsurprising that 39% of children in immigrant families in 2000 were of Mexican origin—about 5.1 million youngsters. No other country accounted for more than 4% of children from immigrant families, although more than one-hundred countries are represented by children of immigrants in the U.S. (Hernández, 2004). Furthermore, compared to youngsters from all other national-origin immigrant groups, children in Mexican immigrant families are much more likely to live in crowded housing, to be

living in poverty, to live in linguistically isolated homes, to not be covered by health insurance, and to not be enrolled in a pre-kindergarten program (Hernández, 2004).

These circumstances are associated with the low education levels of Mexican immigrants and suggest that children of Mexican national origin are a particular source of concern to education policy-makers and practitioners.

Immigrant children in the U.S. have traditionally been concentrated in six states: California, New York, Texas, Florida, New Jersey, and Illinois (Fix and Passel, 2003; Hernandez, 2004; Passel and Fix, 2001; Schindley, 2001; Suárez-Orozco, 2001). Prior to 1995, three in four of the nation's immigrants were found in these states. However, during the late 1990s, many newcomer families dispersed throughout the nation and only two in three of the nation's immigrants were found in the six traditionally immigrant states by 2000 (Fix and Passel, 2003). States that have experienced large increases in immigrant populations are located principally across the middle of the country, including many from Rocky Mountain, Midwest, and Southeastern states. Arkansas and North Carolina experienced the largest proportional increase in immigrant families between 1990 and 2000—over 300% growth (Guzmán, 2001; Hernández, 2004).

Significantly, this dispersal of the immigrant population is contributing to the growing presence of Hispanic youngsters across the United States. In half of the states in 2002, at least 10% of the births were to Hispanic mothers (Martin et al, 2003).

While most children from immigrant families are U.S.-born citizens, the majority of them have parents who have not attained U.S. citizenship and many of the parents are undocumented (Capps et al., 2004). Of children under six years old in immigrant

families, 93% are U.S.-born citizens, 81% of immigrant children have at least one non-citizen parent and nearly 30% have at least one undocumented parent (Capps et al, 2004).

The linguistic aspect of the educational advancement challenge for Hispanics is formidable, since so many Hispanic children are from immigrant families in which the parents speak little English and have relatively little formal schooling. Between 1990 and 2000, the number of English language learners (ELLs) in the nation's elementary and secondary schools grew from 14.0 million to 21.3 million—about 52% (Fix and Passel, 2003). About 80 percent of ELL students speak Spanish as their native language (Pérez, 2004).

Demographic realities in the United States certainly provide a context for education stakeholders to fashion enlightened policies that meet the educational needs of today's children. As a summation of the above discussion, the following are key points related to U. S. demographic trends for young Hispanics:

- The young Hispanic child population is rapidly growing in and beginning to disperse throughout the country. In 2003, 19% of enrolled kindergartners were of Hispanic origin (Shin, 2005).
- Demographers attribute this expansion to increased immigration trends and high birth rates, and project growth patterns to carry on in the future.
- Approximately one in five school children today is from an immigrant family—in which at least one parent is foreign-born.
- Young Hispanic children from immigrant families encounter an array of challenges to their educational well-being. On the whole, they are more likely to live in poverty, to have parents with very little formal education, to live in

crowded and linguistically isolated homes, to not be covered by health insurance, and to not be enrolled in a prekindergarten program.

- Immigrant children of Mexican-origin are a particular cause of concern—they represent the largest nation-of-origin group and generally exhibit at-risk characteristics above and beyond other Hispanic immigrant children.

K-3 Academic Achievement

The educational achievement patterns of virtually all racial/ethnic groups are established during the early years of school and change little thereafter. Data from the federal government's National Assessment of Educational Progress (NAEP) testing program offer illustrations of this in the several subject areas in which students are tested. For instance, in the 2003 NAEP math assessment, about 75% of the non-Hispanic whites and 44% of the Hispanics in the fourth grade scored at or above the Basic level, and 41% and 15% of the Whites and Hispanics, respectively, scored at or above the Proficient level. Among the twelfth-graders that year, 79% of the whites and 61% of the Hispanics reached the Basic level or higher, while 42% and 22%, respectively, scored at the Proficient level (Braswell, Daane, & Grigg, 2003).

Consistent with these circumstances, efforts to improve outcomes for racial/ethnic groups have generally shown more promise during the early childhood years than later in students' academic careers (Heckman & Masterov, 2004; Ramey & Ramey, 1998). As a result, it is important to review academic performance patterns for Hispanics relative to other groups during the early years of school as well research on factors that are correlated with those patterns.

One of the most valuable sources of information on the early years of school is the federal government's Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K). The ECLS-K is an ongoing study of a nationally representative sample of children from the start of kindergarten through the fifth grade.

The children in ECLS-K attend both public and private schools and have diverse socioeconomic and racial/ethnic backgrounds. The children and their families, teachers, and schools are providing a rich body of information on the youngsters' cognitive, social, emotional, and physical development, including some health-related variables. There also is considerable information on the children's home environment, home educational practices, school environment, classroom environment, and classroom curriculum and teacher qualifications.

Although the ECLS-K has relatively limited data on the preschool experiences of the students in the sample, they can be used to develop models that predict enrollment of Hispanic children in child care and pre-kindergarten programs. Specifically, data can be used to study Hispanic children's differential rates of entry to center-based programs, compared to other children; and to identify the home and community factors that predict which Hispanic children attend pre-kindergarten care and at what age.

One very important data constraint of the ECLS-K is that there is relatively limited potential to analyze some cognitive outcomes for Hispanic students. Direct assessments of literacy skills, for example, for ELL children who did not pass the oral English exam are not available in the data base (mathematic assessments were conducted in the ELL child's native language). Thus, during the kindergarten year, there are no reading achievement scores available for nearly 30% of the Hispanic sample (West, Denton, &

Germino-Hausken, 2000). By the end of third grade, however, no children were excluded from assessments due to language proficiency; so, trend analyses will be possible in this area as students move through higher grades.

Insights to date from analyses of ECLS-K data

Presently, over 170 reports, presentations, books, research articles, and other professional publications on early childhood education in the United States have been produced using the ECLS-K as the principal data source. These analyses have shed considerable light on the status of Hispanics in early education in the United States. Because the 3rd grade data have only recently been released, most currently published and available analyses of the ECLS-K data are limited to the kindergarten and the 1st grade. Here, we review some findings and conclusions on early childhood academic achievement for Hispanics included in these reports.

Hispanic kindergartners in the United States score significantly lower on ECLS-K cognitive measures than their white and Asian peers as they start school (Denton-Flanagan and Reaney, 2004; Lee and Burkam, 2002; West et al., 2000). Lee and Burkam (2002) found that Hispanic kindergartners in the 1998-1999 school-year entered kindergarten with significantly less competence in mathematics and reading than their white and Asian peers. Math and reading scores are a half of a standard deviation lower for Hispanics than their white counterparts at the beginning of kindergarten (Lee and Burkam, 2002).

Though much of this initial academic achievement gap is accounted for by the socioeconomic status (SES) of Hispanics (39% of Hispanics and 9% of whites start kindergarten in the lowest SES quintile), race/ethnicity is still associated with differences

in kindergartners' achievement, after controlling for SES. That is to say, the ECLS-K data show that Hispanics (along with African Americans) tend to achieve at lower levels than whites and Asians on the reading and mathematics during the initial years of school in all SES categories. Moreover, this is neither a new finding nor one confined to the early grades. For example, "within-class" differences of this kind were found in a secondary analysis of the elementary and secondary school test score data from the well-known "Coleman Report" nearly forty years ago (Okada, T., Cohen, W. M., & Mayeske, G. W., 1969).

Importantly, a newly released report on high school sophomores in the federal government's Education Longitudinal Study of 2002 presents data showing that Hispanic and African American sophomores in the lowest SES quartile have substantially lower reading and mathematics achievement test scores than white sophomores in that SES quartile and, similarly, Hispanics and blacks in the highest SES quartile have markedly lower reading and math scores than whites in that quartile (Ingels, Burns, Charleston, Chen, & Cataldi, 2005). For example, on the reading test used in the study, 19.8% of the white sophomores in the highest SES quartile read at the highest level (the ability to make complex inferences or evaluative judgments that require piecing together multiple sources of information from the passage), but only 9.7% of the Hispanics and 6.0% of the blacks in the highest SES quartile did so. (Overall, about 11% of the white, 3% of the Hispanic, and 2% of the African American sophomores in the study read at the complex inference level.)

Because factors associated with low SES "account" for a substantial part of the lower overall achievement levels of Hispanics (and blacks) relative to whites (and Asians) in

the early and later years of school, one important policy conclusion is that the longstanding high priority of educators and policy makers to raise the academic achievement of low SES children continues to be appropriate. Indeed, much more needs to be done to improve academic outcomes of low SES students from all racial/ethnic groups. At the same time, another important policy conclusion is that considerable attention also finally needs to be given to raising the academic achievement of middle and high SES Hispanic (and black) students, beginning in the early years. Over the years, very little has been done to address the middle and high SES components of the overall gaps in racial/ethnic minority achievement; yet, unless these within-class gaps are closed, the overall gaps cannot be eliminated (Miller, 2004).

One of the benefits of the ECLS-K is that it is providing an enormous amount of information on the academic achievement trajectories of racial/ethnic groups across the primary grades, as well as on school and non-school factors that influence those trajectories. In that regard, analyses of ECLS-K show that racial/ethnic reading and mathematics performance differences persist in the primary grades, that SES differences among the groups continue to predict much of these difference, and that there are still group differences within SES categories. (Denton-Flanagan and Reaney, 2004; Rathbun et al, 2004; Reardon, 2003; Rumberger and Arellano-Anguiano, 2004; West et al, 2001). For instance, West, et al (2001) found that Hispanic-white and –Hispanic-Asian achievement gaps persisted throughout the kindergarten year in all five measured levels of reading (letter recognition, beginning sounds, ending sounds, sight words, and words in context) and of mathematics (number and shape, relative size, ordinality, addition/subtraction, and multiplication/division).

Rathbun et al (2004) show that SES and racial/ethnic achievement gaps continue from the start of kindergarten through third-grade. Besides Hispanic children scoring significantly lower than whites and Asians in mathematics and reading throughout the K-3 years, Hispanic third-graders also scored significantly below their Asian and white peers in science (Rathbun et al., 2004).

Immigration status also appears to be linked to early educational achievement patterns attainment. Using ECLS-K data, Han (2004) examined the associations between children's immigrant generation status and their academic achievement in kindergarten and first grade. Findings from the study show that, compared to third and later generation non-Hispanic white children, first- and/or second- generation children from regions in Russia/Eastern Europe, Asia, and Africa had significantly higher reading and math scores, while first- and second-generation children from Latin America had significantly lower scores. In contrast, Han (2004) found that all first- and second-generation children had significantly lower general knowledge test scores than third and later generation non-Hispanic white children.

When analyzing the impact of immigration status on academic outcomes, it is also valuable to consider the role of the child's nationality. For example, Galindo (2005) found that Hispanic mathematic achievement trajectories differed by the child's nation-of-origin, even after controlling for SES (Galindo, 2005). Holding SES constant, the largest difference at the end of first and third grade was between the Central American (lowest) and the Cuban (highest) scores.

Besides looking at the predictive value of SES and race/ethnicity on cognitive outcomes, it is critical to examine factors that are sensitive to intervention via improved

policy and practice so as to diminish pervasive gaps. This is because, while many SES factors, per se, are difficult to modify directly, it is possible to modify many educational and other social policy practices and institutional arrangements. Consistent with that reality, Reardon (2003) explored the extent to which out-of-school, between-school, and within-school processes contributed to racial/ethnic and SES achievement differences from kindergarten to first grade. Analyzing gap variations, he found that out-of-school processes (i.e., summer time lapse) play an important role in SES gaps; between-school processes (e.g., systematic differences among schools in teacher quality, resources, and curricula) play an important role in race/ethnicity gaps in first grade; and, within-school processes (i.e., students achieving at differential rates within the same school—possibly due to differential treatment) play an important role in both race/ethnicity and SES gaps in kindergarten.

Turner and Ritter (2004) probed parent questionnaire data from the ECLS-K to determine the influence of pre-kindergarten child-care programs on the cognitive outcomes of children from kindergarten to first-grade. They found that students enrolled in center-based childcare in preschool years exhibited higher cognitive functioning in math and reading than their peers, although this effect was reduced by first-grade.

An elaborate effort has been made to evaluate the effect of full-day kindergarten programs on academic achievement and the probabilities of different groups to be enrolled therein (Levitt et al., 2004; Watson and West, 2004). Watson and West (2004) found that children in full-day programs, on average, make greater gains in their reading and mathematic achievement scores from fall to spring of kindergarten than do their half-day peers. About 56% of the nation's kindergarten class of 1998-1999 was enrolled in

full-day kindergarten programs; however, while 80% of the blacks were enrolled in full-day programs, that was the case for only 49% of the Hispanics (Watson and West, 2004). While both groups need extensive access to full-day programs, ECLS-K data suggest that access for African Americans is much greater than that of Hispanics.

It remains unclear why the disparity between black and Hispanic participation in full-day programs is so large. It is worth noting, however, that governments are charged with the responsibility of structuring policies that clearly define, provide universal access to, fund, and maintain quality of full-day kindergarten programs (Kauerz, 2005).

Analyses of the ECLS-K also reveal relationships between early childhood academic achievement and home-language use (Germino-Hausken et al., 2001; West, et al., 2000). In a report published by NCES, West et al. (2000) found that substantially more kindergartners in homes where the primary language was English scored in the highest quartile in reading, mathematics, and general knowledge than those in homes where English is not primary language. Investigating reading progress of Hispanic language minority students, Germino-Hausken et al. (2001) found that significantly more non-language minority and Asian language minority children mastered reading proficiency levels in kindergarten than children from Spanish-speaking homes. While all children made reading achievement gains from the fall to the spring of their kindergarten year, gains differed by home language and at each SES level; non-language minority and Asian language children made larger gains than Spanish-speaking children in three reading tasks: beginning sounds, ending letter sound relationships, and reading words.

Sources of Academic Achievement Gaps

Available evidence suggests that racial/ethnic and SES academic achievement differences in the early (K-3) years of school in the United States are likely attributable to a number of sources. Among the broad categories are parental/family resources and circumstances (Barton and Coley, 1992), health and nutrition (Behrman, 1996), school attributes, and prekindergarten (3- and 4-year-olds) access and quality (Gormley et al., 2004). It is essential that researchers continue to investigate the extent to which—as well as how—these and other broad constructs and more particular processes influence the academic achievement of young school children, including Hispanic youngsters. A primary purpose of such work should be to inform the design, testing, and assessment of strategies across the 0-8 years that are focused on improving educational outcomes for Hispanic and other children.

As the previous review of studies using the ECLS-K database have suggested, it is proving to be an immensely valuable source of information on factors that influence student achievement in the early years, including from the perspective of strategy development. Moreover, it is valuable not only for its help in generate new insights into factors that influence differences in achievement patterns, but also for its capacity to illuminate or confirm findings from other studies and research. For instance, the within-school academic achievement variations documented by Reardon (2003) in his analysis of ECLS-K data suggest that racial/ethnic and SES achievement gaps may be due partly to differing treatments and experiences within the same schools. This has been a longstanding concern among educational researchers. Some potentially important types of within-school differences found in other research include teacher assignment practices (Hanushek et al., 1998; Ferguson, 2003; Oakes, 1985), instructional practices and/or

curricula form and content, teacher expectations and perceptions (Hauser, Sirin, & Stipek, 2003; Good, 1987; Stipek, 2004), ability of teachers and administrators to communicate effectively with parents (Lareau, 1989), and cultural and linguistic mismatches between children/parents and teachers and administrators (Fuligni, 1997).

One of the limitations of the ECLS-K is that it began with a sample of children as they entered kindergarten, yet there is evidence of differences in cognitive and social development patterns between social classes and between racial/ethnic groups that emerge much earlier in children's lives, i.e., when they are infants and toddlers. Fortunately, a major companion longitudinal study—the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B)—is beginning to produce data that may help substantially expand understanding of the extent of these differences in the earliest years and of the factors that are associated with those differences. More specifically, the ECLS-B is a study of a national sample of children born in 2001 that is designed to provide extensive information on children's health, development, care, and education during the formative years from birth through to the first grade. At all waves of the study (9 months, 2 years, 4 years, kindergarten and first grade), parents will be asked about themselves, their families, and their children; fathers will be asked about themselves and the role they play in their children's lives; children will be observed and participate in assessment activities.

In addition, when the children are 2 and 4 years old, child care and early education providers will be asked to provide information about their own experience and training and the setting's learning environment. When the ECLS-B children are in kindergarten and first grade, teachers and schools will be asked to provide information about children's early learning and the school and classroom environments.

The first report from the study—which discusses data on nine-month-olds—was recently released (Flanagan and West, 2004). One early finding is that African American nine-month-olds are somewhat more likely to be in some kind of regular child care arrangement—such as center-based care or care provided by a nonrelative or relative in a private home—than Whites, Hispanics and Asians.

K-3 Education

Over the past forty years, an ongoing priority of many educators and educational researchers has been to find ways to raise the academic achievement of disadvantaged elementary and secondary school students, especially those from minority groups. Most of this work has focused on raising achievement at the elementary level, starting with the primary grades. Two of the early stimuli for those efforts were Title I of the Elementary and Secondary Education Act of 1965 and the publication of *Equality of Educational Opportunity* (the Coleman Report) the following year (Coleman et al, 1966). When the Elementary and Secondary Education Act was signed into law by President Johnson, there were few, if any, elementary school (or other K-12) strategies that had been demonstrated empirically to raise the achievement of the target population of Title I—low SES children deemed at risk of doing poorly in school (Miller, 2003). Thus, it was understandable that there would be a gradual increase in interest in finding ways to use Title I funds that could, indeed, produce meaningful achievement gains for disadvantaged children.

With the publication of the Coleman Report, national data became available for the first time that showed large differences in academic achievement among racial/ethnic groups, i.e., whites and Asians were found to score much higher than African Americans,

Hispanics, and Native Americans on the standardized tests used in the study. Moreover, the Coleman Report found that the capacities of schools to reduce these gaps were modest (Coleman et al, 1966). This helped trigger what became known as the Effective Schools movement, which was concerned with: 1) identifying elementary schools (and, to a lesser extent, secondary schools) that were able to raise the academic achievement of disadvantaged youngsters, particularly minorities in urban school systems; 2) identifying factors that contributed to their success; and 3) helping other schools learn from these success stories (Weber, 1971; Edmonds, 1978). Probably more important, the Coleman Report also helped stimulate numerous efforts to design school improvement strategies from scratch, mainly at the elementary level, that were focused on raising achievement among disadvantaged and minority students. The School Development Program, the elementary school improvement strategy developed by Dr. James Comer and his colleagues at Yale University in the late 1960s, is possibly the best known and most enduring of these early efforts (Comer, 1988; Cook, Hunt, & Murphy, 1999).

The school reform movement that emerged a generation later provided even more impetus to find ways to raise the achievement levels of disadvantaged and minority students. By the mid-1980s, there were much more data available on the extent of the achievement differences among groups and a growing awareness that the percentage of the student-age population represented by Hispanics, blacks, and Native Americans was large and growing rapidly (Kennedy, Jung, Orland, 1986; Hodgkinson, 1985). In addition, there were still few proven strategies for raising these groups' academic achievement on the K-12 level. In response, numerous "whole school" or "comprehensive school reform" (CSR) strategies were developed. An organization

called the New American Schools Development Corporation (now simply called New American Schools) was even created to stimulate the development of “break the mold schools” (Bodilly, 1998).

Although the (now) numerous CSR strategies vary considerably, most are intended to change the school as a whole in numerous ways that might be expected to raise achievement levels. Changes in curriculum and instruction, outreach to parents, teacher support, school leadership, and the like have been common features of CSR strategies. Most CSR strategies on the elementary level and secondary levels have been concerned with raising the academic achievement of disadvantaged students, including low SES African Americans, Hispanics, and Native Americans.

Although CSR strategies have been concerned with making major changes in schools as a whole, they often have given high priority to raising achievement in core subjects, especially math and reading performance at the elementary level. This, of course, reflects both the importance of reading and math in the school curriculum and the relatively low achievement of blacks, Hispanics, and Native Americans in these subjects.

Consistent with concerns about reading and mathematics, considerable effort has been made to develop reading and mathematics curricular and instructional strategies that might raise student achievement. In reading, there has been extensive research concerned with finding ways to help most children, including the disadvantaged, become effective readers by the end of the third grade. This is because, if students do not have solid reading skills at that point, they are unlikely ever to become good readers; and, without strong reading skills students cannot master most other subjects as they move through the K-12 system (Snow, Griffin, & Burns, 2005). In recent years, there also have been

extensive efforts to synthesize the reading research base to determine what practices are now available to help raise reading achievement, particularly among those having difficulty learning to read (National Reading Panel, 2000; Snow, Burns, and Griffin, 1998).

Along with the expansion of work focused on developing educational strategies that can raise the achievement of disadvantaged and minority youngsters has been a growing movement to assess the effectiveness of specific educational strategies intended to raise student achievement. On the elementary and secondary level, much of this evaluation work has been focused on CSR strategies (Stringfield, Millsap, and Herman, 1997; Slavin and Madden, 2001). Quite a bit of evaluation work also has been focused on some other types of programs and strategies, including school choice programs and class size reduction, to see if they help raise student achievement (Mosteller, Light, and Sachs, 1996; Peterson, Myers, and Howell, 1998). Additional work has been directed at school districts as a whole and to “quasi-districts,” especially the schools operated by the Department of Defense, which have been working hard to produce instructional coherence via standards, curricula, and professional development (Newman, Smith, Allensworth, and Bryk, 2001; Slavin, 2003; Smrekar, Guthrie, Owins, and Sims, 2001; General Accounting Office, 2001).

Evaluations of CSR and other school reform strategies on the K-12 level have become so numerous that it has been possible over the past five years to conduct reviews and analyses of their results. One of the major findings is that the capacity of these strategies to raise academic achievement levels—usually as measured by standardized tests—of the targeted students is real, but modest. For instance, Geoffrey Borman and

several colleagues recently completed one of the most extensive and sophisticated reviews to date of the capacity of CSR strategies to raise test scores—a meta-analysis of 213 studies of 29 of the best-known CSR approaches (Borman, Hewes, Overman, and Brown, 2003). They found an overall effect size of 0.12, which is about one-eighth of a standard deviation. As Borman and his colleagues pointed out, this means that the average student in the CSR schools had achievement test scores that were higher than about 55% of similar students in non-CSR schools.

Ronald Brady also has recently conducted an analysis of data on major efforts to turn around low performing schools in the state of New York, in Memphis, Tennessee, and in Prince Georges County, Maryland that echoed the findings of Borman and his colleagues (Brady, 2003). Brady found that getting even half of the schools to produce higher overall levels of academic achievement was an accomplishment. In addition, he found that the gains were often small and could be difficult to maintain.

Apart from the modest overall achievement benefits that Borman and his colleagues documented in their meta-analysis of CSR approaches, they also found that only three CSR strategies had been able to demonstrate a capacity to produce higher levels of achievement in a large number of rigorous evaluations. In that regard, they defined rigorous evaluations as those that were well designed quasi-experiments. Since no CSR strategy had been extensively evaluated using randomized trials, none could be demonstrated to be effective using that higher standard for assessing program outcomes (Borman, Hewes, Overman, and Brown, 2003).

Encouragingly, there is a movement in education to make greater use, where appropriate, of randomized trials to assess strategies (Mosteller and Boruch, 2002;

Shavelson and Towne, 2002; Jencks, 2000; Coalition of Evidence-Based Policy, 2002; U.S. Department of Education, 2002; U.S. Department of Education, 2003). Reflecting this movement, there currently is a randomized trial underway for Success for All, one of the three CSR strategies identified by Borman and his colleagues as having the strongest quasi-experimental evidence of a capacity to raise achievement. Forty-one elementary schools are involved in this experiment, which is focused on whether Success for All can raise reading achievement. An analysis of data for kindergartners and first-graders in the randomized trial has recently been reported. Positive, but small reading gains have been found that are similar to those found in several of the quasi-experimental evaluations of Success for All (Borman et al, 2005).

It must also be noted that, among the students in the 41 schools in the randomized trial of Success for All, only about 10% are Hispanic (Borman et al, 2005). At this point, it also is unclear whether the early reading benefits are larger, smaller, or about the same for Hispanics as for students in the study as a whole. There is nothing unusual about this uncertainty. The meta-analysis of CSR strategies conducted by Borman and his colleagues did not establish the extent of the effectiveness of those strategies for Hispanics in general, much less for specific Hispanic subpopulations, such as Mexican American children from low SES immigrant families or middle class Central American youngsters.

The four-part generalization here is that, in 2005: 1) there are still relatively few elementary and secondary strategies that can demonstrate a capacity to raise achievement of disadvantaged and minority students above the levels that are currently produced in most schools; 2) documented achievement benefits of these “proven” strategies tend to be

relatively modest, and may vary considerably among schools; 3) evidence of achievement benefits for Hispanics is more limited than evidence for disadvantaged students in general; and 4) despite these limitations, the movement to conduct high quality evaluations of strategies on the K-12 level offers much greater opportunities than in the past to test approaches with students from several Hispanic subpopulations.

Two other points also need to be made. First, the achievement gains that proven strategies produce tend to be hard won. A great deal of effort has to go into both the design and implementation of the strategies. High quality implementation is crucial initially and over time in order to determine whether achievement benefits accrue to the strategy and to reap any potential benefits over the long run.

Second, and related to the first point, implementation with fidelity to the strategy typically requires substantial support for teachers and administrators. They need support initially to ensure that the strategy is tested as designed. They need support on an ongoing basis to ensure that they continue to implement it as intended. The operators of several CSR strategies have found that much effort must go into providing this support.

These things, of course, are common sense. They also are consistent with research over the years that has found; 1) considerable variation, within schools and between schools, in what teachers and administrators do; and 2) changing their behaviors through the use of one-shot or short-term in-service support to be difficult (Goodlad, 1984).

Preschool Programs

Preschool as an investment

The educational and academic achievement patterns of children during the early years of elementary school is predictive of their subsequent educational achievement and attainment as well as their economic and professional prospects later in life (Currie, 2001; Heckman & Masertov, 2004). By the end of third grade, for example, educational achievement of children is a good predictor of their postsecondary education prospects and their subsequent earnings in the labor market. For example, the economic analysis of Heckman and Masterov (2004) suggests that success or failure in social and cognitive skill formation in the early education years leads to success or failure in post-school learning. Thus, they conclude that early education is a wise societal investment in human capital development.

Investing in the early years has proven to be an effective strategy for two reasons: (1) young children exhibit a great deal of malleability during the early years of education and (2) financial investment in high quality early education is cost-effective. Regarding the latter, Heckman and Masterov (2004) find that “enriched pre-kindergarten programs available to disadvantaged children on a voluntary basis ... have [a] strong track record of promoting achievement for disadvantaged children, improving their labor market outcomes and reducing involvement in crime.” Moreover, educational policies that stress financial investment in early educational development are much cheaper than those that seek to remedy early educational deficits at the middle school and high school levels. Simply stated, the later in life attempts are made to repair early deficits, the costlier remediation becomes (Ramey and Ramey, 1998; Reynolds and Temple, 2005; Reynolds, 2003).

This conclusion also is increasingly supported by neuropsychological research. There is increasing evidence suggesting that the brains of very young children are more plastic than those of older youngsters. As a result, cognitive and social development are more easily promoted and more likely to endure over time, if positive foundations are provided in the first few years of life, i.e., the 0-3 years (Shonkoff and Phillips, 2000). Moreover, a strong neurological groundwork is established during the first years of life by rich experiences that allow the brain to develop to the point of being able to process, encode, and interact with the environment (Kagan, 2005). Early education programs that provide adequate scaffolding for children are able to facilitate this development. Hence, from both economic and neuropsychological standpoints, there is growing evidence that early education programs are a good societal investment.

Early Educational Systems

Over the past four decades, our society, of course, has gradually increased its educational investment in very young children. Most of this investment has been in three- and four-year-olds via prekindergarten programs for that age group. In 1964, approximately one-half million children were enrolled in some form of prekindergarten education in the United States. Today, about five million children attend some form of preschool (Jamieson et al., 2001).

This growth has been fueled not only by growing evidence of educational and other benefits of high quality preschool for children (e.g., Barnett et al., 2004; Bowman et al., 2001; Shonkoff and Phillips, 2000), but other societal changes, including the large increase in mothers working outside the home. In 2002, about 56% of mothers with children less than one year old were employed outside of the home (Wilensky, 2003). Thus,

for many families, prekindergarten provides both educational opportunity and de facto childcare for their young children.

There is now an extensive and diverse infrastructure of prekindergarten programs and institutions serving young children, which mainly fall into three broad categories: private preschool programs, Head Start, and state prekindergarten programs. In addition, access to kindergarten for five-year-olds, via both public and private, has been expanded (Kauerz, 2005). It is important to note that, while these three broad categories share certain programmatic and funding characteristics, empirical data suggest that educational quality varies within the categories. Early et al. (2005, p. 4) explain, for example, that state prekindergarten programs “vary dramatically in such areas as: which children in their state are eligible to participate; where the programs are housed (in schools, private and public community centers); how many hours per week the classes meet; teacher education and training requirements; amount of funding provided by the state; the ways in which providers blend funds from state and non-state sources; and, the ages of children who can receive services”.

Private preschools. Both for-profit and nonprofit groups, including religious organizations, operate these programs. They are typically called nursery schools, preschools, and child day care programs. These programs vary in the age ranges they serve. For example, nursery schools may serve infants and toddlers (newborns to 3-year-olds), while preschools generally serve only 3- and 4-year-old children (but some serve infants to 4-year-olds). Compared to center-based programs, home-based or family child care programs often serve a broader age range, including some that serve newborns to 11- or 12-year-olds. The programs also vary in terms of the amount of time they care for

children, from half-day to all day care, i.e., from 15 to 50+ hours per week (Barnett et al., 2003, 2004; Wilen, 2003).

Head Start. This federally funded program, founded in 1965, provides comprehensive education, health, nutrition, and social services to low-income families across the nation, including pregnant women and their families. It enrolls children from birth to age 5. Under the umbrella of Head Start are the traditional Head Start programs, which serve 3- to 5-year-olds; Early Head Start, which serves pregnant women and children from birth to age 3; and, Migrant and Seasonal Head Start, which serves migrant and seasonal workers' children from 6 weeks old to age 5 (Kloosterman et al., 2003).

Data analyses conducted to determine the cognitive gains of Hispanic Head Start participants show that large and significant benefits accrue to Head Start children when compared to Hispanic children who do not participate in the program (Currie and Thomas, 1999; U.S. Dept. of Health and Human Services, 2005). Positive impacts are noted in pre-reading, vocabulary, and pre-writing (U.S. Dept. of Health and Human Services, 2005). However, these benefits are not evenly distributed across subgroups of Hispanic children. In a study comparing cognitive outcomes of participant and non-participant Hispanic siblings, Currie and Thomas (1999) found that gains from Head Start are greatest among children of Mexican-origin and children of native-born mothers.

State-sponsored pre-kindergartens. States have become increasingly involved in providing educational services for families and children prior to starting elementary school. According to a report by the National Institute for Early Education Research (NIEER), pre-kindergarten programs began in the 1970's and followed Head Start's approach of targeting children with the greatest needs: children with disabilities and those

from in low-income families (Barnett et al., 2003). However, states currently vary a great deal in the composition of the population that they serve with their pre-kindergarten programs.

In the 2002-2003 school year, 38 states funded one or more state prekindergarten initiatives that were serving nearly 740,000 children, which was about 45,000 more than were served the previous year (Barnett et al., 2004). States offering multiple pre-kindergarten options might provide state-subsidized Head Starts, pre-kindergartens, and early education for children with disabilities. Several states still do not provide any state monies for the education of children between the ages of 3 to 5, other than for children with disabilities. Recently, a few states, including Georgia and Oklahoma, have begun to offer universal access to prekindergarten, meaning gratis pre-kindergarten services for all children.

In general, most states offer a set of educational programs serving 3- and 4-year-olds that are part of a formal, state-funded educational initiative. The programs may be administered by a variety of government agencies, such as state education or human service departments. The programs may be housed in various locations, including public schools, Head Start centers, and community-based child care centers (Barnett et al., 2003, 2004).

Kindergartens. Kindergartens enrolled about 3.7 million 4- to 6-year-olds in 2001, up from 3.2 million in 1977. Along with this growth, there has been a substantial shift from half-day to full-day kindergarten. In 1977, 73% of kindergartners were enrolled in half-day kindergartens and 27% in full-day kindergartens. By 2002, the situation

reversed—63% of kindergartners across the United States attended full-day programs, while 37% attended half-day programs (Kauerz, 2005).

The U.S. Census Bureau attributes the latter change to the number of children in the population aged 4 to 6, along with social, economic, and educational demands (Jamieson, et. al., 2001). For example, the increase in the number of working single-parent households and households with both parents working has increased demand for child care programs. Furthermore, arranging for after-school childcare is less costly and less complicated for families when the child is in school for the whole day rather than half a day. Moreover, since a majority of children (59%) spend some time in pre-kindergarten programs (Jamieson et. al., 2001), many families feel that their children are ready for the academic and social demands of a full-day kindergarten.

Hispanic enrollment

As previously noted, early educational programs—private preschools, Head Start, pre-kindergarten, and kindergarten programs—have experienced major enrollment growth over the past three decades. However, the U.S. Census Bureau data show that enrollment in these programs varies a great deal by race/ethnicity (Jamieson et. al., 2001). Of particular importance for this analysis, although Hispanics represent a large, rapidly growing share of the nation’s young children, they are the least likely to be enrolled in an early childhood program. The enrollment rate for Hispanics in preschool programs is about 32%, while the rates for non-Hispanic whites and African Americans are, respectively, 55% and 50% (Jamieson et al., 2001).

Some believe that the relatively low enrollment rate of Hispanics in early childhood programs may be partly linked to a preference for providing child care directly at home

by the mother or close relative, and reluctance to turn over the care of their child to a non-relative (Swartz, 1996). However, others point out that (low) family income is associated with the lower pre-school enrollment rate of Hispanics (Hernandez, Denton, and Macartney, 2004). According to Jamieson et al. (2001), because pre-k programs are not part of the regular public school system in most areas and are predominantly private, the cost may prevent many Hispanic families from enrolling their children.

Although progress has been made in providing access to state-funded pre-kindergarten programs, few states are serving more than 20 percent of their 4-year-olds (Bryant et al., 2004). Consequently, Jamieson et al. (2001) conclude that pre-school attendance is closely linked to family income, even though Head Start and other local- and state-funded pre-kindergarten school programs are available to some children in low-income families. In support of this conclusion, they note that, in 1999, 58% of 3- to 4-year-olds from families with incomes over \$40,000 attended nursery school, compared to 41% of those from families with incomes less than \$20,000.

Of the children enrolled in early childhood education programs, African Americans (77%) and Hispanics (76%) were more likely than non-Hispanic whites (36%) to be enrolled in public rather than private programs. And, 81% of low-income pre-kindergarten students attended public programs, compared to about 29% percent of the high-income students (Jamieson et al., 2001).

Jamieson et al. (2001) also have noted that early school enrollment differences may be related to differences in the education levels of mothers. For example, about 66% of mothers with a bachelor's degree or more enroll their children in nursery and pre-kindergarten programs, while that is the case for only 34% of mothers who have not

completed high school. In addition, labor force participation is associated with early childhood program enrollment differences. Children of mothers in the labor force were more likely to attend nursery school than those whose mothers were not in the labor force (53% versus 44%, respectively).

Recently, Hernandez et al. (2004) reported on variables that may account for why Hispanic and immigrant families are less prone to enroll their children in pre-kindergarten programs. In that regard, they found that both immigrant and native-born Hispanic parents are less likely than non-Hispanic whites to enroll their children in pre-kindergarten programs. For instance, among children in immigrant families from Mexico, Central America, and the Dominican Republic, as well as those in Mexican-American and Puerto Rican families, pre-kindergarten enrollment rates at age 3 are from 4% to 20% lower than the rate for non-Hispanic whites; and, these gaps increase for four-year-olds. Through multivariate analyses, Hernandez et al. (2004) found that financial, linguistic, and educational barriers are associated with these Hispanic pre-kindergarten enrollment gaps. Given the potential cognitive and other school readiness benefits of pre-kindergarten for Hispanic youngsters, their lower enrollment rates are costly to children, their families, and the general society (Gormley et al. 2004).

In an analysis of data from the National Household Education Survey (NHES), Fuller et al. (1996) highlighted that a number of family characteristics that uniquely contributed to low enrollment of Hispanic children in pre-k programs. In addition to the effects of maternal employment and household income, they found that children were less likely to enter a pre-k program when they were younger (age three, not four-five years), when a father or another adult resided in the household, when mother had a low educational

attainment, and when children's books were less evident in the household (Fuller et al., 1996). Hispanic families, of course, are particularly distinguished by these characteristics. They also found that the Hispanic pre-k enrollment gap persisted even after controlling for the aforementioned factors, and hypothesized that cultural differences may account for further differences in enrollment rates.

In a separate study analyzing self-report data provided by parents of 316 children from public pre-k classrooms in five states (one of two studies analyzing pre-kindergarten access and quality in eleven states [Early et al., 2005]), Barbarin et al. (in press) identified perceptual differences of 'school readiness' between parents of different racial/ethnic groups. For example, Hispanic parents were less likely than blacks to include 'practical intelligence' as a critical component of readiness, and less likely than whites to incorporate 'independence' as a necessary skill for readiness.

Such research findings suggest that low Hispanic preschool enrollment is due to a number of interacting family characteristics, not only poverty and low maternal education. Furthermore, Fuller et al. (in press) argue that in order to increase Hispanic enrollment in quality pre-k programs, the policy and research discourse ought to transition from the "at-risk" metaphor to a discussion of ways to consider adding to the already present strengths that Hispanic families.

Another factor that may be limiting the participation of Hispanic children in early childhood education programs is that many recent Hispanic immigrants have been settling in areas where there have historically been few Hispanics. This is illustrated by U.S. Census data showing that several states in the South had very large percentage increases in their Hispanic populations between 1990 and 2000, rates that that were

considerably higher than those of “traditional” Hispanic states, such as California, New York and Texas. For example, Hispanic population growth rates in this period were 394% in North Carolina, 300% in Georgia; 211% in South Carolina; and 208% in Alabama (Guzmán, 2001).

Few states, including high Hispanic-growth states in the South, currently provide preschool programs to more than 20 percent of the 4-year-olds in their populations (Bryant, et al., 2004). And, other providers of preschool may have enrollment capacity limits in many communities (Barnett, et al., 2003, 2004). Consequently, many parts of the South may not be equipped to provide newcomers with adequate child care and pre-school services.

Lack of access of migrant children to pre-school programs is evidently another source of the relatively low pre-school enrollment rate of Hispanics. As of 2003, the Migrant Seasonal Head Start (MSHS) programs were assisting 30,568 migrant children and 3,052 seasonal children in 450 MSHS centers across the nation (Kloosterman et al, 2003). Nonetheless, according to the National Council of La Raza (2004), more than 80 percent of farm worker families do not have access to MSHS programs due to a lack of federal funding.

Interestingly, while Hispanic children are generally less likely to be enrolled a pre-k program, they are more likely to be enrolled in a pre-k program that is more educationally-oriented than a simply a child care program (Magnuson and Waldfogel, 2005). A definitive answer as to why this is the case is not yet available.

Beyond the pre-school level, most 5-year-old children attend kindergarten. However, differences exist in student enrollment by race/ethnicity and family income in full-day

kindergarten versus half-day programs. In 2001, about 76% of African American kindergartners were enrolled in full-day programs, compared to 56% of non-Hispanic whites, 60% of Hispanics, and 57% of Asians/Pacific Islanders (National Center for Education Statistics [NCES], 2004). In addition, children in families with incomes of less than \$50,000 were also more likely to attend full-day kindergarten than those from higher-income families.

According to Watson and West (2004), the high enrollments rates of African American children and other economically disadvantaged children in full-day kindergarten may be partly related to a greater need for child-care services. However, Hispanic children are not attending full-day kindergarten at the same rate as African Americans, even though Hispanic enrollment in kindergarten is slightly higher (Jamieson et al., 2001). For example, in the 1998-99 school year, 46% of Hispanics attending public kindergartners attended full-day programs, compared to 79% of African Americans.

Disparities also have found recently for English language learners (ELLs) attending public kindergartens. In the ECLS-K sample of children, only 45% of ELLs attended full-day programs (Watson and West, 2004). For the Hispanic population, it is important to identify reasons that account for lower participation rates in full-day kindergarten programs, because they constitute 72% of the EEL student-age population in the United States (NCES, 2003).

Resources

The amount and quality of resources that the federal, state, and local government invest in early childhood education programs can impact both the number of children that

are served and the quality of services that they receive. Well-funded pre-k programs can increase access (by providing additional slots), extend hours of operation, and enhance their educational offerings by offering providing comprehensive services and increasing the quality of preschool teachers (NCLR, 2005).

Although federal and state education spending has grown, government funding of early childhood programs remains generally low relative to demand. Currently, many states do not invest enough money to pay for high-quality preschools that research has found provide the most educational benefits for disadvantaged children (Barnett et al., 2003, 2004). In fact, while total state spending for state-funded pre-kindergarten totaled \$2.54 billion in 2002–2003, over three-fifths of this funding was from five states—California, Georgia, New Jersey, New York, and Texas (Barnett et al., 2004). This helps explain why state spending per child in state-funded pre-kindergarten programs ranges from less than \$1,000 in Maryland to more than \$8,700 in New Jersey. Average state spending was just \$3,500 per child—less than half of the total funding provided per child in federal Head Start or public K-12 education (Barnett et al., 2004).

In addition, Head Start programs, which are federally funded, serve only 60 percent of children below the poverty line (Trust for Early Education [TEE], 2004). This is partly a function of the size of Washington’s investment in this area. While the federal government spends over \$10 billion per year on childcare programs and Head Start, it is far too little to serve all or most disadvantaged children (TEE, 2004).

These figures help explain why an estimated 60 percent of funding for childcare and pre-kindergarten programs comes from fees/tuition that parents and families pay. It also helps explain why many of the most needy children—a large and growing percentage of

which is Hispanic—do not have access to quality pre-kindergarten programs. Insufficient funding can, therefore, translate into lack of access for many children, particularly Hispanic children, who are already underrepresented in preschool programs, including Head Start and state-preschool programs. However, Takanishi (2004) points out that Hispanic children’s rate of participation in state-funded pre-k programs provided by the public elementary school is increasing.

Benefits of Pre-k programs beyond academics

Beyond the measurable academic achievement benefits of historically disadvantaged youngsters in the U.S., there are additional and more comprehensive ways of defining the raison d’être of quality pre-k programs. Some of those most important include social-emotional development, health, and aspects of family and community support. This is why early childhood educators have long focused on creating programs that serve the whole child.

As Ramey and Ramey (1998) have noted, with this approach, that pre-k programs should be designed to be early interventions that place disadvantaged children on a normative developmental trajectory over the long-term. That is to say, they should provide foundations that will make it more likely for children to show optimal development (even after the early intervention ends) throughout elementary school and into the secondary and post-secondary years (Ramey and Ramey, 1998).

Regarding the child’s psychosocial development, Ramey and Ramey (1992) abstracted six psychosocial mechanisms from the research literature—labeled ‘developmental priming mechanisms’—that are associated with positive cognitive, social, and emotional outcomes of children. Appropriate as targets for early education

programs, these ‘developmental priming mechanisms’ help children become primed or ‘ready’ for subsequent developmental opportunities. The six developmental priming mechanisms are a) encouragement to explore the environment, b) mentoring in basic cognitive and social skills, c) celebrating new skills, d) rehearsing and expanding new skills, e) protection from inappropriate punishment or ridicule for developmental advances, and f) stimulation in language and symbolic communication. Ramey and Ramey (1998) hypothesize that these priming mechanisms are critical to normal development and must be present in children's everyday lives on a frequent, predictable basis. The challenge for pre-k programs is to provide powerful opportunities for development along these lines to large numbers of children, especially those from disadvantaged circumstances.

In addition to impacting academic domains, data from longitudinal studies show that pre-k programs have the potential to generate positive and sustainable non-cognitive outcomes (e.g., social, emotional, and psychological). Longitudinal results from the Abecedarian project (1972-1977) show that this full-day program displayed positive effects on participants’ resilience to non-optimal biological and behavioral conditions as well as their level of social responsiveness (Campbell and Ramey, 1995). More recently, in an extensive review of child outcomes in state-funded prekindergarten programs, Gilliam and Zigler (2004) found that Florida children who participated in state pre-k demonstrated behavioral benefits as late as fourth grade; and that parents in Texas and Michigan showed greater levels of school involvement as a result of their child having participated in state pre-k.

Being Realistic and Ambitious about the Benefits of Preschool

As discussed earlier, there is considerable evidence that high quality preschools can strengthen school readiness of many children, especially from low SES families, in ways that help them do better in school than would otherwise have been predicted.

Encouragingly, there is evidence that this is the case for low Hispanic youngsters, not simply for low SES children in general (Gormley, Gayer, and Dawson, 2004; Magnuson and Waldfogel, 2005). Still, it is very important to recognize that even the highest quality programs may have limitations. For example, participation in just one year of early educational programming may not be sufficient to prevent many children from future failure (Bogard and Takanishi, 2005).

Some of the challenges in this area are illustrated by two well-known programs that serve as leading models for the field are the High/Scope Perry School and Abecedarian programs, each of which were small experimental initiatives subjected to randomized trials. The populations served by both models were low SES African American children. In both cases, long-term longitudinal tracking of the individuals who participated in the programs and those who were assigned to the control groups produced evidence of valuable gains for the participants. Among the most important direct educational benefits produced by each program was a higher high school graduation rate for the participants than that of the controls (Schweinhart, Barnes, & Weikart, 1993; Ramey, Campbell, Burchinal, Kinner, Gardner, & Ramey, 2000).

Nonetheless, even in these two justifiably admired models, the participants did not emerge from preschool nearly as well prepared for school as middle class, much less professional class, children. Over the course of their school careers, they also enjoyed

much less academic success than their middle and professional class counterparts. In fact, they were a relatively low achieving group of youngsters by traditional academic measures, such as standardized test scores. (Borman & Hewes, 2001).

Unsurprisingly, evaluations of large-scale programs have tended to show less in the way of school-readiness and long-term educational and other benefits than the model programs. One contributing factor is undoubtedly the much lower per capita investments made in most large-scale programs, such as Head Start and typical state-funded pre-kindergartens. But that probably is only part of the story. The Perry School and Abecedarian model programs were enterprises conceived by well-educated, highly motivated individuals who cared deeply about ensuring that their models were well designed and well implemented. Given the inevitable variation among people and circumstances that exists in large, broadly based institutions, it is reasonable to expect that the average level of performance will be appreciably below that of the best model programs—and that there will be considerable variation in performance across the sector.

A recent large study of state pre-kindergarten programs provides an illustration of this reality. The researchers found considerable variation in the quality of the “instructional climate” of the programs, with instructional climate defined by such things as whether pre-kindergarten teachers “typically engage in focused instruction that uses a variety of methods to engage children” and “have many extended discussions that encourage children to hypothesize, predict, and problem solve” (FPG Child Development Institute, 2005). In fact, many programs were judged to have fairly low quality instructional climates, even though the programs tended to be well resourced and many of the teachers

were well educated by the standards of the preschool sector, i.e., they had bachelor's or masters degrees.

This finding, of course, sounds a lot like the variations in instructional quality found among classrooms and schools at the elementary and secondary levels (and in higher education). Moreover, the existence of these large variations at the K-12 level has been a long-standing concern of those who aspire to improve elementary and secondary education (Goodlad, 1984; Sizer, 1984)). Certainly, it has been a high priority of many of those who are testing and attempting to scale-up CSR programs on the elementary level for the purpose of raising achievement of disadvantaged students, especially those from minority groups (Bodilly, 1998; Datnow and Stringfield, 2000; Slavin & Madden, 2001).

As previously noted, those who design CSR programs have often found it necessary to provide a great deal of support to teachers and administrators both during the initial testing of their programs to ensure they are actually implemented and, subsequently, to ensure that benefits associated with the program are maintained over time. Moreover, as educators develop more proven strategies in the years ahead (via randomized trials and quasi-experiments), finding ways to use these strategies with fidelity and quality control seems likely to emerge as a huge challenge for the sector. There is every reason to believe that there will be a similar challenge for the growing preschool sector as well.

The CSR experience provides another lesson for the preschool sector. The large, growing body of evaluation evidence on CSR programs suggests that the achievement gains that they produce are often valuable, but modest in size. Indeed, their modest

achievement looks fairly equal to those produced by the best model preschool programs (Borman and Hewes, 2001).

It may be that, over time, new generations of model programs from infancy forward will be able to produce much larger achievement benefits for students than is typical of the most promising existing strategies. One reason to pursue an expanded strategy develop agenda, beginning in the early years, is that it might lead to a genuinely more productive set of approaches that could be used effectively on a widespread basis. Another reason is that having many more strategies that produce valuable, if modest gains, might collectively add up to something much larger. To use a sports analogy, if a team consistently hits a lot of singles, it may be able to win a lot of games without hitting home runs.

Four other points need to be made about the early childhood knowledge-base perspective. First, none of the leading model preschool programs were designed specifically for the growing Hispanic population, especially the large number of children of immigrants from low SES homes in which Spanish is the primary language. It may be that it is time for some models to be designed for, tested with, and rigorously evaluated for, the latter group. For example, model programs could address the question of the extent to which Spanish language proficiency is needed by pre-k teachers to work effectively with the children and parents, and the question of how those skills should be used.

Second, it also is clear that few pre-k programs are able to provide the very extensive language development opportunities that are needed to help more disadvantaged youngsters come much closer to middle-class non-Hispanic white and Asian readiness

averages. Considerable experimentation directed at that objective is probably desirable at this juncture.

Third, there is little evidence regarding what school readiness benefits are provided for Hispanic (and black) children from middle and high SES families by existing preschool strategies, even though ECLS-K data indicate that they lag behind their non-Hispanic white and Asian American peers on measures of reading, mathematics, and general knowledge readiness at the start of kindergarten, and that numerous data sources indicate that these within-class differences persist as substantial achievement gaps over the course of the K-12 years (and on into college). This suggests that existing preschool approaches need to be evaluated more extensively with regard to whether readiness benefits are provided to these segments of children. It may turn out that there is a need for model program development and testing for these youngsters as well (Miller, 2004).

Fourth, despite growing evidence of the malleability of infants and toddlers as well as substantial evidence that some segments of Latinos, as well as African Americans, are lagging behind whites developmentally in the first three years of life on important school readiness domains (such as vocabulary), we have had little to say so far about this part of the early childhood education arena. That is because it is still a small sector in which, therefore, few programs have strong evidence that they are able to provide substantial school readiness benefits to children on a widespread basis. In that regard, it is important to note that the recent evaluation of 17 Early Head Start sites suggests that the readiness benefits for the low SES children and families served by them may be relatively small. This suggests that much more strategy design, testing, and evaluation work needs to be undertaken for programs for infants and toddlers, both in general and for Hispanics in

particular. Moreover, while the Hispanic-oriented work should give high priority to addressing the needs of children of low SES immigrant Hispanic families, it should not be limited to them. Attention should be given as well to children in low SES families with native-born parents and to children in middle and professional class families of some Hispanic national origin segments. Finally, it probably will be necessary to pursue the question of what kind of support the professionals in these programs will need over time to ensure that most are, operated as intended.

Infant/Toddler Development

As previously cited, socioemotional, motor, and cognitive developmental milestones during the earliest years of life (under age three) have a strong bearing on a child's ability to progress at normative levels throughout their schooling years (Ramey and Ramey, 1998). Yet, there is still relatively little information available regarding the experiences, strengths, and needs of children in the U.S. by race/ethnicity during this critical period. Due to the increasing number of Hispanic babies born in the United States (22% in 2002—Martin et al, 2003), gathering and analyzing developmentally significant data on this population is of growing importance.

Although information is limited, initial data from the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) and recent data from the U.S. Census provide some useful insights. First, a significant portion of Hispanic children under age three are poor—two-thirds of Hispanic infants and toddlers are born into low-income families (Chau and Douglas-Hall, 2005). Second, Hispanic infants and toddlers encounter disparities in health coverage and are more likely to depend on publicly-funded health insurance programs. For example, 31% of Hispanic infants and toddlers lack some form of health

insurance compared to only 9% of their white infant and toddler counterparts (Flores, Olson, & Tomany, 2005). Third, Hispanics are less likely to be read to during the early years of life.

In addition, one recent national study reported that Hispanic infants and toddlers had significantly fewer children's books in the home, averaging 20 fewer books in the home than white infants and toddlers; and were 1.8 times less likely to be read to on a daily basis (Flores, Olson, & Tomany, 2005). Also, Hispanic infants and toddlers, compared to their white peers, are more likely to receive child care provided by a relative (Denton-Flanagan and West, 2004). While Hispanics (46%), whites (49%), and Asians (47%) are comparatively as likely to receive some type of child care at nine-months of age, Hispanics are more likely to receive this from a family member.

These data provide some valuable contextual and developmental information on Hispanic infants/toddlers. However, much more information is needed about these matters, as well as on how these circumstances contribute to Hispanic youngsters developmental trajectories in subsequent years—and to their school readiness. As additional ECLS-B data are released and analyzed, the resulting information should make valuable contributions to efforts to improve early education for Hispanics.

Recommendations for Improving Early Childhood Education for Hispanics

In this closing section, we briefly discuss seven broad topics and related questions that probably will need to be addressed more extensively and effectively, if early childhood education of Hispanics is to be improved substantially over time. The seven topics are: 1) who young Hispanics are; 2) how young Hispanics are doing; 3) factors that

bear on how young Hispanics are doing; 4) productivity for Hispanics of existing early childhood education programs and strategies; 5) developing better early childhood education approaches for Hispanics; 6) supporting high quality implementation of promising early childhood education approaches for Hispanics; and 7) access of Hispanics to early childhood education.

Who young Hispanics are. As our earlier discussion of the demographics of young Hispanic children in the United States indicated, they are a diverse group in terms of national origin, social class (as measured by parent educational attainment and family income), nativity, generational status, and English language proficiency. This is the case, even though a majority of Hispanic children are of Mexican ancestry and a substantial percentage is from low SES immigrant families. We also discussed that, because a great deal of academic achievement data show that Hispanic youngsters from all social class levels are doing less well academically than their white and Asian counterparts, there is a need to improve early education for all Hispanic social class segments. To help guide policy and strategy development, it would be very useful to have access to demographic information that provides a detailed picture of Hispanic children segmented by SES, nativity, and so forth. Because the number of young Hispanic children is large and growing rapidly, detailed data of this kind, updated regularly, would help educators and policymakers understand the relative sizes of the segments that need to be served—and help make clear that there are several large segments in need of considerable attention.

How young Hispanics are doing. Following up on the point that Hispanics in all SES segments are not doing as well academically as their white and Asian peers, there is a pressing need for clear pictures of the developmental trajectories of several segments of

Hispanic children, from infancy through the third grade. Similar data are needed for other major racial/ethnic groups, so that it will be possible to understand how the various Hispanic subpopulations are doing in both relative and absolute terms. The need for such information all the way back to infancy is based on the growing evidence from ECLS-K and other data sources that meaningful developmental/school readiness differences are present at the start of kindergarten. Because there are so many Hispanic children from low SES immigrant families (who also are often ELL), having a very detail picture of their development trajectories is important to help determine where the greatest (or additional) intervention efforts might be made.

Factors that bear on how young Hispanics are doing. Analyses of ECLS-K data are finding that a number of within-, between-, and out-of-school factors and processes are associated with differences in achievement patterns. This, of course, is consistent with much other research over the years. It is reasonable to believe that ECLS-B data also will show differences in early developmental trajectories that, in some cases, will be associated with economic resources, family, childcare, and other factors. Because such findings can contribute to strategy development and policy decisions, it will be important to continue to press for greater understanding of relevant factors and processes. It is now possible to use ECLS-K data to look for such factors across the primary grades as a whole. Within a year or so, ECLS-B data for two-year-olds will be available. Thus, researchers should make preparations to undertake exhaustive analyses of ECLS-B. To the extent that it becomes clearer that substantial developmental differences are present during the 0-3 period, having greater understanding of factors related to those differences is likely to be important for the development of a stronger, more extensive set of

programs for infants and toddlers. Regarding Hispanics, there will be a need to gain a better understanding of Spanish language use (and level of Spanish literacy) of parents from the perspective of helping guide the development of early education approaches that work more effectively with the parents and their children. Other factors, such as family and child health conditions, also will need to be incorporated into these analyses, to determine the extent to which they may need to be addressed more extensively in the strategy development process.

Productivity for Hispanics of existing early childhood education programs and strategies. We have already discussed at some length the productivity of the early education continuum: K-3 strategies, preschool programs, and infant and toddler programs. Because there is considerable evidence that some programs and strategies at each of the three levels are producing positive, but generally modest school readiness and academic achievement benefits, it is necessary to look deeper into some existing approaches to ensure that productivity assessments are as accurate as possible, including for Hispanics specifically. Because initial findings should soon be available from a major evaluation of the effectiveness Head Start that used randomized assignment to the participating and control groups, it should be possible in the near future to have a much better understanding of what benefits that very large program provides for Hispanic and other children. There also should be more extensive analyses of data from some of the major state pre-kindergarten programs (such as those in Oklahoma and Georgia), with a particular focus on Hispanics. Much more attention needs to be given to determining what academic benefits may be produced by several of the CSR strategies for Hispanics. Moreover, care should be taken to ensure that the capacities of these strategies are

assessed with regard to several segments of the Hispanic population, e.g., ELL Mexican American children from immigrant families and middle class Puerto Rican youngsters.

Developing better early childhood education approaches for Hispanics. We also have discussed this topic earlier in this paper. Testing of extensively modified and new approaches for different Hispanic segments should be a priority over the coming decade. Within 10-20 years, the goal should be for educators and policymakers to have several more programs and strategies for the 0-8 years that have meaningful, well documented developmental, school readiness, and academic achievement benefits for several segments of Hispanic children.

Supporting high quality implementation of promising approaches. One of the most important challenges for educators and policymakers in the years ahead will be to develop strong capacities to support implementation of effective approaches with fidelity. There needs to be a voice for Hispanic youngsters in this endeavor, not only because they are a large and growing share of young children, but because there are likely to be some Hispanic-specific dimensions of this enterprise. For example, to the extent that it is determined that many preschool educators serving Hispanics need to be well educated in general, to have strong professional training in early childhood education, and to have a capacity to communicate effectively in Spanish with parents and children, one of the biggest challenges for operating proven programs in an effective fashion may be having a supply of teachers with these attributes. In fact, this could prove to a major topic for research and strategy development in its own right.

Access of Hispanics to early childhood education. Finally, because Hispanic children are underrepresented in preschool programs and full-day kindergartens, more

information is needed on why this is the case and what might be done to increase participation.

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Tables and Figures

Table 1

Growth of the U.S., Hispanic population: 1960-2000 (in millions)			
Year	U.S. population	Hispanic population	Hispanic percentage of U.S. population
1960	179.3	6.9	3.9%
1970	230.2	9.1	4.5%
1980	226.5	14.6	6.4%
1990	248.7	22.4	9.0%
2000	281.4	35.3	12.5%
2002	284.5	37.4	13.3%

Sources: Bean, F., & Tienda, A. (1987). *The Hispanic population of the United States*. New York, NY: Russell Sage Foundation.; Ramirez, R.R., & de la Cruz, P.G. (June 2003). *The Hispanic population in the United States: March 2002*. U.S. Census Bureau, U.S. Department of Commerce, Economic and Statistics Administration. Washington, DC.; U.S. Census Bureau (1992). *1990 census of population: General population characteristics*. U.S. Dept. of Commerce, Economics and Statistics Administration, Bureau of the Census; U.S. Census Bureau (2001). *2000 census of population: General population characteristics*. U.S. Dept. of Commerce, Economics and Statistics Administration, Bureau of the Census.

Table 2

Population dispersal by age, Hispanic origin, and race, March 2002						
Age	Race					
	Total		Hispanic		Non-Hispanic, White	
	Number	Percent	Number	Percent	Number	Percent
Total	282,082	100.0	37,438	100.0	194,822	100.0
Under 5 years	19,428	6.9	3,841	10.3	11,560	5.9
5 to 9 years	20,026	7.1	3,766	10.1	11,964	6.1
10 to 14 years	21,037	7.5	3,480	9.3	13,040	6.7
15 to 19 years	20,045	7.1	3,122	8.3	12,803	6.6
20 to 24 years	19,404	6.9	3,559	9.5	12,038	6.2
25 to 29 years	18,310	6.5	3,537	9.4	11,252	5.8
30 to 34 years	20,360	7.2	3,457	9.2	13,068	6.7
35 to 44 years	44,284	15.7	5,439	14.5	31,029	15.9
45 to 54 years	39,545	14.0	3,399	9.1	29,733	15.3
55 to 64 years	25,874	9.2	1,942	5.2	20,362	10.5
65 to 74 years	18,123	6.4	1,175	3.1	14,550	7.5
75 to 84 years	12,191	4.3	565	1.5	10,418	5.3
85 years and over	3,456	1.2	157	0.4	3,005	1.5
Under 18 years	72,628	25.7	12,888	34.4	44,378	22.8
18 years and over	209,454	74.3	24,550	65.6	150,443	77.2

Source: U.S. Census Bureau (2003). *The Hispanic Population in the United States: March 2002 Detailed Tables* (PPL-165). U.S. Dept. of Commerce, Economics and Statistics Administration, Bureau of the Census.

Table 3

European, Hispanic , and Asian Immigrants with U.S. Total and Foreign-Born Population: 1970-2003 (in thousands)					
Year	U.S. Total	U.S. Foreign- Born	U.S. Foreign-Born Populations*		
			Hispanics	Asians	Europeans
2003	290,809	33,500 (11.7%)	17,856 (53.3%)	8,375 (25.0%)	4,590 (13.7)
2002	288,400	32,500 (11.5%)	16,965 (52.2%)	8,288 (25.5%)	4,550 (14.0%)
2000	281,421	28,379 (10.1%)	14,477 (51.0%)	7,246 (25.5%)	4,255 (15.3%)
1990	248,791	19,767 (7.9%)	8,407 (42.5%)	4,979 (25.1%)	4,350 (22.0%)
1980	226,546	14,079 (6.2%)	4,372 (31.0%)	2,539 (18.0%)	5,149 (36.6%)
1970	203,210	9,619 (4.7%)	1,803 (18.7%)	2,489 (25.9%)	5,740 (59.6%)

* Percentages of the U.S. total foreign-born population

Sources: Gibson, C., & Lennon, E. (1999). *Historical Census Statistics on the Foreign-born Population of the United States*. U.S. Census Bureau, Population Division, Washington, D.C.: U.S. Government Printing Office; Larsen, L. (2004). *The foreign-born population in the United States: 2003*. Current Population Reports, P20-551, U.S. Census Bureau, Washington, D.C.: U.S. Government Printing Office; U.S. Census Bureau (2000). *Current Population Survey: Statistical Abstract of the United States, 2000*. Ethnic and Hispanic Statistics Branch, Population Division, U.S. Census Bureau, Washington D.C.: U.S. Government Printing Office.

Table 4

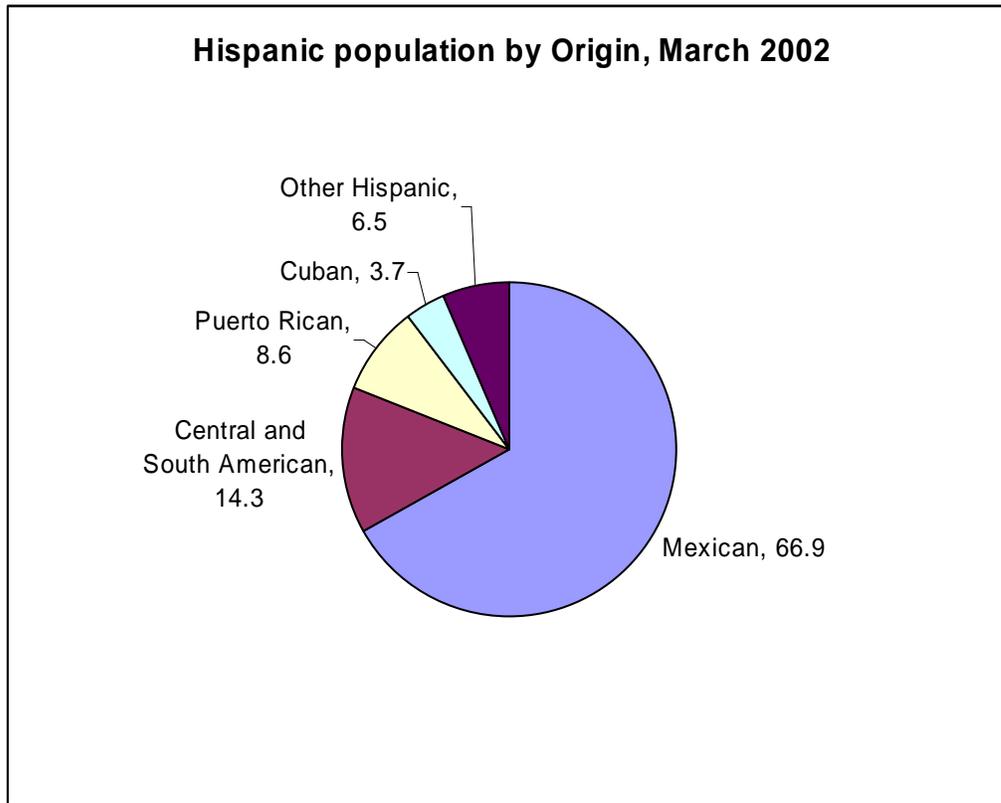
Immigrant and Native Children Enrolled in K-12 Schooling in US: 1970-2000 (in thousands)

Year	K-12 Enrollment		Children of Native Parents	Total K-12 Enrollment	Percentage of Immigrant Enrollment in Total K-12 Population
	Children of Immigrants*				
	Foreign-born (1st generation)	U.S.-Born (2nd generation)			
1970	770 (24.8%)	2,334 (75.2%)	45,676	48,780	6.4%
1980	1,506 (32.2%)	3,169 (67.8%)	41,621	46,296	10.1%
1990	1,817 (31.6%)	3,926 (68.4%)	35,523	41,266	13.9%
1995	2,307 (29.2%)	5,590 (70.8%)	41,451	49,348	16.0%
2000	2,700 (25.7%)	7,800 (74.3%)	44,200	54,700	20.1%

*Percentages of total children of immigrant population

Sources: Fix, M., & Passel, J. (2003). *U.S. immigration: Trends and implications for schools*. Washington DC, The Urban Institute.; Van Hook, J., & Fix, M. (2000). A Profile of the Immigrant Student Population. In J. R. DeVelasco, M. Fix and T. Clewell (Eds.), *Overlooked and underserved: Immigrant children in U.S. secondary schools*. Washington D.C.: The Urban Institute Press.

Figure 1



Source: Ramirez, R.R., & de la Cruz, P.G. (June 2003). *The Hispanic population in the United States: March 2002*. U.S. Census Bureau, U.S. Department of Commerce, Economic and Statistics Administration. Washington, DC.