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Child, Family, and Childcare Predictors of Delayed School Entry and Kindergarten Retention Among Linguistically and Ethnically Diverse Children

Adam Winsler, Lindsey A. Hutchison, and Jessica J. De Feyter
George Mason University

Louis Manfra
University of Missouri

Charles Bleiker
Florida International University

Suzanne C. Hartman
West Virginia University

Jerome Levitt
Miami Dade County Public Schools, Miami, Florida

Concern about kindergarten retention is on the rise within the current climate of high-stakes testing and escalating kindergarten expectations. Kindergarten retention has been linked in previous research to various risk factors such as poverty, low maternal education, single parent status, minority status, English language learner (ELL) status, and male gender. However, these factors are also associated with poor school readiness and low kindergarten performance—the very reasons children are retained in the 1st place. This study teases apart unique and combined predictors of delayed entry into kindergarten and kindergarten retention with a large (n = 13,191) ethnically diverse, at-risk sample of children. Delayed kindergarten entry was rare for this sample but more likely among boys, native English speakers, those with poorer school readiness, less maternal education, and greater resources, and those who attended childcare rather than public school prekindergarten (pre-K) at age 4 years. Boys were more likely to be retained in kindergarten, but only because of their poorer school readiness. After strong effects for age 4 school readiness were controlled, only poverty, ELL status, and preschool program attendance predicted retention. ELL students were less likely to be retained than were native speakers, and those who attended public school pre-K programs were less likely to be retained, compared with those in childcare at age 4 years. After controlling for children's actual performance in kindergarten their 1st time, Caucasian children and children with lower language and social skills at age 4 years were more likely to repeat kindergarten.

Keywords: kindergarten, retention, delayed entry, school readiness, transition

Historically, kindergarten in the United States was a place that all children from varying backgrounds would go to at 5 years of age to learn the skills that would be necessary for formal schooling (Graue, 1993; Shepard & Smith, 1989). Over the last several decades, however, there has been increasing concern by parents, teachers, researchers, and policymakers over the question of whether children are "ready" for school (National Education Goals Panel, 1997; Pre-K Now, 2010; Snow, 2006). Indeed, Goal 1 of the National Education Goals Panel called for all children to be "ready" for school by the year 2000 (National Education Goals Panel, 1998). In 2001, the passage of the No Child Left Behind Act, with its focus on accountability, further heightened concerns over child "readiness," and what factors might contribute to school success (No Child Left Behind Act, 2002). Although many have argued for a broader, ecological perspective on school readiness that involves not just the child being ready for school but also for the schools themselves to be ready to meet the needs of an increasing diversity of young learners (Bogard & Takanishi, 2005; Carlton & Winsler, 1999; National Education Goals Panel, 1998; Pianta, Rimm-Kaufman, & Cox, 1999), the emphasis is still typically placed on the child, as evidenced by the fact that it is usually the child (not the school or classroom) that gets assessed to determine readiness (Meisels, 1999; Snow, 2006).

Concern over young children's transition to elementary school is well founded. Research clearly shows that children who arrive to kindergarten with stronger cognitive, language, social, and behavioral skills have an easier time in the first few years of school, do

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Adam Winsler, Lindsey A. Hutchison, and Jessica J. De Feyter, Department of Psychology, George Mason University; Louis Manfra, Department of Human Development and Family Studies, University of Missouri; Charles Bleiker, Department of Teaching and Learning, Florida International University; Suzanne C. Hartman, Department of Technology, Learning, and Culture, West Virginia University; Jerome Levitt, Miami Dade County Public Schools, Miami, Florida.

Jerome Levitt is now at Advanced Research Consulting, Miami, Florida.

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Correspondence concerning this article should be addressed to Adam Winsler, Department of Psychology 3F5, George Mason University, Fairfax, VA 22030. E-mail: awinsler@gmu.edu

better later in school, and are less likely to later repeat grades and/or drop out of school (Duncan et al., 2007; Entwisle & Alexander, 1999; La Paro & Pianta, 2000; Tramontana, Hooper, & Selzer, 1988). Furthermore, children who experience poverty early on are at significant risk for difficulties with early schooling (Duncan & Magnuson, 2005) and tend to remain behind their peers throughout schooling (Entwisle & Alexander, 1999; Janus & Duku, 2007). Correspondingly, there is much current interest by policymakers, parents, educators, researchers, and teachers in early childhood programs that are effective in promoting children's school readiness and increasing low-income children's chances of success in early elementary school (Barnett, Hustedt, Friedman, Boyd, & Ainsworth, 2007; Bogard & Takanishi, 2005). Further, there have been calls in the literature not only for more research to be conducted on the timing of children's kindergarten entry (Stipek, 2002) but also for research to be conducted on early childhood education for ethnic minority children within specific cultural communities (Johnson et al., 2003).

There are at least two critical points during children's early school trajectories when practical, important decisions are made for each child by parents, teachers, and/or schools: (a) whether a child should start kindergarten at the regular time, given the child's age and the school's date of birth requirement for entering kindergarten—that is, the issue of delayed kindergarten entry, and (b) whether or not a child who just completed kindergarten but struggled should be held back a year to repeat kindergarten the following year—that is, the issue of kindergarten retention. The present study reports on the prevalence and predictors of delayed school entry and kindergarten retention among a large and ethnically diverse sample of children who attended public school prekindergarten (pre-K) programs or received subsidies to attend community-based childcare in Miami, Florida.

Delayed Entry

Some parents choose to delay their child's entry into kindergarten for a year. Perceptions among educational administrators and parents are that this practice is much more common than in the past (Frey, 2005; Gnezda, Garduque, & Schultz, 1991) and, perhaps, is increasing in recent years due to increased academic expectations for kindergarten and the current climate and fear of high stakes testing (Frey, 2005). However, the most current estimates available are that nationally, about 7%–9% of children begin kindergarten a year later than the age at which they are eligible (Alexander, Entwisle, & Dauber, 2003; Datar, 2003; Zill, Loomis, & West, 1997). The attractive and intuitive justification for this practice—which is sometimes called *academic redshirting* is the idea that one gives the perhaps slightly immature child the "gift of time" in the form of another year to develop more of the skills needed to do well in school (Graue & DiPerna, 2000). Existing research on the predictors of voluntary academic redshirting indicates that this practice is much more common in families of higher socioeconomic status (Cosden, Zimmer, & Tuss, 1993; Gredler, 1992) and is more likely to happen for boys than for girls, especially boys whose birthday falls near the eligibility cut-off date, making them, if they were to start school on time, relatively young with respect to the rest of the class (Bellisimo, Sacks, & Mergendoller, 1995; Brent, May, & Kundert, 1996; Byrd, Weitzman, & Auinger, 1997; Graue & DiPerna, 2000; May, Kundert, & Brent, 1995; Zill, 1992). Parents may also see this as an opportunity to give their children (especially their sons) an edge over other children in leadership and sports if they are older and more competent than the other children in their class.

However, very little information exists about the extent to which families in poverty and families of color choose to delay their children's entry into kindergarten. Delaying public school entry may, in fact, be quite rare among low-income, working families given that such a decision likely means struggling to pay for another year of expensive childcare. On the other hand, voluntary delayed entry might not always be that voluntary. Parental decisions to hold back their child may also be made after slight to considerable encouragement to do so from preschool or kindergarten teachers and/or administrators. In settings in which readiness screeners are given to children either before or right after beginning kindergarten, the "decision" to wait another year might not even be voluntary (Frey, 2005; Meisels, 1999). There is anecdotal evidence that in cases where families are encouraged to hold children back a year due to low scores on assessments and/or screeners, the children are more likely to be Black or Hispanic than White (Bredekamp & Shepard, 1989; Frey, 2005; Kagan, 1990). Another possibility is that some parents of children in poverty, realizing that their child is already at-risk for low school performance, may see delaying their child's school entry as a way to avoid their child being retained later in school. Thus, given that delayed entry and kindergarten retention are likely linked in practice, it is important to examine them together as we do in the present study. To our knowledge, there have been no empirical studies published to date that have directly examined the prevalence and predictors of delayed entry into kindergarten specifically among low-income and ethnic minority families.

Kindergarten Retention

Current estimates are that about 5%–7% of children nationwide "flunk" kindergarten—that is, they start and complete their kindergarten year of school on time but are retained and repeat their kindergarten year (Alexander et al., 2003; Byrd & Weitzman, 1994; Karweit, 1999; Reaney, West, & Denton, 2001; Zill et al., 1997). The percentage of children nationwide who are over age for first grade (which includes both those who are retained in kindergarten and those who delayed their school entry) rose to about 21% in the 1980s and then appeared to decline somewhat in the 1990s (Alexander et al., 2003; Hauser, 2001). There is also considerable variation from state to state, with some states (MS, TN, WV) showing steady increases over those decades in kindergarten retention, and other states, such as Florida, showing the same curvilinear temporal trend over the decades discussed above but generally showing higher proportions of kindergarten retention (i.e., 10.5% in the 1980s) than other states (Alexander et al., 2003; Denton, 2001; Heubert & Hauser, 1999; Shepard & Smith, 1989). It is curious to note that surprisingly little research has been conducted over the last decade or so on kindergarten retention, and thus, we have few estimates of the prevalence of kindergarten retention in more recent years. Studies using data from the Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K) provide some evidence for the rate of retention in the late 1990s, as this nationally representative sample of children attended kindergarten during the 1998–1999 academic year. For instance,

Silverstein, Guppy, Young, and Augustyn (2009) reported that 3.5% of children in the ECLS-K dataset were retained in kindergarten. Hong and Raudenbush (2005) found a similar rate of kindergarten retention (4%) in the ECLS-K, despite the fact that they used a subsample of children who had at least one reading or math score the second time in kindergarten. Many fear, however, that rates of retention in kindergarten may be on the rise again now due to today's climate of high-stakes testing (Alexander et al., 2003; Frey, 2005; Leckrone & Griffith, 2006; Meisels, 1999).

By definition, the children who get retained in kindergarten are those who do not do well academically, behaviorally, or both, during their first kindergarten school year. Thus, in terms of predictors of kindergarten retention, it is not surprising to find that the risk factors for low achievement are often the same risk factors for early grade retention. Kindergarten retention, unlike voluntary delayed entry, is more likely to occur among those in poverty, compared with those with greater economic means, and more likely among ethnic minorities, compared with White children. Indeed, disproportionate representation of Black and Latino children and children in poverty, among those retained, increases in magnitude with each successive grade in school (Alexander et al., 2003; Blair, 2001; Frey, 2005; Hauser, 2001; Meisels & Liaw, 1993; Morris, 2001). Children in poverty are 3 times more likely (16%) to be retained in kindergarten or first grade than those with family incomes above the poverty line (5%), and the same degree of increased risk for early retention is found for children of parents without college education (16%), compared with those with higher education (6%; Alexander et al., 2003; Hauser, 2001). Boys have also been found more likely to be retained in kindergarten, compared with girls (Dauber, Alexander, & Entwisle, 1993; Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997; Mantzicopoulos & Fulk, 1994; Meisels & Liaw, 1993), likely due to both lower academic performance and greater behavior problems seen among boys relative to girls. However, not all studies have found gender differences in early retention (Blair, 2001; Mantzicopoulos, 2003; Mantzicopoulos & Neuharth-Pritchett, 1998). Finally, other child and family predictors of early retention include children being young for their grade (Mantzicopoulos, 2003), low parental involvement in school (Jimerson et al., 1997; Mantzicopoulos, 2003; McCoy & Reynolds, 1999), and child behavior problems and/or conflicts with teachers (Blair, 2002; Jimerson et al., 1997; Mantzicopoulos, 2003; Pianta, Steinberg, & Rollins, 1995).

Language and Ethnicity

Young children who are English language learners (ELLs) have the additional challenge of mastering a new language during the kindergarten year and performing well academically in that new language. It is noteworthy that although many have been concerned over the years with language-minority students being over referred and over represented in special education (Artiles & Trent, 1994; García, McKoon, & August, 2006; Gersten & Woodward, 1994; Valles, 1998), the extent to which ELLs are represented among those who delay entry into kindergarten or those who are retained in kindergarten has not been explored. Children who are not very proficient in English may appear to be struggling with the content of kindergarten (at least in English) and may therefore be selected for repeating kindergarten by teachers, when in fact their cognitive and academic preparedness is much stronger in the context of their first language. The present study examines this issue with a large sample of Spanish-speaking children learning English in Miami, Florida. Although much sociolinguistic support for Spanish exists in this community, instruction in the public schools, including kindergarten, officially takes place only in English.

There are a number of reasons why it is important to examine kindergarten retention among Latino/Hispanic children. First, Latinos are the largest and fastest growing minority group in the United States, increasing from 6.9 million in the 1960s, to 35.3 million in 2000 (García & Jensen, 2009). In 2003, children of Hispanic origin made up 34% of all children from low-incomes families and 21.4% of children under the age of five in the U.S (García & Jensen, 2009). Second, Latinos as a group are not faring well in the school system. Throughout kindergarten–12th grade, they are more likely to be retained, compared with non-Hispanic White students, and Hispanic/Latino students have the highest rates of school noncompletion of any ethnic group (Aud, Fox, & Kewal Ramani, 2010; Willson & Hughes, 2006). Third, there is some evidence that predictors and outcomes of early retention for Hispanic students may be somewhat different from those for other groups (Reynolds, 1992; Willson & Hughes, 2006). For example, Wilson and Hughes (2006) found that many of the common predictors of retention found in studies with less ethnically diverse samples (gender, behavior problems, poverty) were not associated with first grade retention within their specifically Latino sample. Fourth, and consistent with calls for research to be conducted within particular communities and ethnic groups (García Coll et al., 1996; Johnson et al., 2003), there is great value in exploring such phenomena within particular cultural communities. Indeed, community context appears to be important in kindergarten retention. For example, the extent to which ethnicity predicts kindergarten retention may be dependent upon the relative prominence of the minority group in the community. Cosden et al. (1993) found that Hispanic/Latino students were retained in the early grades at higher rates than other groups, but only in schools in which Latinos constituted a clear minority of the student population.

The present study examines delayed entry and kindergarten retention in the unique cultural context of Miami, Florida, a community where, according to 2000 Census estimates, 65.8% of individuals are of Hispanic/Latino origin, 59.5% are foreign-born persons, and 74.6% speak a language other than English in the home (United States Census Bureau, 2000). A community so rich in cultural and linguistic diversity likely provides additional support for native Spanish speakers not found in many other communities throughout the United States. Business owners and patrons alike have the unique opportunity to conduct transactions almost entirely in Spanish. Children of Hispanic origin may reach 5 years of age and begin elementary school with very little prior exposure to English. It is unclear whether this extensive community support for a non-English language might translate into a protective or risk factor in terms of kindergarten retention for ELLs. Therefore, it is important to explore relationships among ethnicity, English proficiency, and retention/delayed entry in a sample of children growing up in this distinctive cultural environment.

Early Childhood Education

Another important question is whether attendance in different early childhood education programs contributes to kindergarten retention or perhaps protects young children from being retained.

There is limited research on this question, and what does exist is mixed in that outcomes vary as a function of the quality of the program attended and the socioeconomic level of the family. It is clear that, in general, attendance at a high-quality, center-based childcare or preschool program is beneficial for children's school readiness because it advances children's cognitive and language skills (Burchinal et al., 2000; Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Peisner-Feinberg et al., 2001; Sammons et al., 2004). There is also evidence that center-based and public school preschool programs are especially helpful for children in poverty (e.g., Burchinal et al., 2000) and for Hispanic language-minority children (Gormley, 2008) and that such benefits may accrue for at-risk children even under conditions of moderate program quality (Winsler et al., 2008). Inasmuch as such programs contribute to children's school readiness, one might expect such increases in readiness to translate into decreased kindergarten retention, but positive effects of childcare for reducing kindergarten retention have typically not been found (Reynolds & Bezruczko, 1993; Mantzicopoulos & Neuharth-Pritchett, 1998). This may perhaps be due to the increased behavior problems that have also been observed in children who spend many hours in center-based childcare (Belsky, 1999; Crosnoe, 2007; Magnuson, Ruhm, & Waldfogel, 2007; NICHD Early Child Care Research Network, 1998) though prior research has indicated that variables other than just hours in childcare (i.e., classroom quality, size of peer group) contribute to increased behavior problems (McCartney et al., 2010).

Among children who are specifically at-risk due to poverty, studies have found participation in early childhood education programs to be associated with both increased and decreased likelihood of kindergarten retention. Reynolds, Mavrogenes, Bezruczko, and Hagemann (1996) found that attendance at a high-quality preschool/intervention program (compared with no program) reduced the likelihood of retention in early school (not just kindergarten) and that this effect was explained by increased parent involvement in school and better child adjustment/behavior for children who attended the preschool program. These investigators went on to find that the early cognitive advantages and avoidance of grade retention that followed from participation in their high-quality preschool program mediated improved high school completion rates (Reynolds, Temple, Robertson, & Mann, 2001; Reynolds, Suh-Ruu Ou, & Topitzes, 2004). Mantzicopoulos (2003) found that 20% of children attending a Head Start program were retained in kindergarten and that such children had poorer parent–teacher communication and parent involvement in schools than did children who were promoted. This study, however, did not have a comparison group of similar children who attended no early childhood program. Finally, Blair (2001) specifically studied African American children, born preterm, who were participating in the Infant Health and Development Project (IHDP) and found that attending center-based childcare was a risk factor for retention in first and second grade (25% were retained), compared with children who stayed at home (9%) or attended Head Start (12%). Head Start attendance was associated with increased retention, compared with no program, but only for children with low levels of cognitive functioning.

The comparison groups, however, differed each time in these studies, and none examined whether type of program attendance was still associated with kindergarten retention after measures of children's school readiness were taken into account. The present study will examine delayed school entry and kindergarten retention in children who attended public school pre-K programs and those who attended center-based childcare in the community with childcare subsidies at age 4 years. Given that children's school readiness has been shown to be higher (and program quality assumed to be higher) for those attending public school pre-K programs (Winsler et al., 2008), we expected children from childcare programs to be retained more than those who attended pre-K programs. We also thought that this might remain true even after controlling for children's school readiness skills, given that the children attending pre-K programs are already located in a public school setting and, thus, might have more continuity, a smoother transition to school, and presumably, easier access to a variety of school transition practices (Schulting, Malone, & Dodge, 2005).

Consequences of Delayed Entry and Early Retention

Research on the consequences of delayed kindergarten entry is mixed, and researchers struggle with the methodological problems of finding an appropriate comparison group and controlling for the endogenous/selection variables on which those who delay their entry differ from those who do not. Generally, however, studies have shown little evidence for the presumed benefits of delayed entry in that although slight advantages in children's test scores are sometimes found for the older children in kindergarten, this advantage tends to disappear within a grade or two (Bisanz, Dunn, & Morrison, 1995; Crosser, 1991; Morrison, Griffith, & Alberts, 1997; Stipek, 2002). However, a recent well-controlled study using instrumental variables and national data from the ECLS-K showed that the benefits of delayed entry on children's math and reading test scores (both mean levels and gains over time) were notable at least for at-risk children in poverty (Datar, 2006).

There is a perception among parents and educators that retention in kindergarten or the first grade may be better for children than retention in the later grades because it might prevent later difficulties and avoid the stigma that is present with retention in the later grades (Alexander et al., 2003; Silberglitt, Jimerson, Burns, & Appleton, 2006; Uphoff & Gilmore, 1986). Despite this, research shows that retention at any grade, even in kindergarten, is associated with increased risk for later problems and school drop out, even after controlling for preexisting differences between children who were promoted versus retained (Alexander et al., 2003; McCoy & Reynolds, 1999; Shepard & Smith, 1989; Pagani, Tremblay, Vitaro, Boulerice, & McDuff, 2001; Reynolds, 1992; Temple, Reynolds, & Miedel, 2000; Willson & Hughes, 2006). Some economists argued that the "graying of kindergarten" from historical increases in delayed school entry, kindergarten retention, and changed birthday requirements to make kindergarten students older, leads to increased high school drop out because more students then become old enough to legally stop their schooling while still in high school. Given that children from low-income backgrounds are more likely to choose to stop their schooling, long-term economic disparities can result from kindergarten students being older (Deming & Dynarski, 2008).

The Present Study

Parents' and teachers' decisions about children's delayed entry into kindergarten and their retention in kindergarten appear to have

nontrivial developmental consequences for children's academic and behavioral trajectories. There are limited data available on delayed school entry and kindergarten retention among low-income, ethnically diverse families. The present study examines the prevalence and predictors of delayed school entry and kindergarten retention using data from the Miami School Readiness Project (Winsler et al., 2008). This project involves a large, countywide, community-based sample of low-income children who were either receiving subsidies to attend childcare or attending pre-K programs in the public schools. The children were assessed for multiple dimensions of school readiness at age 4 years and then followed into their kindergarten year(s) of elementary school. The research questions pursued here start by examining the extent to which individual child and family demographic variables (gender, age, free/reduced lunch, marital status, ELL status, maternal education, ethnicity) are associated with delayed entry and kindergarten retention. Then, the role of children's preschool program attendance and school readiness at age 4 years in contributing to children's kindergarten retention is examined, and as a result, we explore whether the demographic variables continue to predict retention after controlling for children's competence at kindergarten entry. Given that poverty, minority status, and gender are risk factors associated with low academic performance and high behavior problems, the very issues that often lead to kindergarten retention, it is important to tease out the unique and combined contributions of demographic variables and child competence variables in predicting children's early retention. Finally, we examine the role that children's actual academic performance in their first year of kindergarten plays in retention decisions. Since teachers and administrators must make subjective decisions about who should be retained and who should be promoted, and these decisions likely take into account factors other than just children's grades received their first time in kindergarten (Cadigan, Entwisle, Alexander, & Pallas, 1988; Gloeckler, 1986), we examine variables that continue to be associated with kindergarten retention even after controlling for children's actual academic performance in kindergarten. To our knowledge, this is the first study to date to examine predictors of retention with knowledge of children's performance in kindergarten available.

Specifically, the following research questions were explored: (a) How prevalent is delayed entry into kindergarten and kindergarten retention within this low-income, ethnically and linguistically diverse, urban sample? (b) To what extent are background variables (gender, age, free/reduced lunch, marital status, ELL status, maternal education, ethnicity) individually and collectively associated with delayed entry and kindergarten retention? (c) To what extent are retention decisions predicted by children's school readiness and type of preschool program at age 4 years and by their academic performance in kindergarten? (d) Which demographic and preschool attendance variables are still associated with kindergarten retention after controlling first for children's skills at school entry and then for their actual performance in kindergarten (the first time around)?

Method

Participants

In the largest sense, participants included 14,813 4-year-old children who participated in the first two years/cohorts (2002–2004) of the Miami School Readiness Project (Winsler et al., 2008). During their pre-K year, 52% of these children attended a public school pre-K program (72% of those attended a Title-1 public school pre-K program for free, and the other 28% paid a fee for the program at a non–Title-1 public school), and the remaining 48% attended subsidized childcare in the community. The sample represents essentially the entire county of 4-year-old children attending either fee-supported or Title-1 public school pre-K programs or receiving subsidies to attend childcare in the community during those years, minus the 8% that did not consent to the assessments and follow-up and children who were never assessed at age 4 years because of assessment scheduling/child attendance difficulties at the center. All were eligible to start kindergarten the following year according to their date of birth and county cut-off date (September 1). At this cut-off date for kindergarten entry, the average age of participants was 66 months (range: 58 to 77 months). Half of the sample (50.5%) was male; 57% of the children were Hispanic/Latino, 35% were African American/Black/Caribbean, and 8% were White/other/mixed, according to parental report on school entry documents. The vast majority (91%) of children were born in the United States, and for almost half (48%) of the children, it was reported that the child spoke a language other than English that was also used in the home (for 87% of these families, that language was Spanish). The clear majority of children (81%) qualified for free/reduced lunches, as defined by having a family income less than 185% of the federal poverty line. The subset of children who received subsidized, community-based childcare at age 4 years ($n = 4{,}907$) also had the following additional family background data available: 9% of parents were married (the remaining 91% were ether single, separated, divorced, or widowed); 33% of parents were born outside the United States; average annual family income was $16,993; average maternal education was 11.6 years.

Of the original age 4 sample, 13,191 (89%) arrived at some point for kindergarten in the Miami-Dade public school system and thus had data available to answer questions about delayed kindergarten entry. Thus, 1,622 children apparently left the county, went to a private school, or were not able to be linked longitudinally. Similarly, 11,414 children completed their kindergarten year and a subsequent year of schooling (either first grade or kindergarten a second time) and, thus, satisfied our criteria for the calculation of retention/promotion status (see below). The children who eventually entered kindergarten were more likely to have been in public school pre-K programs (rather than community childcare) at age 4 years, $\chi^2(1, N = 14{,}787) = 437.9$, $p < .001$, and had stronger language skills, $t(1{,}650.9) = 2.87$, $p < .01$, and fewer parent-reported behavior concerns, $t(11{,}362) = 2.15$, $p < .05$, compared with those who did not show up for public school. Similarly, those children who completed 2 years of early schooling in the public schools and thus remained in the study for the retention analyses were also more likely to have been in public school pre-K programs (rather than community childcare) at age 4 years, $\chi^2(1, N = 14{,}787) = 682$, $p < .001$, had stronger language skills, $t(3{,}972.2) = 4.69$, $p < .001$, and had fewer parent-reported, $t(3{,}011.1) = 2.26$, $p < .05$, and teacher-reported, $t(1{,}766) = 3.91$, $p < .001$, behavior concerns, compared with those who did not stay in the public schools for 2 years. Therefore, it appears that the children who never entered public school kindergarten in Miami-

Dade County or left after their initial year were slightly less competent in terms of school readiness than children who stayed.

Procedures and Measures

During the fall of their 4-year-old pre-K year, children were individually assessed for school readiness (measures discussed below) by either independent well-trained assessors (in the case of children attending community-based childcare) or by their pre-K teachers (in the case of children attending public school pre-K). Additional details about the child assessments at age 4 years are found elsewhere (De Feyter & Winsler, 2009; Winsler et al., 2008).

With the assistance of the public school system and consent from the families, children were carefully and successfully matched with school records. Additional information was collected from these school records, including the grade level of the student each year, end-of-the-year final grades/progress reports from the teacher (sum of all 11 domains on which children received the marks of "Unsatisfactory" [=1]," "Satisfactory" [= 2], or "Excellent" [=3]), children's home language/ELL status (parent report of home language on entrance to kindergarten and receipt of the school district's English screener), and receipt of a free/reduced lunch. For this study, such information was collected for 2 years for each cohort (i.e., the kindergarten and first grade years for two cohorts of children on a typical trajectory). These background variables along with age of child as of September 1, gender, ethnicity (White, Black, Latino), parental education (in years), and marital status (married/other) were used as predictors and/or control variables in analyses.

Cognitive, language, and fine motor skills at age 4 years. The Learning Accomplishment Profile–Diagnostic (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992), a norm-referenced developmental assessment, was individually administered to all children during the fall of the pre-K year. The LAP-D scores used here measure three domains, each with two subscales: cognitive (counting and matching), language (naming and comprehension), and fine motor (writing and manipulation). National percentile scores were used in the analyses to increase interpretability and to control for age. Bilingual assessors administered the LAP-D in the child's stronger language (English/Spanish) as determined by teacher report or, in some cases, determined by the assessor after talking with the child in both languages. The LAP-D demonstrates good construct validity, internal consistency, and test–retest reliability (Nehring et al., 1992). With the Miami sample, internal consistency reliability for these LAP-D scales was shown to be between .93 and .95 (Winsler et al., 2008).

Socioemotional skills and behavior problems at age 4 years. Teachers and parents completed the Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) in the fall of children's 4-year-old preschool year. The DECA yields a scale for the child's total socioemotional strengths or protective factors, which is an aggregate of three subscales (initiative, attachment, and self-control), with larger numbers indicating stronger socioemotional skills. The scale for behavioral concerns was also used, with higher scores indicating more behavior problems. The DECA has been used widely (De Feyter & Winsler, 2009; Jaberg, Dixon, & Weis, 2009; Lien & Carlson, 2009) and has demonstrated good internal consistency and reliability (LeBuffe & Naglieri, 1999). Teachers and parents chose to complete either the Spanish or English version of the form (20% of teachers and 34% of parents chose the Spanish form). With this sample, the DECA had acceptable internal consistency reliability (.91 for parent protective factors, .94 for teacher protective factors, .72 for parent behavior concerns, and .81 for teacher behavior concerns), which did not vary by language of form or by rater (Crane, Mincic, & Winsler, 2011; Winsler et al., 2008).

Delayed kindergarten entry. Delayed entry into kindergarten was defined by satisfying the following criteria: (a) the child did not appear in kindergarten the first year even though he or she was 5 years old on or before September 1 of that academic year, (b) the child appeared the following academic year as a kindergartener in the public schools, and (c) the child had end-of-year kindergarten grades.

Kindergarten retention. Four criteria had to be met for a child to be considered retained in kindergarten. First, the child had to enter kindergarten on time at their first opportunity, by being 5 years of age by September 1. Second, the child had to complete that year of kindergarten, as demonstrated by having final grades for that initial kindergarten year. Third, the child had to appear in kindergarten for a second time the following academic year according to the school system. Last, the child had to have final grades for the second, subsequent year in kindergarten. Children were considered to be promoted to first grade on time based on the following four criteria: (a) the child appeared on time in kindergarten (same as above), (b) the child had end-of-year kindergarten grades for that first year, (c) the child appeared in first grade the following academic year, and (d) the child had end-of-year grades for that year in first grade. Thus, children who started school on time but disappeared from the public school system during their kindergarten or first grade year and did not complete these grades (n = 1,216) were excluded from consideration in retention analyses.

Results

The strategy we used for data analysis was to first examine the overall prevalence of the dichotomous outcomes of delayed entry (1 = yes, 0 = no) and retention in kindergarten (1 = yes, 0 = no) within this sample and then to report bivariate correlates of each outcome through chi-square analyses for categorical, and analyses of variance, for continuous predictors. We then tested a developmentally informative, hierarchical, multivariate, logistic regression model to predict kindergarten retention (insufficient cell sizes precluded this option for analyses of delayed kindergarten entry). We determined that hierarchical linear models (HLMs) were not necessary to account for children being nested in schools because variance components analyses indicated less than 4% of the outcome variance was attributable to schools.

Delayed Kindergarten Entry

Overall, delayed kindergarten entry was very rare for children attending public school pre-K programs or receiving subsidies to attend childcare in the community at age 4 years. Only 62 children (0.5%) entered public school kindergarten a year later than suggested by their date of birth. It is clear that voluntary delayed entry into kindergarten is not prevalent

among this at-risk sample of ethnically diverse children largely in poverty.

Bivariate correlates—demographics. Table 1 shows the percentage of children who delayed their entry into kindergarten as a function of various demographic variables. Ethnicity (Black, Latino, White) was not related to delayed entry, $\chi^2(2, N = 12{,}933) = .09$, *ns*. There was a gender difference, in which the majority of those who delayed their entry to school were boys, compared with an even gender distribution for those who started kindergarten on time, $\chi^2(1, N = 13{,}183) = 4.87$, $p < .05$. Income was associated with delayed entry in that all but one of the children who delayed entry into kindergarten were from families who did not qualify for free/reduced lunches, $\chi^2(1, N = 13{,}191) = 200.0$, $p < .001$. ELL status was strongly associated with delayed entry in

Table 1
Bivariate Correlates of Delayed Entry in Kindergarten

Variable (*N*)	Delayed entry	Regular entry	Odds ratio	Cohen's *d*
Full sample % (13,191)	0.5	99.5		
Ethnicity				
White/other % (895)	6.6	6.9		
Black % (4,643)	37.7	35.9		
Latino/Hispanic % (7,395)	55.7	57.2		
Gender*				
Male % (6,663)	64.5	50.5	Male/female = 1.78	
Female (6,520)	35.5	49.5		
ELL status*				
ELL % (6,400)	3	49	ELL/non = 0.04	
Non-ELL % (6,791)	97	51		
Free/Reduced Lunch Status*				
Free/reduced % (= 10,158)	1.6	77.4	Poverty/non = 0.005	
No % (3,033)	98.4	22.6		
Marital status				
Married % (354)	97.6	91.5		
Other % (3,850)	2.4	8.5		
Preschool type*				
Community childcare % (5,606)	92	42	Childcare/public school = 15.5	
Public school pre-K % (7,563)	8	58		
Title 1 PS % (4,918)	50	72		
Fee supported % (1,915)	50	28		
Maternal education*				
M	11.0	11.7		0.41
SD	1.8	1.7		
Child age in months on September 1				
M	64.47	66.16		0.48
SD	3.4	3.6		
LAP-D				
LAP-D Cognitive*				
M	19.07	43.91		0.86
SD	19.6	29.9		
LAP-D Language*				
M	13.81	35.15		0.79
SD	18.5	28.8		
LAP-D Fine Motor*				
M	26.66	48.55		0.75
SD	26.7	30.2		
DECA				
Teacher protective factors*				
M	34.76	53.85		0.71
SD	26.3	28.2		
Teacher behavior concerns*				
M	63.84	48.03		0.54
SD	27.9	29.4		
Parent protective factors*				
M	29.05	48.62		0.65
SD	25.7	30.8		
Parent behavior concerns*				
M	86.16	69.06		0.63
SD	18.8	28.5		

Note. ELL = English language learner; pre-K = prekindergarten; PS = public school; LAP-D = Learning Accomplishment Profile–Diagnostic; DECA = Devereux Early Childhood Assessment.
* $p < .05$.

that practically all of those who delayed their entry into school were native English speakers, compared with an even native/ELL distribution among those who went to kindergarten on time, $\chi^2(1, N = 13{,}191) = 51.2$, $p < .001$. Parent marital status (married vs. other; available for community childcare children only) was not significantly associated with children's delayed entry, $\chi^2(1, N = 4{,}204) = 2.0$, $p = .16$. Children who attended childcare in the community with the assistance of subsidies were more likely to delay their entry into kindergarten than those who attended public school pre-K programs, $\chi^2(1, N = 13{,}169) = 62.1$, $p < .001$. Within those attending public school pre-K programs, there was no difference in terms of delayed entry between those attending Title-1 versus fee-supported (non Title-1) pre-K. Finally, associations between the continuous demographic variables and delayed entry are also found in Table 1, and the means are given for both the delayed entry and regular entry groups. The groups differed on child age with children who delayed entry into kindergarten being slightly younger than on-time children at the time point when both groups were eligible to start kindergarten, $t(13{,}189) = 3.74$, $p < .001$. Maternal education was also lower for children who delayed kindergarten entry, compared with those who went to school on time, $t(41.7) = 2.01$, $p < .05$.

Bivariate correlates—child school readiness. Also found at the bottom of Table 1 are children's school readiness scores listed separately for those who delayed their entry and those who did not. There were large differences in child functioning on all assessments at age 4 between those who delayed their school entry and those who did not. Children who waited a year to start kindergarten had poorer cognitive, $t(57.4) = 9.50$, $p < .001$, language, $t(58.57) = 8.73$, $p < .001$, and fine motor skills, $t(57.8) = 6.21$, $p < .001$. They also had poorer social skills as reported by their teacher, $t(11{,}454) = 4.83$, $p < .001$, and parent, $t(37.4) = 4.62$, $p < .001$, as well as more behavior problems reported by their teacher, $t(11{,}454) = 3.84$, $p < .001$, and parent, $t(37.6) = 5.58$, $p < .001$. An examination of the distributions revealed that for each domain, there were a large number (around 20) of the delayed-entry children who scored very low (around the 10th percentile) on the assessment, but there were also other children who delayed entry into kindergarten who had higher scores within the normal range. It is clear that the children of parents who choose to delay school entry tended to be lower functioning across many domains of readiness. In addition, these children were more likely to be male, English-speaking, attend community-based childcare, have parents with less education, and not be in poverty.

Kindergarten Retention

Bivariate correlates—demographics. A total of 500 (4.4% of the sample) children were retained, and they completed a second year of kindergarten. Table 2 shows the proportion of children with different background characteristics who were retained versus promoted and, for the continuous variables of age and maternal education, mean differences between those retained and those promoted. We felt it important to report bivariate associations between all variables and child retention both to compare with other studies that report simpler associations without controlling for other variables and because it is informative to see which raw associations disappear when more variables are included in multivariate models (see below). Black children were more likely to repeat kindergarten, compared with Caucasian children, $\chi^2(2) = 8.49$, $p < .05$. Boys were twice as likely as girls to be retained, $\chi^2(1) = 52.8$, $p < .001$. There was no difference in retention between native speakers of English and ELL students, $\chi^2(1) = 1.94$, $p = .16$. Children who qualified for free/reduced lunches had about 4 times greater odds of being retained in kindergarten than did those not in poverty, $\chi^2(1, N = 11{,}414) = 72.2$, $p < .001$; in fact 93% of those who were retained received free/reduced lunches. Children from families in which the parents were married were less likely to be retained than those from single parent or other types of families, $\chi^2(1, N = 3{,}664) = 9.0$, $p < .01$, with 97% of those retained coming from single-parent homes. Children who attended a public school pre-K program were about half as likely to be retained as those who attended community-based childcare, $\chi^2(2, N = 10{,}781) = 76.5$, $p < .001$. Among those who attended public school pre-K, those who went to a Title-1 program for free were more likely to be retained than were those who paid fees and went to a pre-K program in a non-Title-1 school. Children who were retained were slightly younger than children promoted to first grade on time, $t(11{,}412) = 9.58$, $p < .001$, and also tended to have mothers with slightly less education, $t(241.1) = 2.34$, $p < .05$.

Bivariate correlates—child school readiness. Table 2 also displays the means and standard deviations for the school readiness assessments conducted at age 4 for those who were retained in kindergarten and those who were promoted. For each measure, there were large differences between these two groups, indicating that the children who repeated their kindergarten year were definitely functioning at a lower level a year earlier on cognitive, $t(481.9) = 21.26$, $p < .001$, language, $t(519.4) = 26.01$, $p < .001$, and fine motor skills, $t(467.5) = 21.66$, $p < .001$. These children also had poorer social skills as reported by their teacher, $t(9{,}925) = 12.26$, $p < .001$, and parent, $t(8{,}857) = 7.82$, $p < .001$, as well as more behavior problems as reported by their teacher, $t(456.1) = 13.32$, $p < .001$, and parent, $t(405.8) = 7.29$, $p < .001$. Children's performance the first time in kindergarten, as indicated by their end-of-the-year grades, is also listed at the bottom of Table 2. As expected, children who were held back in kindergarten received significantly worse grades their first year in kindergarten (on average, about half "unsatisfactory" and half "satisfactory" marks) than did those who were promoted to first grade (about half "satisfactory" and half "excellent" marks).

Multivariate prediction. We tested a developmentally informative, hierarchical, multivariate, logistic regression model to predict kindergarten retention. The first block of the regression model examined the contributions of child/family demographic variables (gender, age, free/reduced lunch, marital status, ELL status, maternal education, ethnicity) as they came together to predict kindergarten retention. Next, the age-4 school readiness indicators and type of preschool program attended by the child during the pre-K year were entered in Block 2 not only to examine the role of preschool program and child school-entry competence in predicting retention but also to identify demographic variables that were previously associated with retention in Step 1, only because they contributed to children's school readiness. That is, if the coefficient for a demographic variable was no longer significant after children's school readiness was included in the model, it would suggest that that variable was related to retention only indirectly because it was related to child readiness at school entry. Finally, in Block 3, children's actual academic performance during

Table 2
Bivariate Correlates of Kindergarten Retention

Variable (*N*)	Retained	Promoted	Odds ratio	Cohen's *d*
Full sample % (11,414)	4.4	95.6		
Ethnicity*				
White/other % (912)	3.0	97		
Black % (3,960)	5.0	95	Black/White = 1.73	
Latino/Hispanic % (6,539)	4.2	95.8		
Gender*				
Male % (5,457)	6.1	93.9	Female/male = 0.501	
Female % (5,387)	3.1	96.9		
ELL status				
ELL % (5,633)	4.7	95.3		
Non-ELL % (5,781)	4.1	95.9		
Free/reduced lunch status*				
Free/reduced % (8,873)	5.3	94.7	Poverty/non = 4.09	
Not % (2,541)	1.3	98.7		
Marital status*				
Married % (293)	2	98	Other/married = 3.28	
Other % (3,371)	6.4	93.6		
Preschool type*				
Community childcare % (4,851)	6.2	93.8	Public school/childcare = 0.47	
Public school pre-K % (6,545)	3.0	97		
Title 1 PS % (4,235)	3.7	96.3	Fee supported/Title 1 school = 0.37	
Fee-supported PS % (1,695)	1.4	98.6		
Maternal education*				
M	11.3	11.6		0.17
SD	2.1	1.7		
Child age in months on September 1*				
M	64.47	66.22		0.44
SD	3.41	3.53		
LAP-D				
LAP-D Cognitive*				
M	21.5	44.8		0.86
SD	21.1	29.8		
N	405	8,737		
LAPD Language*				
M	13.58	35.97		0.83
SD	16.0	28.7		
N	396	8,644		
LAP-D Fine Motor*				
M	23.9	49.6		0.95
SD	22.9	29.9		
N	403	8,732		
DECA				
Teacher Protective Factors*				
M	37.4	54.7		0.62
SD	27.5	28.0		
N	414	9,513		
Teacher behavior concerns*				
M	65.0	47.0		0.63
SD	26.8	29.2		
N	414	9,513		
Parent protective factors*				
M	36.1	49.2		0.43
SD	30.8	30.7		
N	363	8,496		
Parent behavior concerns*				
M	78.1	68.5		0.34
SD	24.4	28.6		
N	363	8,496		
Kindergarten performance				
Overall kindergarten grades* (first time)				
M	1.63	2.34		2.02
SD	0.29	0.38		
N	500	10,050		

Note. ELL = English language learner; pre-K = prekindergarten; PS = public school; LAP-D = Learning Accomplishment Profile–Diagnostic; DECA = Devereux Early Childhood Assessment.
* $p < .05$.

their (first) kindergarten year was added, allowing us not only to confirm the likely large role that children's kindergarten performance plays in retention but also to see which other variables might still be associated with kindergarten retention decisions even after child performance in kindergarten was taken into account. Because teacher report on the DECA was more strongly associated with child outcomes and retention than was parent report and to avoid the loss of cases that would ensue with deletion of those without both parent- and teacher-report measures, we included just teacher-report of child social skills and behavior problems in the logistic regression models. Note that for ethnicity and for preschool type, all three relevant contrasts are provided in Table 3. The third contrast was obtained by changing the reference group and rerunning the model. The results of the logistic regression are provided in Table 3, with each step moving from left to right in columns.

As is seen in the first column of Table 3, when the demographic variables of child ethnicity, gender, free lunch, and ELL status are entered together to predict kindergarten retention, only gender and free/reduced lunch status were significant. When only demographic variables were considered, girls were about half as likely to be retained, compared with boys, and those in poverty had significantly greater odds of being retained than did those who did not qualify for a free/reduced lunch in kindergarten.

In Step 2, when children's school readiness and preschool experience at age 4 were entered, we see that, as would be expected, each of the school readiness indicators was associated with the probability of being retained in kindergarten, with higher cognitive, language, social, and motor skills and fewer behavior problems associated with decreased odds of being retained. The odds of being retained decreased slightly with each 1-point increase in each of the continuous test scores, controlling for the other variables in the model. Children's preschool experience was also significantly associated with kindergarten retention. Low-income children who attended community-based childcare with the assistance of subsidies had more than twice the odds of repeating kindergarten than did their similarly low-income peers who attended Title-1 pre-K programs within the public school system at age 4 years. The same was true when comparing children not in poverty who paid to attend a pre-K program in the public schools to those who attended childcare in the community. Those in the pre-K program were about half as likely to be retained as those in childcare at age 4 years. There was no difference in the retention rate between children who attended the two types of public school pre-K programs.

It is important to note that with child school readiness included in Step 2, the gender effect disappeared, indicating that the only reason why boys were considered more likely to be retained in the earlier step with just demographics was because, according to the school readiness tests, they arrive at kindergarten with poorer language, cognitive, motor, social, and behavioral skills than girls. It is these school-entry skills that are associated with performance in kindergarten and with retention. Thus, there does not appear to be a systematic bias against boys, per se, in retention decisions—the decisions appear to be more related to the children's actual skills. Also of note is that even after controlling for children's school readiness and preschool experience, poverty status in kindergarten as defined by free/reduced lunch qualification continued to be a predictor of kindergarten retention, with children receiving free/reduced lunches being about twice as likely to repeat kindergarten, compared with those not receiving lunch subsidies. Also of considerable interest was that after child school-readiness skills were included, child ELL status became a significant predictor of

Table 3
Hierarchical Logistic Regression Predicting Kindergarten Retention by Child Demographics (Step 1), Preschool Type, School Readiness at Age 4 Years (Step 2), and Kindergarten Performance (Step 3)

	Step 1		Step 2		Step 3	
Predictor	Odds ratio	*SE*(*B*)	Odds ratio	*SE*(*B*)	Odds ratio	*SE*(*B*)
Demographics						
Latino/White[a]	1.04	0.271	0.82	0.285	0.64	0.358
Black/White[a]	1.03	0.267	0.68	0.284	0.43*	0.360
Black/Latino[a]	1.18	0.224	1.02	0.236	0.85	0.295
Female	0.55*	0.122	0.87	0.130	1.18	0.163
Not free-reduced lunch	0.24*	0.261	0.56*	0.290	0.67	0.358
Non-ELL	1.29	0.155	1.68*	0.162	1.96*	0.204
Preschool type[a]						
Fee pre-K/community CC			0.51*	0.181	0.68	0.227
Fee pre-K/Title 1 pre-K			1.37	0.386	1.27	0.445
Community CC/Title 1 Pre-K			2.34*	0.371	1.73	0.427
School readiness at age 4						
Cognitive			0.97*	0.005	1.0	0.004
Language			0.98*	0.004	0.98*	0.005
Fine motor			0.99*	0.003	1.0	0.004
Social skills (teacher TPF)			0.99*	0.003	0.99*	0.003
Behavior problems (teacher BC)			1.01*	0.003	1.0	0.003
Grades in kindergarten (first time)					0.001*	0.340

Note. ELL = English language learner; pre-K = prekindergarten; CC = childcare; TPF = total protective factors; BC = behavior concerns.
[a] All three contrasts (rerunning the model with a different reference group category) are provided here because each is of interest.
* $p < .05$.

retention in kindergarten, with native speakers of English being *more* likely to be retained than students who were ELLs.

In the third and final step, we entered children's actual performance in terms of their end-of-the-year grades in kindergarten. Practically by definition, children who are retained in kindergarten are those who do poorly in terms of kindergarten grades. Thus, entering children's overall grades in kindergarten (their first time) in the last step of the regression allowed us not only to confirm that the children retained were, in fact, those who performed poorly in kindergarten but, more importantly, to examine other factors that continue to be involved in retention decisions, even when children's poor performance the first time around in kindergarten is known. Not all children who receive very low grades in kindergarten repeat the grade, and not all children retained received low grades their first time in kindergarten. Thus, this step informs us as to the factors influencing retention decisions when all information is considered. As expected, poor kindergarten grades were very strongly associated with repeating kindergarten. Also, somewhat to be expected given their association with kindergarten performance, most of the school readiness assessments conducted a year earlier were no longer associated with retention after controlling for how well the children actually did in kindergarten during their first year. Language skills and teacher-reported child social skills, however, still uniquely predicted which children would ultimately repeat kindergarten, with higher skills linked to a lower chance of repeating the grade even after controlling for children's poor kindergarten performance. Also of note, the type of preschool children attended did not matter for kindergarten retention after accounting for children's actual performance their first time in kindergarten.

It is important to note that ELL status continued to be related to a lower likelihood of being retained in kindergarten, compared with native speakers of English, even after children's performance in kindergarten was included. Finally, and of some note, child ethnicity emerged as a significant predictor of repeating kindergarten after children's performance in kindergarten (and other variables) were accounted for, with White children being about twice as likely to repeat kindergarten, compared with Black children (when everything else including kindergarten performance was included in the model).

Marital status and maternal education. A final regression model was run separately to explore the influence of the two demographic risk factors (parental education and marital status) that were only available for the smaller subset of children attending childcare. The full model in Step 3 above was run again, but this time with parental education and marital status included. Preschool type could not be included in this model because there was no information about parent education and marital status for those who attended public school pre-K. Neither of these variables was associated with kindergarten retention in the context of the full model.

Discussion

The goals of this investigation were twofold: (a) to describe the prevalence of delayed kindergarten entry and kindergarten retention within an urban, low-income, linguistically and ethnically diverse community sample in Miami, Florida, and (b) to examine the child, family, and childcare history predictors of these important early school transition events. Most prior research on delayed entry and retention has involved less ethnically diverse and more advantaged samples, and thus, it is important to investigate these issues among low-income, largely Latino and Black children. The present study also adds to the literature in that we had independent measures of children's school readiness at age 4 years as well as first-time kindergarten performance, and thus, we were able to examine the role of school readiness and early school performance in retention as well as tease apart variables that still predict kindergarten retention after first controlling for child competence upon school entry and children's performance their first time in kindergarten.

Delayed entry into kindergarten was very rare among this at-risk, ethnically diverse sample, occurring for only .5% of children. Consistent with prior research estimating the prevalence of redshirting to be as high as 9% (Alexander et al., 2003; Datar, 2003; Zill et al., 1997), it appears here that redshirting, or voluntarily delaying a child's entry into kindergarten, is more common among families with greater financial means (Cosden et al., 1993; Gredler, 1992) and much less common among the low-income families receiving subsidies to attend childcare or attending the public school pre-K programs that were studied here. This may be because delaying a child's entry into kindergarten means that another year of childcare will have to be arranged, as opposed to free participation in a kindergarten classroom. Delayed kindergarten entry may be an option that is too expensive for low-income parents that need to work in order to provide for their families (Frey, 2005).

Although rare, the decision to delay a child's entry into kindergarten was still systematic—those choosing to wait a year before entering kindergarten were more likely to be boys, to be native speakers of English rather than ELLs, to not receive free or reduced school lunch, to have attended childcare in the community rather than a public school pre-K program, to have mothers with less education, and to score significantly lower on all assessments of cognitive, language, motor, social, and behavioral skills at age 4 years. Children who delayed entry into public schooling were also slightly younger, on average, than their peers who started kindergarten on time. Thus, it is clearly lower functioning children who wait an additional year before entering kindergarten, and this is consistent with the common notion that teachers and parents often want to give "immature" children the gift of another year to catch up to their peers (Frey, 2005; Graue & DiPerna, 2000). Further, prior research has indicated that parents of children with birthdays close to the cut-off for kindergarten eligibility are more likely to delay their child's start into public schooling, as these children would be young for their grade (compared to their peers) if they started kindergarten on time (Frey, 2005). Bredekamp and Shepard (1989) and Kagan (1990) found that delayed entry may also be a function of scores on school readiness screeners, whereby parents of children who score low on these screeners are advised to wait a year before placing their children into kindergarten. Unfortunately, we do not know with this sample the extent to which teachers might have encouraged parents to delay kindergarten entry, but we did find that even within this largely low-income and at-risk sample, children who scored lower on the school readiness assessments were more likely to delay their entry.

That children who attended childcare in the community with subsidies were considerably more likely to delay entry into kin-

dergarten, compared with those going to public school pre-K programs, is interesting and worthy of speculation and additional research. One possibility is that childcare subsidies may help allow low-income working families to pay for an additional year of preschool before the child starts school. Another more likely explanation is that once families get into the public school system in the context of a pre-K program at age 4 years, they feel like school has already "started" for the child, and the system is already set up for the child to be advanced to kindergarten next year, so parents may feel they do not have the option of waiting another year before starting kindergarten. Plus, parents would likely have to find another, new, nonpublic school option for childcare for the intervening year before awkwardly bringing the child back to the public school system the following year to officially start kindergarten.

Whether giving these children an additional year before starting kindergarten helps them down the road is an important question that has been explored somewhat in prior research. For instance, in a study of 314 second-grade children, Kundert, May, and Brent (1995) found that children who had experienced delayed kindergarten entry performed no better or worse in terms of academic achievement than did children who had been retained in grade. The utility of academic redshirting needs further empirical investigation, especially with more diverse samples. Indeed, we are in the process of following the children from the current study for the next few years of elementary school to answer this question for our sample. However, although the frequency of delayed entry was low, and this was an at-risk sample with restricted range on family income, the characteristics of children who delayed entry in the current study mirror other studies in that these children were more likely to be lower functioning boys from families with greater income. In a departure from the findings of other research with more advantaged samples that children who delay school entry tend to have more educated parents, it is interesting to note that in this at-risk, low-income sample, lower maternal education was associated with increased delayed entry. If children of mothers with very little education are more likely to have behavior problems and be less academically "ready" for kindergarten, compared with children of more educated mothers, it is possible that teachers may be encouraging delayed school entry as an option for these families.

Overall, 4.4% of this at-risk sample of children was retained in kindergarten, which is slightly lower than some national estimates discussed in the introduction, though similar to rates found in the ECLS-K. Bivariate predictors of retention included child ethnicity (Black children were more likely than Caucasians to be retained), gender (boys were retained more), poverty status (children qualifying for a free/reduced lunch were retained more), marital status (children of single parents were retained more), maternal education (children of less-educated parents were retained more), and preschool type (children in community childcare were retained more). It is important to note, however, that these factors were also associated with children's school readiness at school entry and with children's performance in kindergarten—two things that are clearly related to, but not the same as, kindergarten retention. This study, thus, made a unique contribution to the literature by examining which demographic variables continued to be related to kindergarten retention once children's school readiness assessments and kindergarten performance were controlled. Most of the demographic predictors ceased to be related to retention, except for poverty, ELL status, and preschool type once children's school readiness was taken into consideration. Gender, maternal education, and marital status were only associated with kindergarten retention because they were associated with children's school readiness at kindergarten entry, with child readiness being more important in predicting who will do poorly in kindergarten and subsequently be retained. It is notable that children receiving free/reduced lunches were still more likely to be retained than those with more economic means, after controlling for children's school readiness. This lends additional support for the strong role that family income plays as a risk factor for children's performance in early school (Duncan & Magnuson, 2005; Entwisle & Alexander, 1999; Janus & Duku, 2007). Further, it would appear that poverty was associated with early retention because of its links with children's performance in kindergarten. After first-time kindergarten grades were included, free/reduced lunches were no longer associated with retention.

Several notable findings emerged with respect to child ethnic group membership. First, ethnicity was not related to delayed entry within this sample of low-income, Latino, Black, and White/other children. This finding is consistent with the literature in that although it is clear that delayed entry to school is much more common among affluent families, compared with those with fewer resources, ethnic group differences are rarely reported, as the emphasis has been on socioeconomic status rather than ethnicity (Cosden et al., 1993; Gredler, 1992). In terms of kindergarten retention, bivariately, child ethnicity was related to retention, with Black children being slightly more likely to be retained than White/other children. However, this difference disappeared after controlling for children's school readiness at age 4 years. Most previous studies reporting on ethnic differences in retention do not control for children's school readiness (Alexander et al., 2003; Blair, 2001; Frey, 2005; Hauser, 2001), so it could be that well-known differences in school readiness and performance that exist across ethnic groups (Dauber et al., 1993) can explain earlier findings of ethnic group differences in retention. Indeed, there was no evidence of systematic bias in the early retention of minority children after all information was included in the full model (Step 3). To the contrary, it was White/other children who were twice as likely to be retained in kindergarten, controlling for other demographics, school readiness, and kindergarten school performance. Although others have reported school systems to be more likely to retain Black children (Alexander et al., 2003; Cosden et al., 1993; Dauber et al., 1993; Frey, 2005; Hauser, 2001), this does not appear to be happening in Miami, at least not in kindergarten. It is likely that other studies finding increased retention for Black children have not controlled for child skill levels and performance in the retained grade in question, as was done in the present study. Another intriguing possibility emerges after considering the unique ethno-cultural context of Miami in that Hispanic/Latinos and Blacks are actually the ethnic majority within the school system, and so the White/other group examined here was the minority. Another possibility is that something that varies by child ethnicity but that is not measured in the present study might become important for teachers/administrators and parents when making retention decisions. It is important to note that the data from this study only indicate what actually happened in terms of when children entered kindergarten and whether they repeated

kindergarten a second time. Unfortunately, we do not know whether any of these decisions were mandated by the school or teacher, "encouraged" by school personnel, with the ultimate decision still lying in the hands of the parents or voluntarily chosen by parents with no particular input or encouragement from the school. One possibility, for example, is that Caucasian parents may be more likely to choose to have their children repeat kindergarten even when the school system is ready to promote their child, and parental choice (rather than institutional bias) might explain the finding that White children were more likely to repeat kindergarten after controlling for performance in kindergarten the first time. Parents concerned about possible *later* retention of their child, for example, might choose to get it over with early to avoid the potentially more detrimental consequences of retention later, or Caucasian parents could be more positively disposed to the idea of repeating kindergarten for the same reason that academic redshirting is attractive to some: to give their child an age advantage later on in school. That we could find no previous research on the issue of ethnic differences in parent perspectives on, or preferences for, kindergarten retention suggests that this is an important topic for further research.

A strong contribution of this study to the literature is the provision of much-needed data about delayed entry and kindergarten retention among linguistically diverse ELLs. Although there is clear concern about ELL students being overidentified for special education services and remedial literacy programs (Artiles, Rueda, Salazar, & Higareda, 2005), the extent to which parents of low-income Spanish-speaking children (who are struggling with the additional goal of becoming fully proficient in English) might be voluntarily delaying their children's entry into kindergarten, or the extent to which their children are retained in kindergarten, has not been explored. The evidence is clear from this study that in the community of Miami, where there is much sociolinguistic support for the Spanish language and where Latinos/Hispanics are the majority, ELL students are generally not delaying their entry into the school system and are rarely repeating kindergarten. In fact, ELL students were significantly less likely to experience both of these events, compared with native English speakers, and in the case of retention, this was true even after controlling for child school readiness, children's performance in kindergarten the first time around, and other family demographics. The relative success of ELL students with respect to these early elementary school transitions is consistent with other research finding that Latino/Hispanic children, as a group, and immigrant students in particular, are more likely to have strong social skills and low behavior problems, compared with other groups (Crosnoe, 2006; De Feyter & Winsler, 2009), and that they do well, at least in early elementary school settings, as long as their language development is well supported (García & Jensen, 2009; Tillman, Guo, & Harris, 2006). It is also important to note that although there is certainly support for Spanish within the larger Miami community, the public school system does mandate English-only instruction for all grades, including kindergarten. Thus, it is even more impressive that the ELL students avoid grade retention, at least early on, given that the language of instruction is presumably exclusively English. It will be critical to follow such children throughout their extended school experience to understand the factors that lead them eventually to be at-risk for low academic achievement and high school dropout (Aud, Fox, & Kewal Ramani, 2010; Willson & Hughes, 2006), but there does not appear to be a retention or delayed entry problem in kindergarten for Latino/Hispanic children learning English. It is important to note, however, that Spanish (the first language of most in the sample) is highly supported in Miami, and English language learning status might not be a buffering factor for early promotion in other communities with less support for children's first language or where ELL children are rare and represent a clear minority group (Han & Bridglall, 2009).

It is notable that children who attended public school pre-K programs were less likely than children in subsidized community-based care to delay their entry and repeat kindergarten, even after controlling for family demographics and children's school readiness, in the case of retention. This is the first study to our knowledge to have explored this. Early exposure to the public school system in the context of pre-K programs may help at-risk children progress normally in terms of their early academic promotion trajectories. Other studies have found that children in public school pre-K programs make greater school readiness gains in their 4-year-old year than do those in center-based childcare in this community (Winsler et al., 2008). Thus, part of the center type effect in this study can be explained by the more advanced school-related competencies of the public school pre-K children by the time they reached kindergarten. However, it is likely that there are also other contextual factors that may account for this effect, such as familiarity with the public school setting and with the kindergarten teachers, indicated by the fact that for retention, the effect of type of preschool experience was still significant even after children's school readiness was accounted for. The fact that preschool type was no longer associated with retention after children's grades in kindergarten were included in the model, however, suggests that the effect of preschool type on retention is due to children coming from pre-K programs doing better academically in kindergarten, compared with those previously in childcare. Another possibility, of course, is that unmeasured selection differences between those who choose public school pre-K over subsidized childcare could explain these findings. In any case, the results of the present investigation give modest additional support for the efficacy of public school pre-K programs (Bogard & Takanishi, 2005; Gormley, 2008; Gormley, Gayer, Phillips, & Dawson, 2005; Howes et al., 2008; Winsler et al., 2008).

The fact that the children who delayed their entry or who were retained in kindergarten were those who had the lowest scores on language, cognitive, and fine motor assessments a year earlier, as well as more behavior problems and poorer social skills (as reported by teachers and parents), is strong evidence for the importance of early childhood school readiness assessment and suggests that the assessments used here (the LAP-D and DECA) are helpful in identifying children at risk for poor kindergarten performance and retention. Indeed, the school readiness instruments were the strongest predictors of kindergarten delay and retention, and most of the child demographic variables were associated with kindergarten retention simply because they are also risk factors for school readiness, and they did not contribute uniquely to this prediction after including school readiness. This is of considerable practical significance for parents as it shows that if their child scores very low on such assessments and/or is viewed by their preschool teacher as having behavior problems or poor social skills, then she or he is at notably increased risk for repeating kindergarten, and some kind of intervention is likely called for.

This study, thus, joins others in showing that early childhood assessments have predictive validity in relating to child academic outcomes a year or two down the road (Duncan et al., 2007; La Paro & Pianta, 2000). Finally, it is of note that of the child assessments, only language skills (in English or Spanish) and social skills were still predictive of retention after kindergarten grades were controlled. This suggests that child language and social skills come into play by parents and/or teachers when final kindergarten retention/promotion decisions are made and that these areas would be important targets for early intervention.

As is the case with all research, especially that using existing agency records from a large-scale community project, there are numerous limitations to consider. First, we did not have qualitative information about who made the final decision to retain the children and why. Thus, the extent to which parents and school system personnel agreed or conflicted with respect to retention decisions remains unclear. Also, it is unfortunate that we did not have access to complete demographic data from all participants. Second, the fact that this study took place in one unique cultural community, namely Miami, Florida, can be both a strength and a limitation. On the one hand, the generalizability of these results to other communities is clearly limited. However, on the other hand, it is important to study developmental processes in diverse and understudied cultural contexts. The present study provided much-needed data on a large sample of early school transitions for low-income, ethnically and linguistically diverse children. An important step for future research would be to follow such children longitudinally to determine the potential long-term positive or negative consequences of delayed school entry and kindergarten retention.

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