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Child, Family, and School Characteristics Related to English Proficiency Development Among Low-Income, Dual Language Learners

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Little is known about 2nd language development among young, low-income, language-minority children. This article examined the longitudinal English development of low-income, dual language learners (DLLs) in Miami (n = 18,532) from kindergarten through 5th grade. Growth curve modeling indicated that social skills, good behavior, Spanish (L1) competence in preschool, having a mother born in the United States, and attending larger schools with fewer DLLs were associated with higher initial levels of English proficiency in kindergarten and/or steeper growth over time. Survival analyses indicated that it took about 2 years for half of the sample to become proficient in English according to the school district's criterion. Higher initial proficiency in kindergarten, not receiving free/reduced lunch, not being Hispanic or Black, strong cognitive, language, and socioemotional skills at age 4, and maternal education were associated with faster attainment of English proficiency. It is important for teachers, parents, researchers, and policy makers to understand that DLL students come from diverse backgrounds and that poverty and other factors influence the speed of English language development for DLLs.

Keywords: English language learners (ELLs), dual language learners (DLLs), poverty, English acquisition, L2

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School-aged children of immigrants comprise one in five children in the United States (Capps et al., 2005). Immigrants are likely to come from non-English-speaking countries (Capps et al., 2005), and thus learning English is an important part of adjusting to their receiving community. Dual language learners (DLLs) are children who are learning English (L2) in addition to another language (L1) spoken at home (Castro, Espinosa, & Paez, 2011). Although not all children exposed to a non-English home language are still in the process of learning English, a significant portion of school-aged children are classified as not yet proficient in English (Shin & Kominski, 2010). Of children enrolled in school, 10.7% are classified as limited in English proficiency (National Clearinghouse for English Language Acquisition and Language Instruction Educational Programs [NCELA], 2010). Young DLL students, in addition to making the successful transition to elementary school and mastering academic content, are also tasked with learning a second language at the same time. Although many DLLs excel in school when given sufficient support (Han, 2010; Lesaux & Siegel, 2003), DLLs as a group, partly because two thirds live in poverty (Capps et al., 2005), tend to struggle in school, especially in the later years. About 76% of third-grade DLLs perform below grade level in English reading (Zehler et al., 2003), dropout rates for DLLs are higher than those for native English speakers (Ireland, 2006), and the dropout rate for Hispanics is higher than that for any other ethnic group except Native Americans (Capps et al., 2005).

One of the reasons for the limited success among some DLLs is English proficiency. Indeed, DLLs who become fully proficient in English and who do so early on in elementary school generally do quite well throughout school (Beal, Adams, & Cohen, 2010). Halle, Hair, Wandner, McNamara, and Chien (2012) examined academic trajectories for DLLs and found that children who became proficient in English early on in school showed better academic outcomes than those who continued to struggle with English. Further, language-minority children who enter school fundamentally proficient in English follow similar academic trajectories as native English-speaking children, but those who start school without English proficiency tend to fall behind (Kieffer, 2008; NCELA, 2010). In addition, children who show stronger initial English (L2) skills before entering kindergarten show faster English acquisition rates later than those who start school with lower initial proficiency (Burns & Helman, 2009) suggesting that early proficiency in English is helpful in attaining full mastery of English. Low English proficiency among DLLs is also related to lower self-esteem and academic motivation (Chang et al., 2007; Han, 2010).

Thus, coming to a better understanding of factors important in the early acquisition of English among DLLs in diverse settings is

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important to inform best educational practices and supports for DLL children. The present study examines a variety of child-, family-, and school-level predictors of children's initial English proficiency upon entry to kindergarten, as well as their longitudinal trajectories of English language development through fifth grade among a large sample of young DLLs in poverty in the unique cultural context of Miami. This work, as well as our selection of variables for examination, is guided by bioecological theory (Bronfenbrenner & Morris, 1998) and García Coll et al.'s (1996) integrative model for studying development within minority children, which both emphasize the need to examine multiple, bidirectional influences on child development at multiple levels (i.e., child, family, community/school/neighborhood). Both conceptual frameworks stress the importance of including child characteristics and social position variables (i.e., gender, ethnicity, temperament) as both main effects and moderator variables, as well as the importance of family factors (structure, income) and the school context as potential promoting or inhibiting environmental factors. Finally, we are guided by a sociocultural, interactionist, usage-based theoretical perspective, which posits that development in L2 (and L1) is mostly a function of the quality and quantity of children's language exposure at home and in other settings, such as school, and how much practice the children themselves get actually speaking the language for authentic communicative purposes in context (Chapman, 2000; Tomasello, 2003).

Child-Level Factors

There are individual differences in the speed of sequential second language acquisition among DLLs. Gender differences are usually found in first language (L1) development, with girls generally performing better than boys (Dodd, Holm, Hua, & Crosbie, 2003). Comparable results are found in L2 acquisition as well, at least among older students learning an L2 sequentially. Females outperform males in verbal fluency (i.e., semantic, syntactic, and phonological skill) and in foreign language listening among native English-speaking undergraduate students taking L2 classes (Andreou, Vlachos, & Andreou, 2005), and girls score better than boys on L2 (English) tests among 15-year-old students in Hong Kong (Fung, 2006). It is important to note, however, that gender differences in the early acquisition of English among young, low-income DLLs learning language in natural settings has not been studied.

Cognitive development and language development are closely related (Kamiloff-Smith, 1997). The notion that bilingual children are better than monolingual children in a variety of cognitive skills, most notably, executive functioning and inhibitory control, has been studied and is typically seen as a positive consequence of balanced bilingualism (Bialystok, 2010). However, it is also possible that those individuals who became bilingual over time started with cognitive advantages in the first place (Winsler, Kim, & Richard, 2014). Although cognitive competence (measured in L1) as a predictor for L2 development has not been explored much (Cummins, 1991), Verhoeven and Vermeer (2009) found for children who spoke Dutch as an L2, cognition (measured in L1) was the strongest predictor for Dutch (L2) proficiency compared to demographic factors. Also, DLLs' linguistic competence in L1 is related to L2 proficiency as increased L1 competence helps in L2 learning (August, Carlo, Dressler, & Snow, 2005). Such findings are used as evidence of developmental interdependence between L1 and L2, leading researchers to suggest that strengthening children's L1 is another potential way to promote L2 proficiency (August et al., 2005).

Children's socioemotional skills, in addition to being important for early school success (Raver, 2002), may also play a role in the acquisition of a second language (Chang et al., 2007). In one study (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006), children were clustered into four different groups depending on their socioemotional skills (from a combination of parent- and teacher-report items) and health status upon kindergarten entry. DLL children were more likely to be in the "socioemotional and health strength" profile and were strong in both socioemotional skills and health. Han (2010) examined the socioemotional well-being of DLLs on approaches to learning, self-control, interpersonal skills, and internalizing and externalizing behavior problems using teacher-ratings from the Social Rating Scale (Gresham & Elliott, 1990) and concluded that the most fluent DLL children surpassed all the other groups of children (English-dominant bilingual, White English monolingual, and non-English monolingual children) by fifth grade. Finally, Winsler et al. (2014) examined children as they transitioned from preschool to kindergarten and showed that Spanish-speaking preschoolers who eventually became proficient in English by kindergarten had stronger initial socioemotional skills and better behavior at age 4 compared to similar Spanish-speaking preschoolers who did not make as many gains in English over the same time period. Winsler et al. (2014) hypothesized that children who are more outgoing, well behaved, and socially skilled are invited more often to enter, and they take more chances speaking during, peer L2 interaction opportunities. The current study adds to this literature by examining not only socioemotional and behavioral skills but also cognitive skills, gender, and L1 competence as child-level predictors of English language acquisition among DLLs.

Family-Level Factors

Family factors also influence DLLs' English proficiency. Parental education, family income, family structure, parental involvement, and the quality of the L1 and L2 language environment in the home are all interrelated family factors that weave together when predicting both English proficiency and school success among DLL students (Portes & MacLeod, 1996). Given that many DLLs live in poverty (Capps et al., 2005), it is often difficult to disentangle the role of English proficiency versus poverty in predicting early school outcomes for DLLs (Goldenberg, Rueda, & August, 2006). Oller and Eilers (2002) examined English (and Spanish) skills among DLLs in kindergarten, second, and fifth grades in Miami and found socioeconomic status (SES) to be a more consistent predictor of English language and literacy skills than language used in the home. Parental education is also important. DLLs who do not attain English proficiency by first grade tend to have parents with less education than those proficient by then (Halle et al., 2012) and children with more educated mothers tend to acquire L2 vocabulary faster than children of mothers with less education (Golberg, Paradis, & Crago, 2008). Nationally, DLL children who attain English proficiency earlier (vs. later) are less likely to have siblings, less likely to be recent immigrants, and less likely to be of Hispanic origin (Halle et al.,

2012). Amount and quality of English exposure at home is likely a primary mechanism through which many of the above family factors influence DLL children's English development. Indeed, DLLs with low English proficiency are more likely to have parents with both poor English proficiency and limited literacy in L1 themselves, compared to DLL children with greater English proficiency (Capps et al., 2005).

School-Level Factors

Experience prior to kindergarten matters both for L2 development but also for L1 maintenance. DLL children who attend center-based preschool programs often do better on English assessments than those without such experience (Halle et al., 2012; Sung & Chang, 2008). Among DLLs randomly assigned to either English/Spanish two-way immersion programs or monolingual English preschools, growth in English over time did not differ between the two preschool types, but those in the two-way immersion program showed larger gains in Spanish vocabulary compared to those in the English-only program (Barnett, Yarosz, Thomas, Jung, & Blanco, 2007). During elementary school, the type of bilingual education programs in place influences DLL children's English acquisition. Some bilingual programs not only help DLLs reach native-like levels of English compared to English-only programs, but they also help maintain first language (Johnston, 2007; Swain & Lapkin, 1991). Thomas and Collier (1997, 2000) showed that DLLs who attend schools that separate DLLs from the regular academic program perform lower in standardized English language tests, but DLLs who attend two-way immersion programs show better performance in English reading and writing. Oller and colleagues (Eilers, Pearson, & Cobo-Lewis, 2006; Oller & Eilers, 2002) examined the bilingual language skills among DLLs enrolled in English immersion versus two-way (English-Spanish) immersion programs in Miami elementary schools in the 1990s (when there was more support for Spanish in the school system) and found that English skills were higher for those in English immersion programs compared to two-way immersion, but Spanish skills were higher in the two-way immersion programs. Clearly, the more exposure to English one gets, at least in the early stages of second language acquisition, the quicker L2 development happens, however, the type of bilingual education programs that lead to longer-term positive outcomes for both L1 and L2 development are less clear.

Other investigators have explored more global, school-level variables in relation to English language development of DLLs (as we do here), which provides a more distal yet complementary picture from that which occurs in the immediate language environment of the classroom. Ethnic and language diversity of the elementary school attended has been related to DLLs' English development (August & Shanahan, 2006). DLLs are currently likely to attend schools where more than 30% of the students are DLLs (August & Shanahan, 2006). DLLs who attend a school with proportionally more DLLs show slower English proficiency development compared to those who attend schools with fewer DLLs (Halle et al., 2012; Han & Bridglall, 2009), presumably due to more reliance on L1 and less exposure to L2, but this could also be due to school resources. Cosentino de Cohen, Deterding, and Clewell (2005) showed that schools with higher concentrations of DLL students also tended to have teachers with less experience. Further, schools with proportionally more students from higher-SES backgrounds, on average, have DLLs that learn English faster compared to schools with more students in poverty (Portes & MacLeod, 1996).

Finally, although class size has been shown to be a factor influencing school success, especially for ethnic-minority children (Brühwiler & Blatchford, 2011), studies have yet to examine relations between class size and DLLs' English proficiency development. Teachers are more likely to show positive behaviors and have more frequent and personalized teacher-child contact in smaller classrooms compared to larger classes (Shim, Hestenes, & Cassidy, 2004). Teacher support in the classroom, teacher-child relationships, and teacher education seem to be important for the English development of DLLs (Chang et al., 2007). Teachers who can speak the L1 of DLLs in the classroom, and who understand and accept dual language learners may create a more comfortable learning environment for DLLs (Chang et al., 2007). Relatedly, size of school may also play a role as DLLs from larger schools have been found to be somewhat slower in English development than those in smaller schools (Halle et al., 2012).

Current Study

The present study examines the speed with which low-income, DLLs in Miami acquire oral English proficiency, and explores factors at the child, family, and school level associated with children's initial English proficiency in kindergarten, their growth through fifth grade, and duration until attainment of the school district's standard for being 'proficient.' Miami-Dade County, Florida, with 60% of the population being foreign-born, its high poverty rate, and strong sociolinguistic support for the Spanish language (U.S. Census Bureau, 2010), is an important community in which to examine English language acquisition for DLLs. DLLs, and Latinos in particular, are a very heterogeneous group. Much of the prior research on Latino DLLs has focused on the American Southwest with largely Mexican-origin families or large Northeastern cities where many families are from Puerto Rico, whereas less is known about the DLLs of Miami, where immigrants are largely from Cuba, Central, and South America (De Feyter & Winsler, 2009; but see Eilers et al., 2006). Prior studies exploring how long it takes students to learn a second language often involve immigrant children but not necessarily low-income families (Cummins, 1981; Thomas & Collier, 1997) or Hispanic/Latino communities, where the majority of DLLs in the United States reside (Capps et al., 2005). Recent work with the ECLS-K sample may be nationally representative, but it has relatively small groups of different types of DLLs included and represents a more economically advantaged sample than is typical among low-income DLLs (Halle et al., 2012), and this research has often examined relations between of speed of English acquisition and DLLs academic performance rather than examining English acquisition itself as the primary outcome. We ask the following research questions: (a) What child-level (gender, ethnicity, cognitive and socioemotional skills), family-level (poverty, marital status, parent education, immigrant status), and school-level (DLL presence, class size, student and teacher ethnicity, poverty) characteristics predict initial status and growth of English proficiency for DLLs from kindergarten through fifth grade? and (b) How long does it take low-income 4-year-old DLL children to achieve dis-

trict standards for English proficiency, and which child and family characteristics predict length of time until DLLs become proficient in English? We hypothesized that DLLs who are girls, non-Hispanic, have U.S.- born, more educated parents and not receiving free/reduced lunch would show higher levels and more rapid growth in English proficiency. Also, English acquisition was expected to be faster for those children with stronger cognitive, language, and socioemotional skills upon school entry. DLLs showing rapid growth in English proficiency were thought to be more likely to come from schools with a lower proportion of Hispanic teachers/students, DLLs, and students in poverty, and smaller class sizes.

Method

Participants

Larger context. Participants in this study are a DLL subset from the Miami School Readiness Project (MSRP; Winsler et al., 2008, 2012), a university-community collaborative endeavor that examined children's transition to school. Between 2002 and 2007, five cohorts of 4-year-old prekindergarten (pre-K) children participated. These participants represent essentially the entire population of children in the county (92% of families consented) receiving subsidies to attend childcare (center-based or family childcare) or who attended public school pre-K programs in the county. With the help of Miami-Dade County Public Schools, the children were carefully matched/linked according to the unique IDs given to them by both systems, and followed throughout early elementary school. Longitudinal data for the first cohort were collected up to fifth grade (AY 2008–2009) and the second cohort up to fourth grade and so on. Children were assessed on cognitive, language, motor, social skills, and behavior problems at age 4. Starting from kindergarten, school record data, including English proficiency scores for DLL children were collected each year. In addition, publically available school-level data describing the public schools attended by the children were collected each year. Although systematic data on language use in the preschool and elementary classrooms were not collected, our sense from anecdotal observations was that considerable Spanish and English was spoken in community-based childcare centers, with more English used in the public school pre-K programs. In the public schools, English is the "official language" of instruction in the school system (even though Spanish is quite prevalent in Miami in general). Bilingual education varied greatly and depended on the individual student's individualized educational program (IEP) but could range from all content being in English with 1–3 hr of pull-out ESOL (English for Speakers of Other Languages) instruction with some classroom accommodations, to some content being presented in the home language for the first few years of elementary school, with no additional support provided after the child reaches the district's standard of proficiency (described below).

Sample. Children who had an English proficiency assessment score from the school at some point between kindergarten and fifth grade were selected. District policy was to give the Miami-Dade County Oral Language Proficiency Scale—Revised (M-DCOLPS-R; Dade County Board of Public Instruction, 1978) to children whose parent reported a non-English home language upon entry to school. Of the total participants in the MSRP, about 41% (N = 18,532) appeared in kindergarten and were considered DLLs by the definition above and were included in this study. Due to the cohort sequential longitudinal design, the entire sample of 18,495 had data for the kindergarten year, and although all cohorts had the opportunity to provide first-grade data, given attrition of students who did not return to school for first grade, 17,184 provided first-grade data. For each grade in school after that, we begin to lose a cohort of children who were not old enough to have reached that particular grade by design (in addition to attrition). We have data on 12,608 second graders, 8,451 third graders, 4,461 fourth graders, and 1,982 fifth graders.

Parent-reported child race/ethnicity from school records in pre-K and elementary school involved nine categories that were reduced to three major options: White/Asian/Pacific Islander, Hispanic/Latino (identifying as Hispanic regardless of whether they also selected multiethnic, and/or Black), and African American/Black/Caribbean (anyone identifying as black who did not select Hispanic). Hispanic/Latino ethnicity dominated the sample (88%, N = 16,303) followed by African American/Black/Caribbean (8.9%, N = 1,649), and White/Asian/Pacific Islander (3.1%, N = 580, with 115 of these being Asian/Pacific Islander). Those who qualified for free/reduced lunch in kindergarten comprised 79.6% of the sample, indicating that the majority of the sample was in poverty according to federal criteria (U.S. Department of Agriculture, 2010). Black children were more likely to receive free/reduced lunch (95%) compared to Latinos (80%) and Whites/Asian/Pacific Islanders (44%). When in preschool, 37.9% of the sample attended childcare in the community (about 95% center-based care), and 62.1% attended public school pre-K programs.

A few background variables (maternal education, country of origin, size of family, and marital status) were only available for a smaller, one-cohort subsample (N = 2,201) of children receiving subsidized childcare at age 4. This subsample was slightly more likely to be Black (and less likely to be White) and slightly more likely to qualify for free/reduced lunch than the full sample, however, these differences were very small (Cramer/Phi effect size = .06–.09). Among that subsample, 51.2% (N = 1,127) had parents born outside the United States, 87% (N = 1,917) of parents reported that they were single/divorced/separated/other. Although 87% living in a single-parent family is higher than that found in the general population, this figure is comparable to research on urban, childcare subsidy recipients (Ryan, Johnson, Rigby, & Brooks-Gunn, 2011). Parents reported an average of 11.5 years of education and three members living in the household. Note that family characteristics were obtained when children were 4 years old. However, free/reduced lunch status was obtained longitudinally each grade and was treated as a time-varying covariate.

Measures

Cognitive, and language skills at age 4. Children's cognitive and language skills were measured at age 4 with the Learning Accomplishment Profile-Diagnostic (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992). Children were individually assessed directly twice during the school year, once in the beginning (T1—September/October) of the 4-year-old year and once at the end (T2—April/May). Assessment language (English [61.8%] or Spanish) was determined by the bilingual assessor after interacting with the child in both languages, and taking into consideration the

teacher's report of the child's strongest language. National percentile T2 scores were used in the analyses since they were closer to the beginning of kindergarten. More information is available in the online supplemental materials.

Social skills and behavior concerns. The Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) was used to measure children's socioemotional skills and behavior concerns at T1 and T2 during the pre-K year. The subscales of initiative, self-control, and attachment combine to produce a "total socioemotional protective factors" (TPF) scale that was used in the analyses. Parents/guardians and teachers filled out the scales in their language of choice (24% of teachers and 56% of parents chose Spanish). Unlike TPF, for behavior concerns, larger scores indicate poorer behavior. National percentile scores were used to facilitate interpretation. Because the classroom context was considered most relevant for school readiness, T2 teacher report was used. However, if a child did not have a T2 teacher value, their teachers' T1 score was used ($n = 4{,}041$). If the child did not have any teacher DECA scores, then that child's T2 ($n = 31$) or T1 ($n = 84$) parent-reported DECA score was used. This decision is consistent with previous work examining the social skills of DLLs that combined teacher- and parent-report items for a measure of social skills (Hair et al., 2006). More information is available in the online supplemental materials.

English proficiency. Between 2003 and 2007, Miami-Dade County Public Schools (MDCPS) used the M-DCOLPS-R for DLL screening and assignment to ESOL services. Upon entrance to kindergarten, children in the county received the assessment when parents reported "yes" at school registration to any of the following: "Is a language other than English used in the home?" "Did the student have a first language other than English?" "Does the student most frequently speak a language other than English?" The 25-item test is a grade-normed English oral proficiency test that places children into five ordinal levels according to their raw scores, with level one for beginners (raw score of 4 or less) and level five (raw score 20 or more) for those deemed "proficient" in English. If a child does not achieve Level 5, he or she is placed in an ESOL program with more hours/services received for those with lower levels. DLL children are assessed every year until they reach Level 5. Once a child reaches Level 5, he or she is no longer considered in need of help with the English language, and he or she exits the ESOL program. Starting in third grade, DLLs must also demonstrate performance above the 32nd percentile on the reading and writing subtests of the Metropolitan Achievement test to exit the ESOL program.

Starting in 2006–2007, districts were required to use the Comprehensive English Learner Assessment (CELLA; Educational Testing Service, 2005) to determine English proficiency levels for DLLs. The CELLA assesses aural/oral, writing, and reading skills in English, and there is a separate K–2 and Grades 3–5 version. As done with the previous assessment, raw scores place children in one of the five ordinal ESOL levels. Starting in 2008, third-grade (or higher) students must also reach a minimum threshold of performance on the high stakes (English) reading Florida Comprehensive Achievement Test (FCAT; Human Resources Research Organization & Harcourt Assessment, 2007), in addition to reaching ESOL Level 5, to exit the ESOL program (Miami-Dade County Public Schools [MDCPS], 2008). It is important to point out that although the assessments changed/improved over time, the ordinal five-level system of ESOL level stayed the same and the practical *meaning* of the five levels in terms of services received and how one exits the ESOL program upon reaching Level 5 remained the same throughout the entire course of the longitudinal study. The measure is thus highly ecologically valid since it is the actual school district measure that determines services and educational realities for the children. Additional information on the measures is in the online supplemental material. Another indicator of initial English language proficiency that was used in some of the analyses was the language determined to be the child's strongest language at age 4 for the LAP-D assessment. This was coded as English (0) and Spanish (1).

School-level variables. The county public school system collects a variety of data on each of their schools for each school year (MDCPS, n.d. b). The following variables were used in the analyses: (a) percentage of classroom teachers that are Hispanic, (b) percentage of beginning teachers (in their first 3 years), (c) percentage of students that are Hispanic, (d) total number of children in the school, (e) average class size for the school, (f) total number of students enrolled in ESOL programs, and (g) percentage of children eligible for reduced/free lunch. Children were assigned a school ID for the school they attended in kindergarten. This was done because the school that children attended in kindergarten is closer in time to the other child and family predictors (preschool), and kindergarten data are complete for all cohorts. When a child's kindergarten school ID was not obtainable (e.g., child did not show up in kindergarten but appeared in the next grade), the school ID when the child first showed up for school was used. School-level data for that year was linked to each child through the school IDs defined above. Intercorrelations between the school variables and missing data procedures are found in the online supplemental material.

Results

Question 1: Predictors of Initial Status and Growth in English

To answer the first research question, three-level growth curve models were conducted in a hierarchical linear modeling framework (HLM; Raudenbush & Bryk, 2001). In these models, multiple assessment time points ($N = 29{,}058$ observations, Level 1) of English proficiency (ESOL level each year) were nested within children ($N = 11{,}494$, Level 2), and children were nested within schools ($N = 242$, Level 3). More information about the HLM models and data analysis strategy is available in the online supplemental material.

Model A. Three primary models were run (see Models A through C in Table 1). First, an unconditional model was run with just time included as a predictor (Model A). The intercept ($b = 3.37$, $p < .001$) and slope for time ($b = .58$, $p < .001$) for the unconditional growth model indicated that average children in this sample started at an ESOL score of 3.37 in kindergarten and showed an increase of .58 each year. Intraclass correlations for the unconditional growth model showed that about 24% of the variance in English proficiency was due to time (Level 1), 69% was due to child at Level 2 (with .60 being the intercept and .08 being the slope), and 7% was due to the school at Level 3 (with .05 being

Table 1
Hierarchical Linear Models for Predicting Initial Status and Change in English Proficiency

Parameter estimates	Model A				Model B				Model C			
	Intercept	T-ratio	Slope	T-ratio	Intercept	T-ratio	Slope	T-ratio	Intercept	T-ratio	Slope	T-ratio
Intercept/Slope	3.3725***	182.2290	0.5787***	51.4900	3.4674***	153.1038	0.5708***	37.2970	3.2925***	122.6840	0.6355***	37.6898
Level 1												
Free/Reduced Lunch					−0.1233***	−7.0554	0.0064	0.4748	−0.1075***	−6.1834	−0.0005	−0.0265
Level 2												
White (vs. Hispanic)					0.1709***	3.5016	−0.0614	−1.5620	0.0498	0.8920	−0.0205	−0.5014
Black (vs. Hispanic)					0.1986***	5.1194	−0.0783***	−3.5544	0.0782	1.9490	−0.0382	−1.6520
Socioemotional skills					0.0019***	4.1288	0.0005*	2.1054	0.0019***	4.1556	0.0004	1.5232
Behavior Concerns					−0.0024***	−5.8820	0.0007***	3.3210	−0.0014***	−3.6354	0.0005*	2.0084
Assessed in English in Preschool									0.2980***	12.6960	−0.1075***	−8.1422
Preschool Language skills									0.0012*	2.2280	−0.0001	−0.2120
Preschool Cognitive skills									0.0008	1.4910	0.0001	0.2276
Immigrant												
Level 3												
% Hispanic teacher					−0.0033*	−2.0344	0.0011	1.1668	−0.0027	−1.7460	0.0008	0.9144
% Hispanic Students					−0.0001	−0.1654	0.0017**	3.1024	0.0003	0.3110	0.0016**	2.8616
Total Number of students					0.0003***	5.0472	−0.0000	−0.2558	0.0003***	4.8178	−0.0000	−0.0842
Average class size					−0.0030	−0.5998	0.0120***	3.7754	−0.0024	−0.4024	0.012***	3.7324
Number of ESOL students					−0.0007***	−4.6368	−0.0003**	−3.1528	−0.0007***	−4.7084	−0.0003**	−3.2032

Variable	Variance	*df*	χ^2	Variance	*df*	χ^2	Variance	*df*	χ^2
Level-2 Intercept, R0	.5622	11,252	39,413.43***	0.5,448	11,248	38,350.38***	0.523,642	11,245	37,233.49***
Level-2 Slope, R1	.0754	11,252	18,481.66***	0.0,739	11,248	18,332.94***	0.071,404	11,245	18,121.39***
Level-1, E	.2200			0.2,209			0.220,566		
Level-3 Intercept, U00	.0497	241	1,046.27***	0.0,284	236	708.36***	0.026,564	236	689.95***
Level-3 Slope, U00	.0186	241	1,040.49***	0.0,110	236	725.54***	0.010,612	236	715.96***

Note. ESOL = English for Speakers of Other Languages.
* $p < .05$. ** $p < .01$. *** $p < .001$.

the intercept and .02 being the slope). It is worth noting that most of the variance had to do with individual differences between children in their starting level of proficiency in kindergarten.

Model B. Various child- and family- and school-level characteristics were then introduced systematically in subsequent models to predict both initial English proficiency status in kindergarten (intercept) and growth (slope) over time in English. Some covariates (gender, maternal education, marital status, family size, and school-level percentage of children eligible for reduced/free lunch and percentage of beginning teachers) did not significantly explain variance in English proficiency in any of the models and were thus not included in the final models (see Table 1). Model B included child ethnicity, free/reduced lunch status, socioemotional skills and behavior problems at age 4, and school-level variables, to see specifically whether socioemotional skills and behavior problems explained initial status and growth on English proficiency above and beyond child demographics. Free/reduced lunch status was a significant predictor of children's initial English proficiency in Kindergarten—children who qualified for free/reduced lunch entered school with lower English proficiency (in terms of effect size, about 12% of one ESOL level) than those not in poverty. Ethnicity significantly predicted both intercept and slope for English skills (Model B in Table 1). White/Asians and African American/Blacks started significantly higher in English proficiency in kindergarten compared to Hispanic/Latinos ($b = .171$, $p < 001$; $b = .199$, $p < .001$, effect size = 17% and 20% of an ESOL level, respectively), but Hispanic/Latino children showed faster growth compared to Black children ($b = –.078$, $p < .001$). Black children started about .20 points higher than Hispanic/Latino children in kindergarten but Hispanic/Latino children's English proficiency growth was about .08 steeper than that for Black children.

Socioemotional skills and behavior problems significantly predicted initial status and growth of English (Model B). The DECA TPF scale was positively associated with both English proficiency in kindergarten ($b = .002$, $p < .001$) and growth ($b = .0005$, $p < .05$), meaning that children with greater social skills started higher and advanced more quickly in L2 development. In terms of effect size, a 10 percentile point increase in social skills (or 10 percentile point reduction in behavior concerns) is associated with a DLL child starting school with about 2% more of an ESOL level. Similarly, DECA behavior concerns were negatively associated with initial English proficiency in kindergarten ($b = –.0024$, $p < .001$) but showed a positive relationship with growth in English ($b = .0007$, $p < .001$). In other words, children who showed more behavior concerns at age 4 started lower in initial English proficiency in kindergarten, but showed steeper growth, perhaps because they had more room to grow.

At the school level, percent Hispanic classroom teachers, percent Hispanic students, total number of students in the school, average class size, and number of students enrolled in ESOL programs were each associated with English performance. More ESOL students present in the school meant lower DLL initial English proficiency and slower growth over time, but these were relatively small effects. Being at a bigger school and having proportionately more Hispanic teachers at the school were both associated with greater initial L2 proficiency but unrelated to growth. Children who attended schools with more Hispanic students and bigger average class sizes showed steeper growth in English proficiency (Model B, Table 1).

Model C. Model C represents essentially the "full model" and is of most interest. Preschool language and cognitive skills, as well as the language in which the school readiness assessments were administered (child's strongest language at age 4), were added to Model C. Adding these variables at this step allowed us to examine both whether the ethnicity effects observed in Model B were still present after controlling for child cognitive and language skill, and whether the contribution of social skills and behavior problems to L2 development remains significant after controlling for children's school entry cognitive and language skills.

Children's L1 language skills significantly predicted DLL children's initial English proficiency (Model C, Table 1) and language of assessment at age 4 predicted both initial status and growth in English skill. Children with higher language skills (regardless of language of assessment) in preschool started school with greater English proficiency in kindergarten, but they were similar in their growth rates as children with less preschool language skills. It is important to note that both child social skills and behavior concerns continued to positively predict DLLs' initial English status in kindergarten, even after controlling for concurrent child cognitive and language skills, and behavior problems were still associated with increased growth in English (Model C, Table 1).

LAP-D assessment language was a strong predictor and was positively associated with initial ESOL level at kindergarten ($b = .298$, $p < .001$; almost a third of an ESOL level higher for those assessed in English in preschool) but negatively with growth ($b = –.107$, $p < .001$), indicating that DLLs who were assessed in English in preschool started higher in their English proficiency in kindergarten, but the children who showed steeper growth in English proficiency were the ones whose strongest language was Spanish in preschool (see Model C in Table 1). Children who had English as their LAP-D assessment language had about a .30 higher ESOL level in kindergarten compared to children whose LAP-D assessment language was Spanish.

Finally, it should be noted that in Model C, with preschool cognitive and language skills entered, Black DLL and White/Asian DLL children no longer differed from Hispanic DLL children in terms of initial status or growth in English over time. Also, it should be noted that children's poverty status continued to be associated with lower entry-level English skills even with cognitive and L1 language skills controlled. The school-level variables in Model C largely continued to be associated with initial status and growth in English, as they did in Model B discussed above, with the exception being that percent Hispanic teachers was no longer associated with children's initial English proficiency, and number of ESOL students at the school became a significant negative predictor of the slope of English development over time as well.

Model D. We ran one last Model D (Table S1 in online supplemental materials), as a supplemental robustness check, which added those family characteristic variables that were complete only for a small subset of the sample (immigrant parent, parental education, family size, and marital status). Given that these variables were about 80% missing, we were less confident with the multiply imputed variables, and thus imputed and added them separately. First, we did it with listwise deletion of missing data with the smaller data set, and then with the missing data imputed (separately) for the entire data set. In neither case did the results of the other variables change compared to Model C. Of the

four new variables, only maternal immigrant status contributed. Children with an immigrant parent showed slower growth over time in English acquisition ($b = -.0733$, $p < .001$; about 11% slower) than those with parents born in the United States, but immigration status was unrelated to initial proficiency ($b = -.0079$, *ns*).

Question 2: Predictors of Duration Until District Standard of Proficiency

DLLs in this sample exit out of the ESOL program when they become "proficient" in English (ESOL level = 5). A large part of the sample did not have the chance to reach ESOL Level 5 before data collection ended for them (fifth grade for Cohort 1 but first grade for Cohort 5) due to the cohort-sequential longitudinal design, which causes a right-censored data problem. Discrete-time survival analysis (Singer & Willet, 2003) deals well with this problem (by using all information available for all children still who have and have not yet reached the criterion at each time point) and thus was utilized for Question 2 about how long it took until students reached the school district milestone of proficiency. Thus, our survival analysis predicting the duration until the dichotomous attainment of the school district's standard for English proficiency for DLLs (child ESOL score = 5—yes or no, for each grade) included a total sample size of $N = 18{,}495$.

First, descriptive statistics on the proportion of 4-year-old DLLs becoming proficient in English each year are shown in the life table (see Table S2 in online supplemental materials). In kindergarten, the hazard value was .29, indicating 28.7% ($N = 5{,}310$) of the DLL children received an ESOL level of five in kindergarten and exited the program that year. Note that the hazard function takes into consideration the children who disappeared by the end of kindergarten and did not have a chance to experience the outcome that year ($N = 1{,}309$ censored cases). In first grade, out of those who still remained in the school system and had not reached full proficiency yet ($N = 11{,}876$), another 26% attained the proficiency standard that year. From second grade through fifth grade, 40%, 50%, 42%, and 58% of the remaining children that year became proficient in each of those years. Third grade and fifth grade were the most "hazardous" when the largest majority of the remaining children exited ESOL. The survival value of .49 in first grade indicates that 51% of the sample of DLLs reached the district standard of English proficiency by the end of first grade, and the .10 value in third grade (Year 4) indicates that by then, 90% of the DLL children had exited ESOL. Practically all (99%) of the DLL children in the current study met the district definition of proficient by fifth grade. The median lifetime statistic indicates how long it took for half of the sample to experience the target event (proficiency). The median lifetime for the entire sample was 1.96 years, meaning that it took close to 2 years (end of first grade) for half the DLL children in this sample to reach proficiency in English. Additional discussion of median lifetimes for different groups and rationale for the models reported below are found in the online supplemental materials.

Four discrete-time hazard models using logistic regression were run (Singer & Willet, 2003; Table 2). Whether the event happened (ESOL = 5) was the dichotomous dependent variable. As above, the initial unconditional Model A including just the time intervals indicated that the odds of reaching proficiency did vary by year with most children reaching proficiency in the first 3 years. Gender, ethnicity, and free/reduced lunch status were added to the next

Table 2
Discrete-Time Survival Analysis With Child and Family Predictors

Variable	Model A		Model B		Model C	
	B (*SE*)	OR	*B* (*SE*)	OR	*B* (*SE*)	OR
D0	−.805 (.017)	.447***	−.565 (.045)	.57***	−.352 (.103)	.70***
D1	−.993 (.021)	.370***	−.682 (.047)	.50***	−.140 (.106)	.87
D2	−.329 (.027)	.720***	.033 (.051)	1.03	.450 (.109)	1.57***
D3	.084 (.049)	1.09	.436 (.066)	1.55***	1.062 (.123)	2.89***
D4	−.214 (.129)	.81	.121 (.137)	1.13	.728 (.195)	2.07***
D5	.314 (.302)	1.37	.639 (.308)	1.90*	1.385 (.461)	4.00***
Girl			.171 (.023)	1.19***	.053 (.033)	1.06
White/Other vs. Hispanic/Latino			.344 (.069)	1.41***	.268 (.115)	1.31*
African American vs. Hispanic/Latino			−.281 (.041)	.75***	−.561 (.060)	.57***
Free/reduced lunch			−.607 (.030)	.54***	−.497 (.045)	.61***
Assessed in Spanish at age 4					−.692 (.036)	.50***
LAP-D Cognitive Skills					.006 (.001)	1.01***
LAP-D Language Skills					.010 (.001)	1.01***
DECA TPF					.004 (.001)	1.00***
DECA BC					−.001 (.001)	1.00
Goodness-of-fit						
Deviance	44,757.977		42,843.279		21,877.512	
n parameters	6		10		15	
AIC	44,769.977		42,863.279		21,907.512	
BIC	44,814.181		42,936.952		22,018.022	

Note. OR = odds ratio; LAP-D = Learning Accomplishment Profile-Diagnostic (Nehring, Nehring, Bruni, & Randolph, 1992); DECA = Devereux Early Childhood Assessment (LeBuffe & Naglieri, 1999); TPF = total socioemotional protective factors; BC = Behavior Concerns; AIC = Akaike information criterion; BIC = Bayesian information criterion. *B*s are unstandardized.
* $p < .05$. ** $p < .01$. *** $p < .001$.

model, and all were significant factors in explaining the timing of reaching English proficiency (Model B, Table 2). Girls became proficient faster than boys ($b = .17$, $p < .001$, odds ratio [OR] = 1.19) but note that when school readiness was entered in Model C, gender ceased to be significant. White/Others exited the ESOL program quicker than Hispanic/Latinos ($b = .34$, $p < .001$, OR = 1.41) and Black DLLs exited the ESOL program slower than Hispanic/Latinos. Children in poverty had fewer odds of becoming proficient compared to those not receiving free/reduced lunch.

The primary model of interest is Model C, when preschool readiness skills and the language in which the LAP-D was administered, were entered. The odds of becoming proficient early favored children who had greater school readiness; cognitive ($b = .006$, $p < .001$, OR = 1.006), language ($b = .01$, $p < .001$, OR = 1.01), and social skills ($b = .004$, $p < .001$, OR = 1.004). A one percentile point increase in LAP-D cognitive, for example, meant a .006-point increase in the odds of reaching ESOL level five. These odds accumulate multiplicatively for each point, so a child with a 25 percentile point advantage in cognition has a 16% greater odds of becoming proficient (exponentiated [.006 × 25] = 1.16). DLLs who were assessed in Spanish at age 4 (LAP-D assessed language) had much lower odds (OR = .50) of becoming proficient in English than those who were good enough in English at age 4 to be assessed in English ($b = –.69$, $p < .001$). Behavior concerns at age 4 were did not predict reaching this milestone (when the other school readiness variables were included). It is important to note that the ethnicity and poverty effects observed in Model B remained significant while controlling for child school readiness in Model C.

As above, we also ran a supplemental, separate Model D as a robustness check with the much smaller subset of children with complete data on marital and immigration status, parent education, and family size. When just those characteristics were entered, only years of parental education was a significant predictor (Table S2 in online supplemental material). A 1-year increase of parental education was associated with .083 increase in the probability of the child reaching ESOL Level 5 ($b = .08$, $p < .001$, OR = 1.09).

Discussion

The goal of this study was to examine the speed with which largely low-income, dual language learners in Miami acquire English proficiency, and to explore factors at the child, family, and school level associated with children's English proficiency in kindergarten, their growth rate through fifth grade, and duration until attainment of the school district's standard for English proficiency. This study contributed to the existing literature in that it examined English proficiency as its own important outcome (rather than using it as a predictor of academic performance) and examined English language development among a previously understudied group of DLLs, namely, low-income Hispanic/Latinos and Black DLLs in the unique context of Miami. Also extending previous work in the area, a variety of child, family, and school predictors of L2 development for DLLs were examined simultaneously.

DLL children in this community appear to be learning English quite rapidly. By kindergarten, 30% were already considered proficient in oral English and thus did not receive any ESOL services in their first year of elementary school. By the end of first grade, half of the DLL sample had already reached district standards for English proficiency. In third grade, 90% were considered proficient, and by fifth grade, less than 1% were still considered limited in English proficiency. The rate of L2 development found here is largely consistent with previous literature (Cummins, 1996) but is somewhat faster than other estimates of how long it takes DLLs to become proficient in English (Hakuta, Butler, & Witt, 2000). Definitions and measures of proficiency clearly vary from study to study, as does the population studied. Cummins (1996) included immigrant children who did not have English exposure prior to their entrance to Canada. Participants in Hakuta et al. (2000) were more economically privileged and less Spanish-speaking compared to the current sample. Further, both Cummins (1981) and Thomas and Collier's (1997) studies examined DLLs living in an area where their home language was not as supported by the community as much as Spanish is supported in the present context of Miami (most language on the streets and in shops, restaurants, and businesses in Miami is Spanish). Thus, even in a city such as Miami, where Spanish is prevalent, largely low-income DLL children are acquiring English relatively quickly upon school entrance. However, it is important to understand that there were also important individual, family, and school differences in children's English development.

Child Characteristics

Some DLL children became proficient in English faster than others. In terms of ethnicity, three groups were considered: Hispanic/Latino, African American/Black/Caribbean, and Caucasian/Asian DLLs. Controlling for free/reduced lunch status, and within this generally low-income sample, the Caucasian/Asian group had greater initial English proficiency in kindergarten and needed less time to reach proficiency compared to Latinos. More support for L1 among the Hispanic community in Miami is a likely reason why slower growth of English is seen for Latino children in Miami, at least compared to the White/Asian group. However, economic resources could also play a role as the White/Asian group was less likely to be in poverty compared to Latinos. Interestingly, Black DLL children started with greater English skills than the Latino group, but Latino DLLs showed faster growth and reached full district proficiency faster than Black DLLs. Black DLLs in Miami, comprised largely of Haitians and Caribbean immigrants, often speak Kreyól as their first language. Blacks experience more discrimination than Caucasians and other ethnic groups in general (Anyon, 2011), but within Miami specifically, this is likely intensified, as the Black community in Miami has lower status than Latinos, and there is less support for their low-status L1 in the community (Colin & Paperwalla, 2003; Ogbu & Simmons, 1998). Perhaps this status differential has a negative effect on Black DLL children's L2 development. Another possibility is that there were unmeasured family risk factors or school- or neighborhood-level variables among Black DLLs in Miami that could be constraining English development. For example, Little Haiti, a neighborhood where many Haitians live, has historically posted greater poverty and crime rates compared to city of Miami in general (Little Haiti, n.d.).

Although gender has been shown to be a predictor of second language acquisition in general and with older, more advantaged L2 students (Dodd et al., 2003), this was not the case here with

young, low-income DLLs. Gender was not associated with initial status in kindergarten or linear growth over time, but girls did attain the milestone of becoming proficient in English according to district standards faster than boys. Interestingly, however, once child school readiness was added, this female advantage disappeared. Previous studies examining gender have typically not had child competence or school readiness measures available, so it is quite likely that the reason girls have been found to acquire L2 faster in other studies is that they do better in school, are more advanced in terms of L1, and they have greater social and behavioral skills than boys, and it is those differences in skills and behavior, and not gender per se, that are associated with faster L2 acquisition.

School readiness skills at age 4 (cognitive, language, social, and behavioral skills) were important factors in predicting the English proficiency of DLL children. DLLs with better scores on each of these scales showed higher initial English proficiency in Kindergarten compared to peers with lower scores, but linear growth of English over time was not associated with these factors. Social, language, and cognitive skills, however, were related to duration until reaching the school's classification of being proficient in English. This study, thus, importantly adds to the small literature showing that early social skills, cognition, and L1 skills help young DLL children attain L2 (Winsler et al., 2014). Being outgoing, social, and taking risks may reap benefits for early L2 development in school even if it means increased behavior problems as perceived by teachers. Note that behavior concerns reported by preschool teachers (with externalizing behaviors being more salient) were actually linked with steeper English growth over time. Children with more behavior concerns came in with less initial proficiency but showed steeper growth in English proficiency over time.

The language in which the child was assessed at age 4 predicted initial English proficiency at the start of school, growth over time, and earlier exit from ESOL programs. Children perceived to be either equally strong in English and Spanish or stronger in English by the child's teacher and assessor were assessed on the LAP-D in English, and this variable indicated children's English strength during preschool. All DLLs in this study spoke another language at home, so children strong enough to be assessed in English at age 4 clearly already had sufficient exposure to English somewhere. Such children assessed in English during preschool started higher, showed faster growth, and had greater odds of becoming proficient in English. This finding confirms that to acquire English proficiency quickly in elementary school, early exposure to and initial proficiency in English in preschool is extremely helpful (Burns & Helman, 2009).

Family Characteristics

As pointed out by Garcia (2011), many aspects of a child's surrounding environment, including the family and community can affect English development, and several such factors were examined in the present study. The family's free/reduced lunch status was a significant time-varying predictor for English proficiency. DLL children receiving free/reduced lunch showed lower initial levels of English and showed lower odds of receiving district standards for proficiency early compared to those not in poverty. This is consistent with others (Cobo-Lewis, Pearson, Eilers, & Umbel, 2002). However, it is important to note that given that the vast majority of this sample received childcare subsidies or attended Title-1 pre-K programs at age 4, the range of income in the present sample was quite restricted, yet free/reduced lunch status was still found to be an important predictor of English development, even with child school readiness included in the models. It would appear that even relatively little increases in parental income (i.e., what it takes for low-resource families to cross the threshold for receiving free/reduced lunch) make a difference in DLL children's development in English.

We were limited in our ability to examine other family factors due to missing data but did find that parental education was associated with shorter time until the DLL reached the district's proficiency standard, which is consistent with other work (Halle et al., 2012). Higher parental education likely means DLL children are exposed to a richer language environment in both L1 and English at home. Children from immigrant families showed slower rates of English growth compared to those with parents born in the United States. More recent immigrant families likely have more ties to their country of origin and extended family members with limited English proficiency and less exposure to English (Hernandez, Denton, & Blanchard, 2011). Number of children (and adults—i.e., marital status) in the home were not associated with DLLs' English development, which is consistent with literature showing that what is important for L2 development is the language spoken between siblings and family members in the home, not the simple presence of siblings and parents (Ortiz, 2009). It is noteworthy that child factors were more consistently related to DLLs' L2 development than were the (limited) family factors examined here.

School Characteristics

DLL children who attended larger schools, with fewer Hispanic students, and fewer children getting ESOL services showed higher initial levels of English in kindergarten. The association between having more DLLs in the school receiving ESOL services students and slower growth in English proficiency is consisted with previous work (Han & Bridglall, 2009). However, in this study, the finding that DLLs with steeper growth in English proficiency were more likely to attend schools with proportionately more Hispanic students and larger class sizes, is novel and in contrast to studies finding that smaller schools and/or class size are generally better for children's learning of all types (Finn & Achilles, 1999). The population studied in Finn and Achilles' (1999) study, and the class size literature in general, however, is not DLLs. In Miami, larger class sizes tend to covary with higher per-pupil expenditures (Women's Prayer and Action Group, 2003), which could be one explanation for this finding. Indeed, in our data, size of the school and total expenditures and specific revenue were highly correlated. Bigger schools might provide important resources to students such as more books in the library, more special services, or more native English-speakers overall with whom to interact (Finn & Achilles, 1999). As seen in prior studies (Halle et al., 2012; Han & Bridglall, 2009), DLLs who attended schools with more ESOL students started lower and showed slower rates of English growth than those at schools with fewer ESOL students. It is also important to note that attending schools with a higher proportion of Hispanic students may be a positive experience for Hispanic DLLs if the

school can provide resources and support to fit the needs of children's specific ethnic heritage (Han, 2010). Although children who attended DLL-dense schools tended to start lower and grow more slowly in their English development, it is possible that attending such schools may show benefits for the preservation of L1 if DLL children have more opportunities to speak in their first language. This is an important direction for future research.

Limitations

The study has many strengths, including the large sample size; an understudied group of DLLs; the use of ecologically valid, authentic assessments of L2 proficiency (ones actually used by the school system to determine progression out of the ESOL program); and the use of sophisticated, multivariate, and multilevel analyses. However, there are numerous limitations having to do with the use of archival school record data. First, the measure of English proficiency changed (improved) over the course of the study and in the first few years, it only involved oral proficiency. However, the five-level ESOL variable (the one used in the analyses) kept its meaning in terms of determining children's advancement through and exit of ESOL programs throughout the entire study.

Second, it is unfortunate that we did not have measures of children's competence in or maintenance of their first language. Research has shown that DLL children's L1 proficiency is a strong predictor of L2 proficiency (August & Shanahan, 2006; Guglielmi, 2008). Thus, we did not have information on the relative strength of DLL students' two languages, their degree of balanced bilingualism, or L1 language loss—all important dimensions for DLL students (Bialystok, 2010). Further, it is unfortunate that we did not have information on the type of ESOL services that DLL children were actually receiving in early elementary school nor do we know the quality of DLL children's early instruction. The school district is officially "English-Only," and it can be assumed that any early transitional bilingual education programs that were in place attempted to get children receiving 100% of instruction in English as soon as possible. However, there are several optional programs to give DLL students content-related support in L1 (MDCPS, n.d. a). Given the strong sociolinguistic support for Spanish within the larger Miami community, we suspect that at least the Spanish-speaking DLL children were able to maintain their Spanish skills fairly well as they were learning English. Clearly, longitudinal examinations of L1 and L2 development for DLLs throughout early elementary school are sorely needed. It is also unfortunate that we did not have richer family variables (i.e., years in the United States, language use, and cognitive and linguistic stimulation in the home) to understand important home influences on L2 development.

A third limitation was that due to the cohort nature of the data and the way the data were received and processed, only DLL children who progressed through early elementary school on-time were included in the analyses. DLLs who repeated kindergarten or were retained in any of the elementary school grades (or those who skipped ahead a grade) were not included. If DLL children who were retained were lagging behind others in English proficiency (or if DLLs who skipped a grade were better in English), our estimates of the amount of time it takes to develop English proficiency may be biased. However, other work with this sample shows that DLL children are actually less likely to be retained in kindergarten than native English speakers, controlling for child demographics and school readiness (Winsler et al., 2012), so such a situation is unlikely. Finally, although we were able to keep track of children who moved to different schools within the county over time, we were not able to track DLLs who left the school district.

Implications

The present study offers numerous implications for practice. First, it is important for teachers and policymakers to understand that DLL students come from diverse backgrounds and child and family factors will influence DLLs' development of English. DLL children from low-income families, for example, will need more time and more resources to become fully proficient in English than those with more means. Also, teachers and parents could provide extra support and structure for withdrawn or socially awkward DLL children who may need adult help to facilitate English language use opportunities with peers. The popular notion that there might be a normative "silent period," where DLLs do not speak for long periods of time, has recently been strongly challenged (Roberts, 2014), suggesting that it is not acceptable for teachers to be passive and wait until DLLs start talking and that teachers should be proactive in providing English language learning opportunities for DLL students. Understanding the risk factors that might slow down the speed of English acquisition and understanding the diversity within DLL students would be a good start. Teachers working with DLLs may benefit from learning that language learning involves social, linguistic, and cognitive processes that all act together (Wong Fillmore, 1991) and that factors that may not seem directly relevant to English acquisition can also play a role. Continued efforts are needed in the professional development of teachers to understand best practices that are responsive to the unique educational needs of young dual language learners (Chen, Kyle, & McIntyre, 2008).

In the Miami-Dade County school district, as well as in many others, ESOL services end after the DLL child reaches a certain level on an English language assessment. However, reaching this level of "proficiency" does not indicate that the DLL child has fully developed native-like, grade-normed, English proficiency within academic domains, including reading and writing well in English (Florida Department of Education, 2009). L2 development is a long and continuous process (Thomas & Collier, 1997). Additional support services are still likely needed for DLL children after achieving this fairly minimal standard English proficiency in order for them to thrive academically.

This study showed that DLL children who live in a Spanish-dominant community do indeed learn English relatively quickly. This should reduce public fears about immigrant children not learning English (Tse, 2001). Although the DLLs in this study were learning English, we also found that DLLs can learn English at an even faster pace if they are exposed to English during preschool. The strongest positive predictor of growth in English was whether the child already had sufficient English skills in preschool to be assessed in English. If some English is learned and the child reaches a certain level of proficiency prior to kindergarten, the length of time needed to reach full proficiency is considerably shortened. Early English skills lead to enhanced academic achievement later on (Halle et al., 2012). Early childhood educational programs, public school pre-K programs, and early child-

hood intervention programs are thought to work especially well among DLL students, and there is much policy interest in increasing access to high-quality early educational programs for DLL and other at-risk students (Garcia & Jensen, 2009; Hernandez et al., 2011; Takanishi, 2010). Early educational opportunities for DLLs may lead to less resources spent on bilingual and ESOL programs in elementary school, and such saved resources could be spent on providing later services to promote more than just minimal English proficiency among DLLs.

Finally, it was notable in this study how, even with this largely low-income sample, poverty in the form of free/reduced lunch status made a difference in DLL children's English development. Thus, even a small income increase (enough to put a family above the threshold for reduced lunch) seems to make a difference in DLL children's L2 development. Providing income support, subsidies, and other such economic and employment policies to help low-income language-minority families would also likely help with children's English development. Enhanced parental employment opportunities leading to more exposure to English for parents may be one mechanism by which income is linked to greater child English proficiency. Reduced stress and the enhanced learning opportunities that come with sufficient family resources to avoid poverty are also likely to be helpful in L2 acquisition.

Although English proficiency is an important outcome for DLL children, researchers, teachers, policy makers, and parents need to make sure that English is not the only focus. Although we were only able to measure children's L2 English proficiency in the current study, it is clearly important for future research to pay attention to factors that help maintain L1 and promote balanced bilingualism among DLL children learning English. Prospective longitudinal studies examining the trajectories of both L1 and L2 development among low-income DLLs, with detailed observational data on the children's language experiences at home and early school would be especially helpful. When we understand the factors that promote both languages to develop well among DLLs, we will be able to provide optimum environments for maximizing the language skills and academic success of dual language learners.

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