Who are the Language Minority Students of the ECLS-K? Demographic Predictors of English Language Acquisition

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Intro

A great deal of research suggests that immigrants' transition to the exclusive use of English is inevitable and surprisingly rapid (Portes and Hao 1998; Portes and Rumbaut 2001; Portes and Schauffler 1994). However, evidence from the Early Childhood Longitudinal Study, Kindergarten cohort of 1998-99 (ECLS-K) suggests that even among the second generation, there are young elementary students who do not have a functioning command of the English language. This study thus has two main objectives. The first is to describe the demographic characteristics of language minority (LM) students in terms of their nativity, ethnicity, generation status, family structure, gender, parental education and family income. This analysis will be done in the interest of discovering whether certain demographic characteristics predict how students are classified at school at the start of kindergarten. The second is to take advantage of the extensive language testing data in the ECLS-K to examine whether certain demographic characteristics predict the rate at which students obtain functional English ability in the initial years of elementary school. This analysis will attempt to identify whether certain groups of immigrant children are at a greater risk of school difficulties due to language acquisition difficulties.

Background

A long research tradition in sociology has emphasized the importance of early language skills in the transmission of socioeconomic status (Berstein 1975; Heath 1983; Hart and Risley 1995). A separate research tradition within the educational literature has identified early language skills as highly predictive of later reading ability, and thus later school success (Butler, Marsh, Sheppard, and Sheppard 1985; Catts, Fey, Zhang, and Tomblin 1999; Lonigan, Burgess, and Anthony 2000). Due to a lack of interdisciplinary perspective on language skills combining the concerns of sociologists, education researchers, and those concerned with the well being of young immigrant children, very little is understood concerning the effects of limited English ability and later literacy ability.

As a step toward addressing these concerns, this study will attempt to place language acquisition within the framework of both demographic research on migration and the education research concerned with early oral language ability. By examining the characteristics of those with greater success or failure with English acquisition in elementary school, long-standing questions regarding the relationship between native language and English literacy skills can begin to be addressed, since language skills appear to be strongly predictive of later achievement. For example, what effect does a child's familiarity with a foreign language have on their acquisition of English? Some research suggests that foundational skills in a native language will "transfer" to a new language (Hakuta and Snow 1986). Do some groups of immigrant children adopt English faster than others, and do they learn it at the expense of their native language? Research

suggests bilingual students have an overall cognitive advantage and will perform better at a variety of academic tasks (Peal and Lambert 1962; Hakuta 1986). In contrast, some studies have found no relationship between native language skills and achievement (Rosenthal, Baker, and Ginsburg 1983).

The vast majority of studies concerning language acquisition have focused on high school students. Thus, this study will contribute to the literature by examining language acquisition at the beginning of formal schooling, which is important considering the amount of research finding a strong relationship between early and later achievement (e.g., Ensminger and Slusarcick 1992; Entwisle, Alexander and Olson 1997). This study will also begin to answer questions regarding transference of language skills from an alphabet that is idiographic to one that is phonemic. For instance, is rapid English acquisition more likely among students from Spanish-speaking homes than Chinese-speaking homes? Further, are their ethnicity-related cultural differences in parental literate behaviors or parental values that mediate early language development, or do socioeconomic background differences explain variations in language ability, or do they mediate ethnicity-related differences in English acquisition?

Answers to these questions will inform educational policy about the potential reasons for reading failure and school difficulties encountered by immigrant children. School personnel may be better prepared to educate certain immigrant groups if they can anticipate which demographic characteristics place an immigrant child at risk for language acquisition delay, and thus later literacy difficulties.

Data/Methods

The data for this study come from the Early Childhood Longitudinal Study, Kindergarten cohort of 1998-1999, including the restricted-use first-grade wave (NCES 2002). The sample is nationally representative and was collected using a multistage probability sample design, allowing for extrapolation of results to the population of the United States. The data contain cognitive assessments of English language ability at the beginning of kindergarten through the end of first grade, as well as indicators of child and parent nativity, language use, family structure, and socioeconomic background collected during parent interviews. Further, the sample includes a sizable number of immigrant children from Latin American and Asian countries, making the ECLS-K a useful data source for this study.

First, a logit model will be used to predict Language Minority status at the beginning of kindergarten. This analysis will test which demographic factors related to immigrant status are important for determining whether a child begins school as a language-minority student. A child is classified as LM if school records indicate that a language other than English is regularly spoken in the home (1=non-English, 0=English). Since this analysis examines predictors of language minority status at the beginning of kindergarten, the full ECLS-K sample will be included (n=21326), where 1= LM (n=2,299) and 0 = non-LM. .

Second, OLS and logistic regressions will be conducted to predict functional English language ability in the beginning of kindergarten. Functional English language ability is measured using the student's Item Response Theory (IRT) score on the Oral Language Development test (OLDS) administered in the fall. Whether a child has functional English language ability is often an elusive concept indicated only by a school

classification of the child as Limited English Proficient (LEP) or Fully English Proficient (FEP). However, the OLDS score provides a concrete, continuously scaled measure of the child's functional English language ability (the range is 0 - 60.00). Additionally, since this assessment was used to determine whether students would be able to take the ECLS-K cognitive assessments in English, this outcome can also be modeled as dichotomous, where 1=passed and 0=not passed. A score at or above 37.00 on this assessment indicates the student has proficiency in English sufficient to be tested in English. Thus, I will construct two models for both the continuous and dichotomous outcome of functional English language ability. For these models, I include *only* those students initially identified as LM (n=2,299) in the fall of kindergarten.

Independent variables for the analyses include: ethnicity (dummy coded for whites, blacks, Hispanics, Asians, American Indians, Pacific Islander, and more than 1 race), generation status (obtained from first-grade wave of parent interviews), parent educational level, family income, gender, household size, sibship size, and parent structure (i.e., single parent, stepparent, guardian-headed).

The second analysis uses examines variation in LM status by family background characteristics, but will use regional nationality instead of pan-ethnic groups. The Latino groups include: Mexicans, Cubans, Puerto Ricans, Central Americans (excluding Puerto Ricans and Cubans, but including Dominicans, Costa Ricans, Guatemalans, Salvadorans, Hondurans, and Nicaraguans) and South Americans (Venezuelans, Peruvians, Argentines, Columbians, Chileans, and Ecuadorians). The Asian groups include: South Asians (Indians, Sri Lankans, and Bangladeshis); East Asians (Chinese, Taiwanese, Hong Kong, Japanese, and Koreans); Southeast Asians (Hmong, Vietnamese, Tai, Cambodians, Laotians, Filipinos, and Indonesians); and finally Pacific Islanders, grouped into Hawaiian or others. [Note: while doing analyses according to specific nationality would be desirable, too few cases per group would present statistical problems, thus each nationality has been grouped into a regional nationality to create larger cell sizes.]

In a third analysis, parent and child language use, parent-child interaction indicators, and parental educational values will also be included as covariates in multinomial logistic regression to explore the relationship between demographic characteristics and rates of English proficiency growth. In the first wave of the ECLS-K, students initially classified as LM are given the OLDS assessment, and if they do not pass, they are tested in subsequent language assessments. There are four possible assessments during which students may pass the OLDS assessment (see Figure 1), and this study will attempt to identify those characteristics that predict when, or the rate at which functional English language ability is achieved.

Preliminary Findings

Preliminary analysis of demographic characteristics and LM status are presented in Tables 1 and 2. The results in Table 1 demonstrate that compared to whites, Hispanics, Asians, and Pacific Islanders have a greater chance of being classified as language minorities. Looking at generation status, it is evident that even among second-generation students, there are those who face the risk of remedial classification as "limited English proficient" as a result of their home language status. Further, low socioeconomic status, household size, and non-traditional parent structures exacerbate that risk. In Table 2 where regional nationality is controlled, the results show that

Cubans, Puerto Ricans, Central Americans, and South Americans have a greater likelihood of being classified as language minority than Mexicans. Among Asian groups, no significant differences are found. However, further analyses will be conducted to compare Asian and Latino groups, and to explore whether using different classifications as reference groups produce different conclusions.

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Table 1. Logistic Regression of Language Minority Status at the Beginning of Kindergarten on *Ethnicity* and Demographic Characteristics

Demographic Characteristics:	Exp(B)
Black[a]	.594
Hispanic	23.752***
Asian	24.950***
Pacific Islander	5.366**
American Indian	1.083
More than one race	2.110
First Generation[b]	13.213***
Second Generation	8.960***
Socioeconomic Status	.547***
Gender (male=1)	1.000
Household size	1.196**
Number of siblings	.875
Single Parent[c]	.673*
Stepparent	.562*
Guardian(s)	.307*
N	21,326
Nagelkerke R-square	.63

***p<.001 **p<.01 *p<.05 [a] Reference category is White, non-Hispanic. [b] Reference category is third generation or higher. [C] Reference category is two biological parents.

Table 2. Logistic Regression of Language Minority Status at the Beginning of Kindergarten on *Regional Nationality* and Demographic Characteristics

Demographic Characteristics:	Exp(B)
Cuban[a]	11.908***
Puerto Rican	2.221*
Central American	5.596**
South American	4.918*
South Asian[b]	1.145
Southeast Asian	1.832
Hawaiian	.106
First Generation[c]	27.076***
Second Generation	21.430***
Socioeconomic Status	.419
Household size	1.345***
Number of siblings	.799**
Single parent [d]	.554***
Stepparent	.541*
Guardian(s)	.165**
N	21,326
Nagelkerke R-square	.47

***p<.001 **p<.01 *p<.05 [a] Reference category is Mexican. [b] Reference category is East Asian.
[C] Reference category is third generation or higher. [d] Reference category is two biological parents.

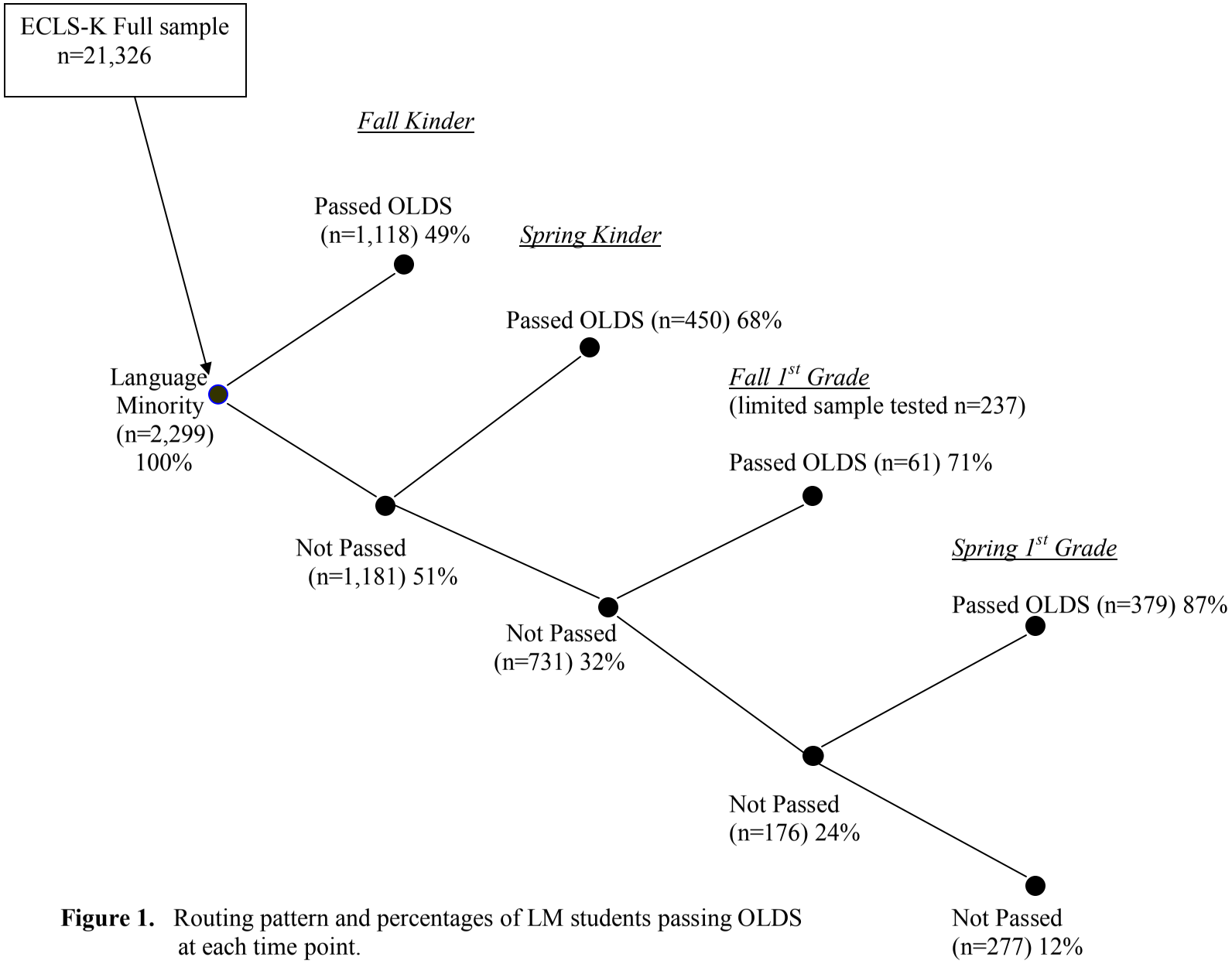

Figure 1. Routing pattern and percentages of LM students passing OLDS at each time point.