Revisiting the Immigrant Paradox in Early Learning Experiences

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Introduction

Immigrant children are the fastest growing populations in the United States and more than one quarter of children under age 18 have at least one immigrant parent (Hernandez et al., 2008; Hernandez & Napierala, 2012; Marks et al., 2014). Immigrant children are often disadvantaged in various socioeconomic characteristics compared to U.S. born children. Immigrant children are more likely to live in poverty, are less likely to have access to preschool education, and less likely to have access to public assistance benefits (Magnuson et al., 2006; Karoly & Gonzalez, 2011; Tienda & Haskins, 2011; Hernandez & Napierala, 2012). Despite these disadvantages, first and second generation immigrant children fare better or just about well as their U.S. born peers on many health, educational, and behavioral outcomes. This phenomenon is known as the immigrant paradox (Hernandez et al., 2012; Coll & Marks, 2012).

It is essential to understand whether the immigrant paradox exists in early life education experiences in order to better promote policies that incorporate strengths and resilience models for immigrant children's development. If there is an immigrant paradox, there is a question about whether becoming more American is a developmental risk (Coll & Marks, 2012). In other words, assimilating may not necessarily lead to better outcome, but rather there may be advantages that immigrants lose during the assimilating process. As immigrant children are the fastest growing population, the United States' future well-being and prosperity rely heavily on them. Therefore, it is crucial to understand the immigrant advantage and help maintain that advantage.

Research Question

Through this study we examine whether the immigrant paradox is observed in early childhood educational outcomes, from kindergarten through third grade. Palacios et al. (2008) have previously documented the existence of an immigrant paradox in reading achievement in kindergarten through third grade using the Early Childhood Longitudinal Study-Kindergarten (ECLS-K) cohort of 1998 children. However, many things have changed that have impacted the children of immigrant families in the more than a decade that has elapsed since 1998. There have been significant changes in terms of state policies expanding access to early education. Moreover, 2000-2010 was decade of the largest number of immigrants to the United States (Camarota, 2011), which have changed the composition of immigrant communities. We examine whether the immigrant paradox in early childhood education still persist in light of these changes. To accomplish this, we use the ECLS-K: 2011 cohort, a new cohort comprised of over 18,000 children who attended kindergarten in the 2010-2011 school year and who were followed through subsequent years. We look at not only reading, but also math outcomes from kindergarten to third grade to better capture children's learning experiences in core academic subjects.

Data

We use Early Childhood Longitudinal Study-Kindergarten Class of 2010-2011 (ECLS-K:2011) data, which is a large nationally representative sample of children, sponsored by the National Center for Education Statistics (NCES) under U.S Department of Education. ECLS-K:2011 is comprised of 18,172 children who attended kindergarten in school year 2010-2011 and were followed through 5th grade. ECLS-K:2011 surveyed and collected data for children, families, teachers, and schools in an effort to collect comprehensive information on children's early learning experiences. For the purpose of this study in understanding early learning experiences, our analytic sample is restricted to kindergarten to 3rd grade information, which is also reflective of Palacios et al. (2008)'s study using ECLS-K: 1998 cohort.

Preliminary Findings
1) Table 1 shows descriptive statistics of the ECLS-K: 2011's total sample and by different immigrant generational status using the sample selection process that Palacios et al. (2008) used from the ECLS-K

(1998) cohort. Compared to the ECLS-K sample, ECLS-K:2011 sample differ in following characteristics:
- Increase in Hispanic and Asian children population
- Less children living in two-parent household
- Higher percentage of families with maternal education lower than high school degree in 1st and 2nd generation immigrant children, but an increase in mother's high school graduation rate in 3rd generation immigrant families
- Increase in receiving center based prekindergarten childcare

Overall, the descriptive statistics suggest that the ECLS-K and ECLS-K: 2011 cohort differ in various sociodemographic status especially by different immigrant generational status.

2) Table 2 shows preliminary multivariate regression analysis results of reading achievement from kindergarten through third grade comparing the two cohorts. Controlling for Fall of kindergarten reading test score and various sociodemographic information described from table 1, our preliminary analyses show following results:
- There is an immigrant paradox observed in early reading achievement in the ECLS-K cohort by end of 3rd grade, which is consistent with Palacios et al (2008)'s findings
- In the ECLS-K:2011 cohort, however, immigrant paradox pattern is not observed by end of 3rd grade

Preliminary results suggest that immigrant paradox in reading achievement found in the earlier ECLS-K cohort is does not apply to the new ECLS-K: 2011 cohort.

Proposed Analysis
1) We will apply different sample selection process for both ECLS-K and ECLS-K:2011 cohort from what Palacios et al. (2008) did. For example, Palacios et al. (2008) defined different generational status based on mother's and child's country of birth. However, they didn't account for father's country of birth or any other major guardian's country of birth, which could have different implication for immigrant children's learning experiences.
2) In addition to reading achievement, mathematics achievement will be examined in order to better understand immigrant children's early learning experiences in core academic subjects. Readings and Mathematics may have different learning trajectories for different immigrant generational status.
3) Weighted multivariate analyses will be performed. Missing covariates will be accounted for using multiple imputation strategy.
4) Blinder-Oaxaca decomposition will be performed to understand whether the differences in early learning outcomes by different generational status are explained by observable characteristics.

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Table 1: Descriptive Statistics of the Total sample and by Generational Status in ECLS-K:2011

	Total	1st generation	2nd generation	3rd generation	Missing generation
Unweighted sample	N=17,355	n=360	n=3,490	n=11,212	n=2,293
Child characteristics (% of total sample)					
White	48.03	13.61	10.29	62.52	39.99
Black	13.52	8.33	4.99	14.95	20.32
Hispanic	23.67	26.39	52.84	14.98	21.37
Asian	8.26	46.39	26.25	0.89	10.9
Other	6.28	5.28	5.62	6.65	5.63
Female	48.83	55.28	49.63	48.27	49.32
Language Proficiency (%)					
Never needed assessment	NA	NA	NA	NA	NA
Proficient by fall of kindergarten	84.7	63.4	75.0	89.1	83.2
Proficient by spring of kindergarten	93.8	89	92.6	96.7	83.4
Socioeconomic factors (%)					
Maternal education above high school	57.89	53.89	43.93	68.19	29.39
Above poverty	56.59	54.72	52.46	68.38	5.49
Two-parent family	63.08	78.06	71.03	67.26	28.22
Parenting					
Warm parenting					
M	3.41	3.35	3.35	3.43	3.40
SD	0.38	0.38	0.40	0.37	0.39
Home cognitive stimulation					
M	2.92	2.74	2.77	2.96	2.92
SD	0.47	0.48	0.51	0.45	0.49
Maternal beliefs school readiness					
M	4.15	4.08	4.11	4.16	4.13
SD	0.53	0.46	0.47	0.55	0.53
Hours in prekindergarten (per week)					
M	23.96	24.16	24.30	23.71	25.60
SD	13.56	14.04	13.27	13.66	13.02
Age at kindergarten entry (in months)					
M	66.11	65.45	65.05	66.44	66.04
SD	4.62	5.04	4.65	4.51	4.85
Childcare (%)					
Parental care	16.86	23.89	22.61	15.94	11.51
Relative care	12.18	8.06	11.78	13.42	7.33
Center-based care	46.93	47.50	45.53	51.88	24.77
Other	6.97	2.78	3.35	8.84	3.97
School characteristics (%)					
Public school	87.32	91.39	91.20	86.05	86.96
Urban school	32.6	55.83	47.28	26.41	36.85
Suburban school	35.76	34.17	39.57	35.33	32.36
Rural school	22.47	5.56	9.23	27.5	20.67
School is over 50% minority	44.44	71.39	69.51	34.71	49.59

Table 2: Preliminary analyses of reading achievement from kindergarten through third grade comparing two cohorts

VARIABLES	Kg Spring: 1998 cohort	3rd gr Spring: 1998 cohort	Kg Spring: 2011 cohort	3rd gr Spring: 2011 cohort
2nd generation	0.00857	-0.228***	-0.0953*	-0.0549
	(0.0563)	(0.0778)	(0.0564)	(0.0944)
3rd generation	-0.0232	-0.296***	-0.111*	-0.133
	(0.0556)	(0.0768)	(0.0572)	(0.0955)
Kg Fall score	X	X	X	X
Child characteristics	X	X	X	X
Language Proficiency	X	X	X	X
Socioeconomic factors	X	X	X	X
Parenting	X	X	X	X
Hours in Prekindergarten	X	X	X	X
Age at kindergarten entry	X	X	X	X
Childcare	X	X	X	X
School characteristics	X	X	X	X
Observations	10,304	9,771	7,626	5,920
R-squared	0.696	0.358	0.682	0.362

Note: Reading outcome variables were z-score standardized to compare ECLS-K and ECLS-K:2011. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$