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# The Immigrant Paradox: Associations Between Latino Kindergartners' Reading and Mathematics Skills, Parents' Knowledge of Children's Development, and Home-Based Practices



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## Introduction

One in five children in the U.S. are from Latino, immigrant backgrounds (Landsale, Thomas, & Hook, 2011). Many Latino children do not do as well in school as White children (Reardon & Galindo, 2009; Sonnenschein & Galindo, 2014). Data from the 2011 NAEP show that although both Latino and White children's reading and math scores improved from 1990 through the present, the gap between the groups has not substantively narrowed (Hemphill & Vanneman, 2011).

It is not enough to consider similarities/differences across racial/ethnic groups. We need to disentangle immigration status (Marks et al., 2014; Quintana et al., 2006). First generation Latino children do significantly better academically than later generations (Crosnoe & Lopez Turley, 2011; Hill & Torrey, 2010).

Research on immigrant families has focused on income, home/school communication, family dynamics, living arrangements, and quality of schools (Hill & Torrey, 2010; Landale et al., 2011; Pena, 2001); but has not sufficiently considered the home learning environment, outcomes for young children, or differences between academic domains.

Parents' home-based educational involvement predicts children's early reading (Farver et al., 2006; Serpell et al., 2005) and math skills (Kleemans et al, 2012; LeFevre et al., 2009, 2010: Sonnenschein & Galindo, 2014). However, Latino families are less likely to read to their children or have books in the home than families from other racial/ethnic groups (Bradley et al., 2001). We know far less about how parents, particularly Latinos, socialize children's math development.

Research on immigrants has not addressed parents' knowledge of children's developmental milestones. However, parents' knowledge is an important predictor of early development (Bornstein et al., 2014) and children's school readiness (Sonnenschein & Sun, 2014).

### Research Questions in the Present Study

1. Does parental knowledge of children's early developmental milestones and frequency of home literacy/enrichment activities differ between U.S.-born Latina mothers, and non-U.S.-born Latina mothers, and White mothers?
2. Do Latino children with U.S.-born mothers, Latino children with non-U.S.-born mothers, and children with White mothers differ in reading and math skills assessed at the start of kindergarten?
3. Does parents' knowledge of children's early developmental milestones predict children's reading and math skills in kindergarten? Do home activities mediate the relation between parents' knowledge and children's academic skills? Do the relations differ across groups?

## Method

### Participants

Data came from the Early Childhood Longitudinal Study Birth Cohort (ECLS-B). The final analysis sample included 3,900 U.S.-born children. Major characteristics of the sample are as follows:

		<i>n</i>	%
Racial/Ethnic Group	White	2,550	65.41
	Latino with U.S.-Born Mothers	700	18.12
	Latino with Non-U.S.-Born Mothers	650	16.47
Child Gender	Boys	1,950	50.63
	Girls	1,900	49.37
Income	Lowest 40th Percentiles	1,500	38.04
	Highest 60th Percentiles	2,400	61.96
Mothers' Education	Less than High school	600	15.52
	High School Diploma	1,000	25.06
	Some College	1,200	30.56
	College Degree and Above	1,100	28.86

## Measures

### Parents' Knowledge of Children's Developmental Milestones

Composite score based on responses to 11 items (e.g., infants need the same amount of sleep, child learns all languages by copying) from the Knowledge of Infant Development Inventory (KIDI; MacPhee, 1981), administered when children were 9 months old ( $\alpha = .63$ ).

### Home Learning Environment

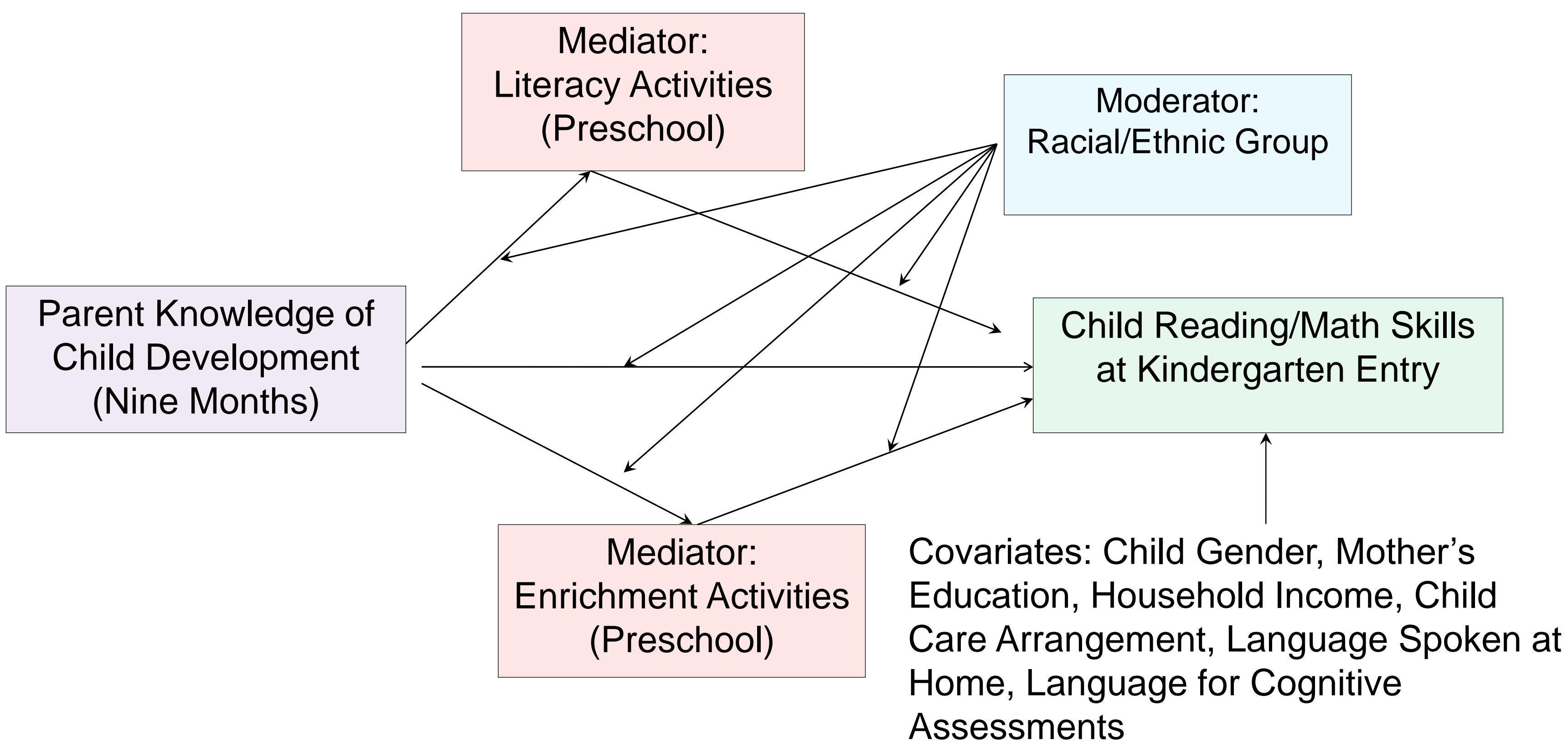
Literacy-related activities were measured by four items (read books, tell stories, sing songs and visit the library) selected from the parent interview when children were four years old ( $\alpha = .60$ ). Scores were standardized with a mean of 0.

Enrichment activities were measured by using 12 items (e.g., organized athletic activities, dance lessons, and playing with blocks) selected from the parent interview when children were four years old ( $\alpha = .60$ -.67). Scores were standardized with a mean of 0.

### Children's Reading and Math Skills

Reading ( $\alpha = .92$ ) and math skills ( $\alpha = .92$ ) were assessed at kindergarten entry by overall IRT-scaled scores. They were broad measures applicable for a wide range of ability levels.

## Conceptual Model



## Results: Moderated Mediation

Moderated mediation analyses showed that although literacy and enrichment home activities mediated the relation between parents' knowledge of child development (KIDI) and children's academic skills, the relations differed across the three groups:

- For White children, parents' knowledge of children's development had significant direct and indirect effects on both reading and math.
- For Latino children,
  - KIDI had significant direct effects on literacy and enrichment activities for those of U.S.-born mothers, but there were no statistically significant indirect effects for either reading or math.
  - KIDI had a significant direct effect on math skills of children of U.S.-born Latina mothers.

### Summary of Moderated Mediation Analyses (✓ statistically significant; X not significant):

		Reading			Math		
		White	Latino U.S.-Born	Latino Non-U.S.-Born	White	Latino U.S.-Born	Latino Non-U.S.-Born
Paths	KIDI → Literacy	✓	✓	✓	✓	✓	✓
	KIDI → Enrichment	✓	✓	X	✓	✓	X
	Literacy → Academic Skills	✓	X	X	✓	X	X
	Enrichment → Academic Skills	✓	X	X	✓	X	X
	KIDI → Academic Skills	✓	X	X	✓	✓	X
Indirect Effects							
KIDI → Literacy → Academic Skills		✓	X	X	✓	X	X
KIDI → Enrichment → Academic Skills		✓	X	X	✓	X	X

Note: Literacy = literacy-related home activities; enrichment = enrichment home activities.

## Discussion

- The immigrant paradox **did not** apply to the families in this sample.
- Compared to White and U.S.-born Latino parents, children of non-U.S.-born Latino parents were at a relative disadvantage in terms of parents' knowledge of children's developmental milestones, the home learning environment, and early academic achievement.
- The relation between parents' knowledge, home learning environment, and children's outcomes differed across the three groups.
- Parents' knowledge and home learning environment scores were significantly associated with White children's reading and math. However the relation differed for Latino children.

- Future research and practices need to take three approaches:
  - Determine home-based factors that are positively associated with Latino children's academic skills. Latino families may be providing their children other experiences or learning opportunities that may not have been captured in our measures.
  - Increase parents', particularly Latino parents', awareness of ways to promote early reading and math skills through home activities. Increasing awareness should include focusing on how to use these activities to foster academic skills.
  - Look for ways to improve parents', particularly Latino parents', knowledge of children's development.

## Results: Group Differences

White parents and children received significantly higher scores on all measures than U.S.-born Latino parents and their children who, in turn, received significantly higher scores than non-U.S.-born Latino parents and their children.

	(1) White	(2) Latino with U.S.-Born Mothers	(3) Latino with Non-U.S.-Born Mothers	Significant Differences
Parent Knowledge	8.35	7.22	5.86	(1)>(2)>(3)
Literacy Activities	0.29	-0.22	-0.78	(1)>(2)>(3)
Enrichment	0.28	-0.25	-0.42	(1)>(2)=(3)
Reading Skills	45.87	40.71	37.29	(1)>(2)>(3)
Math Skills	45.68	40.95	38.74	(1)>(2)>(3)

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