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Non-Parental Caregivers, Parents, and the School Readiness of the Children of Latino/a Immigrants

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Non-Parental Caregivers, Parents, and the School Readiness of the Children of Latino/a Immigrants

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Abstract

Non-Parental Caregivers, Parents, and the School Readiness of the Children of Latino/a Immigrants

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School readiness generally predicts trajectories of academic achievement over time, motivating efforts to support the development of school readiness skills by expanding access to and improving the quality of early childhood care and education. One dimension of early childhood care and education concerns the beliefs that non-parental caregivers (e.g. preschool teachers, relatives, child care providers) in these settings have about school readiness and how these beliefs may differ from parent beliefs. Non-parental caregivers' beliefs—and their alignment with parents' beliefs—may be especially significant for certain segments of the child population, namely children of Latino/a immigrant parents in the U.S., who are overrepresented among students who enter school with underdeveloped academic skills and whose parents may not have the resources nor the familiarity with the U.S. education system to know what schools will expect of their children upon school entry. Latino/a immigrant parents and their children, therefore, may be more influenced by the school readiness beliefs of non-parental caregivers than other groups. This study uses the Early Childhood Longitudinal Survey-Birth Cohort (ECLS-B) to investigate whether non-parental early caregivers' beliefs about school readiness and their alignment with parental beliefs are associated with children's achievement test scores at kindergarten entry—in general and especially among the children of Latino/a immigrant parents.

Table of Contents

List of Tables iii

List of Figures iv

Introduction 1

Literature Review 3

School Readiness in the Context of Early Childhood Care and Education 3

Variation in the Link Between Caregiver Beliefs and School Readiness 5

Method 9

Data and Sample 9

Measurement 10

Plan of Analysis 14

Results 16

Overview of School Readiness Beliefs across Diverse Groups 16

Non-parental Caregiver Beliefs and Children's School Readiness 17

Non-parental Caregiver Beliefs, Parental Beliefs, and School Readiness 18

Discussion 21

Tables 27

Figures 35

References 37

List of Tables

Table 1: Mean dependent and independent variables for full sample 27

Table 2: Results for math achievement, by school readiness beliefs and race/ethnicity and nativity 31

Table 3: Moderation of association between caregiver beliefs and math achievement by race/ethnicity and nativity.....32

Table 4: Results for reading achievement, by school readiness beliefs and race/ethnicity and nativity 33

Table 5: Moderation of association between caregiver beliefs and reading achievement by race/ethnicity and nativity.....34

List of Figures

Figure 1: Predicted math test scores by interaction between non-parental caregiver expectations and Latino/a immigrant status 35

Figure 2: Predicted math scores by interaction between aligned, low school readiness beliefs and Latino/a immgrant status.....36

Introduction

School readiness—the academic and social skills that children are perceived to need upon kindergarten entry—is an area of growing interest among U.S. policymakers and associated researchers. School readiness—defined various ways—generally predicts trajectories of higher academic achievement over time (Duncan et al. 2007), motivating efforts to support the development of school readiness skills by expanding access to early childhood care and education and improving the quality of such programs. One dimension of early childhood care and education that has not received substantial attention in research supporting these policy efforts concerns the beliefs that non-parental caregivers in these settings have about school readiness. Such caregivers (e.g., preschool teachers, relatives, child care providers) spend a great deal of time structuring and facilitating early learning opportunities that children have prior to their entry into formal schooling. Consequently, their beliefs about what constitutes a "school ready" child are important to consider, especially in tandem with the corresponding beliefs of parents that may or may not be consistent with their own.

These early childhood non-parental caregivers' beliefs—and their alignment with parents' beliefs—may be especially significant for certain segments of the child population. One group of interest is the growing number of children of Latino/a immigrant parents in the U.S., who are overrepresented among students who enter school with underdeveloped academic skills (Crosnoe et al. 2015; Lahaie 2008; Han 2006; Magnuson, Lahaie, and Waldfogel 2006). Although foreign-born parents tend to have higher school-related expectations than U.S.-born parents (Kao and Tienda 1995), they may not have the socioeconomic and linguistic resources to meet these expectations nor the familiarity with the U.S. education system to know what schools will expect of their children (and them) upon school entry (Garcia and Jensen 2009).

Latino/a immigrant parents and their children, therefore, may be more influenced by the school readiness beliefs of non-parental early childhood caregivers than other groups.

In this spirit, this study uses the Early Childhood Longitudinal Survey-Birth Cohort (ECLS-B) to investigate whether non-parental caregivers' beliefs about school readiness during early childhood are associated with children's achievement test scores at kindergarten entry—in general and especially among the children of Latino/a immigrant parents. Recognizing that the role of adult beliefs about school readiness is not solely a function of non-parental early caregivers' beliefs, I extend these analyses to also consider alignment in school readiness beliefs between non-parental caregivers and parents in early childhood. The hypotheses are that: (1) "higher" non-parental caregiver beliefs about school readiness (i.e., beliefs that a larger set of skills needs to be developed) prior to school entry will be associated with higher achievement test scores at kindergarten entry; (2) these associations will be magnified by higher parental beliefs about school readiness and mitigate the potential implications of low parental beliefs; and (3) evidence for both hypotheses will be stronger for the children of Latino/a immigrant parents.

Results from this study will deepen theoretical perspectives on the ecology of early learning to better highlight the direct and interactive role of non-parental caregivers' school readiness beliefs in preparing all children—but particularly the children of Latino/a immigrants—for school transitions that set them up for success throughout their school careers. In doing so, this study may steer sociologists toward educational actors—non-parental caregivers in addition to teachers—not often studied by sociologists of education. It may also form the basis for greater investments geared toward improving the quality of early childhood care and education arrangements serving vulnerable populations.

Literature Review

School Readiness in the Context of Early Childhood Care and Education

School readiness is the idea that children enter kindergarten with the set of cognitive, physical, and socioemotional skills that they will need to promote positive and adaptive student outcomes in formal and informal educational settings (Snow 2007; 2006; National Education Goals Panel 1997, 1991). Children who enter kindergarten with rudimentary academic and socioemotional skills better engage with the curriculum, connect with teachers and peers, and develop new skills, all of which lay the foundation for later academic success (Sheridan et al. 2010; Duncan et al. 2007). Because trajectories of school performance are highly cumulative over time, children who experience success early on in their school careers have a competitive advantage over peers as they move through the system, so that even small initial differences grow into large disparities in end-of-school outcomes, such as graduation (Pressler, Raver, Friedman-Krauss, and Roy 2016; Ladd, Muschkin, and Dodge 2014; Claessens and Engel 2013; La Paro, Kraft-Sayre, and Pianta 2003; Shonkoff and Phillips 2000; Ramey and Campbell 1991; Alexander, Entwisle, Blyth, and McAdoo 1988; Schweinhart, Weikart, and Larner 1986). Ensuring that more students are "school-ready" at kindergarten entry is, therefore, a potential way to reduce persistent educational disparities in addition to helping any one child.

Early childhood care and education arrangements prior to kindergarten are settings in which adults can help to scaffold the learning and development of children so that they can gain academic and socioemotional skills that prepare them for formal schooling. These arrangements—which are serving growing numbers of children in the context of higher levels of maternal employment, dual-earner couples, and single parent families—can take many forms (Fuller et al. 2004; Hofferth 1999). Although over 60% of children between the ages of 3 and 6

(not yet in kindergarten) attend center-based early childhood care and education programs (e.g., preschools, childcare centers, or Head Start), others receive non-parental care in more informal settings, including the home (Federal Interagency Forum on Child and Family Statistics 2014). Child care arrangements often differ in the educational level of their staffs, their ratio of children to adults, the receptiveness of caregivers to children, and the rigor and appropriateness of children's activities, all of which contribute to setting-level differences in the quality of opportunities to learn and develop (Magnuson and Waldfogel 2005; NICHD Early Child Care Research Network 2005; Rimm-Kaufman and Pianta 2000). Not surprisingly, then, early childhood care and education arrangements also differ in the degree that they help children develop the skills that their future elementary schools will expect of them (Burchinal et al. 2008). For example, Rathbun and Zhang (2016) found that children in formal care settings had higher math and reading achievement than otherwise similar peers in informal settings. Furthermore, Burchinal and colleagues (2008) found that enrollment in high-quality early care and education arrangements—in which children had sensitive, responsive caregivers and high instructional quality, as opposed to moderately responsive and sensitive caregivers—predicted children's acquisition of language, pre-academic, and social skills by the end of the kindergarten year.

This link between early childhood care and education arrangements and children's school readiness could reflect several mechanisms. One potential mechanism is through caregivers' beliefs about school readiness—or what they think that children should be able to do by the time they enter kindergarten. After all, children spend a great deal of time with non-parental caregivers, and those caregivers' beliefs likely shape whether and how they create and structure opportunities for children to develop skills. Yet, these beliefs have received insufficient

empirical attention and are often neglected in theoretical perspectives on school readiness (Abry et al. 2015; Lara-Cinisomo et al. 2009; File and Gullo 2002; Kagan 1992). This lack of attention is especially problematic given that the wide array of education, training, and experience of non-parental caregivers is likely to differentiate them on their school readiness beliefs. For example, caregivers within center-care or Head Start settings often have extensive training, educational curricula geared toward supporting school readiness, and clear benchmarks for measuring student progress, but other caregivers—such as those in home-based settings—may not have these same resources or pressures (National Association for the Education of Young Children 2009, 2005; Barbarin et al. 2008; Lin et al. 2003; Kowalski et al. 2001; Harradine and Clifford 1996; West 1993; Knudsen-Lindauer and Harris 1989).

The first aim of this study, therefore, is to test the hypothesis that children will score higher on achievement tests at kindergarten entry when their non-parental caregivers' believe that school readiness encompasses a larger set of skills.

Variation in the Link between Caregiver Beliefs and School Readiness

The link between the experiences of children in their early childhood care and education settings and their academic achievement in elementary school is a clear illustration of the transactions among different systems of the early childhood ecology that are emphasized by ecological systems theory (Bronfenbrenner and Morris 2001; Bronfenbrenner 1979). Taking this perspective further, children's school readiness is likely a function of the transactions among the child doing the learning, the early childhood care and education settings that facilitate that learning, the elementary schools that set expectations for learning and reward/penalize differences in learning, and the parental processes linking all these systems (Sameroff 2009; Mashburn and Pianta 2006; Sameroff and Chandler 1975). Moreover, these transactions among

the proximate contexts of the everyday ecology are themselves embedded in larger social structures, such as the broad system of stratification related to race/ethnicity and macro-level migration streams (Crosnoe et al. 2015). To better understand the role of non-parental caregivers' beliefs and children's school readiness, therefore, this study follows this ecological perspective by bringing in parental beliefs and paying attention to diversity.

First, children who have non-parental caregivers generally also have parental caregivers, and these two key actors in the early childhood ecology may not hold the same beliefs about what being "school ready" means. Because parents retain enormous influence in their children's early learning and development (Puccioni 2015; Belfield and Garcia 2014; Schaub 2010), similarities and differences between the beliefs of non-parental caregivers and parents are likely to factor into the implications of caregivers' beliefs for children's school readiness. In other words, non-parental caregivers' beliefs do not occur in a vacuum but instead need to be viewed in the context of children's families. Unfortunately, this interplay of non-parental caregivers' beliefs about school readiness and parents' corresponding beliefs is not well-studied. Fortunately, some basic assumptions can be made based on the deeper literatures on: 1) the interplay of more general child-focused processes among non-parental caregivers and parents, 2) the interplay of early childhood care and education providers' beliefs about school readiness and elementary school teachers' corresponding beliefs; and 3) the interplay of parents' and elementary school teachers' efforts to support children's early learning (National Association for the Education of Young Children's Developmentally Appropriate Practice 2016; Abry et al. 2015; Crosnoe 2012; Piotrkowski et al. 2000; Rosenkoetter 1995; Burts et al. 1990; Hains et al. 1989). From this research, alignment between caregivers' and parents' beliefs would seem to be generally good for children because one magnifies the other, unless non-parental caregivers and

parents both have low expectations of children. Furthermore, misalignment may be problematic, unless higher beliefs in one context are actually mitigating the risks of lower beliefs in the other.

The second aim of this study, therefore, is to test the hypothesis that the association between non-parental caregivers' beliefs that a greater number of skills are necessary for school readiness and children's kindergarten test scores will be moderated by parents' own beliefs. That association should be stronger when parents have similar, high school readiness beliefs and should buffer against the negative implications for school readiness of parents having different (i.e., lower) beliefs.

Second, although non-parental caregivers' beliefs about school readiness are potentially important for all children, they may matter even more in sociodemographic groups that have historically been marginalized and underserved by U.S. schools. One such group are the children of Latino/a immigrants, who have statistically lower levels of academic skills in kindergarten as rated by teachers and tests (Crosnoe, Bonazzo, and Wu 2015; Lahaie 2008; Han 2006; Magnuson, Lahaie, and Waldfogel 2006). As with other groups often viewed as vulnerable within U.S. schools—such as African-American children—the children of Latino/a immigrants experience disproportionately high rates of poverty, segregation, and ethnic-based discrimination, all of which undermine their development of early skills prior to school (Koury and Votruba-Drzal 2014; De Feyter and Winsler 2009; Hernandez, Denton, and Macartney 2007; Perreira, Chapman, and Stein 2006). Students from vulnerable groups are also more likely to have non-parental caregivers who underestimate the academic potential of the children in their care (Ready and Wright 2011). Yet, the children of Latino/a immigrants also face additional challenges to school readiness than children in other vulnerable groups, such as their parents' lack of familiarity with the U.S. educational system, linguistic barriers, and disproportionately

low exposure to early childhood care and education (McWayne et al. 2013; Crosnoe and Lopez-Turley 2011; Han 2008; Duncan et al. 2007; Hernandez 2006).

For these reasons, the children of Latino/a immigrants may derive heightened benefits from having non-parental caregivers with higher-level beliefs about school readiness, including and especially when their parents share these beliefs (Crosnoe et al. 2015; Fuller 2007; Kao and Tienda 1995). In other words, if non-parental caregivers have beliefs about school readiness that are a better match with what U.S. elementary schools expect, then they may help to socialize Latino/a immigrant parents into those expectations, better translate shared beliefs with parents into learning opportunities for children, and help children develop the skills that their elementary schools may demand even if parents do not share their beliefs. Such a moderating role of non-parental caregivers' school readiness beliefs reflects the very different magnifying and buffering ways that various systems of the early childhood ecology may transact with each other.

The third aim of this study, therefore, is to test the hypothesis that the two hypotheses laid out above will garner more evidence among the children of Latino/a immigrants than other large groups of children. In other words, non-parental caregivers' beliefs about school readiness are likely to be more closely associated with children's school readiness in general and especially when aligned with parents' beliefs among this growing segment of the child population.

Method

Data and Sample

ECLS-B is managed by the National Center for Education Statistics (NCES). It includes data from a nationally representative sample of children born in the U.S. in 2001 and their parents, teachers, and school administrators at 9 months of age, 2 years of age, 4 years of age, and during kindergarten (in 2006 or 2007). Data collected at the 9 month, 4 year, and kindergarten waves were utilized in this study. This sample was constructed with a complex, multistage probability design that excluded children born to mothers under 15 years of age, who were adopted before the first assessment, or who had died after birth. The initial ECLS-B sample consisted of approximately 10,700 cases, of which about 6,900 were followed through kindergarten. All sample sizes reported here have been rounded to the nearest 50 to comply with the NCES restricted-use data regulations.

Trained ECLS-B assessors conducted computer-assisted interviews with sample children's primary caregiver—most frequently the mother—in which parents were asked to provide information about their children, themselves, and their family characteristics as well as questions about their children's participation in non-parental care and education arrangements. With the permission of the sample children's parents, individuals and organizations that provided non-parental care and education for the sample children also participated in a computer-assisted interview. These non-parental caregivers gave information about the caregiving environment as well as their own backgrounds and experience.

Because of the focus on alignment between non-parental caregivers' beliefs and parents' beliefs about school readiness, the analytical sample for this study was restricted to children who received some form of non-parental care in the year prior to kindergarten—defined as childcare

centers, pre-kindergarten programs, Head Start programs, and other non-parental care—who had responses from both non-parental caregivers and parents on the independent variables of interest. This sample included approximately 4,350 students with their corresponding non-parental caregiver and parental responses, including approximately 700 Latino/a children. Among these Latino/a children, almost 400 had a least one foreign-born parents, and around 300 had two U.S.-born parents. The remaining children in the sample had a racial/ethnic breakdown of around 450 born to non-Latino/a Asian immigrants, about 50 born to non-Latino/a Asian non-immigrants, 1,950 born to non-Latino/a White parents, about 650 born to non-Latino/a Black parents, and 550 born to multiracial parents or parents that classified themselves as another race/ethnicity.

Measurement

Kindergarten achievement. Direct assessments of children's math and reading achievement were developed specifically for use in ECLS-B and were administered in the beginning portion of the children's kindergarten year, with over 80% of interviews taking place before January. The math assessment included questions about number sense, measurement, geometry, data analysis, statistics, and algebra, and the reading assessment included questions on emergent literacy, English language skills, and early reading. Both math and reading achievement scores are presented as scale scores. The scales for each subject are unique, meaning that a higher score in math achievement is not necessarily better than a lower score in reading achievement. Testing took place in two stages, with students first taking a test assessing their general ability level and then taking a second test that was leveled as easy, medium, or hard, depending on the student's performance on the first test to capture a better assessment of students' academic abilities. ECLS-B utilized item response theory (IRT) to estimate children's responses on items not administered based on their patterns of correct and incorrect responses.

The resulting math and reading achievement scores represent probability estimates of the number of questions a student would have correctly answered if administered the full set of items.

Non-parental caregivers' and parents' beliefs. Both parental and non-parental caregivers rated, on a scale from 1 (not important) to 5 (essential), the importance of fifteen skills (e.g., taking turns, counting to 20) for school readiness at kindergarten entry. For reports from both parental and non-parental caregivers, exploratory factor analyses of these fifteen skills revealed two separate school readiness factors—academic school readiness and interpersonal/socio-emotional school readiness—similarly for both parental and non-parental caregiver reports. For this study, I focus only on the academic factor to reflect the increased focus on academic skills in kindergarten and kindergarten preparation that characterizes early education today (Bassok, Latham, and Rorem 2016). The academic factor scale consisted of six skills for both non-parental caregivers ($\alpha = .851$) and parents ($\alpha = .868$), namely: ability to count to 20 or more; knowledge of most of the letters of the alphabet; recognition of primary colors and shapes; correct usage of a pencil or paintbrush; ability to write his/her name; and ability of the child to read or pretend to read. Non-parental caregivers' and parents' responses to these six items were averaged to generate a mean academic readiness belief score for each. For example, a non-parental caregiver's belief rating of academic readiness was defined as the average of his or her ratings for the six items categorized as academic skills. Higher mean scores indicate that the caregiver believed that a broader set of skills were needed for a child to be school ready at kindergarten entry.

These two sets of beliefs about academic school readiness were combined in two ways to measure alignment across contexts. First, a raw alignment score was calculated by subtracting non-parental caregivers' school readiness beliefs mean scores from those of parental caregivers.

Positive alignment/misalignment scores indicate misalignment with higher parental academic school readiness beliefs than non-parental caregivers; negative scores indicate misalignment with lower parental beliefs than non-parental caregivers. Scores of "0" indicate perfect alignment in academic school readiness beliefs between non-parental and parental caregivers. Second, to capture specific types of alignment (i.e. alignment in which non-parental and parental caregivers had high school readiness beliefs or misalignment in which non-parental caregivers had low school readiness beliefs and parental caregivers had average school readiness beliefs), non-parental caregivers' and parents' mean school readiness beliefs were both separated into quartiles, with the lowest quartile representing low beliefs, the second and third quartiles representing average beliefs, and the fourth quartile representing high beliefs. Using school readiness beliefs quartiles—as opposed to standard deviation cut offs to determine low, average, and high beliefs—was meant to address the skew toward higher mean beliefs among both non-parental caregivers and parents. Students were then grouped into five categories: those with aligned high non-parental and parental caregiver beliefs, aligned average non-parental and parental caregiver beliefs, aligned low non-parental and parental caregiver beliefs, misaligned beliefs in which non-parental caregiver beliefs were higher than parental caregiver beliefs, and misaligned beliefs in which non-parental caregiver beliefs were lower than parental beliefs.

Race/ethnicity and nativity. Parent reports of race/ethnicity and nativity led to a seven part categorization: children of Latino/a immigrants, children of Latino/a non-immigrants, children of non-Latino/a Asian immigrants, children of non-Latino/a Asian non-immigrants, children of non-Latino/a Black parents, children of non-Latino/a White parents (reference group), and children of non-Latino/a parents identifying as multiracial or other.

Child, family, and caregiver covariates. All models controlled for variables that may have been confounded with non-parental caregivers' beliefs about school readiness beliefs and parents' corresponding beliefs as well as children's reading and math achievement at kindergarten entry. These control variables included baseline measures of mental scores at age 2 (from the Bayley's Short Form examination, which measures early cognitive development); children's demographic characteristics, such as age in months, sex/gender, birth weight (normal birth weight, low birth weight, or extremely low birth weight); whether or not the child entered kindergarten late; and whether or not the child attended center care or Head Start at age 4.

Parent-related covariates included measures of family socioeconomic status (a composite indicator accounting for parent/caregiver level of education, occupation, and household income), family structure, mother's age at the study participant's birth, whether the primary home language was a language other than English, and mother's English proficiency. Non-parental caregiver covariates included gender, length of experience working with children, whether the non-parental caregiver identified as Latino/a (McGrady and Reynolds 2012), and highest level of educational attainment. Also included as a covariate was the number of school academic readiness measures non-parental and parental caregivers answered to control for any school readiness beliefs questions that non-parental or parental caregivers may have skipped.

Of note is that I also created and included as a covariate a measure of the propensity of being included in the subsample of children with parental and non-parental caregiver data. Propensity scores represent the conditional probability of an individual receiving a treatment given observable pre-treatment characteristics that potentially select him or her into that treatment (Rosenbaum and Rubin 1983). In this study, being in some form of non-parental care in the year before kindergarten entry was the focal treatment while not being in non-parental care

during this time was the control. The propensity scores were used to index characteristics that theoretically selected children in non-parental care, including race/ethnicity and nativity, household, child characteristics, and mother characteristics. Using the psmatch procedure in Stata 14.0, I estimated the logistic model that predicted non-parental care in the sample by these variables to address non-random sorting into non-parental care in the year prior to kindergarten entry. The predicted probability of enrollment for each child was then used as a control variable in all analyses.

Plan of Analysis

In the first step of multivariate analyses, regression models predicted kindergarten achievement test scores by non-parental and parental caregivers' school readiness beliefs, the race/ethnicity and nativity categories, and the control variables (including the propensity to be included in the sample and a prior measure of cognitive skills) and then the interactions between race/ethnicity and nativity on one hand and non-parental caregivers' beliefs on other. This modeling tested the hypotheses that children would have higher achievement test scores at the start of elementary school when their caregivers had higher beliefs about school readiness and that this association would be stronger for children from Latino/a immigrant families.

In the second step of multivariate analyses, the regression models were re-estimated with the raw and categorical variables for alignment between non-parental and parental caregivers' school readiness beliefs as the focal predictors. Each set of variables—both raw alignment and categorical alignment—was examined separately, first as main effects and then as interactions with the race/ethnicity and nativity variables. This modeling tested the hypotheses that associations between alignment in non-parental and parental caregiver beliefs would be

magnified by higher parental beliefs and would mitigate the implications of low parental beliefs, especially for children with Latino/a immigrant parents.

Both of these stages of the quantitative analyses were conducted in Stata 14.0, using the "svyset" command and "svy:" commands to apply the appropriate weighting and clustering variables. Doing so was necessary to account for ECLS-B design effects and differential attrition across waves. For the descriptive analyses, about 60 cases out of 4,300 were missing values on at least one of the control variables. Multiple imputation, with 50 imputed datasets, addressed these missing values in the multivariate models (Enders 2010).

Results

Overview of School Readiness Beliefs across Diverse Groups

First, in the analytical sample, the mean math assessment score was 40.56, and the mean reading assessment score was 38.67. Echoing documented patterns of children from Latino/a immigrant families entering school with less developed academic skills than their peers, such children had the lowest math scores (M = 35.73) of all groups considered ($p < .01$ for all comparisons) and the lowest reading scores (M = 32.64) of all groups ($p <.01$) except children of non-Latino/a Black parents ($p =.103$) (See Table 1).

Second, non-parental caregivers had a mean school readiness beliefs score of 3.71. Children of Black parents had non-parental caregivers with the highest average school readiness beliefs (M = 3.85), while children of White parents had the lowest non-parental caregiver beliefs (M = 3.65). Children of Latino/a immigrants had non-parental caregivers with the second highest average school readiness beliefs (M = 3.80) in the sample, which significantly differed from those non-parental caregiver beliefs of children with White parents.

Third, parents had—on average—higher school readiness beliefs (M = 3.89) than non-parental caregivers for all racial/ethnic and nativity groups. Following the same pattern as the school readiness beliefs among non-parental caregivers, children of Black parents had the highest parental school readiness beliefs (M = 4.09), while children of White parents had the lowest (M = 3.80). Children of Latino/a immigrants had the third highest parental school readiness beliefs, after children of Black parents and children of non-immigrant Asian parents, in the sample.

Fourth, misalignment in school readiness beliefs between non-parental caregivers and parents was more prevalent than alignment, with an average raw misalignment of 0.18 points

(indicating parents had higher scores than non-parental caregivers) and over 60% of children having misaligned non-parental caregiver and parental beliefs about school readiness. There were no racial/ethnic differences in raw alignment.

Non-Parental Caregiver Beliefs and Children's School Readiness

The first aim of the study focused on the school readiness beliefs of non-parental caregivers. Tables 2, 3, 4, and 5 present the results from multivariate regressions exploring the associations between achievement test scores at kindergarten entry and non-parental caregiver beliefs. Model 3 in both Table 2 and Table 4 show that—even controlling for parent beliefs and a prior assessment of cognitive skills—non-parental caregiver beliefs were independently, positively, and significantly associated with math ($b = 0.92$, $p < .001$) and reading ($b = 2.02$, $p < .001$) achievement at kindergarten entry. In line with the hypothesis, these results suggest that children whose non-parental caregivers had higher beliefs about academic skills also had higher entry-level achievement, even after controlling for a full set of covariates and the propensity of being in non-parental care.

Interacting non-parental caregivers' school readiness beliefs with the race/ethnicity and nativity categories (Tables 3 and 5) revealed significant interactions between non-parental caregivers' school readiness beliefs and Latino/a immigrant status for math ($b = 2.04$, $p < .05$) and reading ($b = 2.97$, $p < .05$). Interpreting this interaction by calculating predicted achievement test scores for the children of Latino/a immigrants and White children at different levels of non-parental caregiver beliefs revealed that the observed boost in test scores associated with increased beliefs was greater for the former than the latter (see Figure 1 for math, with a similar pattern for reading). As a result, the test score gap between the children of Latino/a immigrant parents and White parents narrowed at high levels of non-parental caregiver beliefs to a point

differential of 1.55 (compared to 4.20 point differential at low levels of non-parental caregiver beliefs). As hypothesized, the association between non-parental caregiver beliefs and math achievement was greatest for children of Latino/a immigrant parents. Although not a focus of the study, the negative interaction (b = -2.49, p < .05) between non-parental caregivers' school readiness beliefs and reading achievement for children with multiracial parents or parents identifying as "other" (see Table 5, Model 1) is interesting. It suggests that such students did not benefit from having non-parental caregivers with high school readiness beliefs.

Non-Parental Caregiver Beliefs, Parental Beliefs, and School Readiness

The second aim of this study was to focus on alignment in school readiness beliefs between non-parental caregivers and parents. The raw difference between non-parental caregivers' and parents' school readiness beliefs was negatively and significantly associated with math (b = -1.22, p <.001) and reading (b = -2.02, p < .001) achievement at kindergarten entry, even after controlling for parents' individual school readiness beliefs and a full set of covariates (See Model 3 in Tables 2 and 4). The negative associations between raw difference in school readiness beliefs and math and reading achievement suggest that discrepancies in caregivers' and parents' school readiness beliefs are potentially harmful for kindergarten achievement. Raw differences in beliefs nor parental caregivers' school readiness beliefs significantly interact with race/ethnicity and nativity in the models for math or reading achievement.

When alignment/misalignment was categorized by type, all categories significantly differed from aligned non-parental caregivers' and parents' high school readiness beliefs on math achievement (See Table 2, Model 5). In other words, high aligned non-parental caregivers' and parents' school readiness beliefs were associated with the highest school readiness scores on both math and reading assessments.

Rotating alignment/misalignment reference groups revealed that, for math achievement, children with either form of misaligned caregiver beliefs or average aligned beliefs had math achievement scores that did not significantly differ from one another but were significantly different from aligned low and aligned high beliefs. The math scores of children with misaligned caregiver beliefs—regardless of which caregiver held the higher beliefs—and children with aligned, average beliefs were significantly higher than those of children with aligned low beliefs and significantly lower than those of children with aligned high beliefs.

For reading, the reading achievement of children with caregivers that had misaligned school readiness beliefs—with non-parental caregivers having higher beliefs than parents—did not significantly differ from that of children with caregivers that had high aligned beliefs (p = .06) (see Table 4, Model 5). Having higher non-parental beliefs than parental school readiness beliefs may, therefore, be more beneficial in boosting reading achievement than the converse. Upon rotating the alignment/misalignment category that served as the reference group, however, there were no significant differences in reading achievement scores for children with either misaligned or aligned average caregiver beliefs.

In general, higher non-parental caregiver beliefs seemed to be more closely associated with test scores than higher parental beliefs. For example, when children had non-parental caregivers with higher school readiness beliefs than their parents' beliefs, they did not perform significantly worse than children whose non-parental caregivers and parents had similarly high beliefs (see Model 5 in Tables 2 and 4). These results support the second hypothesis that the role of higher non-parental caregiver beliefs in school readiness would be magnified by higher parental school readiness beliefs and would also mitigate the potential implications of low parental beliefs.

Interacting the five-category typology of alignment with race/ethnicity and nativity to predict kindergarten test scores revealed significant interactions for Latino/a immigrant x low alignment (b = -5.73, p < .05) and for Asian non-immigrant x low alignment (b = 11.75, p < .01) for math and no significant interactions for reading (see Model 2 in Tables 3 and 5). Calculating predicted math test scores for these groups and the reference group (Whites) with different types of alignment revealed that the negative association between similarly low school readiness beliefs among non-parental caregivers and parents and kindergarten test scores in math was stronger for the children of Latino/a immigrants than for White children (See Figure 2). The pattern was similar for the interaction between Asian non-immigrant status and low alignment. These results speak to the third hypothesis. Rather than showing that alignment at high levels of beliefs might be better for the children of Latino/a immigrants compared to more historically advantaged groups, they suggest that alignment at low levels might be worse for them.

Discussion

Early childhood care and education arrangements play a pivotal role in preparing children for kindergarten, which then serves as the foundation of their K-12 educational careers (Sylva 2014; Ruhm and Waldfogel 2012; Heckman et al. 2010; NICHD ECCRN 2005). Indeed, whether students are ready for school when they enter kindergarten is related to not only early academic progress but also more distal academic achievements, such as the likelihood of graduating from high school (Alexander et al. 2014). Ensuring that students enter kindergarten "school ready" is, thus, an area of increasing policy interest in the U.S. Of course, perceptions of what constitutes school readiness vary considerably among the adults who help children get ready (and particularly across cultural divides related to race/ethnicity and immigration). Still, the expectations that schools have of what school readiness entails are important because schools will be sorting and instructing kindergartners based on institutional views of what readiness is (and because schools often dismiss divergent views of parents) (Adair 2015). Early care providers and (especially) educators may be more in tune with these expectations than parents.

Great variation exists, however, between and among formal and informal early childhood care and education settings in terms of their focus on preparing children from school and what they think that preparation should entail. Understanding how non-parental caregivers think about school readiness beliefs and how these beliefs might be associated with children's measureable skills at school entry—whether independent of or in conjunction with parental school readiness beliefs—is, therefore, an important goal, especially when examining diverse groups of children that are often targeted by formal early childhood efforts to boost school readiness, such as children in the growing Latino/a population.

This study posed three hypotheses. I briefly summarize the results for and against these

hypotheses before turning to a discussion of what these results mean, how the limitations of this study should be corrected, and where to go next. This study examined whether non-parental caregivers' beliefs about school readiness predicted children's school readiness upon kindergarten entry, especially for children of Latino/a immigrant parents. This study also explored whether alignment in school readiness beliefs between non-parental caregivers and parents in the year prior to kindergarten was associated with school readiness, especially for children of Latino/a immigrant parents. Results suggest that higher non-parental caregiver beliefs were positively associated with school readiness in both math and reading, with higher non-parental caregiver beliefs offsetting low parental caregiver beliefs regarding school readiness in both subjects for all children. Furthermore, high non-parental caregiver school readiness beliefs were associated with larger gains in math and reading achievement for children of Latino/a immigrant parents than for their White peers. Last, having aligned low parental and non-parental caregiver beliefs versus aligned high parental and non-parental caregiver school readiness beliefs was associated with lower achievement for children of Latino/a immigrant parents compared to their non-Latino/a White peers. These results bring up three themes for further discussion.

First, non-parental caregivers are key actors in the ecology of early learning and development, so their beliefs about what children need to succeed in school are likely important to how they structure children's time and play a pivotal role in preparing children for school. Although sociologists of education often consider the beliefs and actions of teachers on children's development, teachers are not the only type of non-parental caregivers children may encounter prior to kindergarten entry. Given the growth of early childhood populations and the accompanying need for and variety of non-parental caregivers, sociologists of education should recognize early childhood education in the context of both formal and informal educational

influences and institutions (Brint 2013), including a heterogeneous set of non-parental with a correspondingly diverse set of school readiness beliefs.

Informing non-parental caregivers' knowledge of what children need to know upon kindergarten entry and providing tools to promote and measure these skills is essential to ensuring that children are ready for the rigors of formal schooling, regardless of the type of non-parental care that they are receiving. Misalignment in preschool and kindergarten teacher school readiness beliefs, after all, predicts poorer approaches to learning, social behavior, and school achievement, especially among disadvantaged children (Abry et al. 2015). One way in which non-parental caregivers can better prepare students for later school success is by promoting alignment between preschool and elementary classrooms, especially in regards to curricula and specific competencies children should have in order to be successful in later grades. One such program, PK-3, is an effort to create a master plan from preschool to third grade that lays out clear expectations for children at each grade level, aligns expectations across grades so that the skills obtained in the prior grade lay the foundation for the next, and assess students on their progress toward meeting grade level expectations (Bogard and Takanishi 2005). Such communication between the preschool and the early grades may provide guidance for preschool teachers and smooth children's kindergarten transition and early elementary success. These efforts must be tailored to reach non-parental caregivers beyond the formal preschool setting, such as in relative or non-relative informal care settings, where many children—particularly children of Latino/a immigrant parents—may receive care prior to kindergarten entry.

This study's ability to uncover the role of non-parental caregivers' beliefs in children's early achievement was limited by its focus on beliefs as opposed to practice. Non-parental caregivers may believe certain skills are important for school readiness and actively take steps to

instill these skills in the children in their care, although others may not. Having information on school readiness beliefs does not equate to understanding how or whether these skills are taught to children prior to kindergarten entry (Schachter et al. 2016; Sandvik et al. 2014; File and Gullo 2002). Sandvik and colleagues (2014), for example, found that, educators' reported instruction was not consistent with their beliefs about school readiness skills. Schacter and colleagues (2016) suggest that caregivers may have developmentally appropriate beliefs about student skill development but may not be able to translate these beliefs into meaningful instruction. There are also issues related to making any causal inferences from this study's results. Although I found a number of significant associations and interactions between school readiness beliefs and math and reading achievement, there are a number of potential confounding variables between beliefs and test scores that restrict my ability to make causal claims; for example, selection bias of children into different forms of childcare. The inclusion of the propensity of being included in the subsample of children with parental and non-parental caregiver data as covariates, however, attempts to address this selection bias and, thus, strengthen the results of the current study.

Second, because transactions between non-parental caregivers and parents are crucial components of the ecology of early learning and development, understanding non-parental caregivers' beliefs about school readiness requires attention to their interplay with parents' corresponding beliefs and the beliefs of teachers that will serve as non-parental caregivers during kindergarten. Whether a child is considered "school ready" is influenced by interactions with and within a wide array of contexts and people—including parents, relatives, and/or teachers with various levels of resources (NAEYC 2009; Maxwell and Clifford 2004; Rimm-Kaufman and Pianta 2000; Bronfenbrenner 1979). Children with multiple caregivers experience different sets of school readiness beliefs, which contribute to school readiness at kindergarten entry. Greater

coordination between different ecological settings—namely the early care setting, the home, and the school—can benefit children's school readiness. In addition to learning about resources for augmenting their children's learning at home, parents can benefit from learning non-parental caregivers' expectations for their children (Hill and Taylor 2004)—both in the year before kindergarten and during the kindergarten year—especially if they are unfamiliar with what a kindergarten ready child should know (Taylor, Clayton, and Rowley 2004) or if they are unsure of their role in helping prepare their children. Furthermore, although non-parental caregivers' school readiness beliefs appeared to buffer low parent school readiness beliefs in regards to both math and reading kindergarten achievement, children with misaligned caregiver beliefs in which non-parental caregiver beliefs were higher than those of parents had reading achievement scores that were indistinguishable from those of children whose caregivers had high, aligned readiness beliefs. This evidence suggests that fostering high readiness beliefs of early child care providers may be especially important for boosting early school readiness.

Again, these findings suggest future avenues of research, including research that corrects some of the limitations of this work. The present study considers only non-parental caregivers' and parents' school readiness beliefs in the year before kindergarten entry, leaving out the influence of kindergarten teachers on preparing young children for academic success. Future work should consider additional actors and settings that contribute to school readiness in relation to one another. One way to accomplish this goal is to explore the interplay of non-parental caregivers', parents', and kindergarten teachers' school readiness beliefs and how misalignment/alignment between these domains can predict later school achievement. Doing so would potentially address the fact that the measures of math and reading achievement used in this study were taken during the fall of the kindergarten year after children have already been in

the care of a kindergarten teacher for several months. Although Abry and colleagues (2015) investigated alignment in school readiness beliefs between preschool and kindergarten teachers and found that misalignment in school readiness beliefs between teachers predicted poorer approaches to learning, social behavior, and math achievement in kindergarten—especially among economically disadvantaged children—more work is needed in linking school readiness beliefs among all child caregivers over time.

Third, because the children of Latino/a immigrants often face heightened challenges in their early childhood paths to school, they may especially benefit from coordinated and reinforcing supports for their school readiness across the different components of the early ecology. Thus, future research investigate the mechanisms behind selecting or opting out of high quality non-parental early child care arrangements among at-risk populations, like the children of Latino/a immigrant parents. While this study included propensity scoring to account for non-random selection into non-parental care, it did not address the decision processes parents face when navigating the early child care and education landscape or the unique challenges Latino/a immigrant parents face in the search for quality care. Although children of Latino/a immigrant parents are overrepresented among students who enter school with underdeveloped academic skills (Crosnoe et al. 2015; Lahaie 2008; Han 2006; Magnuson, Lahaie, and Waldfogel 2006), results from this study suggest that having a non-parental caregiver with high school readiness beliefs might provide heightened benefits to such children of Latino/a immigrants. Thus, understanding the barriers that Latino/a immigrant parents face in finding high quality non-parental caregivers with high school readiness beliefs is a worthy and timely endeavor.

In sum, although Latino/a immigrant parents may have higher school readiness beliefs than other parents—as evidenced through Kao and Tienda's (1995) concept of immigrant optimism—

realizing the value of these high beliefs might be supported by high non-parental caregiver beliefs. Children in early child care and education settings in which non-parental caregivers have high school readiness beliefs matter for promoting early reading and math achievement for all children but particularly for children of Latino/a immigrant parents, the fastest growing group of children in the U.S. school system. Understanding the interplay of caregiver beliefs within the home, early child care and education setting, and formal schooling will not only shed light on the dynamic processes occurring among different actors during the early school years but will also have the potential to assist policy makers and early caregivers in deciding how to best promote crucial school readiness skills for all children and children subjected to the disadvantages of living in a highly stratified society.

Tables

Table 1. Mean Dependent and Independent Variables for Full Sample, ECLS-B.

	Full sample	White	Latino/a immigrant	Latino/a non-immigrant	Asian immigrant	Asian non-immigrant	Black	Other
Race/ethnicity and nativity (%)	1.000	0.595	0.125	0.079	0.018	0.003	0.146	0.035
	(0.000)	(0.010)	(0.007)	(0.006)	(0.001)	(0.000)	(0.007)	(0.003)
School readiness								
Math scores	40.56	42.53	35.73	38.31	47.22	43.95	37.01	40.43
	(0.22)	(0.29)	(0.63)	(0.80)	(0.60)	(1.88)	(0.47)	(0.97)
Reading scores	38.67	40.55	32.64	36.94	49.36	47.75	35.59	38.63
	(0.32)	(0.43)	(0.92)	(1.24)	(0.90)	(2.65)	(0.63)	(1.07)
School readiness beliefs								
Non-parental caregiver beliefs	3.71	3.65	3.80	3.73	3.68	3.78	3.85	3.72
	(0.01)	(0.02)	(0.04)	(0.05)	(0.04)	(0.10)	(0.03)	(0.06)
Parent beliefs	3.89	3.80	4.02	3.93	3.94	4.07	4.09	3.86
	(0.01)	(0.02)	(0.04)	(0.05)	(0.04)	(0.11)	(0.03)	(0.06)
Difference (parent-caregiver beliefs)	0.18	0.15	0.22	0.19	0.26	0.29	0.24	0.14
	(0.02)	(0.03)	(0.05)	(0.06)	(0.05)	(0.12)	(0.04)	(0.07)
School readiness belief alignment/misalignment								
Misaligned: parental higher than non-parental (%)	0.296	0.292	0.280	0.289	0.320	0.275	0.330	0.281
	(0.010)	(0.014)	(0.028)	(0.036)	(0.026)	(0.075)	(0.023)	(0.035)
Misaligned: non-parental higher than parental (%)	0.315	0.324	0.317	0.322	0.270	0.285	0.278	0.327
	(0.010)	(0.014)	(0.029)	(0.035)	(0.025)	(0.079)	(0.021)	(0.036)
Aligned: average non-parental and parental (%)	0.204	0.182	0.259	0.247	0.230	0.300	0.231	0.157
	(0.009)	(0.012)	(0.027)	(0.032)	(0.027)	(0.092)	(0.021)	(0.027)
Aligned low non-parental and parental (%)	0.118	0.147	0.062	0.095	0.104	0.045	0.052	0.148
	(0.007)	(0.011)	(0.014)	(0.023)	(0.018)	(0.028)	(0.011)	(0.031)
Aligned: high parental and non-parental (%)	0.067	0.055	0.082	0.047	0.073	0.095	0.109	0.087
	(0.005)	(0.007)	(0.017)	(0.015)	(0.016)	(0.077)	(0.014)	(0.033)

Standard errors in parentheses.

Table 1 continued on next page.

Table 1 (continued).

	Full sample	White	Latino/a immigrant	Latino/a non-immigrant	Asian immigrant	Asian non-immigrant	Black	Other
Child characteristics								
Birthweight								
Healthy birthweight (%)	0.924	0.938	0.923	0.926	0.936	0.939	0.871	0.909
	(0.004)	(0.004)	(0.012)	(0.012)	(0.015)	(0.036)	(0.012)	(0.016)
Low birthweight (%)	0.063	0.053	0.064	0.061	0.056	0.061	0.106	0.071
	(0.003)	(0.004)	(0.011)	(0.011)	(0.014)	(0.036)	(0.011)	(0.015)
Extremely low birthweight (%)	0.013	0.010	0.014	0.013	0.008	0.000	0.023	0.020
	(0.000)	(0.000)	(0.000)	(0.003)	(0.004)	(0.000)	(0.003)	(0.006)
Female (%)	0.483	0.487	0.456	0.439	0.484	0.582	0.524	0.433
	(0.011)	(0.015)	(0.031)	(0.038)	(0.029)	(0.088)	(0.024)	(0.039)
Child age in months	52.02	51.91	52.45	52.43	53.01	51.87	51.78	51.90
	(0.09)	(0.12)	(0.25)	(0.32)	(0.23)	(0.84)	(0.18)	(0.33)
Began kindergarten late (%)	0.314	0.325	0.292	0.305	0.216	0.197	0.304	0.327
	(0.010)	(0.014)	(0.028)	(0.037)	(0.027)	(0.073)	(0.021)	(0.042)
Attended center care or Head Start at age 4 (%)	0.827	0.850	0.739	0.787	0.905	0.749	0.819	0.836
	(0.008)	(0.011)	(0.027)	(0.031)	(0.020)	(0.083)	(0.018)	(0.030)
Mental Score at age 2	117.15	118.56	109.87	116.74	111.48	124.29	118.08	118.50
	(0.87)	(1.25)	(2.62)	(2.50)	(2.53)	(3.32)	(1.48)	(3.19)
Household characteristics								
Family Socioeconomic Status	-0.001	0.253	-0.627	-0.203	0.557	0.334	-0.485	0.069
	(0.020)	(0.022)	(0.034)	(0.054)	(0.050)	(0.122)	(0.033)	(0.048)

Standard errors in parentheses.

Table 1 continued on next page.

Table 1 (continued).

	Full sample	White	Latino/a immigrant	Latino/a non-immigrant	Asian immigrant	Asian non-immigrant	Black	Other
Family status								
Both biological parents (%)	0.693	0.757	0.806	0.621	0.946	0.662	0.348	0.678
	(0.010)	(0.014)	(0.026)	(0.038)	(0.016)	(0.093)	(0.023)	(0.040)
One biological and non-biological parent (%)	0.058	0.067	0.026	0.065	0.005	0.048	0.052	0.051
	(0.006)	(0.008)	(0.009)	(0.020)	(0.003)	(0.034)	(0.012)	(0.009)
Biological mother only (%)	0.219	0.142	0.147	0.285	0.046	0.027	0.574	0.223
	(0.009)	(0.012)	(0.023)	(0.037)	(0.016)	(0.091)	(0.024)	(0.039)
Biological father only (%)	0.008	0.008	0.009	0.003	0.000	0.000	0.010	0.018
	(0.002)	(0.003)	(0.006)	(0.003)	(0.000)	(0.000)	(0.005)	(0.009)
Adoptive parent only (%)	0.004	0.005	0.005	0.000	0.004	0.000	0.001	0.005
	(0.002)	(0.002)	(0.005)	(0.000)	(0.004)	(0.000)	(0.001)	(0.002)
Guardian only (%)	0.018	0.020	0.006	0.025	0.000	0.018	0.016	0.025
	(0.003)	(0.004)	(0.006)	(0.014)	(0.000)	(0.018)	(0.005)	(0.013)
Mother's age at birth	27.53	28.50	26.46	25.44	30.68	29.93	25.39	27.12
	(0.14)	(0.18)	(0.38)	(0.50)	(0.35)	(0.93)	(0.30)	(0.39)
Primary home language other than English (%)	0.252	0.076	0.956	0.578	0.931	0.426	0.109	0.224
	(0.009)	(0.008)	(0.012)	(0.037)	(0.018)	(0.092)	(0.016)	(0.028)
Mother's English proficiency	3.75	3.95	2.97	3.58	2.33	3.72	3.88	3.82
	(0.02)	(0.01)	(0.06)	(0.09)	(0.07)	(0.12)	(0.03)	(0.06)
Non-parental caregiver length in industry	12.44	12.67	11.56	11.41	12.66	10.50	12.90	11.92
	(0.21)	(0.29)	(0.60)	(0.66)	(0.52)	(1.17)	(0.41)	(0.93)
Non-parental caregiver is female (%)	0.973	0.973	0.990	0.941	0.972	0.977	0.972	0.977
	(0.004)	(0.005)	(0.005)	(0.019)	(0.009)	(0.023)	(0.008)	(0.006)
Non-parental caregiver is Latino/a (%)	0.141	0.051	0.520	0.384	0.080	0.054	0.069	0.110
	(0.007)	(0.007)	(0.031)	(0.037)	(0.015)	(0.052)	(0.013)	(0.025)

Standard errors in parentheses.

Table 1 continued on next page.

Table 1 (continued).

	Full sample	White	Latino/a immigrant	Latino/a non-immigrant	Asian immigrant	Asian non-immigrant	Black	Other
Non-parental caregiver educational attainment								
8th grade or below (%)	0.030	0.012	0.134	0.050	0.014	0.000	0.015	0.012
	(0.004)	(0.004)	(0.020)	(0.015)	(0.007)	(0.000)	(0.005)	(0.004)
9th to 12th grade (%)	0.054	0.051	0.038	0.089	0.024	0.080	0.068	0.044
	(0.005)	(0.007)	(0.011)	(0.020)	(0.010)	(0.055)	(0.012)	(0.013)
High school diploma/equivalent (%)	0.111	0.128	0.057	0.141	0.087	0.074	0.082	0.083
	(0.007)	(0.010)	(0.015)	(0.026)	(0.018)	(0.042)	(0.013)	(0.017)
Vo tech or some college (%)	0.350	0.352	0.296	0.325	0.294	0.449	0.397	0.412
	(0.011)	(0.015)	(0.028)	(0.037)	(0.027)	(0.096)	(0.023)	(0.042)
Bachelor's degree (%)	0.298	0.306	0.290	0.241	0.379	0.301	0.288	0.315
	(0.010)	(0.014)	(0.028)	(0.032)	(0.028)	(0.084)	(0.022)	(0.038)
More than a bachelor's degree (%)	0.156	0.152	0.186	0.154	0.202	0.096	0.151	0.135
	(0.008)	(0.011)	(0.025)	(0.032)	(0.023)	(0.045)	(0.018)	(0.023)
Propensity of sample inclusion (%)	0.501	0.518	0.413	0.498	0.537	0.582	0.484	0.567
	(0.002)	(0.003)	(0.006)	(0.007)	(0.006)	(0.020)	(0.004)	(0.008)
Number of questions answered by parent	6.00	6.00	6.00	6.00	6.00	6.00	6.00	5.99
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Number of questions answered by caregiver	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
n	4350	1950	400	300	450	50	650	550

Standard errors in parentheses.

Table 2. Results for Math Achievement, by School Readiness Beliefs and Race/Ethnicity and Nativity.

	β Coefficients (*SE*)														
	Parental beliefs only			Non-parental caregiver beliefs only			Parental and non-parental caregiver beliefs			Difference in parental and non-parental caregiver beliefs (Raw)			Difference in parental and non-parental caregiver beliefs (categorical)		
	(1)			(2)			(3)			(4)			(5)		
Mean academic beliefs															
Non-parental caregiver beliefs				1.32	(0.28)	***	0.92	(0.29)	***						
Parental caregiver beliefs	1.06	(0.29)	***				1.22	(0.29)	**	2.14	(0.39)	***			
Difference (Parental – non-parental caregiver beliefs)										-1.22	(0.29)	***			
Alignment in parental and non-parental caregiver beliefs															
Misaligned parental higher than non-parental													-1.86	(0.72)	**
Misaligned non-parental higher than parental													-1.54	(0.71)	*
Aligned average non-parental and parental													-1.54	(0.74)	*
Aligned low non-parental and parental													-3.67	(0.85)	***
(Ref. Aligned high non-parental and parental)															
Race/ethnicity															
Latino/a immigrant	-1.93	(1.18)		-2.09	(1.16)		-2.19	(1.16)		-2.19	(1.16)		-1.96	(1.17)	
Latino/a non-immigrant	-0.17	(1.52)		-0.23	(1.48)		-0.32	(1.49)		-0.32	(1.49)		-0.17	(1.51)	
Asian immigrant	3.91	(1.47)	**	3.91	(1.43)	**	3.77	(1.44)	**	3.77	(1.44)	**	3.89	(1.46)	**
Asian non-immigrant	3.34	(2.28)		3.53	(2.23)		3.19	(2.25)		3.19	(2.25)		3.34	(2.27)	
Other	0.95	(1.89)		0.96	(1.84)		0.84	(1.86)		0.84	(1.86)		0.94	(1.87)	
Black	-1.71	(0.78)	*	-1.74	(0.76)	*	-1.95	(0.77)	*	-1.95	(0.77)	*	-1.74	(0.77)	*
(Ref. White)															
Constant	53.97	(48.48)		60.44	(28.48)	*	58.22	(48.65)		58.22	(48.65)		66.37	(48.50)	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; n = 4,300; Note: All models included a full set of covariates.

Table 3. Moderation of Association between Caregiver Beliefs and Math Achievement by Race/Ethnicity and Nativity.

	β Coefficients (*SE*)					
	Caregiver beliefs x race/ethnicity controlling for parent beliefs (1)			Difference in beliefs x race/ethnicity (categorical) (2)		
Mean academic beliefs						
Non-parental caregiver beliefs	1.12	(0.38)	**			
Parental caregiver beliefs	0.93	(0.29)	**			
Difference (Parental – non-parental caregiver beliefs)						
Alignment in parents and caregiver beliefs						
Misaligned parental higher than non-parental				-1.11	(1.00)	
Misaligned non-parental higher than parental				-1.10	(0.97)	
Aligned average non-parental and parental				-0.86	(1.04)	
Aligned low non-parental and parental				-2.81	(1.09)	*
(Ref. Aligned high parental and non-parental)						
Race/ethnicity						
Latino/a immigrant	-9.97	(3.53)	*	0.29	(2.17)	
Latino/a non-immigrant	4.95	(4.51)		-2.88	(3.08)	
Asian immigrant	-1.10	(3.66)		8.53	(3.45)	*
Asian non-immigrant	-3.10	(9.76)		-0.08	(1.98)	
Other	5.24	(4.28)		-2.44	(3.00)	
Black	-2.08	(3.12)		0.19	(1.60)	
(Ref. White)						
Beliefs x Race/Ethnicity and Nativity						
Non-parental caregiver beliefs x race/ethnicity						
Latino/a immigrant x non-parental caregiver beliefs	2.04	(0.88)	*			
Latino/a non-immigrant x non-parental caregiver beliefs	-1.42	(1.12)				
Asian immigrant x non-parental caregiver beliefs	1.29	(0.93)				
Asian non-immigrant x non-parental caregiver beliefs	1.64	(2.42)				
Other x caregiver beliefs	-1.20	(1.01)				
Black x non-parental caregiver beliefs	0.03	(0.79)				
(Ref. White x non-parental caregiver beliefs)						
Alignment quartile typologies x race/ethnicity and nativity						
Aligned low parent & non-parental caregiver x Latino/a immigrant				-5.73	(2.77)	*
Aligned low parent & non-parental caregiver x Latino/a non-immigrant				3.54	(3.63)	
Aligned low parent & non-parental caregiver x Asian immigrant				-5.29	(3.80)	
Aligned low parent & non-parental caregiver x Asian non-immigrant				11.75	(3.45)	**
Aligned low parent & non-parental caregiver x Other				1.19	(3.44)	
Aligned low parent & non-parental caregiver x Black				-1.94	(2.70)	
(Ref. Aligned: high Parent and non-parental caregiver, White)						
Constant	57.16	(48.70)		62.00	(47.90)	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; n = 4,300; Note: All models included a full set of covariates.

Table 4. Results for Reading Achievement, by School Readiness Beliefs and Race/Ethnicity and Nativity.

	β Coefficients (*SE*)														
	Parent beliefs only			Non-parental caregiver beliefs only			Parent beliefs and non-parental caregiver beliefs			Difference in parental and caregiver beliefs (Raw)			Difference in parent and caregiver beliefs (categorical)		
	(1)			(2)			(3)			(4)			(5)		
Mean academic beliefs															
Non-parental caregiver beliefs				2.15	(0.43)	***	2.02	(0.43)	***						
Parental caregiver beliefs	1.38	(0.42)	**				1.16	(0.42)	**	3.18	(0.58)	***			
Difference (Parental – non-parental caregiver beliefs)										-2.02	(0.43)	***			
Alignment in parents and non-parental caregiver beliefs															
Misaligned parental higher than non-parental													-2.89	(1.14)	*
Misaligned non-parental higher than parental													-2.16	(1.16)	
Aligned average non-parental and parental													-2.50	(1.18)	*
Aligned low non-parental and parental													-4.83	(1.33)	***
(Ref. aligned High parental and non-parental)															
Race/ethnicity															
Latino/a immigrant	-2.35	(1.60)		-2.66	(1.57)		-2.78	(1.57)		-2.78	(1.57)		-2.40	(1.59)	
Latino/a non-immigrant	1.23	(1.93)		1.10	(1.91)		0.97	(1.92)		0.97	(1.92)		1.26	(1.93)	
Asian immigrant	6.63	(1.80)	***	6.56	(1.77)	***	6.39	(1.77)	***	6.39	(1.77)	***	6.62	(1.79)	***
Asian non-immigrant	7.78	(3.05)	*	7.96	(3.03)	**	7.53	(3.03)	*	7.53	(3.03)	*	7.85	(3.05)	**
Other	2.21	(2.11)		2.17	(2.07)		2.02	(2.08)		2.02	(2.08)		2.20	(2.11)	
Black	0.37	(0.99)		0.23	(0.98)		-0.04	(0.99)		-0.04	(0.99)		0.34	(0.99)	
(Ref. White)															
Constant	61.93	(39.21)		71.15	(32.65)	*	69.90	(39.44)		69.90	(39.44)		83.16	(39.26)	*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; n = 4,300; Note: All models included a full set of covariates.

Table 5. Moderation of Association between Caregiver Beliefs and Reading Achievement by Race/Ethnicity and Nativity.

	β Coefficients (*SE*)					
	Caregiver beliefs x race/ethnicity controlling for parent beliefs (1)			Difference in beliefs x race/ethnicity (categorical) (2)		
Mean academic beliefs						
Non-parental caregiver beliefs	2.43	(0.56)	***			
Parental caregiver beliefs	1.19	(0.41)	**			
Difference (Parental – non-parental caregiver beliefs)						
Alignment between parents and non-parental caregiver beliefs						
Misaligned parental higher than non-parental				-2.02	(1.46)	
Misaligned non-parental higher than parental				-1.42	(1.46)	
Aligned average non-parental and parental				-2.29	(1.55)	
Aligned low non-parental and parental				-4.72	(1.61)	**
(Ref. Aligned high parental and non-parental)						
Race/ethnicity						
Latino/a immigrant	-14.17	(5.40)	**	3.32	(4.17)	
Latino/a non-immigrant	19.49	(7.12)	**	-5.52	(5.46)	
Asian immigrant	4.63	(5.66)		11.43	(4.19)	**
Asian non-immigrant	12.58	(13.95)		6.23	(3.47)	
Other	11.11	(4.61)	*	-1.91	(3.72)	
Black	7.47	(4.09)		0.86	(2.21)	
(Ref. White)						
Beliefs x race/ethnicity						
Non-parental caregiver beliefs x race/ethnicity						
Latino/a immigrant x non-parental caregiver beliefs	2.97	(1.42)	*			
Latino/a non-immigrant x non-parental caregiver beliefs	-4.97	(1.77)	**			
Asian immigrant x non-parental caregiver beliefs	0.42	(1.49)				
Asian non-immigrant x non-parental caregiver beliefs	-1.40	(3.39)				
Other x non-parental caregiver beliefs	-2.49	(1.16)	*			
Black x non-parental caregiver beliefs	-1.97	(1.05)				
(Ref. White x non-parental caregiver beliefs)						
Alignment quartile typologies x race/ethnicity and nativity						
Aligned low parent & non-parental caregiver x Latino/a immigrant				-9.09	(4.91)	
Aligned low parent & non-parental caregiver x Latino/a non-immigrant				12.04	(6.76)	
Aligned low parent & non-parental caregiver x Asian immigrant				-4.59	(4.82)	
Aligned low parent & non-parental caregiver x Asian non-immigrant				14.63	(7.94)	
Aligned low parent & non-parental caregiver x Other				6.44	(3.61)	
Aligned low parent & non-parental caregiver x Black				2.11	(3.38)	
(Ref. Aligned high parent and non-parental caregiver, White)						
Constant	65.01	(39.59)		78.51	(39.57)	*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; n = 4,300; Note: All models included a full set of covariates.

Figures

Figure 1. Predicted Math Test Scores by Interaction Between Non-Parental Caregiver Expectations and Latino/a Immigrant Status.

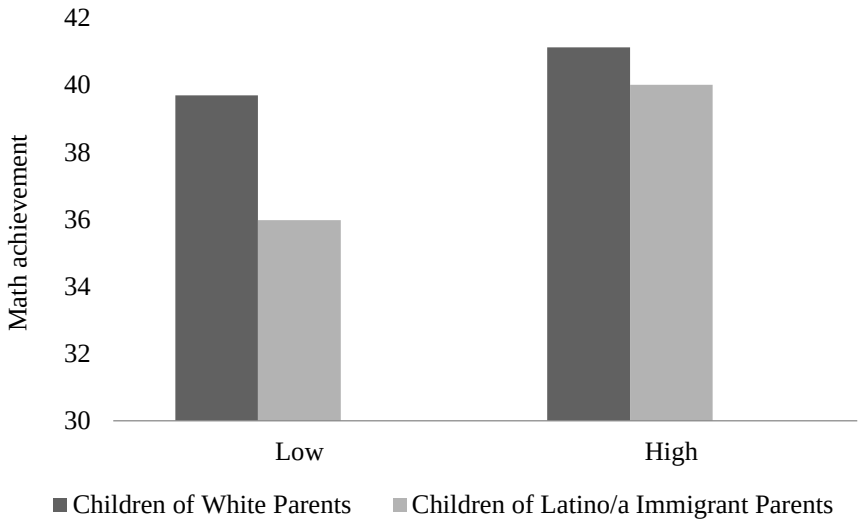
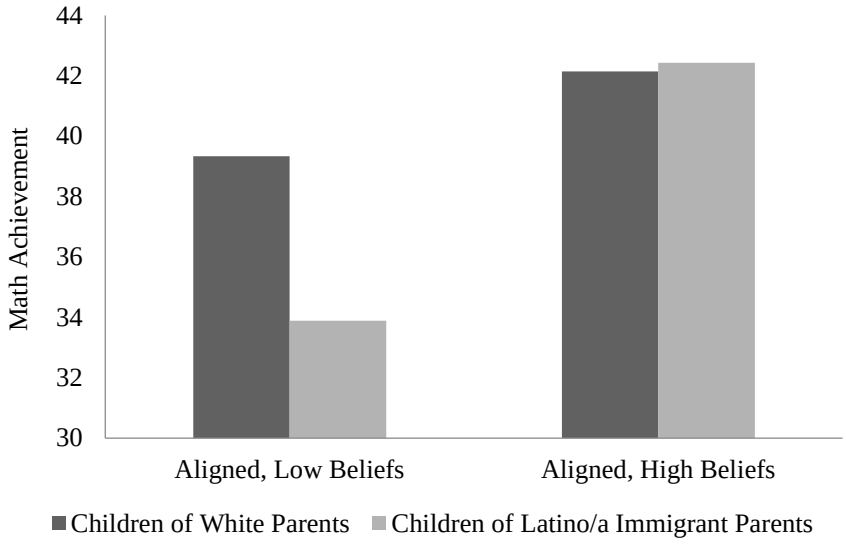


Figure 2. Predicted Math Scores by Interaction between Aligned, Low School Readiness Beliefs and Latino/a Immigrant Status.



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