

The Social Competence of Latino Kindergartners and Growth in Mathematical Understanding

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We know that social competence contributes to young children's adaptation to, and cognitive learning within, classroom settings. Yet initial evidence is mixed on the social competencies that Latino children bring to kindergarten and the extent to which these skills advance cognitive growth. Building from ecocultural and developmental-risk theory, this paper shows children's social competence to be adaptive to the normative expectations and cognitive requirements of culturally bounded settings in both the home and classroom. Latino socialization in the home may yield social competencies that teachers value rather than reflect "risk factors" that constrain children's school readiness. We draw on the Early Childhood Longitudinal Study, kindergarten cohort ($N = 19,590$) to detail 5 social competencies at entry to school—self-control, interpersonal skills, approaches to learning, internalizing and externalizing problem behaviors—and to examine variability among Latino subgroups. We then test the extent to which baseline variation in social competence accounts for children's cognitive growth during the kindergarten year. We find that Latino children from poor, but not middle-class, families display weaker social competencies vis-à-vis White children (all relationships $p \leq .05$). Social competence levels contribute to Latino children's cognitive growth, which is shaped most strongly by positive approaches to learning. The disparities in competencies observed for Latino children from poor families, relative to White children, are significant yet much smaller than gaps in baseline levels of mathematical understanding. We discuss how the consonance or mismatch between competencies acquired at home and those valued by teachers must consider cultural differences, social-class position, and variation among diverse Latino subgroups.

Keywords: Latino child development, social competence, cognitive growth

Evidence continues to accumulate showing that young children's social competence and emotional health are predictive of early success in school, as indicated by adaptation to classroom routines and stronger cognitive growth (Denham, 2006; La Paro & Pianta, 2000; Shonkoff & Phillips, 2000). Yet findings remain mixed on the forms and levels of social competencies with which Latino children arrive at kindergarten, including social behaviors that are valued by teachers. Concern is widespread over the "school readiness" of Latino children. Often, it is defined by a developmental-risk framework and is based on the assumption that poor parents impart weaker social competencies than do White populations or that culturally bounded competencies nurtured by

Latino parents do not hold utility within the classroom (Coley, 2002; Kagan, Moore, & Bredekamp, 1995; Love, Aber, & Brooks-Gunn, 1992).

We build from ecocultural theory to emphasize how young children develop social competencies by participating in routine activities within culturally bounded settings, be it the home or formal classroom. Prior to school entry this includes social activities—from shared chores and expected events with kin members to watching television or urging young children to demonstrate what they have learned—located within the home. These activities unfold within the child's developmental niche, structured by culturally or linguistically bounded adult practices and behavioral scripts (García Coll & Magnuson, 1997; Harkness, 2002; Weisner, 2005). The young child's social transactions with actors in a particular setting serve to "apprentice" the child to tacitly or purposefully learn appropriate social behavior and to adapt to expected norms, linguistic conventions, and requisite cognitive proficiencies (Sameroff & Fiese, 2000; Strauss & Quinn, 1997; Wertsch, 1988). The resulting social competencies may or may not be continuous with the activity structures and behavior norms advanced within formal classrooms.

The ecocultural account of social development—as Latino children enter kindergarten—does not necessarily conflict with the developmental-risk framework. Core elements of Latino socialization, such as good comportment and respectful communication (*bien educado, respeto*), cooperation, and caring for peers (*cariño*), may be quite consonant with behaviors valued by teach-

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ers, such as the child's self-control, interpersonal communications, and avoidance of externalizing behavior (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Parke & Buriel, 1998). Yet when teachers fail to recognize children's behavioral strengths or simply cannot understand children's home language, troublesome gaps between the competencies nurtured in Latino homes and those valued by teachers may emerge. And the medical metaphor of being "at risk" distracts us from the situated ways in which the young child learns to become a socially competent member of a group, whether engaged in the home or the classroom.

We examine variation in the social competencies of diverse Latino kindergartners, as these proficiencies may hold utility within the family and classroom. After reviewing key elements of ecocultural and developmental-risk frameworks, we report on Latino children's social competencies at entry to kindergarten, emphasizing variation among subgroups as distinguished by the family's social-class status, home language, region of origin, and generation of residence in the United States. Then, we estimate how baseline levels of social competencies contribute to Latino children's cognitive growth during the kindergarten year.

Culturally Situated Social Competence

Young Latino children often are seen as displaying "risk factors" that threaten their "readiness" or pace of early learning (e.g., Coley, 2002). Yet initial studies reveal mixed patterns regarding the social competencies and emotional well-being that Latino children bring to kindergarten. Underlying this research rests a theoretical debate among cultural psychologists and developmentalists over whether *ecocultural* theory or the *developmental-risk* framework best illuminates the character and prior causes of young children's social competence, exhibited in the home or classroom. And little is known, once we distinguish specific domains of social competence exhibited by Latino children, how these competencies may contribute to early cognitive growth.

We do know that the social competence and emotional health of middle-class White children at entry to kindergarten contribute to growth in cognitive and linguistic domains. Denham (2006, p. 57) reviewed how children's "readiness to learn"—measured by the capacity to regulate feelings and behavior, expressiveness, and social engagement—is predictive of cognitive gains. La Paro and Pianta (2000) reached a similar conclusion after reviewing 70 longitudinal studies, yet effect sizes have been modest and depend upon specific measures of social competence or emotionality (Denham et al., 2003). Children displaying higher "social-emotional risk" prior to school entry show weaker academic outcomes and poorer social adjustment in elementary school (Hair et al., 2006). Such effects operate through social-psychological mechanisms, such as the child's ability to develop a close and cooperative relationship with the teacher, where both feel efficacious as the child learns and develops more broadly (Hamre & Pianta, 2005; Jerome, Hamre, & Pianta, 2008).

Initial studies detail how the cognitive readiness of Latino children is comparatively low, on average, when measured against the expectations and rigors expressed by kindergarten teachers. Latino kindergartners enter school with smaller vocabularies (when assessed in English or Spanish), weaker understanding of print materials, and lower comprehension of mathematical concepts than do White children (Kohler & Lazarín, 2007; Reardon &

Galindo, 2009; Schneider, Martinez, & Owens, 2006). The extent to which these disadvantages stem from the generally lower social-class position of Latino families (including low levels of maternal education), or culturally bounded parenting practices independent of class, remains an empirically contested question (Bradley, Corwyn, McAdoo, & García Coll, 2001; Fuller et al., 2009; Laosa, 1980; Nord, Lennon, Liu, & Chandler, 2000).

Yet do such cognitive-developmental weaknesses—or differences in the cognitive demands of home or classroom for non-White populations—necessarily imply that Latino children are at risk of weaker social competencies as they enter kindergarten? Focusing on children of immigrant Mexican parents, Crosnoe (2007) found that 5-year-olds displayed significantly lower levels of internalizing problem behaviors than did African American children, but no differences were observed vis-à-vis White children, based on the national Early Childhood Longitudinal Study, kindergarten cohort (ECLS-K). This, despite the fact that just over half of all immigrant families fell below the poverty line. Crosnoe reported similar findings for children's self-control and "approaches to learning" (including attentiveness, concentration, and task persistence).

But kindergarten teachers rate Latino children lower overall, compared with White children, when the analysis is not limited to first-generation immigrant children or when the focus is on other measures of social competence. West, Denton, and Reaney (2001) found that, according to teachers, 67% of Latino kindergartners persisted on classroom tasks at entry; 72% seemed eager to learn; and 62% paid attention to the task at hand. These proportions were 75%, 79%, and 70%, respectively, for White kindergartners (also drawing from ECLS-K data). Other analysts have found that these disparities shrink when family social class is taken account, although most Latino families fall into low-income subgroups (Farkas, 2009).

Ecocultural and Developmental-Risk Frameworks: Necessarily at Odds?

The variability in social competencies observed among diverse Latino children suggests that the developmental-risk framework is not always in conflict with the postulates of ecocultural theory. Cultural psychologists have criticized the developmental-risk perspective as grounded in culture-of-poverty assumptions (Lewis, 1966) and have defined *risk* as factors that suppress the child's development of cognitive skills or social behaviors that don't fit expectations of middle-class White adults or institutions (Johnson, Jaeger, Randolph, Cauce, & Ward, 2003). Instead, ecocultural theorists draw on Bronfenbrenner's (1979) ecological postulate that the child is "a changing organism in a changing environment" (Rogoff, 2003, p. 44) and that all parents reproduce practices that stem from their cultural heritage or adapt to novel social practices and economic demands that press into the family from outside environs. Children tacitly acquire social competencies by participating in sustained routines that are differently structured by adults within the home (Harkness, 2002; Weisner, 2005; Whiting & Whiting, 1975). These activities involve learning how to become a legitimate member of the family, as well as learning requisite cognitive skills that advance the child's efficacy in contributing to group activities (Rogoff, 2003; Vygotsky, 1967; Wertsch, 1988).

The focus of ecocultural theorists on variability across the maturing child's settings (as the developmental niche broadens to include the school), along with new activity structures in which the child participates, means that social competencies situated in classrooms may be continuous or discontinuous with those learned at home. The past generation of research by cultural psychologists details core socialization norms observed in many Latino families that stress good comportment and respectful communication with adults (*bien educado, respeto*), cooperation and caring for peers (*cariño*), and the child's contribution to the collective interest of the family (*familismo*; García Coll & Pachter, 2002; Harwood, Miller, & Irizarry, 1995; Holloway & Fuller, 1997; Parke & Buriel, 1998). Less attention has been paid to individual differences or variation ordered by Latino subgroup membership. And to the extent that elements of these socialization goals are shared by kindergarten teachers, many Latino children may enter school with social competencies that do hold utility inside classrooms, such as self-control, interpersonal communications, and low levels of aggressiveness behavior (Kagan et al., 1995; La Paro & Pianta, 2000).

Still, when Latino children from poor families lag behind in the kinds of cognitive or social competencies that hold utility in the classroom, the developmental-risk framework may remain useful. For example, Latina mothers on average sit and read with their toddlers and preschool-age children less frequently than do White mothers (Bradley et al., 2001). Children of Mexican or Puerto Rican heritage, growing up in impoverished families, display significantly lower levels of cognitive processing and preliteracy skills than do White children (Jacobson Chernoff, Flanagan, McPhee, & Park, 2007; Loeb, Fuller, Kagan, & Carrol, 2004; Reardon & Galindo, 2009). But note that this work focuses on discrete cognitive skills, failing to differentiate the social competencies that children bring to kindergarten and at times conflating the two domains.

The developmental-risk framework remains problematic in two ways. Some researchers assume that children from poor families suffer a range of undifferentiated maladies, captured by the "at risk" metaphor. But earlier work in epidemiology and sociology has detailed how immigrant Latina mothers often engage in healthy prenatal practices, give birth to robust newborns, and generally provide nurturing home environments to their infants and toddlers, at levels comparable with those observed among middle-class populations (i.e., the so-called immigrant paradox; Escarce, Morales, & Rumbaut, 2006; Fuller et al., 2009; García Coll, Marks, Patton, & Slama, 2009). Helping to explain this paradox, ecocultural theorists emphasize the role of heritage culture in reproducing social norms and parental expectations that effectively buffer surrounding economic exigencies. On the other hand, these indicators tend to decline for later generations of Latino families remaining in poor communities, where social cohesion and cultural resources dissipate and children adapt to dominant norms (Landale, Oropesa, & Bradatan, 2006). What is not known is how the social competencies of young children may vary among Latino subgroups, defined by the family's social-class status, home language, region of origin (heritage), or generation of residence in the United States.

In addition, the utility or at-risk character of the child's social behavior depends upon the fit with the institutional context. When young Latino children are taught to respect and not pose questions

to adults, this behavior becomes a risk factor simply because it is discontinuous with the highly verbal norms of many kindergarten classrooms in the dominant culture. Rather than interpreting this as lagging behind (reified) normative behaviors, ecocultural theorists seek to understand the origins of social competence in particular settings and then gauge its generalizability across home and school.¹ Chao (1994), for instance, showed that parenting practices considered authoritarian by some theorists actually yield positive developmental outcomes for many Asian American children (see also Li, 2003).²

Focusing on home activities in which young children acquire mathematical understanding, Saxe, Guberman, and Gearhart (1987) observed that a wide variety of children were exposed to numeric operations in the home, including setting the table with the correct number of utensils or playing board games where simple math was required. But children of White parents were more frequently asked to perform math problems (e.g., equating five pennies with a nickel, adding or subtracting Chinese checkers). And the explicit structuring of tasks in which the young child demonstrates behavioral competence occurs with varying intensity among culturally bounded groups (LeVine, 1998; Rogoff et al., 1993). What's not known is whether the social competencies (variably) acquired by Latino children at home are recognized and gauged favorably by kindergarten teachers and in turn advance classroom learning.

In sum, this young literature presents a mixed picture of the social competence of young Latino children as they enter school. Even less is known about how social competencies may vary among Latino subgroups, defined by the family's social-class position, home language, region of origin, and generation, markers that correspond to parents' acculturation level. Nor do we understand how Latino children's competence levels may or may not vary across different kinds of social proficiencies that are valued by teachers. We do know that young children's social competence is predictive of cognitive growth in general. Much less is known about the size of disparities in the social competencies of diverse Latino children vis-à-vis White children and the magnitude of downstream benefits for cognitive growth as Latino children move through school (informative work includes Crosnoe, 2007; Hair et al., 2006; Parke & Buriel, 1998).

Research Questions and Hypotheses

We can weigh the validity of the two contrasting frameworks by articulating testable hypotheses as they pertain to Latino children's social competencies. Of course, no single study conducted within certain scope conditions can fully arbitrate between the ecocultural and developmental-risk perspectives. And the role played by social class in shaping risks may vary by Latino subgroup, conditioned by cultural heritage and persistence of family strengths.

¹ "Using Anglo middle-class behaviors as the normative standard has been a disservice to both scientific inquiry and the interests of populations of color," according to García Coll and Magnuson (1997, p. 100).

² Another example is the argument that all children should enter preschool programs, despite the preference for home-based care observed among many Latino parents (Johnson, Jaeger, Randolph, Cauce, & Ward, 2003).

First, we hypothesized that Latino children enter kindergarten with social competencies, valued by teachers, at levels that are rated as equally strong by teachers when compared with levels for White children (Hypothesis 1). This hypothesis stems from the ecocultural perspective and prior qualitative work, which has revealed generally robust socialization practices inside Latino homes, in contrast to the developmental-risk perspective that assumes denigrating effects of family poverty. Similarly, we did not expect that any observed gaps in social competencies between Latino and White children would approximate the level of magnitude apparent for preliteracy skills (Hypothesis 2). Developmental-risk researchers tend to assume that cognitive and social development move along similar and flatter trajectories for Latinos and Whites during early childhood and often conflate the two domains of development.

We hypothesized, again building from ecocultural theory, that kindergartners from Spanish-speaking and first-generation families would display stronger social competencies than would later generation children, given findings that support the immigrant paradox and the negative effects of acculturation (Hypothesis 3). Developmental-risk theorists argue that social-class position drives disparities in children's social and cognitive development, and they show little recognition of the subgroup's relational position vis-à-vis the majority culture and differing patterns of adaptation to the norms and practices of parents situated in the majority culture.

We hypothesized that the social competencies Latino children bring to the kindergarten classroom, independent of their social-class or linguistic background, significantly contribute to growth in mathematical understanding during the school year (Hypothesis 4). In contrast, developmental-risk theorists would expect smaller effects on mathematical understanding among poor Latino children, given the centrality of social class in determining social competence. Ecocultural theorists emphasize that socialization in the home may be most robust for low-income, often Spanish-speaking parents who have yet to adapt to the proximal norms of many economically poor communities. In this study, we tested for this moderating effect of socioeconomic status on the cognitive development of Latino kindergartners.

Data and Methods

To address these research questions, we analyzed the restricted-use data of the Early Childhood Longitudinal Study (ECLS-K) Kindergarten Class of 1998–1999, a nationally representative sample of about 21,000 kindergartners nested in just over 1,000 schools, collected by the National Center for Education Statistics. The data were collected through parent and teachers interviews, along with direct child assessments. These data allow investigators to study children's social and cognitive development between the start of kindergarten and fifth grade (for methodological details, see National Center for Education Statistics, 2001).

Our analysis focuses on children attending kindergarten and draws from two waves of data collection conducted during the fall and spring of the school year. To describe Latino children's levels of social competence at entry to kindergarten, along with variability among subgroups, we examined data from 19,590 children and

their families.³ This sample was made up of 56% (non-Latino) Whites, 15% (non-Latino) African Americans, 18% Latinos of any race, 6% (non-Latino) Asians, and 5%, other ethnicities. To analyze whether Latino children's social competence levels influence growth in mathematical understanding, we used a reduced version of the kindergarten sample limited to Latino children ($N = 3,640$). We utilized the ICE algorithm in Stata to derive multiple imputation of missing values.⁴ Table 1 shows the percentage of missing cases, means, and standard deviations for all variables before and after multiple imputation was applied for the Latino subsample.

The Latino subsample, reflecting nationwide populations, is made up of 64% Mexican-origin children; 9% Puerto Rican, 4% Cuban, and 13% Central and South American children; and 10% other Latino children. Of Latino students in the sample, about 46% and 28% live in the West and South, respectively, and 14% and 12% reside in the Northeast and Midwest. Latino children are concentrated in midsize and large cities (59%). Moreover, Latino children reside in households that are similar to those of Black children in terms of socioeconomic level. The parents of Latino children report school attainment levels that are lower than those for parents of Black children: About 27% of Latino parents had not finished high school, compared with 13% of Black parents.

Constructs and Measures

Children's social competence was measured with five scales adapted from the Social Skills Rating System (Gresham & Elliott, 1990). Teachers rated each child on a frequency scale with values from 1 to 4 (1 = *never* and 4 = *very often*) for level of approaches to learning (task persistence, attentiveness, eagerness to learn, learning independence, flexibility, and organization); self-control (ability to respect the materials of others, control temper, accept peer ideas, and respond appropriately to peer pressure); interpersonal skills (forming and maintaining friendships, getting along with people who are different, comforting or helping other children, expressing feelings, ideas, and opinions in positive ways, and showing sensitivity to feelings); internalizing problem behaviors (presence of anxiety, loneliness, low self-esteem, and sadness); and externalizing problem behaviors (the propensity to argue, fight, get angry, act impulsively, or disturb activities). Higher scores on approaches to learning, interpersonal skills, and self-control scales represent stronger positive behavior; higher scores on externalizing and internalizing problem behaviors represent less positive behavior, so these scales were reversed for easier interpretation. (See note 13 for intercorrelations among the five social competence measures.)

The unweighted means in the fall of kindergarten for approaches to learning, self-control, and interpersonal communication skills

³ Measures of approaches to learning, self-control, interpersonal skills, and internalizing and externalizing problem behaviors were successfully administered to 19,590, 19,510, 19,490, 19,530, and 19,570 children, respectively. Unweighted sample sizes have been rounded to the nearest 10 because of restricted license requirements.

⁴ ICE handles complex data structures by fitting a sequence of chain equations to impute variables in order of increasing "missingness" (i.e., the variable with the least missing values is imputed first and so on; Royston, 2005). Five plausible values were estimated for each missing case and then combined into five data sets.

Table 1
 Descriptive Statistics for the ECLS-K Latino Subsample Before and After Multiple Imputation (Unweighted Means)

Measure	Before multiple imputation (<i>n</i> = 3,640)			After multiple imputation ^a (<i>n</i> = 3,640)	
	<i>M</i>	<i>SD</i>	% missing	<i>M</i>	<i>SD</i>
Test score at Wave 2	24.04	8.18	0		
Social competence					
Approaches to learning	2.88	0.67	08.40	2.89	0.67
Self-control	3.04	0.59	14.00	3.05	0.59
Interpersonal skills	2.91	0.61	14.85	2.91	0.62
Internalizing problem behaviors	1.57	0.54	11.53	1.57	0.54
Externalizing problem behaviors	1.61	0.62	10.32	1.61	0.62
Student and family controls					
Test score at Wave 1	16.19	6.14	8.37	16.22	6.18
Region of origin			30.46		
Mexico	64.56	47.84		63.92	48.00
Puerto Rico	9.12	28.79		9.99	30.35
Cuba	3.71	18.90		3.58	18.34
South America	5.52	22.85		5.22	22.45
Central America	7.38	26.15		7.79	26.81
Other Latin	9.71	29.61		9.49	29.31
Generational status			22.39		
First	8.45	27.82		8.37	27.62
Second	54.00	49.85		53.72	49.86
Third-plus	37.55	48.43		37.91	48.51
Language used at home			14.82		
Only English	31.67	46.53		31.37	46.32
Primarily English	19.30	39.47		19.06	39.25
Primarily Spanish	19.52	39.64		19.85	39.93
Only Spanish	29.51	45.62		29.73	45.81
Family type			4.91		
Two biological parents	65.95	47.40		67.62	46.80
Two parents, one biological	8.17	27.39		7.77	26.67
One biological parent	22.89	43.02		21.76	41.27
Other	3.00	17.07		2.85	16.65
No. siblings at home	1.50	1.18	4.91	1.52	1.18
Socioeconomic composite	-0.37	0.72	3.21	-0.37	0.73
Parents' school attainment (2 = high school diploma, 3 = some college)	2.40	1.15	4.91	2.41	1.16
Income	36,575	41,927	4.91	36,788	41,725
No. books at home	44.52	47.65	15.18	43.94	47.20
Parents' educational expectations (4 = finish a 4- to 5-year college degree, 5 = earn a master's or equivalent)	4.36	1.23	15.12	4.35	1.23
Maternal depression	1.45	0.48	10.76	1.45	0.48
Reading activities at home	3.03	0.71	14.49	3.03	0.71
Child-care arrangements			5.38		
No formal care	27.43	0.45		27.70	44.88
Home-based	21.61	0.41		21.53	41.02
Center-based	28.04	0.45		28.00	44.88
Head Start	10.76	0.31		10.71	30.95
Other	12.15	0.33		12.06	32.49
Time between Assessments 1 and 2 (days)	190.11	22.02	7.55	190.29	22.23
Age at kindergarten entry	64.77	4.50	14.63	64.74	4.42
Kindergarten status			14.63		
First time	94.50	22.80		94.59	22.62
Second time	05.50	0.28		05.41	0.24
Gender			0		
Female	49.07			49.07	
Male	50.93			50.93	

Note. Unweighted sample sizes have been rounded to the nearest 10 because of restricted license requirements. Age at kindergarten entry was measured in months. ECLS-K = Early Childhood Longitudinal Study, kindergarten cohort; *SD* = standard deviation.

^a Descriptive statistics presented here stem from average imputation values from all five databases.

were moderate overall ($\bar{X} = 2.96$, $SD = 0.68$; $\bar{X} = 2.97$, $SD = 0.63$; $\bar{X} = 3.07$, $SD = 0.62$, respectively), and mean scores were low for externalizing and internalizing problem behaviors ($\bar{X} = 1.63$, $SD = 0.64$; $\bar{X} = 1.55$, $SD = 0.52$, respectively, prior to these scales being reversed). Overall, children attending kindergarten showed positive behaviors conducive to learning and few disruptive behaviors. All scales demonstrated strong split-half reliability (approaches to learning = 0.89; self-control = 0.79; interpersonal skills = 0.89; internalizing problem behaviors = 0.88; externalizing problem behaviors = 0.90).⁵

Meyer et al. (2001) has documented strong criterion-related, content, and construct validity for the Social Skills Rating System. Several studies have revealed consistent predictive validity between teacher ratings and children's future cognitive performance, including that for diverse child populations (Malecki & Elliot, 2002; Marks & García Coll, 2007). Evidence is mixed on the extent to which teacher ratings are conditioned by the child's ethnic attributes (DiPerna, Lei, & Reid, 2007), and anchoring teacher ratings to parent ratings can be problematic, as these observers see children in differing settings (Claessens, Duncan, & Engel, in press).

Children's *understanding of numbers and mathematical concepts* was measured in the fall and spring of the kindergarten year with two-stage adaptive tests, with content domains borrowed from the National Assessment of Educational Progress. The assessment measured children's number sense; properties and operations; measurement; geometry and spatial sense; data analysis, statistics, and probabilities; and patterns and functions. Math scores were computed with three-parameter item response theory (IRT) models (Rock & Pollack, 2002). To capture growth in mathematical understanding, we included in our regression models the math IRT scale scores from the fall assessment as a control and scores from the spring assessment as the dependent variable.

Race and ethnicity. On the basis of parents' reports, children were classified as White (non-Latino), Black, Latino of any race, or Asian. Included in the "other" category were Native Hawaiian, other Pacific Islander, American Indian or Alaska Native, and (non-Latino) multiracial children.

Latino children's region of origin. We characterized the diversity of the Latino population by disaggregating children by their national or regional origin, immigrant generational status, primary language spoken in the home, and socioeconomic status. Latino children were classified as having Mexican, Puerto Rican, Cuban, South American, Central American, or other Latino origin.⁶ The "other Latino" group included children whose parents identified them as Latinos, regardless of place of origin. Children with origins in Spain or the Dominican Republic were included in the other Latino group.

Generational status. Latino children were classified as first generation if they were non-U.S.-born children of non-U.S.-born parents; second generation if they were U.S.-born children of non-U.S.-born parents; and third-plus generation if they were U.S.-born children of U.S.-born parents. Those born in Puerto Rico were classified as first-generation immigrants.⁷

Children's primary home language. This variable was based on the parent's response to questions regarding how often the mother or father spoke a language other than English to the child and how often the child spoke a language other than English to the mother or father ("never" to "very often"). Parent responses to these four ques-

tions were averaged; the continuous variable was then sorted into four categories by rounding to the nearest whole number. For Latino children, possible responses for each question included only English, primarily English, primarily Spanish, and only Spanish.

Children's socioeconomic status. ECLS-K statisticians created a composite continuous measure of socioeconomic status (SES) based on the mother's and father's educational attainment and occupational status (National Center for Education Statistics, 2002). We sorted children into SES quintiles to analyze disparities in social competence and into three SES groups (of equal counts of children) to examine whether the effects of social competence on mathematical understanding are conditioned by the family's socioeconomic status.

Control Variables

To minimize the risk of confounding effects when estimating the relationship between social competence and growth in mathematical understanding, we included individual and family factors as control variables. At the family level, we first included family type, measured by four dummy variables: child living with two biological parents (reference group); two parents, one biological; just one biological parent; or other (e.g., guardian, adoptive parents). The family structure was further gauged by the number of siblings, which was a continuous measure. Parent school attainment was measured as an ordinal variable with values from 1 to 5, with 1 indicating some high school and 5 indicating graduate-level study.

To further take into account parental beliefs and practices related to school achievement, we included parents' educational expectations as a covariate, an ordinal measure indicating how far parents believed their child would go in school. Values ranged from 1 to 5, with 1 indicating some high school and 5 indicating graduate study. Family income and the number of children's books at home were included in regression estimations as continuous variables. Reading activities in the home was an ordinal variable. Values ranged from 1 to 4, with 1 indicating the child never participates in the activity and 4 indicating the child participates every day. Maternal mental health was entered as a continuous variable indicating the count of depressive symptoms reported by the mother.

Child-level control variables included the age at kindergarten entry and the time interval (in days) between the fall and spring math assessments. The latter measure guarded against systematic bias associated with subgroups that may have been tested earlier or later than the mean month of assessment (which we did not detect). We took into account the gender of the child and whether he or she was repeating the kindergarten year. Covariates also included the child's generational status and primary home language, as described above. Earlier child care arrangements may help to account for growth in mathematical understanding. So, we controlled on the type of nonparental child care in which the child was enrolled.

⁵ Split-half reliability scores shown here correspond to teachers' ratings obtained in the fall of kindergarten.

⁶ We agree with a reviewer that combining children of South and Central American heritages may mask important cultural particularities among countries of origins. But each subgroup was so small in the ECLS-K sample that separating them would have yielded unreliable estimates.

⁷ Even though Puerto Ricans are U.S. citizens they are commonly studied as immigrants, because they often face acculturation difficulties similar to those of other Latin American immigrants (Oropesa & Landale, 2000).

Procedure

Two analytic strategies were undertaken. First, we applied multi-level growth modeling to estimate children's social competencies. The Level 1 equation contains within-child observations, and the Level 2 equation includes between-children observations (Raudenbush & Bryk, 2002; Singer & Willet 2003). We estimated two parameters: an initial score when the child was 5 years 8 months old (mean age at kindergarten entry) and a constant monthly growth rate between 5 years 8 months old and 7 years 3 months old (at entry to first grade). Given limited space, we report social competency scores only at baseline. Complete growth-model results are available from the authors.⁸ The first model is specified as follows:

Within-child equation

$$\text{Level 1: } Y_{ai} = \pi_{0i} + \pi_{1i}(\text{age} - \text{mean age}) + e_{ai}, \quad (1)$$

where Y_{ai} is the social competence score (by domain) at age a for student i ; π_{0i} is the estimated social competence level at 5 years 8 months; and π_{1i} represents the constant monthly growth parameter occurring between kindergarten and first grade.

Between-children equation

$$\begin{aligned} \text{Level 2: } \pi_{0i} &= \beta_{00} + \beta_{01} \text{ Latina} + \beta_{02} \text{ Black} \\ &+ \beta_{03} \text{ Asian} + \beta_{04} \text{ Other} + r_{0i}, \\ \pi_{1i} &= \beta_{10} + \beta_{11} \text{ Latina} + \beta_{12} \text{ Black} \\ &+ \beta_{13} \text{ Asian} + \beta_{14} \text{ Other} + r_{1i} \quad (2) \end{aligned}$$

where β_{01} – β_{04} represents the differences in social competence at the start of kindergarten between White children (the reference group) and children from Latino, Black, Asian, and other ethnic groups.

This model is then expanded to include different Latino subgroups, distinguished by region of origin, generational status, primary home language, and socioeconomic status. To examine basic group differences, we present growth results with no covariates in the models. We employed two-level modeling instead of three-level modeling (repeated measures nested within children and children nested within teachers) to avoid obtaining biased estimators of observed group differences. This could result from the potential relationships of teacher-level random effects and children's ethnicity.

Second, to analyze the cognitive growth effects of Latino children's social competencies, we used two-level HLM in which math scores in the spring of kindergarten were the dependent variable and teachers represented the Level 2 units. Even though we are mainly interested in child-level variables, we utilized HLM with teachers serving as the Level 2 units, given the nested structure of the data (children nested in kindergarten classrooms). HLM gives valid and accurate estimates in analyses with nested data, because it takes into account the complex structure of the error term (Raudenbush & Bryk, 2002). The base model is represented as follows.

Between-children equation

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(\text{test score, fall of kindergarten}) + \beta_{2j}(\text{time}) + \beta_{3j}\Sigma(\text{controls}) + r_{ij} \quad (3)$$

where Y_{ij} is the mean math score of student i in class j in the spring of kindergarten; B_{0j} is the mean score in each class; B_{1j} represents the

effect of the math score in the fall of kindergarten (control); B_{2j} represents the effect of time between fall and spring assessments; and B_{3j} represents the effect of covariates on the math score in the spring of kindergarten.

Between-teachers equation

$$\begin{aligned} \text{Level 2: } \beta_{0j} &= G_{00} + u_{0j}, \\ \beta_{1j} &= G_{10} \quad (4) \end{aligned}$$

The model is expanded to include each measure of social competence separately to determine any independent effect from each measure net of covariates. We then regressed the math score on all five measures of social competence.

The differences in social competencies by child ethnicity and for Latino subgroups are reported as unstandardized coefficients in the tables. To indicate the relative magnitude of important differences or effect sizes, we standardized estimates using pooled standard deviation units. We divided the unstandardized coefficient by the average standard deviation of all ethnic groups. This was obtained from the multilevel growth model, which includes only ethnicity markers (using the Level 2 intercept standard deviation).⁹ These standardized estimates of differences are equivalent to effect sizes.

Results

Gaps in Social Competencies Among Latino Subgroups

Table 2 presents gaps in children's social competencies at entry to kindergarten by ethnicity and Latino subgroups vis-à-vis Whites (without covariates). These differences are important to report first, given that multivariate analyses partial out associations with the family's social-class status, often collinear with Latino membership. Effect sizes of key mean score differences are highlighted below.

We found moderate disparities in the social competencies of Latino compared with White children, but the magnitudes (reported as unstandardized coefficients and effect sizes) were smaller than the gaps between Black and White children.¹⁰ For approaches to learning, teacher ratings for Latino children were 0.16 points (0.29 of standard deviation [*SD*]) lower than those for White children at entry to kindergarten, and the Black–White gap was 0.26 points. Similar patterns were observed for self-control and interpersonal skills. The disparity in self-control, for example,

⁸ We caution about the validity of social competence growth rates between the fall of kindergarten and the spring of first grade, given that teacher ratings stem from two different teachers. When estimating a growth model, two random effects at Level 2 (one for the initial score and one for the growth rate) are required, and both parameters must be allowed to vary between children. Therefore we need at least three points of information to estimate both parameters (fall and spring of kindergarten from kindergarten teacher and spring of first grade from the first-grade teacher). The fact that we use two different sources of information could reduce the validity of these estimated growth rates.

⁹ The Level 2 – U_0 standard deviation is 0.56, 0.49, 0.49, 0.40, and 0.55 for approaches to learning, self-control, interpersonal skills, internalizing problem behaviors, and externalizing problem behaviors, respectively.

¹⁰ Latino children's teacher ratings for externalizing problem behaviors are not significantly different from White children's teacher ratings (at $p \leq .05$).

Table 2
Gaps in Children's Social Competence Levels at Entry to Kindergarten by Ethnicity and Other Demographic Characteristics (Unstandardized Regression Coefficients)

Variable	Approaches to learning (n = 19,590)			Self-control (n = 19,510)			Interpersonal skills (n = 19,490)			Internalizing problem behaviors (n = 19,530)			Externalizing problem behaviors (n = 19,570)		
	Coefficient (SE)	95% CI		Coefficient (SE)	95% CI		Coefficient (SE)	95% CI		Coefficient (SE)	95% CI		Coefficient (SE)	95% CI	
Ethnicity															
Black	-0.26*** (0.02)	[-0.29, -0.23]		-0.26*** (0.01)	[-0.29, -0.23]		-0.23*** (0.01)	[-0.26, -0.21]		-0.05*** (0.01)	[-0.08, -0.03]		-0.21*** (0.02)	[-0.24, -0.19]	
Latino	-0.16*** (0.01)	[-0.19, -0.14]		-0.09*** (0.01)	[-0.11, -0.07]		-0.12*** (0.01)	[-0.15, -0.10]		-0.05*** (0.01)	[-0.07, -0.03]		-0.02† (0.01)	[0.05, -0.00]	
Asian	0.09*** (0.02)	[0.05, 0.13]		0.04* (0.02)	[0.01, 0.08]		-0.05* (0.02)	[-0.08, -0.01]		0.05*** (0.02)	[0.02, 0.08]		0.14*** (0.02)	[0.11, 0.18]	
Other	-0.18*** (0.02)	[-0.22, -0.13]		-0.16*** (0.02)	[-0.20, -0.12]		-0.18*** (0.02)	[-0.22, -0.14]		-0.09*** (0.02)	[-0.12, -0.05]		-0.14*** (0.02)	[-0.18, -0.10]	
Latino region of origin															
Mexico	-0.14*** (0.02)	[-0.17, -0.11]		-0.06*** (0.02)	[-0.09, -0.02]		-0.10*** (0.02)	[-0.13, -0.07]		-0.02† (0.01)	[-0.15, 0.00]		0.02 (0.02)	[-0.01, 0.05]	
Puerto Rico	-0.22*** (0.05)	[-0.31, -0.13]		-0.14*** (0.04)	[-0.23, -0.06]		-0.17*** (0.04)	[-0.26, -0.08]		-0.11*** (0.04)	[-0.17, -0.04]		-0.10* (0.05)	[-0.19, -0.01]	
Cuba	-0.16* (0.08)	[-0.31, -0.01]		-0.07 (0.07)	[-0.19, 0.06]		-0.02 (0.07)	[-0.15, 0.11]		-0.01 (0.04)	[-0.09, 0.08]		-0.12† (0.07)	[-0.25, 0.01]	
South America	-0.06 (0.06)	[-0.17, 0.05]		-0.06 (0.05)	[-0.16, 0.03]		-0.11* (0.05)	[-0.21, -0.01]		-0.08† (0.06)	[-0.17, 0.01]		0.10* (0.05)	[0.01, 0.20]	
Central America	-0.19*** (0.05)	[-0.29, -0.09]		-0.07 (0.05)	[-0.17, 0.02]		-0.12* (0.05)	[-0.22, -0.02]		-0.06 (0.04)	[-0.13, 0.02]		0.01 (0.04)	[-0.07, 0.10]	
Other	-0.08† (0.05)	[-0.17, 0.01]		-0.09* (0.04)	[-0.17, -0.01]		-0.12** (0.02)	[-0.20, -0.04]		-0.00 (0.03)	[-0.07, 0.07]		-0.01 (0.04)	[-0.09, 0.07]	
Latino socioeconomic status															
Quintile 1 (low)	-0.24*** (0.02)	[-0.28, -0.21]		-0.11*** (0.02)	[-0.14, -0.07]		-0.18*** (0.02)	[-0.21, -0.14]		-0.06*** (0.02)	[-0.09, -0.03]		-0.00 (0.02)	[-0.04, 0.03]	
Quintile 2	-0.19*** (0.03)	[-0.23, -0.14]		-0.11*** (0.02)	[-0.15, -0.07]		-0.15*** (0.02)	[-0.10, -0.05]		-0.07*** (0.02)	[-0.11, -0.03]		-0.00 (0.02)	[-0.05, 0.04]	
Quintile 3	-0.15*** (0.03)	[-0.20, -0.09]		-0.13*** (0.03)	[-0.18, -0.08]		-0.14*** (0.03)	[-0.19, -0.09]		-0.05*** (0.02)	[-0.10, -0.01]		-0.10*** (0.03)	[-0.15, -0.04]	
Quintile 4	-0.03 (0.03)	[-0.08, 0.03]		-0.02 (0.03)	[-0.07, 0.03]		-0.02 (0.03)	[-0.07, 0.04]		0.01 (0.02)	[-0.05, 0.04]		-0.02 (0.03)	[-0.08, 0.04]	
Quintile 5 (high)	0.01 (0.03)	[-0.06, 0.08]		0.00 (0.03)	[-0.06, 0.06]		0.02 (0.03)	[-0.05, 0.08]		-0.04 (0.03)	[-0.09, 0.02]		-0.01 (0.04)	[-0.08, 0.07]	
Latino language used at home															
Only English	-0.10*** (0.02)	[-0.14, -0.06]		-0.07*** (0.02)	[-0.11, -0.03]		-0.08*** (0.02)	[-0.12, -0.04]		-0.05*** (0.02)	[-0.09, -0.02]		-0.04† (0.02)	[-0.08, 0.00]	
Primarily English	-0.20*** (0.03)	[-0.26, -0.15]		-0.11*** (0.02)	[-0.16, -0.07]		-0.14*** (0.03)	[-0.19, -0.09]		-0.07*** (0.02)	[-0.11, -0.02]		-0.05* (0.03)	[-0.10, -0.00]	
Primarily Spanish	-0.15*** (0.03)	[-0.20, -0.09]		-0.07*** (0.03)	[-0.12, -0.02]		-0.13*** (0.03)	[-0.18, -0.08]		-0.02 (0.02)	[-0.06, 0.03]		0.01 (0.02)	[-0.03, 0.06]	
Only Spanish	-0.17*** (0.02)	[-0.21, -0.13]		-0.09*** (0.02)	[-0.13, -0.05]		-0.15*** (0.02)	[-0.18, -0.11]		-0.05* (0.02)	[-0.08, -0.01]		0.02 (0.02)	[-0.02, 0.06]	
Latino generational status															
First	-0.17*** (0.05)	[-0.27, -0.08]		-0.11** (0.04)	[-0.19, -0.03]		-0.19*** (0.04)	[-0.27, -0.10]		-0.02 (0.04)	[-0.09, 0.05]		-0.01 (0.04)	[-0.09, 0.06]	
Second	-0.14*** (0.02)	[-0.18, -0.11]		-0.07*** (0.02)	[-0.10, -0.04]		-0.11*** (0.02)	[-0.14, -0.08]		-0.03† (0.01)	[-0.05, 0.00]		0.03 (0.02)	[-0.01, 0.06]	
Third-plus	-0.11*** (0.02)	[-0.15, -0.06]		-0.05* (0.02)	[-0.09, -0.01]		-0.07*** (0.02)	[-0.11, -0.03]		-0.05*** (0.02)	[-0.09, -0.02]		-0.04† (0.02)	[-0.08, 0.01]	

Note. For consistency with other social competence measures, scores for externalizing and internalizing problem behaviors were reversed coded (higher scores mean fewer such behaviors). Gaps are represented with unstandardized coefficients. Non-Latino Whites are the omitted reference group, so all coefficients are gaps relative to that group. Unweighted sample sizes have been rounded to the nearest 10 because of restricted license requirements. Robust standard errors are shown in parentheses (SE). CI = confidence interval. p values are based on estimations with robust standard errors. † p ≤ .10. * p ≤ .05. ** p ≤ .01. *** p ≤ .001.

was 0.26 points (0.54 *SD*) between Black and White children but was only 0.09 points (0.18 *SD*) between Latino and White children. For externalizing problem behaviors, the Black–White gap equaled 0.21 points (0.46 *SD*), but the Latino–White gap, 0.02 points (0.04 *SD*), was barely discernible.¹¹ Overall, effect sizes of social competency differences were moderate for Black students and small for Latino students.

Second, important differences in social competencies were apparent among Latino subgroups. When analyzing social competence gaps by region of origin, we found that children of Cuban and South American heritage displayed higher scores than other Latino subgroups. Children of South American origin displayed social competency scores that were statistically equal to those of White children for approaches to learning, self-control, and internalizing problem behaviors, and they showed fewer externalizing problem behaviors than did White children. A similar pattern was found for children of Cuban heritage except for approaches to learning. The effect sizes for South American children ranged from 0.22 *SD* in interpersonal skills and 0.10 *SD* in approaches to learning, and the effect sizes for Cuban children ranged from 0.28 *SD* in approaches to learning and 0.01 *SD* in internalizing problem behaviors. The South American advantage may be explained by higher levels of maternal education and perhaps by greater historical acculturation to middle-class European practices. This possibility might also apply to middle-class families of Cuban descent.

In contrast, children of Puerto Rican origin showed significantly lower scores on each of the five social competency measures than did White children. In effect sizes, these disparities ranged from 0.39 *SD* in approaches to learning to 0.18 *SD* for externalizing problem behaviors. Compared with White children, children of Mexican descent showed lower social competency scores with similar levels of magnitude. The disparity in these scores ranged from 0.14 points (0.25 *SD*) in approaches to learning to 0.06 (0.11 *SD*) in self-control. However, mean scores for internalizing and externalizing problem behaviors for Mexican children did not differ significantly from corresponding scores for White children.

Social class does appear to condition the presence and magnitude of disparities in children's social competencies among groups. The gaps for approaches to learning between Latino children from families in the lowest three SES quintiles and the mean level reported for White children equaled 0.25 points (0.43 *SD*), 0.19 points (0.33 *SD*), and 0.15 points (0.27 *SD*), respectively. In contrast, these Latino–White gaps equaled just 0.03 (0.05 *SD*) and 0.01 (0.02 *SD*) for Latino children in the highest two SES quintiles, respectively. This disparity is trivial in terms of statistical significance and effect size. Similar patterns were observed for interpersonal skills, self-control, and internalizing problem behaviors.

Immigrant (first-generation) Latino children displayed slightly weaker social competencies than did later generation children. Disparities in approaches to learning for Latino children vis-à-vis the mean level for White children equaled 0.17 points (0.31 *SD*), 0.14 points (0.26 *SD*), and 0.11 points (0.19 *SD*) for the first, second, and third-plus generations, respectively. The gaps followed a similar pattern for interpersonal skills: 0.19 points (0.38 *SD*), 0.11 points (0.22 *SD*), and 0.07 points (0.14 *SD*) for the generational subgroups, compared with the mean White score.

These disparities in social competencies between White children and children in Latino subgroups are far smaller than the directly assessed gaps in math proficiencies at entry to kindergarten. This

disparity in cognitive understanding equaled between 0.53 and 1.10 standard deviations (depending on region of origin) and between 0.53 and 1.21 standard deviations for Latino students in the three lowest socioeconomic quintiles (not shown; Reardon & Galindo, 2009).

Social Competence and Mathematical Understanding

Next we report on how Latino children's social competence at entry helps to account for growth in mathematical understanding during the kindergarten year. Table 3 reports results for each of the five social competencies, with only Latino children included in the analysis. Each model estimates growth by including the fall math score as a panel control and then estimating the spring score within the HLM model. Effect sizes are included in parentheses.

The association between each social competence measure and growth in math scores was statistically significant in each case. Latino children who entered kindergarten with stronger social competencies grew more in their mathematical understanding than did children with weaker social competencies at baseline. The growth advantage equaled 1.34 points for approaches to learning (0.29 *SD*) and ranged down to a 0.51-point advantage for externalizing problem behaviors (0.11 *SD*).¹² In addition, when we compared the size of the coefficients, children's capacity to focus on learning tasks (approaches to learning) played a stronger role in accounting for Latino children's growth in math than did the other four competence measures.

The effect of approaches to learning is also most robust in Model 6, given that the coefficient does not diminish when the other competency measures are included in the single model. In contrast, after adjusting for approaches to learning, the association between self-control and the spring math score declined from 0.68 (Model 2) to -0.37 points; the association between interpersonal skills and the spring math score declined from 0.86 (Model 3) to 0.11 points. This pattern suggests a stronger relationship between approaches to learning and math understanding than between the effects of the other four competencies. These regression coefficients could be biased if the five social-competence measures were highly intercorrelated, but they are not.¹³

Children of Cuban heritage displayed stronger growth in mathematical understanding than did children of Mexican descent (the reference group). Compared with children raised in homes where English was the only language spoken, Latino children in homes where English was mixed with some Spanish displayed stronger growth (significant in four of the six models). This appears to be consistent with the immigrant-paradox argument to the extent that bilingual children are drawing on the strengths of their heritage culture and gaining skills from middle-class White norms and practices. Such dynamics should be examined in future work. Parents' educational expectations further helped to account for

¹¹ Asian children show higher social competencies than White children, except for interpersonal skills.

¹² To compute these effect sizes, we divided the unstandardized coefficients by the Level 1 standard deviation from the HLM model with only math test score at Time 1 (Level 1 – standard deviation = 4.56).

¹³ For the Latino subsample, the correlation between approaches to learning and self-control equaled .63 and that between approaches to learning and interpersonal skills equaled .69. The correlations for approaches to learning and internalizing and externalizing problem behaviors equaled $-.31$ and $-.47$, respectively.

Table 3

HLM Regression Estimates of Growth in Mathematical Understanding From Children's Social Competence Scores and Covariates (N = 3,640)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Approaches to learning	1.34*** (0.15)					1.44*** (0.20)
Self-control		0.68*** (0.16)				-0.37 (0.29)
Interpersonal skills			0.86*** (0.16)			0.10 (0.24)
Internalizing problem behaviors				0.56*** (0.15)		0.14 (0.17)
Externalizing problem behaviors					0.51** (0.16)	0.05 (0.21)
Test score at Wave 1	0.92*** (0.02)	0.97*** (0.02)	0.96*** (0.02)	0.97*** (0.02)	0.97*** (0.02)	0.92*** (0.02)
Time between assessments	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)
First-time kindergartner (ref. = second time)	-0.57 (0.41)	-0.67 (0.42)	-0.63 (0.42)	-0.70 (0.43)	-0.71† (0.42)	-0.58 (0.42)
Age at kindergarten entry	0.07** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.07** (0.02)
Female	-0.19 (0.16)	-0.02 (0.16)	-0.07 (0.16)	0.12 (0.16)	-0.01 (0.16)	-0.18 (0.16)
Puerto Rico (ref. = Mexico)	-0.51 (0.43)	-0.61 (0.44)	-0.59 (0.43)	-0.59 (0.44)	-0.62 (0.44)	-0.50 (0.42)
Cuba	1.68** (0.60)	1.48* (0.62)	1.49* (0.62)	1.41* (0.61)	1.46* (0.62)	1.67** (0.59)
South America	-0.08 (0.54)	-0.20 (0.53)	-0.15 (0.52)	-0.17 (0.54)	-0.26 (0.53)	-0.06 (0.55)
Central America	0.23 (0.43)	0.12 (0.43)	0.15 (0.42)	0.13 (0.42)	0.11 (0.43)	0.24 (0.42)
Other	0.11 (0.37)	0.05 (0.39)	0.10 (0.39)	0.04 (0.39)	0.03 (0.39)	0.12 (0.37)
First generation (ref. = third-plus generation)	-0.61 (0.43)	-0.56 (0.43)	-0.57 (0.43)	-0.64 (0.45)	-0.60 (0.44)	-0.64 (0.44)
Second generation	-0.39 (0.25)	-0.35 (0.26)	-0.35 (0.26)	-0.37 (0.27)	-0.37 (0.27)	-0.41 (0.25)
Primarily English (ref. = only English)	0.53* (0.25)	0.49* (0.25)	0.50* (0.25)	0.45† (0.25)	0.47† (0.25)	0.53* (0.25)
Primarily Spanish	-0.06 (0.28)	0.00 (0.29)	0.00 (0.29)	-0.05 (0.29)	-0.00 (0.29)	-0.07 (0.29)
Only Spanish	-0.27 (0.27)	-0.21 (0.29)	-0.20 (0.28)	-0.25 (0.28)	-0.22 (0.28)	-0.28 (0.27)
Two parents, one biological (ref. = 2 biological parents)	0.20 (0.32)	0.11 (0.33)	0.12 (0.33)	0.07 (0.33)	0.12 (0.33)	0.20 (0.32)
One biological parent	-0.22 (0.22)	-0.28 (0.22)	-0.29 (0.22)	-0.32 (0.22)	-0.31 (0.22)	-0.23 (0.22)
Other	-0.88* (0.42)	-0.95* (0.42)	-0.98* (0.42)	-1.05* (0.43)	-0.96* (0.42)	-0.91* (0.43)
No. siblings	-0.13† (0.08)	-0.14† (0.08)	-0.13† (0.08)	-0.12 (0.08)	-0.15† (0.08)	-0.13 (0.08)
Mother's school attainment (years)	0.17† (0.10)	0.16† (0.10)	0.16 (0.10)	0.17† (0.10)	0.17† (0.10)	0.17† (0.10)
Income	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00† (0.00)	0.00 (0.00)
No. books at home	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Parents' educational expectations	0.14* (0.07)	0.17* (0.07)	0.16* (0.07)	0.18* (0.07)	0.16* (0.07)	0.14* (0.07)
Reading activities at home	0.04 (0.13)	0.10 (0.13)	0.09 (0.13)	0.11 (0.13)	0.10 (0.13)	0.03 (0.13)
Home-based child care (ref. = no formal care)	-0.04 (0.23)	-0.00 (0.24)	-0.02 (0.24)	-0.01 (0.24)	0.01 (0.24)	-0.05 (0.23)
Center-based child care	0.37 (0.26)	0.38 (0.26)	0.35 (0.26)	0.31 (0.26)	0.40 (0.26)	0.35 (0.26)
Head Start	0.11 (0.28)	0.08 (0.28)	0.07 (0.28)	0.04 (0.28)	0.08 (0.28)	0.09 (0.28)
Child care, other	0.30 (0.45)	0.36 (0.46)	0.36 (0.45)	0.29 (0.46)	0.37 (0.46)	0.28 (0.46)
Maternal depression	-0.37* (0.16)	-0.35* (0.16)	-0.37* (0.16)	-0.39* (0.16)	-0.36* (0.16)	-0.39* (0.16)
Intercept	24.66*** (0.50)	24.85*** (0.50)	24.79*** (0.50)	25.04*** (0.51)	24.92*** (0.50)	24.70*** (0.50)

Note. For consistency with other social competence measures, scores for externalizing and internalizing problem behaviors were reversed coded (higher scores mean fewer such behaviors). Only Latino children are included in these models. Continuous variables are grand mean centered. Unweighted sample sizes have been rounded to the nearest 10 because of restricted license requirements. Robust standard errors are shown in parentheses. HLM = hierarchical linear modeling; ref. = reference group. *p* values are based on estimations with robust standard errors to adjust for clustering.

† $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

growth in math scores, and maternal depression levels suppressed children's growth in mathematical understanding.

Children's Socioeconomic Status and Cognitive Growth

Prior work shows that the family's social-class position may condition the child's acquisition of social competencies that hold utility in classroom settings, as well as the child's cognitive development. Yet the recent literature on the immigrant paradox suggests that parental practices stemming from cultural heritage may offset slower rates of development often associated with family poverty, as reviewed above. To examine this question we divided the Latino subsample into three groups of similar size, on the basis of the distribution of social-class status.¹⁴ Table 4 reports

the results for the complete HLM model (i.e., Model 6 in Table 3) for each socioeconomic subgroup. Again, we focus on variability among Latino children and include all covariates.

We see in Table 4 that approaches to learning is associated with Latino children's growth in math scores regardless of socioeco-

¹⁴ The Latino sample was divided into three groups (low, middle, and high socioeconomic status) of similar size on the basis of the distribution of this index for Latinos only. If we had used the entire ECLS-K sample socioeconomic distribution to create the groups, about 55% of the Latino sample would have been part of the low socioeconomic group but only 28% and 17% would have fallen in the middle and high socioeconomic groups, respectively.

Table 4
HLM Regression Estimates of Growth in Mathematical Understanding From Children's Social Competence Scores and All Covariates by Family Socioeconomic Status (n = 3,640)

Variable	Model 7 low SES (n = 1,220)	Model 8 middle SES (n = 1,230)	Model 9 high SES (n = 1,190)
Approaches to learning	1.07** (0.34)	1.72*** (0.32)	1.30*** (0.33)
Self-control	-0.30 (0.47)	-0.36 (0.45)	-0.58 (0.47)
Interpersonal skills	0.36 (0.39)	-0.25 (0.41)	0.26 (0.40)
Externalizing problem behaviors	0.16 (0.32)	0.29 (0.31)	-0.21 (0.37)
Internalizing problem behaviors	0.33 (0.25)	-0.13 (0.33)	0.03 (0.32)

Note. All models include individual and family control variables. For consistency with other social competence measures, scores for externalizing and internalizing problem behaviors were reversed coded (higher scores mean fewer such problems). Only Latino children are included in these models. Continuous variables are grand mean centered. Unweighted sample sizes have been rounded to the nearest 10 because of restricted license requirements. Robust standard errors are shown in parentheses. HLM = hierarchical linear modeling. *p* values are based on estimations with robust standard errors.

** $p \leq .01$. *** $p \leq .001$.

conomic status, although the relationship is somewhat weaker among children from the poorest families. Cognitive growth effects stemming from approaches to learning range from 1.72 points (0.38 *SD*) for the middle-SES children to 1.07 points (0.24 *SD*) for the low-SES group. Yet these coefficients are not significantly different when formally tested, which shows that the magnitude of the approaches-to-learning effect is quite similar across the SES groups.¹⁵ None of the remaining social competence measures show a significant effect on growth in math understanding after approaches to learning are taken into account.

Discussion

Our descriptive findings inform the current discussion over whether Latino children enter kindergarten at greater risk of weak social development (Hypothesis 1). We find that, when rated by teachers, their levels of social competence across the five measures are significantly lower than those for White children. But the magnitudes of disparity are modest: They largely pertain to children raised in the economically poorest Latino families and gaps are limited to particular groups based on region of origin. Children growing up in middle-class Latino homes show no significant differences in social development vis-à-vis White children.

Ecocultural theory helps to explain these paradoxically small disparities in social competence. It suggests that warm and supportive parenting practices in most Latino homes serve to nurture robust social skills and frequently offer protective factors against the exigencies operating in many poor communities (Crosnoe, 2007; Escarce et al., 2006; Fuligni, 1997). On the other hand, the developmental-risk frame would predict that social competency levels—at least for skills holding utility in the eyes of teachers—would range lower in poor households, as consistent with our findings. But note that these Latino-White gaps in social competence remained modest, especially when compared with sizable disparities in preliteracy and mathematical knowledge (Hypothesis 2; see Reardon & Galindo, 2009).

Cultural heritage also conditions gaps in Latino children's social competence at entry to kindergarten, at least as proxied by region of origin. Those of Puerto Rican heritage showed the widest disparities in social competence vis-à-vis White children. Mexican

American children displayed smaller disparities in approaches to learning, self-control, and interpersonal skills, compared with White children, and there were no significant differences in externalizing or internalizing problem behaviors. Children of Cuban or South American descent, whose parents tend to have higher educational levels, showed few differences in competencies across the five measures relative to White children. Whether these differences operate through distinct socialization practices or stem from parents' differing social-class positions requires additional research. Census data do indicate that, compared with children of Mexican or Puerto Rican heritage, children of South American descent grow up with parents who display higher school attainment (Schneider et al., 2006). Ecocultural theorists emphasize that parents' adaptation to surrounding norms, including class-related attributes of neighborhoods, often alters socialization practices. This represents a bundle of social and psychological mechanisms brought to light by ecocultural and developmental-risk frameworks.

We found little consistent evidence of an immigrant advantage among first-generation Latino children (Hypothesis 3). This may be an artifact of the fairly small disparities in social competence observed between Latino and White children, with the important exception of Latino children whose families fall in the poorest two income quintiles. Overall, this is good news in that children's competencies do not appear to decline, on average, as successive generations of parents acculturate. This finding supports the argument that culturally situated practices may remain durable or that the social ecology that envelops the developmental niche is not markedly changing. At the same time, we see that Latino children from the poorest families do not enjoy equally strong competencies, as anticipated by developmental-risk theorists.

We find that social competency levels are predictive of stronger cognitive growth for Latino children in lifting their understanding

¹⁵ The test statistics and *p* values for the null hypothesis that the approaches-to-learning effect on cognitive growth is similar across groups are as follows: low versus middle SES, $z = 1.38$, $p = 0.17$; low versus high SES, $z = 0.47$, $p = 0.64$; middle versus high SES, $z = 0.92$, $p = 0.36$. Thus, the null hypothesis of similarity cannot be rejected.

of numbers, counting, and mathematical reasoning (Hypothesis 4). From an ecocultural perspective we must recognize that teachers are rating children on the basis of social behaviors that hold utility in the classroom milieu. Still, within these bounded norms and cognitive demands, Latino children's competence across the five measures does contribute to cognitive growth during the kindergarten year. Children's capacity to display engaged approaches to learning appears to be most influential, and this particular competence is moderately associated with the remaining four social proficiencies. Future qualitative work might illuminate how children's engagement in home activities may parallel, or differ from, children's approaches to learning in classrooms.

Overall, we do see continuity between the social competencies learned in the home and the proficiencies that teachers value in the classroom. That is, the two cultural settings and the activity sets found within each may be complementary. Yet to the extent that Latino children from poor families do not acquire these competencies, they are placed at greater risk on entering kindergarten. The present study was constrained by dimensions of social development that are valued by teachers. Latino children may display other competencies at home that go unrecognized by majority-culture teachers or that conflict with classroom routines. Such discontinuities between home and classroom could place some Latino children at additional risk of weaker engagement with their teachers.

We found that growth in mathematical understanding is associated with stronger parental expectations for school achievement, another factor that is related to parents' social-class position, consistent with the developmental-risk perspective. Children from homes where English is the dominant but not the only language spoken display stronger growth in math scores than do children from monolingual English-speaking homes. Future work should examine the social and psychological mechanisms inside bilingual households that may boost young children's social agility and cognitive development. We see that children who are developing bicultural competencies may be rated more highly by teachers. Such ratings perhaps reflect greater social agility in the classroom.

The distinct effect from approaches to learning highlights the need to learn more about how home activities may depart from the learning activities found inside classrooms. We know that Latino parents are less likely to structure formal learning exercises or steady reading sessions with their children, as reviewed above. At entry to kindergarten, Latino children may be dealing with an unfamiliar institution that quickly demands performance of preliteracy or numeracy skills (in English), prompted by novel social cues and expectations coming from teachers (August & Hakuta, 1997; Johnson et al., 2003). Our findings suggest that most Latino children are well prepared for social participation in the classroom, although how teachers embed learning and language within daily tasks may differ from how activities are structured inside the home. This is consistent with the ecocultural line of work, in which activity structures represent key locations of socialization and the press of cognitive demands.

Our findings hold direct implications for Latino parents and kindergarten teachers. Although Latino children arrive at kindergarten with comparably robust social competencies overall, parents might do more to structure learning tasks inside the home. Developmentalists emphasize the importance of cognitive facilitation, the explicit teaching or guiding of young children, as found

in many middle-class homes, to explore books, puzzles, and educational games. At the same time, our findings suggest—from an ecocultural perspective—that helping children understand the appropriate ways of participating in learning activities may be as consequential as the information that is communicated (Rogoff, 2003). In our study, only slight differences in self-control and externalizing problem behaviors were displayed between Latino and White children. These strengths may point to activity structures found in the home, including parent approaches to learning tasks in the home that could be mimicked inside the classroom. At the same time, teachers might become more agile in creating activity structures that engage Latino children who do not display conventional approaches to learning.

Our study is limited in significant ways. Future research should involve other raters of Latino children's social competencies, including parents or independent observers. The present investigation relied entirely on teacher reports. The child's race, class, and linguistic characteristics may bias how teachers understand the child's social proficiencies. Certainly the perceptions of teachers hold clear implications for their own level of engagement with the child, as well as their inferences about his or her cognitive capacities. Corroborating evidence gathered from additional raters would help to replicate or call into question the patterns that we observed.

In addition, Latino children may arrive at school with certain social competencies that go unrecognized by the teacher or with behaviors that are normatively encouraged at home but fail to hold utility in the classroom. One example is the premium placed on hierarchical social roles in the family, including showing respect for adults and not being overly assertive. Future work should focus on such areas of socialization, revealed in earlier qualitative studies, where discontinuities with the classroom may demonstrate less encouraging results than those reported here. A parent's region of origin is a rough proxy of cultural heritage; direct measures of embedded socialization practices are sorely needed. Finally, investigators might examine whether and how social competence affects cognitive growth throughout the elementary grades, as is now possible with extension of the ECLS-K data set.

That said, this study illuminates the validity of ecocultural theory by focusing on how young children learn to become socially competent within culturally situated milieu and via particular activities. Our findings are encouraging in that pivotal competencies that Latino children bring to kindergarten are recognized and valued by their teachers. In turn, the strength of these social proficiencies helps to predict children's growth in mathematical understanding. At the same time, Latino children raised in economically poor families display weaker competence, and this constrains their cognitive development during the kindergarten year. This subgroup enters kindergarten with social-developmental risks, in a departure from the positive, culturally bounded socialization practices displayed in most Latino families. Scholars should neither essentialize the positive facets of parenting practices in Latino families nor assume that Latino children in poor neighborhoods are at greater risk of undifferentiated developmental maladies.

Latino children adapt to and "apprentice" with adults to learn appropriate social norms and behavior found in the home. But these social competencies, from cooperating and supporting peers to respecting how adults organize sustained learning activities, are

not necessarily at odds with those valued by kindergarten teachers. Ecocultural theory highlights particular socialization priorities found inside the home and classroom, with each set situated in a larger context. On the other hand, the family's social-class position, along with differing parental practices among Latino parents, may slow the growth of social competence in the home, independent of cultural heritage, and this possibility fits with the developmental-risk perspective.

Our finding that the Latino-White gap in social competence is much smaller than the Black-White disparities backs the validity of ecocultural theory, highlighting how the persistence of culturally bounded socialization practices and adaptation to surrounding local norms can unfold quite differently among ethnic groups. Wider gaps in social competencies between White children and Puerto Rican and Mexican children, compared with smaller disparities for children from other Latino subgroups, offer further evidence that a population's social-historical experience and variably resilient parenting practices differ systematically. Still, we found that the effects of social class, via underlying maternal attributes and parenting practices, may operate on social development independent of cultural heritage and parenting practices which presumably vary among subgroups.

Our findings suggest that policy analysts and educators should take greater care in distinguishing between the social and cognitive domains of development. The gaps in preliteracy and numeracy skills that many Latino children from poor families bring to school cannot be broadly interpreted as demonstrating that these youngsters are holistically "at risk" or that they lack the social skills demanded by kindergarten teachers. The majority of Latino children arrive at kindergarten with social competencies that are comparable to those held by middle-class White children. Finally, teachers and policymakers have much to learn when it comes to recognizing the wide diversity of young Latino children, especially the strengths and competencies they display across distinct areas of development well before they enter school.

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