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Examining the Academic Achievement of Latinx Students from an Early Lifespan and Intersectional Perspective

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ABSTRACT

The present study examined Latinx school readiness and 3rd grade student achievement, considering differences based on social categories of gender, race, ethnicity, and home language. The sample included 683 racially diverse children ($M_{age} = 4.94$; $SD = .57$) of Dominican- or Mexican-origin from Spanish-English or Spanish-only proficient homes. Baseline data included a test of school readiness and mother and teacher ratings of behavior. Follow-up data included the 3rd grade New York State test. Results show that 74% of Latinx children were not proficient in 3rd grade reading, with boys and children from Spanish-only homes less likely to be at grade level. School readiness predicted achievement for all groups. On the whole, Latinx students, and especially boys and non-English speakers, appear to be marginalized in U.S. public education systems.

KEYWORDS

Academic achievement; school readiness; Latinx students; heterogeneity; intersectionality

Introduction

For decades, the National Center for Education Statistics (NCES) has documented gaps in achievement throughout formal schooling that favor majority (i.e., White) students (e.g., National Center for Education Statistics, 2018a). Latinx students, in contrast, enter school with lower academic readiness skills, have lower state test scores from 3rd through 12th grade, are less likely to complete high school and enter higher education, and are less likely to obtain a college degree (Musu-Gillette et al., 2017). Emerging in the first years of schooling, these patterns of disparity are consistent with a lifespan perspective of achievement. However, unidimensional analysis based on ethnicity (i.e., Latinx) is reductive and falls short of capturing the true nature of educational disparities within an educational system that "creates and sustains racism and racial hierarchies" (Perez-Huber et al., 2006, p. 190). When social categories are considered simultaneously, a more complete picture of educational attainment emerges that illustrates disparities both within and across marginalized groups. For example, 11% of Latinx students (ages 16–24) are classified as high school dropouts, but within the Latinx student population, rates are higher among boys (13%), students born outside of the U.S. (21%), and students from certain countries of origin (e.g., Guatemala at 29%; National Center for Education Statistics, 2019). In fact, the gap in achievement scores between Latinx students who are and are not English Language Learners is *larger* (~42 points) than the gap between Latinx and White students (National Center for Education Statistics, 2019).

Within-group differences may occur because: a) all students hold more than one social identity (e.g., gender, immigrant status, home language, and nationality); and b) identities based on social categories are not equally salient and do not hold the same societal power (Anthias, 2013). Scholarship acknowledging these nuances has been limited but is gaining traction with the influence of theoretical advances

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(e.g., intersectionality theory, Crenshaw, 1989; the integrative developmental model; Coll et al., 1996; Seaton et al., 2018). Social categories like gender and race matter for achievement because they define the social hierarchies that shape opportunities to learn and thrive. Indeed, the U.S. educational system is embedded with racism and privileges whiteness (Huber et al., 2006; Woodson, 2006). Accordingly, the present study considers the diversity of Latinx students in a study of academic achievement across the early lifespan. Specifically, we attend to student gender, race, ethnicity, and home language as we examine two critical junctures in early academic development: entry to formal schooling and 3rd grade. For each subgroup, we also examine school readiness as a predictor of 3rd grade achievement because the experiences of students are expected to differ according to their social identities, with implications for their educational trajectories (O'Connor, 2001).

Literature review

A lifespan perspective of academic achievement

A wealth of data suggests that high school completion is determined by the interplay of student, home and school factors that unfold well before students enter high school. Much attention has focused on engagement and behavior in elementary and middle school and documents clear associations between student characteristics and high school completion (Alexander et al., 2001). For example, behavior problems, test scores, school performance, and grade retention in elementary school have been shown to predict dropout (Brooks-Gunn et al., 1993; Cairns & Cairns, 1994; Hernandez, 2011). But researchers argue that by many accounts, "what are currently considered to be *predictors* may be *midpoint markers* of a lengthy developmental pathway to dropping out" (Jimerson et al., 2000, p. 527, emphasis added), suggesting that the very first years of learning are most critical in shaping lifelong academic trajectories (Entwisle & Alexander, 1993; Farver et al., 2006). This lifespan perspective of achievement emphasizes the cumulative nature of learning, arguing that children who lag behind in the early years face increasing disadvantages for later achievement (Fitzpatrick et al., 2020; Weiland & Yoshikawa, 2013). In other words, long-term academic success depends considerably on the extent to which children enter school ready to learn within the U.S. education system, and the extent to which children are ready to learn depends considerably on the home environment. In the context of social stratification, some Latinx students may start schooling with low school readiness due to limited literacy opportunities at home. Then, those students may progress through school with lower achievement due to inadequate schooling that exacerbates, rather than mitigates, these gaps.

Diversity and social stratification in the Latinx population

At the population level, the high school completion rate for Latinx students is 88%, compared with 92% for non-Latinx Black students and 95% for non-Latinx White students (Musu-Gillette et al., 2017). While somewhat modest, these group differences suggest systemic and epistemic barriers and that not all students in U.S. public schools are being granted the opportunity to fully realize their academic potential, with implications for lifelong wellbeing and physical and mental health (Vega & Calzada, 2022).

The persistent "achievement gap" that disadvantages Latinx students begins with limited opportunities to engage in early home literacy activities and accessible, high-quality preschool, is exacerbated by the lack of high-quality and resourced elementary and secondary schools, and culminates in high school non-completion that limits socioeconomic advancement across generations (Fuller & Coll, 2010). In fact, scholars increasingly recognize that the so-called achievement gap is actually a gap in opportunity (Carter, 2018). Despite these multi-level and system-wide barriers that the Latinx student population face as a whole, differences in Latinx student success can be expected from the perspective of intersectionality theory, which emphasizes that social categories (e.g., race, ethnicity, gender) intersect to determine one's social position within a hierarchical society that favors Whites and

males (Crenshaw, 1989). Similarly, LatCrit centers the multiple identities, or internal diversities, of the Latinx population with the goal of elevating anti-racist consciousness (Valdes, 2014). These theories, both born out of legal scholarship, highlight racialized systems in the U.S. that maintain an unequal distribution of power and resources that privileges whiteness. The implication is that for children who are Latinx (ethnicity), being "white," "brown" or "black" (race) will result in different lived experiences (e.g., discrimination) and, different developmental outcomes.

In the child development field, the integrative developmental model, originally described more than 20 years ago (Coll et al., 1996) and subsequently updated (Seaton et al., 2018), describes how the social stratification variables of gender, ethnicity and race lead to oppression and segregation that define the microsystems (e.g., schools, neighborhoods, health services) within which children are embedded. Indeed, Latinx students are segregated more than any other group when segregation by language as well as race/ethnicity is considered, and this trend has only worsened with time (Fuller et al., 2019). The negative impact of segregation on academic and related outcomes intensifies as students move from elementary to secondary schools (Adair, 2015). Thus, "achievement gaps" may be understood, in large part, as a reflection of the socially-stratified educational experiences of Latinx children.

Latinx academic achievement

There is some empirical support for differences in achievement based on the respective social position of Latinx children. Ethnic group differences (as determined by region/country of origin) have been documented on national test scores and using the Early Childhood Longitudinal Study-Kindergarten Class study. Data from the latter shows that children from Mexican and Central American backgrounds start Kindergarten with lower math and reading test scores relative to Latinx students from other ethnic backgrounds, and these gaps are still visible by the end of 5th grade (Reardon & Galindo, 2009). Reardon and Galindo (2009) further observed that the gap in scores grows for non-Latinx Black students, but narrows for Latinx students, during elementary school. As posited by the authors, these findings suggest that schools may be more effective in helping some students, but not others, catch up (Barac et al., 2014; Halle et al., 2014).

Regarding gender, boys, relative to girls, are at higher risk for academic problems starting with lower levels of school readiness and continuing with lower state test scores in 3rd grade, lower rates of high school graduation, and lower enrollment in higher education (National Center for Education Statistics, 2019). In her ethnographic study of high school students in New York City, N. López (2002) found evidence of a race-gender stigma that contributed to high school drop out in Dominican-origin boys but not girls. Children from Spanish-only homes also face higher risk for academic underachievement. Students with lower levels of English proficiency enter school with fewer academic skills and perform worse on later achievement tests (Reardon & Galindo, 2009). English proficiency skills have been found to mediate the impact of preschool programming on 3rd grade academic achievement in Latinx students, highlighting the role of English language skills for long-term academic success (Ansari et al., 2017). A study with a small sample ($N = 55$) of Latinx bilingual students found that on English - *and* Spanish -language academic tests, boys underperformed girls throughout elementary school, and that the gap widened over time (Lapayese et al., 2014). Collectively, these studies suggest that different achievement outcomes may be expected depending on the intersectional identities of Latinx students.

Entry to school as a critical juncture in academic achievement trajectories

Based on their home experiences and individual characteristics, children enter formal schooling with varying levels of school readiness (Duncan et al., 2007). Broadly defined, school readiness encompasses a child's developmental skills across multiple domains (e.g., physical, motor, sensory, cognitive, speech and language) along with the various home and school environmental factors that support

a child's optimal academic performance (Snow, 2006). Drawing on a robust literature showing that children who start school with more advanced pre-academic and social emotional skills are more likely to achieve academically over time, the present study considers a child's foundational skills in these areas (Duncan et al., 2007). The social-emotional learning (SEL) domain includes skills – such as interacting positively with others and regulating emotions, attention and behavior – that promote on-task behavior and executive functioning (Rhoades et al., 2011). Externalizing behaviors, in contrast, limit engagement in learning activities and reduce positive teacher-student interactions like instruction and feedback on academic tasks (Bulotsky-Shearer et al., 2010). Externalizing behaviors in preschool have been shown to predict lower academic achievement in first grade among Latinx students (Oades-Sese et al., 2011), but as a whole, young Latinx children have high levels of adaptive behavior and low levels of externalizing behavior (Calzada et al., 2012). On the other hand, Latinx children have been shown to enter school with comparatively low levels of pre-academic skills including letter, number and shape recognition (Koury & Votruba-Drzal, 2014). Overall, both of these domains of child-level school readiness – SEL and pre-academic skills – act to facilitate learning (i.e., skill acquisition is sequential) and to shape the classroom environment.

Latinx students with poor school readiness skills may be particularly disadvantaged in the classroom. Studies show that teachers react to students based on characteristics like child (mis)behavior (Coplan et al., 2015), gender (Woods et al., 2016), and race/ethnicity (Neal et al., 2003; Okonofua & Eberhardt, 2015). Consistent with theories of social stratification (e.g., intersectionality theory, integrative developmental model), teachers are more likely to hold negative perceptions and lower expectations of Latinx (and Black) students compared with White students, even as early as preschool (Bryan et al., 2012; Gilliam et al., 2016; Tenenbaum & Ruck, 2007). When Latinx students "act out" (e.g., are disruptive or inattentive), teachers are more likely to react negatively (i.e., relative to the misbehavior of White students; Redding, 2019). Dark-skinned boys, in particular, are perceived by teachers as aggressive, threatening and criminal even at very young ages (Todd et al., 2016). Collectively, these findings align with negative societal views of Blackness. And while the majority of these teachers are White, and fewer than 10% are Latinx (de Brey et al., 2019), even teachers of color have been found to hold anti-Blackness biases (Cherng et al., 2022; Gilliam et al., 2016). Thus, Latinx students overall, and especially male or AfroLatinx students, are given fewer opportunities to enhance their school readiness skills. From a lifespan perspective, if school readiness skills are not promoted in early childhood classrooms, students may face cumulative disadvantages for academic achievement.

Importantly, distinct domains of school readiness (pre-academic, SEL) may have differential predictive associations with achievement for different types of students (Ansari et al., 2017; Quirk et al., 2013, 2016). For example, behavioral functioning in pre-K was found to be more strongly associated with academic functioning in Kindergarten among English-dominant Latinx children relative to Spanish-dominant Latinx children, suggesting a potential protective effect of Spanish language use in the home (Hartman et al., 2017). Another study found evidence of moderation based on gender and specifically, that boys benefited more from an early intervention to enhance literacy and language skills at ages 3–4 when they were in Kindergarten (Borre et al., 2019). As described above, moderation by social categories may be expected because educational experiences are gendered and racialized (N. López, 2002; Rodríguez, 2014). In sum, the extant literature on school readiness suggests that students enter formal schooling with varying levels of school readiness, and have varying experiences in early childhood classrooms that then serve to foster those foundational skills in some students but not others, with implications for academic achievement over time.

The present study

The academic achievement literature documents robust and persistent gaps not only between Latinx and White students but also between Latinx students from different subgroups. These within-group differences have been understudied, however, especially in early childhood and using longitudinal data. In fact, although scholars agree that schooling and educational experiences are closely tied to

race, no study to date has considered early achievement in Afro-Latinx students. This is significant because without attention to the racialized experience of students in schools, the academic achievement literature implicitly reinforces a deficit narrative in which individual student characteristics are the putative causal factors in negative academic outcomes. Thus, the present study draws on the lifespan perspective of achievement and intersectionality theory to investigate three specific questions with a sample of racially diverse Mexican- and Dominican-origin children from Spanish-English or Spanish-only homes.

Our research aims and hypotheses are:

(1) Describe academic readiness and functioning at Pre-K and 3rd Grade in Latinx students, considering differences based on the social position variables of gender, race (i.e., skin color), ethnicity, and home language environment. Specifically, we examine differences in school readiness at Pre-K and achievement in 3rd grade using New York state test scores. Third grade is significant because the "achievement gap" is well-established by then and because 3rd grade proficiency levels are a robust predictor of high school completion (Hernandez, 2011).

Hypothesis 1: Based on national statistics, we expected Latinx boys, dark-skinned Latinx students, Mexican-origin Latinx students, and Latinx students from Spanish-only homes to have lower levels of school readiness and achievement, particularly in reading, relative to their Latinx peers.

(2) Examine whether poor school readiness (across domains: pre-academic, behavioral, and adaptive skills) at PreK predicts 3rd grade achievement outcomes.

Hypothesis 2: Consistent with past studies (Duncan et al., 2007; Fitzpatrick et al., 2020), we expected that the pre-academic domain of school readiness would further predict or exert the most influence on 3rd grade achievement for all Latinx students.

(3) Examine whether the predictive associations between school readiness and achievement outcomes were moderated by gender, race, ethnicity, and home language.

Hypothesis 3: Given that U.S. school environments have been shown to favor girls, light-skinned, and English-speaking students, we expected that school readiness would be less predictive for boys, darker skinned, and Spanish-speaking students because systemic factors likely play a more prominent role in shaping their achievement.

Methods

Participants

Data were drawn from a longitudinal study of the early development of Latinx children conducted in New York City (NYC) public elementary schools with 749 mother-child dyads. The sample was recruited between 2010–2013 from pre-Kindergarten and Kindergarten classrooms and consisted of Dominican-origin (DA) children and Mexican-origin (MA) children.

Due to our interest in the intersection of race (skin color), ethnicity, gender, and home language, the analytic sample was limited to the 683 (91%) children who had complete data on these baseline characteristics. Descriptive statistics are presented by subgroup in Table 1. As a whole, the sample included mothers who were majority foreign-born (93%), with limited English-language proficiency (76%) and limited formal education (75% ≤ high school). Most (73%) mothers reported having poverty status and 58% were Mexican-origin. Half (49%) of the children were boys, most (92%) were U.S.-born and 60% were proficient in English. About half (49%) of the children were classified as

Table 1. Demographic characteristics and study variables by race, sex, ethnicity, and home language.

	Race				Sex			Ethnicity			Home language		
	Honorary white ($n = 272$)	Moderately dark ($n = 334$)	Collective black ($n = 77$)		Boys ($n = 334$)	Girls ($n = 349$)		MA ($n = 395$)	DA ($n = 288$)		Spanish-english ($n = 164$)	Spanish-only ($n = 519$)	
Demographics	M (SD)/%	M (SD)/%	M (SD)/%	χ^2/F (df), p	M (SD)/%	M (SD)/%	χ^2/*t* (df), *p*	M (SD)/%	M (SD)/%	χ^2/*t* (df), *p*	M (SD)/%	M (SD)/%	χ^2/*t* (df), *p*
Child age	4.98 (.55)	4.91 (.58)	4.93 (.60)	1.07 (2), 0.34	4.96 (.57)	4.93 (.57)	.64 (681), 0.53	4.91 (.57)	4.98 (.56)	1.46 (681), 0.15	4.90 (.56)	4.95 (.57)	−1.11 (681), 0.27
Child foreign-born	8.2%	4.0%	21.1%	**25.65** (2), **<0.001**	9.5%	5.9%	3.05 (1), 0.11	2.6%	14.5%	**32.82** (1), **<0.001**	2.5%	9.3%	**8.18** (1), **.004**
Mother's age	33.25 (7.17)	31.91 (6.11)	34.26 (6.88)	**5.38** (2), **0.01**	33.01 (7.04)	32.43 (6.31)	1.13 (671), 0.26	31.62 (5.63)	34.23 (7.66)	**5.09** (671), **<0.001**	31.37 (6.57)	33.14 (6.66)	**−2.98** (671), **0.003**
Mother foreign-born	91.4%	96.4%	84.4%	**15.62** (2), **<0.001**	94.2%	91.9%	1.40 (1), 0.29	98.5%	85.6%	**42.21** (1), **<0.001**	72.4%	99.6%	**141.91** (1), **<0.001**
Years in U.S. (Mother)	11.99 (6.68)	11.72 (5.43)	12.86 (8.55)	0.82 (2), 0.44	11.65 (6.41)	12.22 (6.17)	−1.12 (598), 0.26	11.33 (4.79)	12.95 (8.13)	**3.06** (598), **<0.002**	17.39 (6.71)	10.73 (5.51)	**10.95** (598), **<0.001**
Mother education (≤ high school)	66.3%	88.2%	44.7%	**77.98** (2), **<0.001**	73.7%	75.4%	.26 (1), 0.66	92.1%	50.5%	**150.44** (1), **<0.001**	44.2%	84.2%	**104.85** (1), **<0.001**
Marital Status (Single)	25.1%	18.7%	43.4%	**20.85** (2), **<0.001**	22.8%	25.3%	.58 (1), 0.47	12.9%	39.5%	**63.17** (1), **<0.001**	39.3%	19.2%	**27.24** (1), **<0.001**
Family poverty status	65.1%	81.5%	60.8%	**25.02** (2), **<0.001**	74.1%	71.2%	.65 (1), 0.43	83.3%	58.7%	**48.18** (1), **<0.001**	47.5%	80.7%	**66.41** (1), **<0.001**
School Readiness at School Entry													
Pre-academic skills (at-risk)	28.1%	39.0%	28.6%	**8.68** (2), **0.01**	36.2%	30.8%	2.17 (1), 0.14	40.3%	24.1%	**19.36** (1), **<0.001**	20.9%	37.5%	**15.28** (1), **<0.001**
Pre-academic skills	37.77 (27.46)	29.02 (23.79)	26.87 (3.06)	**9.31** (2), **<.001**	31.95 (25.52)	34.80 (26.39)	−1.42 (671), 0.16	27.30 (22.35)	41.67 (28.22)	**7.37** (671), **<0.001**	42.70 (28.2)	30.44 (24.53)	**5.35** (671), **<0.001**
Adaptive Behavior (M)	50.04 (9.65)	47.42 (9.68)	50.08 (10.14)	**6.18** (2), **0.002**	47.77 (9.92)	49.70 (9.60)	**−2.57** (673), **0.01**	46.47 (9.41)	51.91 (9.45)	**7.39** (673), **<0.001**	51.43 (9.98)	47.91 (9.59)	**4.04** (673), **<0.001**
Behavior Problems (M)	49.91 (8.82)	50.15 (8.55)	52.39 (8.97)	2.54 (2), 0.08	50.61 (8.97)	50.02 (8.49)	.87 (673), 0.39	49.90 (8.54)	50.87 (8.97)	1.42 (673), 0.16	51.33 (8.90)	49.98 (8.65)	1.73 (673), 0.08
Adaptive Behavior (T)	47.55 (9.39)	44.95 (8.80)	45.86 (9.74)	**5.60** (2), **0.004**	45.10 (8.81)	47.12 (9.52)	**−2.77** (624), **0.01**	45.11 (8.92)	47.51 (9.46)	**3.23** (624), **0.001**	47.85 (9.12)	45.60 (9.20)	**2.58** (624), **0.01**
Behavior Problems (T)	47.10 (7.37)	46.09 (6.59)	47.81 (6.45)	2.51 (2), 0.08	47.16 (7.24)	46.20 (6.55)	1.74 (625), 0.08	45.96 (6.47)	47.75 (7.41)	**3.20** (625), **0.001**	48.23 (7.62)	46.23 (6.64)	**3.06** (625), **0.002**
Academic Achievement in 3rd Grade				*Wald* χ^2, *p*			*Wald* χ^2, *p*			*Wald* χ^2, *p*			*Wald* χ^2, *p*
Reading <grade level (risk status)	70.6%	76.6%	74.0%	2.85, 0.09; 0.35, 0.56	78.1%	68.0%	**5.96**, **0.01**	78.0%	68.4%	**7.85**, **0.01**	61.0%	78.0%	**18.30**, **<.001**
Math <grade level (risk status)	65.8%	71.0%	76.6%	1.84, 0.17; 3.19, 0.07	69.9%	71.0%	0.77, 0.38	71.4%	67.0%	1.51, 0.22	64.6%	71.1%	2.45, 0.12
Reading level	2.04 (.86)	1.88 (.82)	2.00 (.74)	**8.50, .004**; 1.75, 0.19	1.85 (.83)	2.04 (.81)	**10.60**, **0.001**	1.87 (.79)	2.06 (.86)	**9.95**, **0.002**	1.88 (.80)	2.18 (.86)	**22.32**, **<0.001**
Math level	2.18 (.98)	2.13 (.98)	2.00 (.90)	1.24, 0.27; 2.54, .011	2.23 (1.02)	2.06 (.93)	1.95, 0.16	2.10 (.95)	2.18 (1.00)	1.67, 0.20	2.10 (.95)	2.24 (1.06)	2.99, 0.08

Note. Poverty is defined as income to need ratio ≤ 1.0. MA=Mexican American; DA=Dominican American. (M)= Mother rating. (T)=Teacher rating. For race/skin color variables, comparisons were made using Honorary White as the reference group (comparing (i) Moderately Dark vs. Honorary White; and (ii) Collective Black vs. Honorary White). For third grade achievement, means (SDs) presented in the table are based on raw data, and group comparisons were based on imputed GEE regression results. Mean values using imputed data were similar to the non-imputed data (not show).

Table 2. Correlates of 3rd grade reading and math achievement.

	Reading		Math	
Covariates	Estimate (SE)	P	Estimate (SE)	P
Mother education (1=≤ high school)	.190 (.272)	.486	.296 (.283)	.299
Family poverty status (1=poor)	.026 (.261)	.921	−.222 (.223)	.321
Child Sex (1=boy)	**-.406 (.206)**	**.051**	.274 (.190)	.151
Race ("Brown")	−.077 (.220)	.726	−.068 (.222)	.759
Race ("Black")	−.595 (.351)	.091	−.712 (.389)	.071
Ethnicity (1=Dominican-origin)	.317 (.279)	.258	.127 (.241)	.597
Home Language (1=Spanish-English)	**.478 (.246)**	**.052**	.114 (.260)	.662

Note. For race variable, the reference group was Honorary White; Brown = Moderately Dark, Black = Collective Black. Achievement outcomes were binary (1 = below or partial proficiency; 0 = proficient or above proficient).

"brown" based on skin color ratings; the remaining children were rated as "white" (40%) or "black" (11%).

Demographic characteristics differed based on race, ethnicity, and home language but not child gender (see Table 1). Most notably, poverty status was highest among children who were brown, had MA mothers, and came from Spanish-only speaking homes. Similarly, maternal educational levels were lowest for children with black skin, MA children, and children from Spanish-only speaking homes.

Measures

All measures were available in Spanish and English, and have been shown in previous work to have adequate psychometric properties (Calzada et al., 2015).

Sociodemographic characteristics at formal school entry

Mothers completed a sociodemographic form upon enrolling in the study that included information on child age and gender, immigrant status (child and mother), maternal education level, household composition, and family income (brought in by any person within the home who shared household expenses with the mother). The family income-to-needs ratio was calculated as total family income divided by the poverty thresholds based on household size. Skin color was measured using a rating scale (Kim & Calzada, 2019) that included a series of twelve shades that were subsequently grouped to create "honorary white," "moderately dark" and "collective black" categories (for ease, we refer to these categories as white, brown, and black). Agreement between observers was acceptable (Cohen's kappa = .61).

Home language

Mother's language competencies in Spanish and English were used to operationalize home language background. Mothers completed the language subscales of the *Abbreviated Multidimensional Acculturation Scale* (AMAS; Zea et al., 2003). Items tap into expressive and receptive language across settings (at home, at work, in public) and contexts (in person, on TV, in writing), and are rated on a 4-point Likert scale anchored in *not at all* (1) to *extremely well* (4). Mothers with a total score above the midpoint (i.e., somewhat well or extremely well) were categorized as proficient in the language.

Academic school readiness

The *Developmental Indicators for the Assessment of Learning*-Third edition (DIAL-3; Mardell-Czudnowski & Goldenberg, 1998) is a researcher-administered test that was used to measure students' academic school readiness. The DIAL, and its abbreviated version, the Speed DIAL used in the present study, assesses motor, conceptual and language development during the preschool period that is considered the foundation for successful academic learning. Sample items include copying (motor), identifying colors (concepts), and letter naming (language). The DIAL has well-established

psychometric properties, includes indicators of potential developmental delays and is available in Spanish and English. On the Speed DIAL, the means in the standardization sample were: 20.0 (6.6) for children ages 4–0 through 4–5; 23.8 (6.0) for children ages 4–6 through 5–0; 27.2 (6.9) for children ages 5–0 through 5–5; and 30.9 (6.0) for children ages 5–6 through 6.

SEL school readiness

The *Behavior Assessment System for Children-2* (BASC-2; Reynolds & Kamphaus, 2004) is a rating form that was used to measure social-emotional and behavioral functioning and has well-established psychometric properties. The BASC-2 has both a parent report form (PRS) and a teacher report form (TRS) and is available in Spanish as well as English. The Spanish form demonstrated adequate psychometric properties with the subsample of 311 Latinx children and adolescents (82 preschoolers) who participated in the standardization study of the BASC-2. In the present study, two composites were used: *adaptive behavior* (i.e., social skills, adaptability, communication) and *externalizing problems* (i.e., aggression, hyperactivity). Parents and teachers rate each item in terms of how often the child has engaged in a behavior during the past 4 weeks on a 4-point scale (0 = *never*; 3 = *almost always*) and T-scores are calculated based on child age ($M = 50$, $SD = 10$).

Math and English language arts achievement (3rd Grade)

The New York State Standardized Tests were used to measure math and reading achievement. Since 2006, all New York public school students have been required to take this test starting in 3rd grade. The tests are administered in English. Students are graded on a scale from 400 to 800 and scores are converted to performance levels: 1 = not meeting learning standards; 2 = partially meeting learning standards; 3 = meeting learning standards; and 4 = meeting learning standards with distinction.

Procedures

All data were drawn from schools that served MA and DA students in NYC. Public elementary schools were approached for partnership in the project if they 1) housed a universal pre-Kindergarten (pre-K) program with at least 2 classes, and 2) had at least 20% Latinx students according to Department of Education (DOE) statistics. The majority (24 of 27) of schools that were approached agreed to participate. At partner schools, Latinx research staff, fluent in Spanish and English, attended parent meetings and were present during daily school drop-off and pick-up times to recruit mothers for the study. Recruitment took place during the initial three-month period of the school year. In the present study subsample, 43% of children were enrolled from pre-K classrooms and 57% from Kindergarten (K) classrooms. Across schools, our recruitment rate averaged 79% (range: 59–98%).

The majority (92%) of teachers consented to the larger study and of those, 93% completed the assessments. There were no differences on demographic characteristics or parent-rated child functioning between children who had teacher ratings and those who did not. Teachers were 94% female and 32% Latinx; 49% non-Latinx white; 11% non-Latinx black; and 6% Asian. On average, they were 38.57 (SD = 11.26) years old and had 8.47 (SD = 7.55) years of teaching experience.

All children were assessed in K, 1st grade and 3rd grade, and children enrolled in pre-K were also assessed in pre-K. Assessments included child testing, mother report, teacher report, and school records. We used the child's *first* assessment (i.e., when they started elementary school, whether in pre-K or K) as baseline data, and the 3rd grade assessment as achievement outcome data.

Analytical approach

Of the 683 children included in the analytic sample, 673 (99%) had child testing data, 675 (99%) had mother-rated data, and 627 (92%) had teacher-rated data at baseline. We were able to obtain school record data of 3rd grade state test scores for 483 (71%) children. To account for missingness, multiple imputations were applied, assuming data were missing at random (Schafer & Graham, 2002). The

imputation made use of the joint distribution of all data across timepoints. Using Markov Chain Monte Carlo simulation, we minimally imputed the sample to achieve monotone missingness. We then sequentially imputed data for each wave using the predictive mean matching method. Ten data sets were imputed using SAS statistical software (SAS Institute Inc., 2011).

We also considered clustering effects before conducting our analyses. Among the 195 teachers who participated, the average number of students rated by each ranged from 1.71 (SD = .97) to 2.09 (SD = 1.68). We calculated design effects—1+ (average group size −1) × intraclass correlation coefficient – and followed established guidelines (Muthén & Muthén, 2010) to determine whether traditional statistical techniques could be employed without concern for bias from the clustered nature of the sampling design. The design effects for teacher-rated variables were all less than 2.0, suggesting that traditional statistical techniques could be used.

To test our conceptual model, Proc GENMOD in SAS was used to exam group differences in 3rd grade achievement by race, ethnicity, gender, and home language, as well as to study predictive associations between baseline school readiness and 3rd grade achievement. We analyzed achievement test scores as both continuous and categorical. To create categories, children who scored a 1 (not meeting standards) or a 2 (partially meeting standards) were rated as *not proficient* and those who scored a 3 (meeting standards) or 4 (meeting standards with distinction) were rated as *proficient*. Our predictors included several indicators of school readiness at baseline: DIAL test scores and mother and teacher ratings of problem behaviors and adaptive behaviors. We controlled for the grade in which the child was enrolled in to the study (pre-K or K), family poverty status, and maternal education. Proc MIANALYZE was used to merge results across 10 imputations. For moderation analyses, we added the moderator and moderator-by-predictor variables into the GENMOD models to test for significant interactions.

Results

Descriptive statistics

Students were assessed at school entry on indicators of school readiness (i.e., the DIAL and the BASC). Over a third (33%) were reported to have at-risk status for pre-academic skills based on DIAL scores. According to mother and teacher reports, about half of students (50% based on parent report, and 47% based on teacher report) were not ready for school at school entry because of behavioral problems. Ratings of adaptive behavior showed that students were in the average range of adaptive behavioral functioning.

Aim 1: describe academic functioning at school entry and at 3rd grade in Latinx students, considering differences based on the social position variables of gender, race (i.e., skin color), ethnicity, and home language environment

In examining patterns of school readiness (see Table 1), applying intersectionality framework, we found that Latinx students' pre-academic skills differed by certain social position variables. Specifically, racially Black (29%), DAs (24%), and children from Spanish-only homes (38%) were more in the at-risk range for insufficient pre-academic skills. We also found that SEL differed across all social position variables on teacher reports of behavior problems. Specifically, teachers reported that male DA students and students from Spanish-only speaking homes were in the at-risk range for behavior problems.

Next we examined achievement in 3rd grade (see Table 2). Hypothesis 1 states that Latinx boys, dark-skinned Latinx students, MA Latinx students, and Latinx students from Spanish-only homes will have lower levels of achievement, particularly in reading, relative to their Latinx peers. To test this hypothesis, we conducted chi-square, t-test or Generalized Estimating Equations (GEE) analyses. Results are presented in Figure 1. At the end of 3rd grade, 72% of all students were *not proficient* in

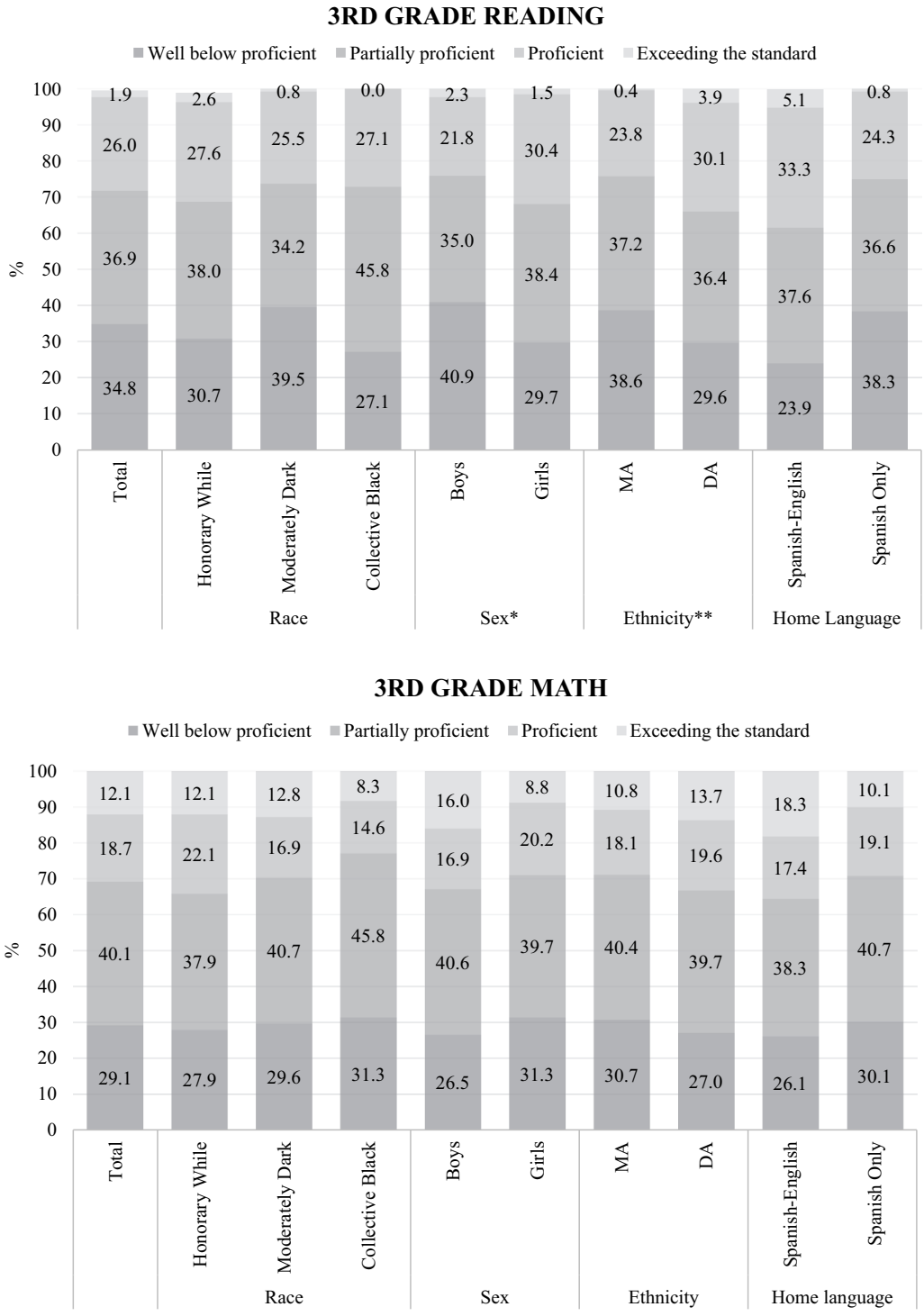


Figure 1. Academic performance in Latinx children by race, sex, ethnicity, and home language. *Note.* There were sex, ethnicity, and home language differences in reading based on the Generalized Estimating Equations (GEE) results (see Table 1). * $p < .05$, ** $p < .01$, *** $p < .001$.

reading, and 70% were *not proficient* in math. Of those, 35% were well below reading proficiency, and 28% were well below math proficiency. Outcomes in reading, but not math, differed by gender, ethnicity, and home language. Specifically, boys (78% vs. 68% for girls), MAs (78% vs. 68% for DAs), and students from Spanish-only homes (78% vs. 61%) were more likely to be below grade level in reading proficiency, confirming our hypothesis. Using the continuous scale, we found that students with "brown" skin color had the lowest reading test scores. However, when we controlled for covariates, only gender and home language differences in reading remained (see Table 3).

To further understand how intersecting social position variables influence academic functioning, we tested the relationship between the number of disadvantaged subgroup membership (i.e., Black, MA, Boy and/or Spanish-only homes) and academic functioning. Students were given a score between 0–4 based on the number of disadvantaged subgroup membership. Using linear regression, we found a significant association between disadvantaged subgroup membership and academic functioning; the higher number of disadvantaged subgroup membership, the worse their academic functioning is. At

Table 3. Predictive associations between school readiness domains and 3rd grade achievement.

	Reading		Math	
Main effects model	Estimate (SE)	P	Estimate (SE)	P
Pre-academic skills	**0.012 (0.001)**	**<.001**	**0.014 (0.002)**	**<.001**
Adaptive Behavior (M)	**0.01 (0.003)**	**0.004**	0.003 (0.004)	0.505
Behavior Problem (M)	**-0.007 (0.003)**	**0.049**	−0.003 (0.004)	0.469
Adaptive Behavior (T)	**0.016 (0.004)**	**0.001**	**0.016 (0.005)**	**0.002**
Behavior Problem (T)	−0.002 (0.005)	0.735	−0.008 (0.006)	0.220
Gender as Moderator				
Pre-academic skills × Sex	0.001 (0.003)	0.688	0.006 (0.003)	0.083
Adaptive Behavior (M) × Sex	0.001 (0.006)	0.850	0.005 (0.008)	0.574
Behavior Problem (M) × Sex	0.001 (0.007)	0.919	−0.000 (0.009)	0.973
Adaptive Behavior (T) × Sex	−0.005 (0.008)	0.556	−0.014 (0.009)	0.120
Behavior Problem (T) × Sex	0.006 (0.01)	0.497	−0.005 (0.011)	0.652
Ethnicity as Moderator				
Pre-academic skills × Ethnicity	0.001 (0.003)	0.624	−0.001 (0.003)	0.825
Adaptive Behavior (M) × Ethnicity	−0.007 (0.007)	0.299	−0.012 (0.009)	0.149
Behavior Problem (M) × Ethnicity	−0.003 (0.007)	0.613	−0.006 (0.009)	0.498
Adaptive Behavior (T) × Ethnicity	−0.002 (0.008)	0.792	0.000 (0.01)	0.974
Behavior Problem (T) × Ethnicity	−0.002 (0.011)	0.880	−0.001 (0.012)	0.945
Home Language as Moderator				
Pre-academic skills × Spanish-English	−0.001 (0.003)	0.705	0.000 (0.004)	0.986
Adaptive Behavior (M) × Spanish-English	−0.004 (0.008)	0.622	0.004 (0.009)	0.685
Behavior Problem (M) × Spanish-English	−0.005 (0.008)	0.569	−0.007 (0.011)	0.503
Adaptive Behavior (T) × Spanish-English	0.01 (0.009)	0.268	0.003 (0.011)	0.787
Behavior Problem (T) × Spanish-English	0.003 (0.011)	0.766	−0.005 (0.013)	0.714
Race as Moderator				
Pre-academic skills × Brown	0.001 (0.003)	0.735	0.005 (0.004)	0.188
Pre-academic skills × Black	−0.007 (0.004)	0.106	−0.002 (0.005)	0.729
Adaptive Behavior (M) × Brown	0.012 (0.007)	0.075	0.004 (0.008)	0.617
Adaptive Behavior (M) × Black	0.001 (0.011)	0.916	−0.004 (0.014)	0.746
Behavior Problem (M) × Brown	0.011 (0.008)	0.151	0.015 (0.009)	0.091
Behavior Problem (M) × Black	0.006 (0.011)	0.625	0.015 (0.014)	0.282
Adaptive Behavior (T) × Brown	−0.012 (0.009)	0.190	−0.016 (0.01)	0.102
Adaptive Behavior (T) × Black	−0.008 (0.012)	0.497	−0.017 (0.016)	0.292
Behavior Problem (T) × Brown	0.005 (0.01)	0.658	−0.018 (0.012)	0.150
Behavior Problem (T) × Black	−0.003 (0.018)	0.888	−0.012 (0.022)	0.595

Note. Results based on imputed data. (M) = mother-report, (T) = teacher-report. Achievement outcomes were binary (1 = below or partial proficiency; 0 = proficient or above proficiency). Predictors at school entry were continuous variables (centered at the mean). Analyses controlled for time enrolled the study, poverty status, and mother education. For race variable, the reference group was Honorary White; Brown = Moderately Dark, Black = Collective Black.

Pre-K, for every number increase in disadvantaged subgroup membership, there would be 6.57% decrease (SE = .87) on pre-academic skills (DIAL) ($t = -7.59$, $p < .001$); and 1.62 points (SE = .32) T score decrease on teacher and 2.36 points (SE = .32) T score decrease on parent rated adaptive skills ($t = -5.03$, $t = -7.28$, ps < .001, respectively). Similarly, at 3rd grade, for every number increase in disadvantaged subgroup membership, there would be .16 (SE = .33) level decrease on reading ($t = 4.71$, $p < .001$).

We also compared Latino boys with darker skin (brown or black) from MA and Spanish -only homes (i.e., students with membership to all four disadvantaged subgroups) with the rest of participants. We found that Latinx students with membership to all four disadvantaged subgroups had lower academic functioning (at PreK and 3rd grade): PreK (DIAL M(SD) = 25.15 (22.57) vs 35.07 (26.40); adaptive skills (P) = 45.46 (10.10) vs 49.48 (9.59); adaptive skills (T) = 43.18 (7.94) vs. 46.79 (9.37), ps < .001). They also have lower 3rd grade academic functioning than the rest of participants: (Reading M(SD) = 1.69 (.76) vs. 2.01 (.83), $p = .001$).

Aim 2: examine whether poor school readiness (across domains: pre-academic, behavioral, and adaptive skills) predicts poor 3rd grade achievement outcomes

We conducted Proc GENMOD in SAS to test our hypothesis that the pre-academic domain of school readiness would exert the most influence on early achievement. Results confirmed our hypothesis in that school readiness was a significant predictor of 3rd grade achievement outcomes for all students. We found that the lower DIAL, mother-reported behavior problems, and mother-reported lower adaptive behavior were all prospectively associated with poor reading in 3rd grade. For math achievement, only the DIAL and teacher-rated adaptive behaviors were significant predictors. Results are shown in Table 3 (the main effect model).

Aim 3: examine whether the predictive associations between school readiness and achievement outcomes were moderated by gender, race, ethnicity, or home language

We hypothesized that school readiness would be less predictive for boys, dark-skinned and Spanish-speaking students because systemic factors likely play a more prominent role in shaping their achievement. To test this hypothesis, we added the moderator and moderator-by-predictor variables into the GENMOD models to examine whether the association between school readiness and 3rd grade achievement outcomes were moderated by gender, race, ethnicity, and home language. After adjusting for covariates, we found no significant moderation effects, indicating the predictive association patterns held across subgroups of gender, race, ethnicity, or home language. As there were no significant differences between subgroups, Hypothesis 3 was rejected. For Latinx students, poor school readiness at school entry remained to be predictive of poor 3rd grade achievement outcomes regardless of other intersecting social position variable(s).

Discussion

The present study applied a lifespan perspective to enhance understanding of the "achievement gap" observed in the Latinx student population in elementary school by examining potential differences according to intersecting social identities (Valdes, 2014). A focus on within-group differences is important because it moves away from homogeneous depictions of Latinx students that obscure nuances in social position and instead acknowledges students' experiences in the U.S. education system as racialized and gendered (Rodríguez, 2014). In comparing Latinx students based on race (skin color), gender, ethnicity, and home language background, we found significant group differences in 3rd grade reading, but not math. Specifically, in our Latinx sample, brown-skinned students, boys, Mexican-origin (MA; relative to Dominican-origin/DA) students, and students from Spanish-only homes were significantly

less likely to be reading at grade level, and differences based on gender and home language remained even after controlling for confounding variables (e.g., maternal education, family poverty status).

The literature on race-based stereotype threat shows that when children are aware/made aware of negative stereotypes regarding intellectual or academic ability, their performance is negatively affected (Wasserberg, 2014). Studies show that Latinx students primed to negative stereotypes perform worse on cognitive and academic tests than Latinx students who are not primed, and that this phenomenon may be observed in children as young as 6 years old (McKown & Weinstein, 2003). Conversely, when Latinx students are given the opportunity to complete self-affirming exercises such as writing about their core values (e.g., moral, personal, religious), they are able to strengthen their self-concept, mitigating the adverse impact of stereotype threat and increasing academic achievement (Sherman et al., 2013). However, teachers may (implicitly or explicitly) reinforce stereotype threat when they hold lower expectations of achievement for students of color compared to white students (Tenenbaum & Ruck, 2007). These attitudes are reflected in teacher behaviors: students of color are significantly less likely to be praised and receive quality instruction, more likely to be punished, and more likely to receive exclusionary discipline, such as suspension and expulsion, in their classrooms and schools (Cherng et al., 2022; Noltemeyer & Mcloughlin, 2010). Similar processes may be observed based on other social identities, including gender and home language (Hartley & Sutton, 2013). Finally, the literature suggests that most teachers of Latinx students do not engage in culturally responsive pedagogy, even though culturally-responsive practices in the classroom enhance learning (Castro & Calzada, 2021; Valenzuela, 1999). Drawing on Latinx students' funds of knowledge (Gonzalez et al., 1995) can be used to facilitate self-affirmation. This culturally-responsive strategy calls for educators to draw from Latinx students' life experiences, culturally-developed skills (i.e., home language), and socialization practices, and has been associated with positive learning outcomes (e.g., Rios-Aguilar, 2010; Volman & 't Gilde, 2021). Collectively, these affirming strategies represent an approach to ensuring more equitable access to quality education, thereby addressing gaps in opportunity for supporting the learning of Latinx students.

Our finding that MA are at higher risk for poorer academic functioning than DA adds to the nascent literature about academic functioning and the pan-Latinx population. This result might stem from differing immigration and settlement patterns between the two groups. For example, New York City (NYC) has traditionally been a receiving community for DAs while MAs have traditionally immigrated to the Southwest and California. As such, DAs have had a longer history in NYC compared to MAs, and thus have had more time to acculturate to NYC culture. DAs relative to MAs in NYC have higher income, more years of formal education, and increased employment opportunities (Yoshikawa, 2011). Parents' acculturation is associated with children's developmental outcomes (Calzada et al., 2009) and our results suggest that this relationship is also true for the students in our study.

The higher risk for underachievement among boys is consistent with the extant literature. On the whole, girls outperform boys academically across subjects (e.g., mathematics, reading) and countries (United States included; Organisation for Economic Cooperation and Development, 2014). This pattern may be tied to current pedagogical practices, which appear to be less congruent with the learning style of boys. For example, many classrooms are designed to have students remain sedentary as teachers provide verbal instruction, disadvantaging male students who prefer more active, self-directed activities that incorporate spatial skills and games (Saenz & Ponjuan, 2009). Additionally, boys are seen, and they see themselves, as academically inferior to girls; in an experimental study with elementary school-aged children, Hartley and Sutton (2013) showed that boys performed worse on math, reading and writing exercises when primed to gender stereotypes, whereas the performance of girls was unaffected. In other words, children's social identities shape their own and others' views of their abilities, with implications for their educational experiences and academic performance. More

responsive pedagogy could address the opportunity gap by creating learning conditions that are more congruent with and promote the strengths' of marginalized students, particularly those of Latinx boys.

Consistent with intersectionality theory, the extant literature also documents biases at the *intersection* of social identities. For example, recent research shows that children as young as 4 years old respond less positively to Black boys than to Black girls, White boys or White girls, and that this bias is held more strongly by boys (Perszyk et al., 2019). These negative views appear to generalize to intellectual ability, as children and adults alike view Black women as intellectually superior over Black men (Jaxon et al., 2019). The ethnographic work of Waters (1999) showed that Black students who identified more with their immigrant status (e.g., with the West Indian immigrant community) tended to work hard in school for the sake of upward assimilation of their families, whereas Black students who identified more with their racial group (e.g., with the African American community) tended to be less engaged academically. Thus, in the present study, Latinx boys may have been multiply-marginalized such that stereotype threat was magnified and their academic achievement undermined. Patterns of academic outcomes from the extant literature provide evidence of this notion; while girls outperform boys in 3rd grade reading and math across all racial/ethnic groups, gender differences are larger among Latinx and Black students relative to White students (Roy, 2017).

The other group difference we observed was related to home language background, indicating greater risk for academic underachievement in reading among Latinx children who had limited exposure to English in the home. Our findings corroborate the large literature base indicating that the academic achievement of English Language Learner (ELL) students lags behind that of their non-ELL peers at all socioeconomic levels, whether social class is measured by parent education, family income, parent occupation, or a combination of these factors (García & Frede, 2010). This achievement gap corresponds to the opportunity gap, or the lack of quality supports for Latinx children to develop fluency in both their home language and English. Indeed, restrictive language policies and a lack of training for teachers working with English learners pose significant barriers to ELL education (Gándara & Hopkins, 2010). As a result, educators may perceive Latinx children's simultaneous English and Spanish learning as a problem rather than a developing skill or an asset, and as noted above, teacher perceptions shape teacher-student interactions and student learning.

While our study findings support the idea that the intersecting identities of Latinx students uniquely shape their educational experiences and academic outcomes, it is noteworthy that across all identities, the rates of underachievement were high, averaging 72% for 3rd grade reading and 70% for 3rd grade math. New York city-wide data from 2013–2017, when participants in the present study were in 3rd grade, were the same: 75% of Latinx students were not proficient in reading and 72% were not proficient in math (Department of Education, n.d.). Likewise, a report based on National Assessment of Educational Progress test scores found that 83% of Latinx students were below grade level in reading by 4th grade. Even Latinx students from middle-to high-income homes were at high risk, with 72% scoring below grade level (The Annie E. Casey Foundation, 2010). Such findings implicate system-level inadequacies in educating Latinx students, at least in the public school system. We echo the call of other scholars (e.g., Zambrana, 2011) to shift the focus of studies on the "achievement gap" away from the "failure" of Latinx students and toward the failure of the education system to meet the needs and nurture the potential of Latinx students (i.e., the miseducation of students of color).

At the same time, our study findings are consistent with the school readiness literature by showing that children's individual pre-academic and socioemotional (behavioral, adaptive) skills when they start formal schooling as pre-K or Kindergarten students predict reading and math at the end of 3rd grade. These associations were not moderated by social identity, suggesting that school readiness is a robust predictor of achievement across the diverse Latinx student population. The early home environment serves as a critical setting for building foundational skills for learning, and homes with limited resources may be less equipped to meet the cognitive developmental needs of young children (Tamis-LeMonda et al., 2019).

In our sample, about 1 in 3 children entered school with below average pre-academic skills but notably, most experienced academic gains in pre-K and Kindergarten so that by the end of 1st grade, *more than 80% were at grade level* on standardized achievement tests (Kim & Calzada, 2019). Considering current study findings, however, it appears that the benefits of early schooling and "catching up" on foundational academic skills then leveled off or even eroded by 3rd grade, when *more than 70% were below grade level*. Reardon and Galindo (2009) observed a similar pattern using national data; the White-Latinx achievement gap narrowed sharply (but did not close) in Kindergarten and 1st grade and then leveled off or started to widen again. Quirk et al. (2013, 2016) documented that even among Latinx students with above average achievement in 1st grade, scores decreased steadily as they moved through elementary school. In the same vein, the intervention literature shows that the benefits of early academic enrichment are sustained for students of color only when later educational experiences are also nurturing and effective (Bailey et al., 2017). Thus, research suggests that although school readiness is a significant predictor of long-term academic achievement (Tamis-LeMonda et al., 2019), it does not necessarily offset the systemic barriers faced by Latinx students in the U.S. education system.

Conclusion

Research suggests that there is an association between students' social identities and their learning experiences (Nasir & Hand, 2006). In line with this idea, the present study examined Latinx school readiness and 3rd grade student achievement, considering differences based on social categories of gender, race, ethnicity, and home language. Results show that 74% of Latinx children were not proficient in 3rd grade reading, with boys and children from Spanish-only homes less likely to be at grade level. School readiness predicted achievement for all groups. On the whole, Latinx students, and especially boys and non-English speakers, appear to be marginalized in public education systems.

Limitations

There are a number of limitations that should be considered in interpreting the present study findings. As previously noted, the ecological niche and educational experiences of a child are defined by the totality of their intersecting identities, and intersectionality theory itself emerged as a caution against simplified notions of social identity and position. But full consideration of intersecting identities in quantitative studies is challenging because quantitative measures and statistical methods (including the ones used for this study) were not developed to consider intersectionality. Consequently, the interpretation of our results is limited to additive effects, as in "double jeopardy" effects (e.g., Beal, 1970). For example, a darker skinned Latinx student from a Spanish-only home could experience racism and anti-bilingualism in an additive manner. Our results are also limited in that identity intersections are represented by interaction terms, which may not truly capture the complex lived experiences of people who hold these intersecting social identities (Bowleg, 2008). Additionally, our sample size was only able to account for two intersecting identities in our analyses (Cole, 2009). Furthermore, some social identities are confounded. For example, no MA participants in our sample were rated as racially black, limiting our understanding of the intersection of race and ethnicity in Mexican- and DA Latinx children to those who are "white" and "brown." At least 60% of Latinx in New York City originate from AfroLatinx countries like the Dominican Republic, Puerto Rico, and Venezuela (Cordero-Guzmán, 2019), but only children of DA were represented in our study. Moreover, colorism, or the privileging of physical characteristics associated with proximity to whiteness, has been linked to various educational outcomes amongst Latinx students (Hunter, 2007) but was not examined in the present study. Future studies to explore how colorism shapes the educational experiences and achievement of Latinx students starting in early childhood may provide insights into how early experiences influence later academic and career outcomes. Other identities were not

captured (e.g., documentation status). Given these complexities, results based on two ethnic categories certainly present a simplified view of academic achievement among Latinx students.

Furthermore, results from our study should be considered with caution in terms of being reductionist about privilege. For example, even though white skin registers privilege compared to black or brown skin, coming from an English-speaking home registers privilege compared to coming from a Spanish-speaking home, and being female registers privilege compared to being male, it is overly simplistic to conclude that the experience of a light-skinned boy from a Spanish-speaking home, for example, is less profound than that of a dark-skinned boy from a Spanish-speaking home simply because he has one source of privilege (white skin) over his peer. Rather, we must be mindful that this specific intersection of social categories (i.e., race and home language) represents a unique but incomplete picture of students' experiences with power and privilege (King, 1988). More research, with large and diverse Latinx samples, including students in private or suburban/rural schools) is needed to get a better understanding of how student social identity shapes educational experiences and outcomes. Lastly, we recognize the dynamic landscape of educational policy and how shifting practices and priorities (e.g., reducing expulsion rates; prohibiting the teaching of critical race theory) may influence the experiences of Latinx students in the classroom.

Summary and implications

An intersectional lens allows education researchers to: (a) provide a more accurate representation of diversity; (b) illuminate the narratives of students who are most at the margins; (c) increase knowledge on how converging identities add to inequality; and (d) reject simultaneous promotion and preservation of inequality (Museus & Griffin, 2011). The present study findings are significant in addressing issues of heterogeneity and intersectionality in achievement, especially considering that these sources of diversity are often overlooked in developmental research. We found that Latinx children on the whole are at high risk for underachievement in ways that implicate systemic issues such as race- and language-based discrimination. Given that almost 14 million students (27%) enrolled in public elementary and secondary schools are Latinx (U.S. Department of Education, National Center for Education Statistics, Common Core of Data CCD, 2020), systemic change is critical. Systemic changes will require the commitment of educators and policy makers at all levels to dismantle the ways in which Latinx children are marginalized and oppressed in U.S. public schools. For example, schools can adopt culturally responsive pedagogy as a means to empower and liberate Latinx students (Gay, 2010). In a recent synthesis of the literature on culturally-responsive mathematics instruction, Abdulrahim and Orosco (2020) found that these practices emphasized students' cultural identity, instructional engagement, educator reflection, high expectations, student critical thinking, social justice, and collaboration. Conceptually, curricula that validates students' lived experiences may boost their ethnic identity, which has been shown to mitigate stereotype threat (Graham & Hudley, 2014) and support better mental health and academic performance (Rivas-Drake et al., 2014). Including parents as partners in their child's education is also a promising approach (Jeynes, 2017); for example, an intervention with components for parents, teachers, and children designed to strengthen parenting, classroom quality, and child self-regulation was found to positively impact academic trajectories (Brotman et al., 2013; Dawson McClure et al., 2015).

High-quality efforts to support early childhood programs and bilingualism should also be prioritized in schools given the benefits for children's cognitive development and academic achievement (Bialystok et al., 2012; Smith, 2020; Torres-Guzmán, 2007). To be most successful, these initiatives will require training a diverse workforce, ensuring accessibility to families from all socioeconomic backgrounds, and collaboration with parents and other community members (Smith, 2020). With these types of commitments, the field will undoubtedly be better positioned to provide a high-quality education to the Latinx student population, with the greatest impacts for Latinx students who hold the most marginalized social identities.

Disclosure statement

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