*Feature Article*

# Factors Associated With Gifted Identification for Ethnically Diverse Children in Poverty

Gifted Child Quarterly
1–16

DOI: 10.1177/0016986220937685
journals.sagepub.com/home/gcq
SAGE

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**Abstract**

We analyzed data from a large-scale ($N$ = 39,213), longitudinal study of urban students to assess child factors (gender, ethnicity, English language learner status, school readiness skills, type of pre-K attended, early elementary school academic performance) prospectively associated with eventual gifted identification in elementary school. Overall, 14.2% of students were identified as gifted in K-5th grade, with the majority identified by second grade. Multivariate logistic regression analyses revealed that White and Latino students were more likely to be identified as gifted than Black students, even controlling for poverty and early academic performance. English language learners, boys, and those who attended public school pre-K programs were more likely to be identified controlling for other factors. School readiness assessments were also useful for predicting giftedness.

**Keywords**

achievement gap, diversity, excellence gap, gifted identification

Gifted individuals are those who show evidence of high achievement or capability in areas such as intellectual, creative, artistic, or leadership capacity and who need services and activities not ordinarily provided by the school in order to fully develop those abilities (National Association for Gifted children [NAGC], n.d.). Robust evidence shows that there are income- and race-based disparities in gifted identification nationwide in the United States (Peters et al., 2019). The current study examines how numerous demographic factors, school readiness skills at school entry, type of preschool attendance at age 4, and early school performance are related to later gifted identification in elementary school for a large, ethnically diverse sample of students from low-income homes in an urban, majority–minority community. Understanding the role that such factors can play in eventual gifted identification for resilient students may help identify potential areas for intervention to increase early access to gifted programming for historically underrepresented groups.

Subotnik et al. (2011) highlight the detrimental effects that result from education that does not challenge gifted learners, stating that if they do not get special services, they often fail to achieve at all, despite initial potential. As such, it is important to identify gifted students as soon as possible in order to provide them with the necessary, appropriate instruction (Henfield et al., 2016). NAGC specifies the *typical* gifted identification process as having, first, a nomination phase, followed by a screening phase, and then a placement phase (NAGC, 2015, 2018), although the specifics of this process vary widely at the state and district level.

Nominations are commonly done by teachers; however, parent, administrator, and even self-nominations are sometimes options depending on the school district. Teacher nomination is intrinsically complicated. Teachers can provide a more holistic perspective than testing alone; however, teacher reports are inherently subjective and can be based on implicit or explicit bias and general feelings and preferences, for good or for bad (Jackson, 2013; Pfeiffer et al., 2008). Screening nearly always includes standardized tests, IQ tests, and/or a review of student work (Pfeiffer et al., 2008). Though reliance on IQ scores for identification has been questioned for over 40 years (Coleman & Shah-Coltrane, 2015) and remains questioned today (Hodges et al., 2018), this remains standard practice in gifted identification (Luria et al., 2016; Piske et al., 2016). Numerous researchers are concerned that access to gifted programs across the nation is not equal (Carman, 2013; Ecker-Lyster & Niileksela, 2017; Steenbergen-Hu & Olszewski-Kubilius, 2016; Wright et al., 2017). There are several barriers to selection into gifted education programs for members of certain underrepresented

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groups based on socioeconomic status (SES), race/ethnicity, home language, and sometimes gender (Olszewski-Kubilius, 2003; Peters et al., 2019).

### Socioeconomic Status

Children in poverty are less likely to be identified for gifted and talented education (Card & Giuliano, 2016; Wright & Ford, 2017). The highest income group produces 47% of those identified as gifted, and the lowest income group produces 9% of the students identified as being gifted and talented (Hodgkinson, 2006). Grissom et al. (2019) used a nationally representative data set to show that SES differences persisted even controlling for academic achievement among those in the same schools. Multiple ideas have been provided for why poverty has a strong impact on gifted and talented student identification including (a) limited access to resources to build foundational skills, (b) victim-blaming or identifying a culture of poverty in which poor students and families are seen as at fault for their poverty and lack of achievement, (c) overrepresentation of poor children in special education caused by higher rates of disability and poorer health care, and (d) the social and cultural context of the child and school (Burney & Beilke, 2008).

Limited access to resources can be more broadly conceptualized as differences in one's opportunity to learn based on SES. This opportunity gap refers to differences in resources such as housing, neighborhood safety, human capital, and in- and out-of-school enrichment experiences that often result in achievement differences (Carter & Welner, 2013). Poverty affects student's health, stress levels, access to high-quality schools and teachers, options for academic enrichment beyond the school setting and access to mentors with institutional knowledge (Olszewski-Kubilius & Corwith, 2017). These differences in opportunity may explain a large portion of the differences seen in standardized test scores along income and racial/ethnic lines (Peters & Engerrand, 2016; Plucker & Peters, 2018). When students face teacher bias (Nicholson-Crotty et al., 2016), decreased access to educational activities (Reardon & Portilla, 2016), and overall differential access to social and physical resources (Olszewski-Kubilius & Corwith, 2017), very high academic achievement becomes harder to obtain.

### Race/Ethnicity

In a perfectly equitable world, if race/ethnicity were not strongly confounded historically and currently with poverty and opportunity in the United States and if there were no neighborhood/school segregation, and no systemic racism, the proportion of gifted student representation would theoretically match population profiles (Goings & Ford, 2017).[1] Overall, 9% of children are identified as gifted nationwide in schools (Snyder & Dillow, 2012). Statistics from the National Center for Education Statistics (NCES) show that Black children account for 17% of the overall population of school children, but only 3.6% of students identified as gifted. Although 54.1% and 5.1% of the general population of students are White and Asian, respectively, the gifted population is 67.7% White and 9.4% Asian. Similarly, Latinx children are also underrepresented in gifted education programs (Vega & Moore, 2016). Although the number of students identified as Latinx in pre-K through 12th grade is 24% of the population, only 4.2% were identified as gifted in 2006 nationwide (NCES, 2010). These statistics suggest that there are numerous factors that impact the presence of Black and Latinx children in gifted programs. Importantly, many studies still demonstrate differences in gifted identification along racial lines, even after controlling for income (Burney & Beilke, 2008; McBee, 2006). This raises the question of how racial bias might contribute both to differences in opportunities to learn and to students of color being underrepresented in gifted educational programs.

Some of the identification disparity may be due to biases in the recommendation process. Relying on teacher referral for gifted screening typically results in underidentifying gifted students of color (McBee et al., 2016; Pfeiffer et al., 2008). In contrast, Card and Giuliano (2016) found that the use of universal screening rather than screening based on teacher recommendation leads to a 45% increase in the odds of being identified as gifted. Teachers can be influenced by racial stereotypes and biases that hinder the student–teacher relationship and lead to lower expectations for minority students (Ferguson 2003; Meissel et al., 2017; Shaunessy et al., 2007; Taylor et al., 2001; Tenenbaum & Ruck, 2007). Even when holding demographic factors including income, schools, and classrooms constant, Black students were roughly three times less likely to be referred to gifted programs by non-Black teachers than by Black teachers (Grissom & Redding, 2016). The current study examines within a largely Latinx and Black sample (and community) from predominantly low-income backgrounds a variety of different variables associated with gifted identification and also explores how ethnicity interacts with other factors to influence identification.

### Gender

Gender has historically been an issue in the identification of gifted students. Though many states now show equal representation of males and females in gifted and talented education programs nationally (NCES, 2010), there is evidence of continued disparities in specific instances. For example, teacher recommendation may still be biased. Bianco et al. (2011) showed that teachers are less likely to refer fictional female students for gifted educational programs than their fictional male counterparts with the same descriptions ($d = 0.81$). Correspondingly, in a meta-analysis, Petersen (2013) showed that although gender differences in gifted identification were generally small (average odds ratio [*OR*] of 1.19 or 19% in

favor of males), they were most common when standardized IQ or achievement tests were used for identification ($OR$ = 1.24 or 24% in favor of males). Furthermore, some studies still show differences based on gender in regard to subject specific areas of education—such as math where boys outperform girls across elementary and middle school with effect sizes ranging from 0.22 to 0.30 (Robinson & Lubienski, 2011). Though effect sizes for gender may seem small, they are more pronounced among the top 90th percentile of students studied, suggesting that gender-based gaps in gifted education may still be present (Robinson & Lubienski, 2011). Furthermore, given that two of the most common methods of identification have been linked to preferential identification of males (IQ tests and teacher recommendation), we have chosen to include gender in our analyses.

## Pre-K Programs and School Readiness

There is considerable evidence that high-quality preschool or prekindergarten programs can elevate students' school readiness skills which in turn make them more prepared to succeed in academic settings (Ansari et al., 2017; Auger et al., 2014; Gormley et al., 2008; Keys et al., 2013; Weiland & Yoshikawa, 2013; Winsler et al., 2008). School readiness, the idea that students have acquired the necessary skills prior to kindergarten to make a successful transition to primary school, is often measured through cognitive, language, motor, and behavioral skills (Reardon & Portilla, 2016). However, despite evidence that it can boost key readiness skills, access to high-quality preschool is not distributed evenly (Bassok, 2010). For students who have limited access to enriching home environments and materials that scaffold early school foundations, preschool can play a pivotal role in later student success. Indeed, one study that specifically examined Black boys (Winsler et al., 2013) found that attending public school pre-K programs (compared with center-based child care in the community) at age 4 increased the likelihood of boys receiving gifted identification by 5th grade by 41%, controlling for other demographic and child variables. Looking at the relationship between preschool type and gifted identification within the current diverse sample can highlight how opportunity gaps in a child's first years may alter their achievement potential and, in turn, how increasing access to high-quality pre-K might increase opportunity for marginalized students.

## English Language Learner (ELL) Status

The role of ELL status has not been widely explored in studies of gifted identification relative to other demographic variables. ELLs, linguistically and culturally diverse students who speak a language other than English at home, are less likely to be identified as gifted (Shaunessy et al., 2007). Some students may be overlooked for gifted and talented programs if teachers and administrators believe that supreme command of English is a prerequisite (U.S. Department of Education, 1998). This underrepresentation could also result from the use of nonverbal tests as a way to identify nonnative English speakers. Though this is a commonly utilized option, Lohman et al. (2008) found that when using nonverbal tests, ELL students scored lower on the cognitive abilities test (CogAT) nonverbal ($d$ = 0.58), the Naglieri nonverbal ability test ($d$ = 0.59), and the Raven Standard Progressive Matrices ($d$ = 0.52) than their native English-speaking peers. Outside of the literature around testing, ELL status is not commonly included in explorations of gifted identification. We add to the literature by examining the extent to which ELL status is related to gifted identification.

## The Current Study

The current study identifies multiple child-level factors associated with student gifted educational placement in elementary school (K-G5). These factors include commonly explored demographic variables associated with gifted identification, such as SES, race/ethnicity, and gender, along with less commonly explored early child and schooling factors like ELL status, school readiness skills, and preschool type. Many school systems use one or more school readiness assessments on entry to kindergarten. Little is known about how children's performance on such early administrative readiness assessments are related to later gifted identification. We examine the extent to which such early assessments (and state-wide assessments given in later grades) are useful in potential identification of student gifted status or as an opportunity for intervention. The inclusion of each of these factors together allows for a unique look at what characteristics and skills are related to increased odds of gifted identification and presents an opportunity for better understanding and intervening on behalf of those traditionally underrepresented in gifted programming. This study responds to calls for more prospective longitudinal studies on the many predictors of children's entry into gifted programs and the capacity to include students who may be "off track" in their academic trajectory due to being retained or to skipping a grade (Winsler et al., 2013).

The following research questions are addressed:

**Research Question 1:** What proportion of our sample of ethnically diverse children from low-income homes is identified for gifted educational programs, and when do they get identified?

**Research Question 2:** What are the *child* (ethnicity, gender, cognitive, language, motor, social and behavioral skills in preschool, ELL status, and early elementary school performance) and *school* (preschool type—center-based, family child care, public school pre-K) predictors of entry in gifted education programs, and are differences in the odds of gifted identification for students of different ethnic backgrounds still present after controlling for

poverty status and children's school readiness and early academic performance?

**Research Question 3:** Do key predictors interact to influence the odds of gifted identification?

Given the widely documented national disparities in gifted identification, we expected to see a higher proportion of White/Asian students being identified for gifted services than Latinx or Black students. We also expected to see factors such as early school readiness skills and social emotional skills relating to increased odds of gifted enrollment for all students based on their relationship to improved academic outcomes in the general population (Davies et al., 2016; Quirk et al., 2013). Finally, given the interwoven nature of wealth, race, and opportunity in the United States (Goings & Ford, 2017), we expected to see numerous key factors interacting to predict odds of gifted identification.

## Method

### *Participants*

Participants included 39,213 students who attended either a public school pre-K program or community-based child care with the assistance of subsidies at age 4 in the years 2002 to 2006 and then continued in the academic years 2003 to 2013 in a large urban school district in the southeastern United States. To be included in this study, students must have appeared in the public school system and had data for at least 1 year in kindergarten through Grade 5. During their pre-K year, 60.6% of the children attended a public school pre-K program (70.1% at a Title 1, high-poverty school where the pre-K program was free, and 29.9% who paid a fee for public school pre-K), and the other 30.5% received subsidies for low-income families to attend center-based or family-based child care in the community.

Parents identified the ethnicity/race of the children as Black ($n$ = 14,145, 36.1%), Latinx ($n$ = 23,059, 58.8%), or White/Asian/other ($n$ = 2,905, 7.4%) according to school records.[2] A slight majority were males ($n$ = 20,973, 53.5%). The majority of the children lived in poverty or near poverty, indicated by their qualification for free or reduced-price lunch (FRL) in kindergarten ($n$ = 28,311, 72.2%). Furthermore, 53.2% ($n$ = 20,870) of the students were ELLs on the basis of a non-English language reportedly being used at home at school entry. A small number of students skipped a grade sometime in elementary school ($n$ = 190, 0.5%), and some students were retained (repeated a grade) in elementary school ($n$ = 5,849, 14.9%).

The larger university–community partnership project, from where the data come and through which the sample was originally recruited, involves children who attended three types of preschool experiences at age 4—those who received subsidies for low-income families to attend community-based child care in the form of either family child care programs or center-based care and those who attended public school pre-K programs. Family child care represents those who were cared for by a nonrelative in the caretaker's home. In contrast, center-based care involved children attending nonprofit or for-profit child care centers in the community, sometimes affiliated with a church. More than 90% of the subsidy recipients included in the study attended center-based care. Finally, public school pre-K programs were half-day programs run by the local public school system on elementary school sites that are more regulated and tend to show more consistent quality standards than community-based child care.

It is important to note that ours is a research-based subsample that does not include all children in the school district, and indeed is not even intended to represent the school district. The sample only includes children who either attended public school pre-K or received subsidies for low-income families to attend child care at age 4 and who agreed to be in the longitudinal study. Thus, the results reported here do not mean that the same is true for the entire school district. It is worth noting that the participating school system has worked diligently to be inclusive in their identification of students for giftedness and advanced academics and the district has won multiple awards for increasing access to gifted and advanced academic programs for children in poverty, children of color, and ELLs. The current research documents factors prospectively associated with gifted identification in a school district that is outperforming national and statewide norms for the gifted identification of underrepresented students and has potential to provide additional ideas and opportunities for growth in other school districts.

Due to the cohort-sequential nature of the longitudinal project (five academic year cohorts of 4-year-olds followed over time), all cohorts who were on time or retained once they had reached Grade 5 by the end of data collection (2013) except for those in the last cohort if they were retained. Attrition over the years (students who left the school district altogether—because students who moved schools within the district were still tracked) was roughly 10% per year. Although the data are nested (children within schools), intraclass correlations show that less than 4% of the variance in gifted placement was due to the school attended. Given this, multilevel models were not used (Woltman et al., 2012).

### *Measures*

*Gifted Status.* The central dependent measure in this study was whether a child had gifted status as their primary exceptionality at any point in elementary school, indicating that the student was eligible to receive gifted educational services as their primary exceptionality. The exceptionality codes were provided by administrative data given by the district each year. Students with dual exceptionalities that may have had gifted as their secondary exceptionality are not identified in this data set.

Within the current district, students who demonstrate advanced achievement in coursework, test scores, creative abilities, or who receive teacher nominations receive gifted identification testing. This falls in the nomination phase of the identification process. From there, students who are nominated move into the screening process. Within this process, there are two possible pathways to gifted identification. The general procedure requires students meet multiple gifted characteristics according to a standard scale/checklist and obtain an IQ score of 130 or higher. However, for students targeted by the district to increase inclusivity in gifted education, a separate set of procedures exists. To qualify for the district's Plan B identification, the student must demonstrate limited English proficiency or come from a family of low-economic status (as determined by FRL status). For students who qualify for plan B identification, a point system that takes information from the gifted characteristics checklist, academic achievement test data, IQ scores, and the Williams creativity scale is used to determine whether a student meets the threshold to receive gifted services.

A single, master, ever-gifted variable was created to indicate if a student was ever identified as gifted for their primary exceptionality based off of the dichotomous gifted variables for each grade (K-G5). A variable was also created that tracked when the child was first identified as gifted. Here, each gifted student had a single rating of a 1 through 6, where 1 means they were identified in kindergarten and a 6 means that a student was identified in Grade 5.

*School Readiness Assessments.* At age 4, during pre-K, children were individually assessed for school readiness with the Learning Accomplishment Profile–Diagnostic (LAP-D; Nehring et al., 1992) and the Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999). The LAP-D is a standardized, norm-referenced direct assessment of children's cognitive, language, fine and gross motor skills and was administered in the child's strongest language (English or Spanish) by well-trained bilingual assessors. The reliability for the LAP-D ranges from .92 to .95 within this ethnically diverse sample and did not vary as a function of language of assessment (Winsler et al., 2008). Content and construct validity coefficients ranged from .64 to .86 with the Battelle Developmental Inventory (Newborg et al., 1984). The validity of the LAP-D for diverse populations is also supported by the developers (Nehring et al., 1992).

The DECA measures children's socioemotional skills and behavior by teacher and parent report in either Spanish or English (adult choice—about 35% completed in Spanish). The initiative, self-control, and attachment subscales create a total protective factors score with larger numbers showing greater strengths. The DECA behavior concerns scale was also used, with lower ratings indicating fewer behavior problems. Reliability within this ethnically diverse sample for teacher-reported total social skills was .94 and for behavior concerns it was .81 (Winsler et al., 2013). Parent-reported internal consistency reliability for social skills was .91 and .72 for behavioral concerns (Winsler et al., 2013). Internal and external validity was supported by the instrument authors and others (LeBuffe & Naglieri, 1999; Lien & Carlson, 2009). The DECA includes 37 items rated on a Likert-type scale assessing the frequency with which behaviors are enacted. Example items include "keeps trying when unsuccessful" and "fights with other children." Thus, these pre-K measures appear to be appropriate and linguistically and culturally responsible measures that provide reliable scores that allow for valid inferences for this diverse sample (Brinkman et al., 2007; Crane et al., 2011; Lien & Carlson, 2009).

*Early Elementary School Performance.* Early elementary school performance was assessed in kindergarten by the school district between the 2002 and 2006 school years via the Early Screening Inventory–Kindergarten (ESI-K; Meisels et al., 1997), the State-wide Kindergarten Readiness Screener (Harcourt Assessment, 2006), and the Early Childhood Observation System (Pearson Education, 2005). Emergent English literacy skills are assessed in K with two subscales from the Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2003). The district changed the kindergarten readiness assessments used over the years with the intent of enhancing screening for children's readiness for kindergarten. Thus, the changing assessments administered to various cohorts affects the sample size reported for each assessment.

The ESI-K (used during the 2003/2004 to 2005/2006 years) measured children's visual-motor, language, cognition, and gross motor skills and was selected by the school system due to its high-reliability of identifying children who are deemed at-risk ($\alpha = .89$; Meisels et al., 1997). In addition to a continuous performance score, the ESI-K classifies children's kindergarten readiness into one of three categories: (a) "not ready," where the children may be at risk for delay; (b) "getting ready," where the scores are inconclusive; and (c) "ready now," where the children appear to be developing normally for their age group.

The DIBELS was used to measure children's emergent English literacy during the 2004/2005 to 2007/2008 academic years. Specifically, the district used two subscales to assess children in cohort B-E's alphabet recognition (Letter Naming Fluency), where children were asked to identify lower- and upper-case letters, and sound recognition (Initial Sound Fluency), where children were asked to identify the beginning sound of an orally presented word. The DIBELS provides a standardized score. The DIBELS subscales have demonstrated adequate reliability among minority and non-English-speaking children (Goffreda & DiPerna, 2010).

The school district also administered the Work Sampling System during the 2002-2003 kindergarten school year, as a social–behavioral screener ($\alpha = .84$-$.95$; Meisels et al., 1995). Teachers provided ratings of children's performance across five domains of school readiness (social skills, language/literacy, mathematics, arts/fine motor, and physical

development/health), and children were measured on a continuous scale.

The Early Childhood Observation System is an observational assessment measuring children's literacy, mathematics, social skills, science/social studies, physical development and fitness, and creative arts administered in the 2006/2007 and 2007/2008 academic years. Teachers assign children one of three ratings: (a) "not yet demonstrating," where the child was not ready for kindergarten; (b) "emerging/progressing"; and (c) "consistently demonstrating."

*Elementary School Grades.* End-of-the-year academic grades were collected for all subject areas. In kindergarten, grades of "Excellent" were scored a 3, "Satisfactory" a 2, and "Not Satisfactory" a 1. Eleven subjects including language development, prereading, math, science, and music were averaged to one measure of kindergarten grades. Grades 1 through 5 use letter grades in similar academic subjects, converted into numbers (A = 5, B = 4, C = 3, D = 2, F = 1) and averaged across subject areas.

*Standardized Tests.* Children in Grades 2 through 5 for some cohorts were also assessed by the school district in math and reading via the Stanford Achievement Test (SAT-10; Harcourt Brace, 2003), which is a standardized measure of reading comprehension. This untimed, multiple choice test measures the understanding, interpretation, critical analysis, and awareness and use of reading strategies in response to reading literary and informational text. Reliability was established for the SAT-10 on a nationally representative sample of children at .88, and validity was also established with other standardized assessments (Harcourt Brace, 2003). A high-stakes state comprehensive achievement test is given in third through fifth grade and measures math and reading on a continuous scale (ranging from 100 to 500). Though also used to measure compliance with state benchmarks, the test is high-stakes in nature, meaning that failure of the reading portion of the test in 3rd grade is supposed to result in retention. The assessment has an internal consistency ranging from .88 to .92. Criterion-related validity coefficients were $r = .79$ for the math subtest and $r = .71$ for the reading subtest (Human Resources Research Organization & Harcourt Assessment, 2007).

*ELL and Poverty Status.* If parents answer "yes" on kindergarten entrance to questions about a non-English language predominantly used at home, then the child is considered by the district as an ELL and is placed into one of five levels (Level 1 for beginners, Level 5 for fully proficient in English) according to an oral English proficiency test. Students who are not considered proficient in English are required to take ESOL classes until their English proficiency is at a Level 5.

Poverty status was indicated by whether the child qualified for FRL in first grade. Though FRL receipt is a proxy for poverty using large categories, recent research has found it captures information beyond that of household income (Domina et al., 2018).

## Results

### Gifted Placement

The first descriptive, preliminary question was as follows: What proportion of low-income, ethnically diverse children in our sample are identified for gifted educational programs, and when do they get identified? Though this question has been answered in work by others, it is an essential first step in answering our subsequent questions because it provides context for how often students within this sample are being identified overall. Within our diverse sample from largely low-income backgrounds, there were 5,752 students (or 14.2%) identified as "gifted" at some point in elementary school (K-G5). This is markedly higher than the national finding that 9.57% of students are identified as gifted (among the roughly 58% of schools who identified any students for gifted services in 2015-2016), likely reflecting extensive policies put in place by the district (Gentry et al., 2019). Of those identified as gifted in our sample, 839 (14.6%) were White/Asian, 3,414 (59.4%) were Latinx, and 1,467 (25.5%) were Black. The overall racial breakdown of all students in our sample was 7% White/Asian, 59% Latinx, and 36% Black.

As for timing of identification, the majority of students were identified by second grade—9% were identified in kindergarten, 32% were identified in first grade, and 26% were identified in second grade, totaling 67% of the entire gifted group, with the remaining 33% being identified in Grades 3 through 5. A two-way analysis of variance revealed that students were identified for gifted on average at slightly different times based on ethnicity, $F(2, 5{,}717) = 32.4$, $p < .001$. Tukey HSD (honestly significant difference) post hoc tests revealed that White/Asian students were identified 0.37 grades (a third of a year) earlier than Black students and 0.14 grades earlier than Latinx students on average ($p < .001$ and $p < .05$, respectively). Black students were identified 0.23 grades later than Latinx students on average ($p < .001$).

### Predictors of Identification

Research Question 2 asked what factors were significantly related to gifted identification. Unadjusted, bivariate analyses were conducted to examine how those identified as gifted differed from those not identified. *T* tests revealed that those who were identified as gifted were rated higher on measures of school readiness in preschool, performed better on measures of kindergarten performance, and scored higher on elementary school standardized tests. Chi-square analyses showed that gifted identification varied significantly based on ethnicity (favoring White/Asian), gender (favoring females),

**Table 1.** Hierarchical Logistic Regression Predicting Gifted Placement for All Students by Categorical Background Variables in Step 1, School Readiness Assessments in Step 2, and Kindergarten GPA in Step 3.

| | Step 1 | | Step 2 | | Step 3 | |
|---|---|---|---|---|---|---|
| Variable/step | Odds ratio | *SE*(B) | Odds ratio | *SE*(B) | Odds Ratio | *SE*(B) |
| Background variables | | | | | | |
| ELL status | **0.864*** | 0.061 | 1.094 | 0.065 | **1.144*** | 0.067 |
| Free/reduced-price lunch | **0.595***** | 0.055 | **0.830**** | 0.060 | 0.939 | 0.062 |
| Gender (male) | **0.796***** | 0.046 | 1.088 | 0.051 | **1.175**** | 0.053 |
| Ethnicity | | | | | | |
| White-Asian/Black | **2.745***** | 0.085 | **2.068***** | 0.092 | **1.942***** | 0.094 |
| Latinx/Black | **1.615***** | 0.069 | **1.428***** | 0.073 | **1.314***** | 0.075 |
| Latinx/White-Asian | **0.588***** | 0.081 | **0.690***** | 0.087 | **0.677***** | 0.090 |
| Preschool type | | | | | | |
| Center-based care/public school | **0.510***** | 0.057 | 0.927 | 0.064 | **0.861*** | 0.065 |
| Family-based care/public school | 0.607 | 0.325 | 1.076 | 0.343 | 1.040 | 0.349 |
| School readiness at age 4 | | | | | | |
| Cognitive | | | **1.019***** | 0.001 | **1.016***** | 0.001 |
| Language | | | **1.014***** | 0.001 | **1.014***** | 0.001 |
| Fine motor | | | **1.007***** | 0.001 | **1.006***** | 0.001 |
| Gross motor | | | **0.993***** | 0.001 | **0.994***** | 0.001 |
| Social skills (teacher TPF) | | | **1.003**** | 0.001 | 1.002 | 0.001 |
| Social skills (teacher BC) | | | **0.993***** | 0.001 | **0.995***** | 0.001 |
| Kindergarten predictors | | | | | | |
| GPA in K | | | | | **4.314***** | 0.070 |
| Moderation effects[a] | | | | | | |
| Pre-K type by ethnicity (Latinx/Black) | | | | | 1.462** | 0.132 |
| Cognitive skills by poverty | | | | | 0.993** | 0.002 |
| Ethnicity by poverty (White-Asian/Black) | | | | | 2.222** | 0.234 |
| Ethnicity by poverty (Latinx/Black) | | | | | 1.582** | 0.179 |

*Note*. Statistically significant findings are bolded. Nagelkerke $R^2$ = .078, .244, and .291 for Steps 1, 2, and 3, respectively. GPA = grade-point average; TPF = Devereux Early Childhood Assessment total protective factors percentile score; BC = Devereux Early Childhood Assessment behavioral concerns percentile score.

[a]Interaction coefficients are from subsequent independent models, while main effects are from the Step 3 model discussed in text; only significant interactions are included in the table.

*$p < .05$. **$p < .01$. ***$p < .001$.

poverty (favoring those not in poverty), and ELL status (favoring ELLs). Complete tabled results from the bivariate analyses can be accessed in the online supplementary materials (Tables A1 and A2).

Although the bivariate findings aforementioned show interesting relationships between each of the independent variables and gifted identification, multivariate analyses are required to understand the effect of each factor accounting for the other variables. The multivariate analyses reported below look at the unique predictive effects of each predictor on gifted identification while controlling for the other variables. Each of the predictor variables was entered into a multivariate logistic regression analysis to see when all predictors are included, which have unique and combined predictive effects on later gifted identification.

Table 1 reports the results of the three-step, informative hierarchical, logistic regression model predicting ever-gifted status. The *OR*s reported in this section convey the effect a predictor has on the odds of gifted identification (greater than 1 indicates greater odds, less than 1 indicates fewer odds) controlling for the other variables entered in the relevant step. The first step includes demographic information only, the second step includes children's school readiness scores at age 4, and the third step takes into account kindergarten grade-point average (GPA) as an early preidentification predictor of gifted identification. Entering the data in this order allows us to examine how the influence of demographic variables changes as other variables are included. The main model of interest is Model/Step 3 (the right most column of Table 1) with all predictors included, $\chi^2(1) = 464.195$, $p < .001$). Question 2 also asked if ethnicity would still predict gifted placement after controlling for poverty status and child academic competence. The significant estimates for ethnicity from Step 3 show that indeed, even after income, child school readiness, and early child performance in school are factored in, Black students were still less likely to be identified as gifted, as is seen around the nation. White/Asian students had nearly double the odds of being identified as

gifted compared with Black students, and Latinx students were 30% more likely to be identified than Black students. Poverty was unrelated to gifted identification with child school performance already in the model. Importantly, preschool type remained significant—those who went to center-based child care in the community at age 4 had almost 15% lower odds of getting into gifted education compared to those who went to public school pre-K programs.

In Step 1 of the model, ELL status has a significant effect such that students identified as ELL were significantly *less* likely to be identified as gifted. However, the effect goes away in the move to Step 2, and actually reverses in Step 3. Thus, when controlling for school readiness and prior academic competence, ELL students had *higher* odds of being identified as gifted. This suggests that being an ELL initially reduces the odds of being identified as gifted; however, those ELL students who test well, or have high prior academic competence, are *more* likely to be identified than similarly able non-ELL peers. This suggests that the district's policies for targeting the identification of ELL students are effective and that highly qualified ELLs are finding access to appropriate services in this district. It is also possible that as ELL students get older, their English proficiency increases, resulting in easier identification, mirrored in our results as each step adds factors later down the academic timeline.

Most of the child competence variables (school readiness on school entry and GPA in kindergarten) were significant predictors of later entering the gifted program. The LAP-D subscales of cognitive ($OR = 1.02$), language ($OR = 1.01$), and fine motor ($OR = 1.01$) remained positive predictors of gifted identification. A 1-percentile point increase on cognitive skills, for example, was associated with a 1.6% increase in the odds of getting into the gifted program. Thus, for an arbitrary but meaningful example of the size of this effect, a 25-percentile point difference (comparing a student at the 75th vs. the 50th percentile) is associated with a 37.5% ($25 \times 1.6$) increase in the odds of gifted identification. Interestingly, better gross motor skills at age 4 were linked with a slightly lower chance (0.6% odds) of gifted identification. The DECA preschool teacher report of children's behavior problems was a significant negative predictor, and preschool teacher report of social skills was not related to later identification. As to be expected, actual performance in their first year of school as indicated by kindergarten GPA was the strongest predictor of gifted identification—for every 1-point increase in GPA, for example, moving from "satisfactory" to "Excellent," a student increases their odds of being identified as gifted later on in elementary school by more than 300%.

Gender tells an interesting story moving from Step 1 to Step 2 to Step 3. When only basic demographic variables are included (Step 1), males are 21% *less* likely to be identified as gifted. When one factors in child readiness skills in Step 2, gender is no longer significant, suggesting that the reason why boys were less likely to be identified as gifted is because they show up to school with poorer school readiness skills relative to girls (on average). In Step 3, however, when children's actual academic performance in kindergarten is known and entered into the model, boys are 18% *more* likely to be identified as gifted. This means that controlling for academic performance in school (i.e., looking only within the highly competent students), males are overidentified in gifted programs, at least in in our sample of predominantly low-income students who attended certain types of preschool at age 4. It is also possible that this finding is reflective of boys' tendency to lag behind girls developmentally during the preschool years but to catch up during elementary school (Toivainen et al., 2017).

## Moderation Effects

Research Question 3 asked as follows: Do key predictors interact to influence the odds of gifted identification? Interactions terms were created and a series of follow up exploratory analyses was run where an individual interaction term was added onto the existing three-step model. Ethnicity and poverty were interacted with school-entry cognitive skills, pre-K type, and social skills and behavioral concerns. In addition, gender was interacted with pre-K type.

*Pre-K Type.* Pre-K type was regrouped into a two-level variable with one group encompassing all subsidized community-based care (family- and center-based), while the other group included public school pre-K. As a reminder, attending community-based care was associated with a decrease in the odds of gifted identification in Step 3 of the main model. This effect did not vary systematically by gender or by poverty status, but there was a significant interaction for ethnicity. Attending public school pre-K (rather than community-based child care) was more important for Latinx students than it was for Black students in terms of increasing the odds of later placement ($OR = 1.46$, $p < .01$).

*School Readiness Skills.* Cognitive skills at school entry were related to an increase in the odds of gifted identification in the main model. This did not vary by ethnicity but did vary by poverty status ($OR = 0.993$, $p < .01$). In essence, the relationship between cognitive skills at school entry and the odds of gifted identification is stronger for those not in poverty. The impact of social and behavioral skills on gifted identification was not significantly moderated by ethnic group or poverty status.

*Poverty.* Finally, ethnicity and poverty status interacted such that not being in poverty increased the odds of gifted identification for Latinx and White/Asian students but not for Black students ($OR = 2.222$, $p < .01$ for the Black vs. White/Asian comparison; $OR = 1.582$, $p < .05$ for the Black vs. Latinx comparison).

To aid with interpretation of the moderation effects, and to demonstrate overall patterns of difference, each racial and

gender group was also analyzed separately. Tables A3, A4, A5, and A6 (available in online supplementary materials) summarize these results of the same models reported in Table 1, but separately by ethnic and gender groups, highlighting results that differed from the overall model.

Overall, the pattern of significant findings for each subgroup was very similar to all gifted students—being male, going to public school pre-K, and having higher scores on the school readiness assessments and kindergarten GPA were all positively associated with getting into gifted programs in elementary school. For Latinx students, ELL status was not significant when accounting for school readiness and kindergarten GPA. This is a deviation from the sample as a whole. Furthermore, for Latinx students, gender only becomes relevant once school readiness variables are entered into the model ($OR = 1.17$). Unlike with the full sample, where males were less likely to receive gifted status when school readiness variables were accounted for, Latinx males were actually more likely to receive gifted status than females.

Interestingly for our exclusively Black subsample, gender (favoring females) was only significant before school readiness and kindergarten GPA were included. Once these factors were included in analysis, gender was no longer a significant predictor. In addition, attending public school pre-K was not significantly related to an increase in the odds of receiving gifted status for Black students. School readiness and kindergarten GPA were still associated with gifted identification for Black students.

The pattern of results for males was the same as for the entire sample except preschool type no longer mattered for gifted identification for boys (preschool type remained meaningful for girls). The only notable variation that occurred was that for the whole sample, Latinx children were 30% more likely to have gifted status than Black students ($OR = 1.31$), whereas for just the males, Latinx children were 45% more likely receive gifted status than Black students ($OR = 1.45$). The pattern of results for females was exactly the same as that for the entire sample.

## Discussion

The goal of this study was to identify and understand predictors of being identified as gifted in an ethnically diverse sample of elementary school students from low socioeconomic homes. This study adds to the body of literature that shows that some students are more likely to be identified as gifted based on their race or ethnicity, as well as ELL status. This study also adds another set of predictors that has not been looked at in-depth—children's school readiness skills at age 4 and pre-K type—and it includes a large group of Latinx students.

The percentage of students who were identified as gifted in this ethnically diverse sample from low-income homes was 14.2%. This is much higher than the state level of 4.7% (NCES, 2011) and slightly higher than district levels, where, as a whole, 12.3% of the population of school children are served by gifted programs. The number of students identified in this sample is noticeably larger than state levels. Two reasons this might be are that this school district is a large, urban, advanced school system with more resources to handle more gifted students and the fact that many dedicated and award-winning programs and policies have been implemented to address this issue directly. Another reason for the difference may be that the district had a recent boom in gifted identification. The gifted population increased by more than 50% from 2003 to 2013 because school administrators and the school board were concerned with getting more (and more diverse) students into gifted programs. Another reason there are more students identified in our study compared with other sources may be due to the definition of services that this study employed. In this study, students who were ever identified as gifted as a primary exceptionality were the focus, but other studies and reports may have utilized other definitions that may be concerned with students who receive specifically full-time gifted services.

It is also important to point out that ours is only a subsample of the school district. Our sample involves only children who attended public school pre-K or received child care subsidies to attend community-based child care at age 4. It is interesting that the percent identified in our sample is slightly higher than overall school–district figures for gifted identification. As discussed more below, this could be due to the effect of attending high-quality preschool programs, but it could also indicate that families who choose to enroll their children in preschool or pre-K at age 4 are more likely to pursue gifted identification later on than those who do not attend such programs or that they have more knowledge about educational processes and advocacy in general.

This study shows that the national issue of the underrepresentation of Black students in gifted and talented education (Peters et al., 2019) is persistent even in the face of numerous policies and programs that attempt to address it head on (as employed in the included district). Students who identified as White/Asian were identified at a rate of 28.8%, while Latinx students were identified at 14.8% and Black students at only 10.3%, revealing discrepancies in identification even among an ethnically diverse (non-White majority) sample from low-income homes. The fact that even after controlling for early school performance, school-entry readiness skills, and poverty status, ethnic differences in identification were still present suggest that more work is needed to understand the selection factors in play. Our measure of poverty (FRL status) was quite limited. It is possible that Black families in our sample experience greater risk factors, stressors, and fewer opportunities that limit early academic excellence even within the same lunch status category (Reardon et al., 2015). Indeed, there have been recent calls for a stronger research focus on poverty in gifted identification and more careful discussion of how poverty and ethnicity intersect (Goings & Ford, 2017; Olszewski-Kubilius & Corwith,

2017). Our finding that poverty status (as measured by FRL status) mattered more for gifted identification for White/Asian and Latino students than it did for Black students also suggests that different and yet poorly understood factors are likely in play in terms of early gifted identification for some ethnic groups.

Similar to the findings of other work (Winsler et al., 2013), the type of preschool that students attended was a significant predictor of later gifted identification. Specifically, attending public school pre-K was related to increased odds of later gifted identification. This remained true in the full model in which school readiness skills and kindergarten achievement were included. Although this study is correlational and does not suggest causality (there may be selection bias affecting the results), it does seem reasonable based on these results, that attending public school pre-K provides important benefits that may enable students to be identified as gifted later on. This is likely due to the general quality associated with public school pre-K, which has regulated quality mandates like standard curricula and teacher training (Conger et al., 2019). This also illustrates the idea that early differences in access to academic enrichment may have long-term effects on students. In this case, we draw attention to the fact that increased access to and quality of preschool could be a powerful tool in closing the achievement gap (Magnuson et al., 2007). Interestingly, we found that the effect of public school pre-K on gifted identification was stronger for Latinx students than it was for Black students.

In terms of school readiness skills and gifted identification, students who started kindergarten with greater readiness skills and fewer behavior problems were more likely to be identified as gifted, even controlling for background variables. School entry behavior concerns being negatively associated with later gifted identification is consistent with work showing that teachers tend to have the view/stereotype that gifted students do not tend to show behavior problems in the classroom (Carman, 2011). This stereotypical idea of the gifted student may also relate to why gross motor skill was negatively associated with the odds of identification.

Of course, school readiness varies systematically by background variables like wealth (Hair et al., 2006). The individual contribution of school readiness above and beyond demographic factors suggests that boosting school readiness could be a viable way to improve the odds of gifted identification for students. This could be done by targeting executive function (Fitzpatrick et al., 2014) or by increasing access to high-quality preschool (Yoshikawa et al., 2013). However, our interaction results suggest that this may not be enough for students in poverty for whom the relationship between cognitive skills at school entry and the odds of gifted identification was weaker than for students not from low-income backgrounds. For students in poverty, who are more likely to encounter familial stress, poorer health, and less exposure to academic material (Olszewski-Kubilius & Corwith, 2017), additional support or more targeted intervention may be needed (Holliday et al., 2014).

Additionally, school readiness assessments given at age 4 could be helpful in identifying giftedness later on and are likely currently untapped resources that could be used in some way. Although school readiness assessments would not be used as a formal identification measure, they could be potentially useful as a screener, especially in districts that cannot implement universal gifted screening. Utilizing a type of measure already being administered to many students across school districts may reduce bias relative to screening based only on teacher recommendation alone. It is well known that school readiness predicts later academic achievement (Davies et al., 2016; Quirk et al., 2013), and this study expands the knowledge that school readiness is an important predictor for later gifted identification in many ethnic groups.

GPA in kindergarten was also an important predictor and probably the most obvious. When a child performs above and beyond expectation in the classroom, it is important to consider referring that child for assessment. As such, it is unsurprising that this variable had the strongest relationship with gifted identification. It is important to note that school readiness skills (and some demographic factors) were strongly and significantly related to gifted identification above and beyond GPA, and vice versa. The finding that preschool type and school readiness are related to gifted identification fall directly in line with the idea that early support for learning leads to better academic outcomes. Our findings suggest that students with access to high-quality preschool and who get a boost of skills early on are more likely to be identified as gifted.

We also found that ELL students were *more* likely to be identified as gifted than native English-speaking students, which is contrary to findings by others (Shaunessy et al., 2007; U.S. Department of Education, 1998). There are many reasons why ELLs could be more likely to be identified in this sample/district. One that stands out is the diversity of the city, presence of Latinos, and possibly the many Latinx teachers in the schools. Teachers who have experience with bilingual or multilingual students may be less likely to think of English as a prerequisite for gifted identification. In support of this explanation, Carman et al. (2018), whose sample demographics were very similar to those used here, found that ELL students scored 0.6 standard age scores higher than non-ELL students on the CogAT7. Another possible reason for ELL students being identified at a higher rate is immigrant advantage (Kao & Tienda, 1995), which is students who are born outside the United States or who have parents who are non-U.S. natives outperforming native-born students (DeFeyter et al., 2020). It is likely that many of the ELL students in this sample were first- or second-generation immigrants. Furthermore, other samples likely include students who recently arrived to the United States in their estimates of ELL identification, whereas due to our sample recruitment procedures at age 4, all of the ELLs included here were in the

United States before school began. Additionally, we only see this positive effect of ELL status after controlling for ethnicity, SES, and academic competence. Perhaps then, in Step 3 of our model, ELL status is representing bilingualism, which is known to be related to a myriad of positive academic and developmental outcomes (Byers-Heinlein et al., 2019; De Feyter & Winsler, 2009). It is likely directly related to the districts' flexible identification procedures that have specific guidelines drawn for ELLs, suggesting that such procedures can be beneficial for increasing access to gifted programming for nonnative English speakers.

Gender in this study had interesting relations with identification. When only background variables were considered, males were 21% less likely to be identified than females. When adding in school readiness, gender was no longer a factor, which suggested the reason males were less likely to be identified is because they do indeed show up to school with lower school readiness, on average, compared with girls. But, when academic performance (kindergarten GPA) was considered, boys were 14% more likely to be identified than girls. This means that controlling for academic performance in school (i.e., looking only within the highly competent students), males are somewhat overidentified in gifted programs within this sample. This is in line with Robinson and Lubienski (2011), who found the most pronounced evidence of gender differences among the highest subset of achievers. Our finding could be related to the Bianco et al. (2011) results that show that teachers are less likely to refer female students for gifted educational programs than their male counterparts with the same descriptions. Once actual school readiness and performance are taken into account, males are more likely to be identified. Teachers may have gendered ideas about subject performance (Robinson & Lubienski, 2011), which may favor the identification of male students. Most school districts likely only report overall bivariate percentage of males and female students who are identified for gifted programs; however, our results suggest that perhaps a useful indicator that could be used in addition to that is one that controls for academic performance when examining potential gender gaps in identification.

For this study, poverty status was not related to gifted identification when controlling for other factors. It is possible that due to the nature of this largely low-income sample (80% qualified for FRL) there was not the full range of income to give this variable a chance to be important. The average income was around $20,000, so members of this population were not advantaged monetarily but many students were still identified in contrast to previous research (Burney & Beilke, 2008; McBee, 2006). It is also possible that the effects of poverty status are tied to readiness at school entry, such that the effects of poverty status on gifted identification are masked by school readiness skills (Hair et al., 2006). This is supported by the significant role that poverty played in Step 1 of the regression model, which became nonsignificant once school readiness skills were included. Indeed, it is impressive that so many of our low-income sample were identified as gifted, and this is likely due to significant efforts made in this community to increase access to gifted programming for students in poverty.

Within the school district, identification for ELL students and low-income students have been directly targeted through altered IQ cutoffs and a more holistic profile of student giftedness, rather than reliance on just IQ. We see the results of such programs in these findings where ELL students were actually *more* likely to be identified as gifted than similarly abled peers who were not ELLs. In addition, we see that before GPA and readiness are in the model, that students from low-income households were less likely to be identified, but once these cognitive measures are added, there is no longer a statistically significant difference in this identification. This suggests that much of the existing income gap in gifted identification could be based on differences in early opportunities to learn, as these are affecting children's scores and grades when they reach school. Additionally, this suggests that policies that accept alternate or flexible admissions criteria for gifted services for students from low socioeconomic backgrounds can be an instrumental step in finding highly qualified students despite their early restricted opportunities. This district has made huge strides in identification and inclusion; however, systemic opportunity gaps may still be contributing to disparities in gifted identification.

### *Implications*

The findings from this study provide insights that can be helpful for school efforts to reduce disparities in identifying students for gifted and talented education. School readiness skills at age 4 are important predictors that are likely not being fully taken advantage of for identification, which is consistent with research suggesting that wider screening methods help reduce the achievement gap (Card & Giuliano, 2016). This is especially relevant when considering how differences in opportunity to learn can be linked to differing standardized test scores. Better utilizing these other predictors to find students who could thrive with these additional services could open the door for many exceptional minority students. Furthermore, the findings of this study highlight important facts that illuminate the existing biases in the education system, such as White/Asian students having nearly double the odds of being classified as gifted as Black students, even in a district being as proactive as this one, and that supports for gifted identification like attending public school pre-K appear to have less of a relationship with identification for Black students.

This ethnically and linguistically diverse sample allows for a new perspective of identification for minority students when they are the statistical majority instead of comparing them with a majority White sample (Erwin & Worrell, 2012; Ford & Harris, 1994; Ford & Moore, 2013; Winsler et al., 2013). Regardless of the methods used to identify students

from any background, it is important that teachers and administrators be trained on those identification criteria and understand how gifted children learn and function (Jackson, 2013).

### *Future Directions and Limitations*

Although this study employed a large data set that follows children over their elementary school careers, it is important to note some limitations and future directions that should be taken to further understand gifted and talented identification of students and their trajectories. One limitation is the lack of qualitative data that could be used to understand why families choose to (or not) take part in gifted and talented education for their student and either have their student continue or leave gifted programs. Similarly, students who are twice-exceptional need to be researched more carefully to understand how other exceptionalities may impact gifted identification. In our case, we only had information on one primary exceptionality each year. That eliminates important information about students who are gifted and have some other exceptionality that may dictate their individualized education plan and course selection. Future research would be necessary to better understand the experiences and choices of these students. Additionally, students who did not attend preschool are not included in the sample so comparisons can only be made across preschool type not between attenders and nonattenders. The sample used in this study was predominately of low SES so results may not generalize to other communities and samples where families are not at this level of poverty. Finally, this study is correlational in nature, and thus causation and directionality cannot be determined.

This article expands the research on predictors of gifted and talented identification on a large sample of predominantly highly ethnically and linguistically diverse sample from low-income homes from a large, urban community. Results provide a look at the child- and school-level predictors of eventual gifted and talented placement. This article is a call to action for researchers and administrators to continue to critically examine who gets into gifted and talented programs and how we can help even the playing field for students of all races and genders. Additional research, both longitudinal and qualitative, are needed to understand the experiences of students who are identified as gifted and what their academic trajectory looks like nationally to continue providing the proper services to gifted children.

## Open Science Disclosure Statements

The data analyzed in this study are not available for purposes of reproducing the results in accordance with the research and data sharing agreement between authors and the included school district. The code and protocol used to generate the findings reported in the article are available for purposes of reproducing the results or replicating the study—contact the authors. There are no newly created, unique materials used to conduct the research to be made available.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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## Supplemental Material

Supplemental material for this article is available online.

## Notes

1. It should be noted that some argue that comparing proportional representation of ethnic groups in gifted programs with that of the population is inappropriate and that instead one should compare with the proportion of students of different racial groups who demonstrate outstanding talent/achievement as measured by NAEP (National Assessment for Educational Progress) achievement levels or similar standardized assessments (Worrell & Dixson, 2018). We believe, however, it is still useful to compare with population proportions because it is the same set of opportunity gaps and inequalities that contribute to both representational disparities in learning/achievement and in gifted identification, especially given that the very historical definition of giftedness itself (IQ scores) privileges certain groups over others (Olszewski-Kubilius & Corwith, 2017).
2. The combined White/Asian/Other group (with most of the non-White group being Asian) was necessary due to the extremely low numbers for any group other than Latinx and Black. Though White and Asian students are different and worthy of separate analyses, this was not possible with the cell sizes. As both groups are consistently highly identified within gifted and talented programs, we analyzed them together as the more traditionally represented racial groups in gifted programs. Given that less than 1% identified as "other," this group will be referred to as White/Asian throughout the article. Children who had both Latinx and Black selected were classified as Black.

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Manuscript received: February 4, 2019; Final revision received: May 29, 2020; Accepted: June 2, 2020.