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Unpacking "Giftedness": Research and Strategies for Promoting Racial and Socioeconomic Equity

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UNPACKING "GIFTEDNESS": RESEARCH AND STRATEGIES FOR PROMOTING RACIAL AND SOCIOECONOMIC EQUITY

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A report by the Metropolitan Educational Research Consortium (MERC)
Virginia Commonwealth University School of Education

ABOUT THIS REPORT

This report comes from the Equitable Access and Support for Advanced Coursework MERC study. The study explores racial and socioeconomic disparities in advanced course taking throughout K12 public education, including gifted programs in elementary school, algebra I in middle school, and Advanced Placement (AP), International Baccalaureate (IB), dual enrollment, and honors classes in high school. There are two phases to the study. Phase one focuses on a regional analysis of advanced coursework policies and patterns and will include a secondary data analysis and policy analysis. Phase two focuses on understanding student perspectives and school practices and will include a student survey and multiple case study. Throughout the study, researchers will focus on promoting strategies and solutions for making access and support for advanced coursework more equitable throughout the metropolitan Richmond region.

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WHAT DOES IT MEAN TO BE "GIFTED?"

Giftedness as a construct continues to be contested in academia, in the classroom and around kitchen tables. It means different things to different communities and, as a result, acquiring the "gifted " label looks different around the country. Once labeled, student giftedness produces different responses depending on state and district guidelines. A constant among the patchwork of defining, identifying and responding to student giftedness, though, is a serious racial and economic disparity in who is considered gifted and who is not.[1]

This report provides key takeaways from research literature on gifted and talented (GT) programs. It is organized according to five questions:

1. **What does it mean to be "gifted?"** In this section we explore the historical context of gifted education, federal and Virginia policies guiding the provision of gifted programs, definitions of giftedness and corresponding identification practices, prominent examples of gifted programming, and an introduction to the gifted "gap."
2. **Who receives gifted services?** In this section we discuss documented and enduring racial and socioeconomic disparities in gifted program identification and participation with a focus on disparities at the national and Virginia level.
3. **Why does this matter?** In this section we explore mixed evidence on the academic, social, and emotional benefits of gifted program participation as well as the implications for entering a pipeline of advanced course taking in elementary school, with an emphasis on why it matters for students to not access these benefits equitably.
4. **What factors contribute to disparities in gifted services?** In this section we explore the student, family, and school level factors that perpetuate inequitable representation in gifted programs, including implications of resource differences, identification practices, and biases.
5. **What strategies help to address disparities in gifted education?** In this section we discuss prominent recommendations from the literature for pursuing a more equitable model of gifted education, including examples of programs and initiatives increasing access and support for underrepresented student groups. We conclude with a discussion of moving toward a talent development model of gifted education.

Historical Context

Racial and socioeconomic disparities in gifted program representation are ongoing but rooted in the history of gifted education. The modern idea of giftedness emerged from the eugenics movement, which in turn was built on racial hierarchy and the advent of intelligence testing. Lewis Terman, currently identified as the "father of gifted education" by the National Association for Gifted Children (NAGC), was, in his early career, an ardent supporter of the eugenicist idea that the human race could be improved by breeding out undesirable traits like criminality, poverty and mental disability.[2] For Terman and others,

[1] Ford (2010); Grissom et al. (2019); Oakes (2005)
[2] https://stanfordmag.org/contents/the-vexing-legacy-of-lewis-terman

racism went hand-in-hand with the eugenics movement in the United States.[3] In 1916, Terman wrote of "Spanish-Indian, Mexican and Negro children" that "their dullness seems to be racial, or at least inherent in the family stocks from which they come."[4] A psychologist at Stanford University, Terman sought to use a newly developed intelligence test, known as the Stanford-Binet, to measure and quantify his eugenicist ideas. Since its 1916 debut, Terman's Stanford-Binet test has been the basis for innumerable decisions about student intellectual potential and coursework.[5]

Despite their racist origins, standardized intelligence tests were seen as an objective way to identify giftedness in individual students. Standardized tests continue to be used to validate meritocratic ideas about education, though research consistently finds a strong correlation between outcomes and social class.[6] Much additional research has pointed to testing bias,[7] opportunity gaps, and stereotype threat[8] as possible causes for the link between testing and social and racial stratification. Nevertheless, widespread use of standardized testing has been a defining feature of U.S. education, and gifted education in particular, since its birth in the early 1900s.[9]

Attention to the importance of nurturing giftedness increased after Terman published a 1925 book from a seminal longitudinal study of more than 1,000 overwhelmingly White and middle class children with high IQs (as measured by the Stanford-Binet test). That same attention continued through the Cold War and gifted services remain a key aspect of federal and state education legislation today.

Our understanding of giftedness has shifted over that same interval, however. Since the 1970s, various camps of researchers have articulated new ways of revealing giftedness in children, distinguishing between the more traditional "schoolhouse giftedness" in one or more academic domains and "creative-productive giftedness," which centers more on psychological traits like motivation, persistence and creativity.[10] Yet another crucial expansion of our earlier understanding refuses to see giftedness as innate but rather as a developmental process, a product of practice and, relatedly, a student's environment.[11] Those environments are, of course, shaped by unequal educational and life opportunities that track too often along racial and socioeconomic lines.[12]

Expanding the way we think about giftedness has not meant that we have settled on a universal definition.[13] In many communities, giftedness is still equated with IQ tests—a

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[3] Norrgard (2008)
[4] Terman (1916, p. 91)
[5] Oakes (2005). Of course, the impact of intelligence testing extends beyond education into other spheres of opportunity like immigration (see, e.g., https://www.scientificamerican.com/article/ellis-island-challenging-the-immigrant/)
[6] Oakes (2005)
[7] Popham (2010)
[8] Steele (2010)
[9] U.S. Congress (1992)
[10] Renzulli (1977); Subtonik et al. (2011)
[11] Subtonik et al. (2011)
[12] Carter and Welner (2013)
[13] Callahan (2009)

static and deeply questionable (see above) measure of intelligence.[14] The best numbers indicate that about three million[15] gifted and talented students have been identified in U.S. PK12 classrooms, a figure that is highly dependent on how we define giftedness in policy terms.

Defining Giftedness in Policy Terms

The federal government's definition of giftedness has changed over time, partly in response to academic shifts in our understanding of giftedness. For instance, an acknowledgment of the "creative-productive" aspect of giftedness appeared in one of the first federal definitions, the Education Amendments of 1969, which stated, "The term 'gifted and talented' means…children who have outstanding intellectual ability or creative talent, the development of which requires special activities or services not ordinarily provided by local education agencies."[16] A later iteration of federal law, the Jacob K. Javits Gifted and Talented Students Education Act of 1988, declared that, "Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor."[17] This represented an explicit refutation of the eugenicist origins of our modern interest in gifted children. Other important developments in federal gifted policy, which occurred in 1978 and 1993, expanded access to gifted programs by acknowledging "potentially" gifted students and requiring identification strategies to compare students of similar ages and backgrounds.[18]

States have interpreted federal policy definitions of giftedness in various ways. A 2018 study found that 43 of 50 states emphasized intellectual and academic abilities and only 25 highlighted potential abilities.[19] In terms of serving gifted students, which the federal government does not mandate, a 2014 survey conducted by the NAGC, an advocacy group that supports gifted education, found that 32 states reported a state mandate on identifying and serving gifted students, 17 states required the provision of gifted services and four states required only that gifted students be identified (but not necessarily served). Funding gifted education remains an issue. According to the same survey, 12 states reported that state lawmakers provided no funding to local districts for gifted education.[20] Lack of funding for gifted services is often a barrier for rural districts and districts that serve high shares of students of color or students in poverty.[21] All of this variation highlights a key point: state and local definitions of giftedness and the services attached to them largely determine how and to whom gifted education is delivered in the U.S.[22]

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[14] NAGC (2011); N. M. Robinson, Zigler, & Gallagher (2000)
[15] Callahan et al. (2015)
[16] U.S. Congress (1970)
[17] Peters & Engerrand (2016, p. 159)
[18] Ford and King (2014)
[19] Hodges et al. (2018)
[20] NAGC (2015)
[21] Howley et al. (2009, p. 111). What is difficult to ascertain from this data is specifically whether locale or small size most affects the funding and staffing for gifted education. (Kettler et al, 2015).
[22] Callahan et al. (2017)

In Virginia, the regulations governing gifted services are (as of summer 2020) under revision. Current guidelines, last revised in 2012, incorporate earlier federal language that has historically been important for expanding access to gifted programs for under-represented students. This includes a commitment to identifying "potentially" gifted students and comparing students of similar ages and backgrounds in the identification process. The Virginia state definition is as follows:

> "Gifted students" means those students in public elementary, middle, and secondary schools beginning with kindergarten through twelfth grade who demonstrate high levels of accomplishment or who show the potential for higher levels of accomplishment when compared to others of the same age, experience, or environment."

Importantly, Virginia's definition goes on to detail many different forms of giftedness, including intellectual, creative, problem-solving and career and technical aptitude.[23] Defining giftedness at the federal, state and local levels represents a first step in the process of delivering gifted services, followed by student identification.

Identifying Gifted Students

Like the definition of giftedness, identification of gifted students also runs the policy gamut. Policies and procedures for identification vary substantially by state and local school district. Findings from a nationally representative sample highlighted elementary school identification criteria like intellectual prowess (reported by 99.5% of districts), creative/divergent thinking (55.9%), visual and performing arts (44.9%), academic domain specific aptitude (41.6%), and leadership (35.9%).[24] Those attributes were assessed in different ways, the majority of which relied on standardized tests.[25] In an effort to address issues of bias in standardized testing, some districts have introduced nonverbal ability tests, including the Naglieri Nonverbal Abilities Test (NNAT).[26] Identification often begins with a referral from a classroom teacher. In some cases those referrals are informal, in other cases they are governed by ratings or checklists.[27] In all cases, though, teacher recommendations are subject to implicit bias, which we address later in this literature review.[28]

Though not all states do, Virginia also mandates identification for gifted and talented education. Virginia's current guidelines, which again are under revision, state that professionally qualified persons should identify giftedness using multiple criteria in a multistage process.[29] This should first involve a division-wide screening, then a referral, then a determination of eligibility by a district and/or building committee. Identification should include a review of multiple points of data. It can begin as early as kindergarten if

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[23] VDOE Regulations Governing Educational Services for Gifted Students (2012)
[24] Ibid.
[25] Ibid.
[26] Hodges et al (2018)
[27] Donovan & Cross (2002); McClain & Pfeiffer (2012)
[28] Grissom et al. (2019)
[29] VDOE Regulations Governing Educational Services for Gifted Students (2012)

districts are basing identification on general intellectual aptitude, but districts are also free to identify more specific academic domain aptitudes if an assessment exists.[30]

Providing Services to Gifted Students

The delivery of gifted services differs widely by state and district. NAGC outlines several standards for gifted education, including guidelines for delivery of services.[31] According to the organization, educators should:

- "engage students with gifts and talents in identifying interests, strengths, and gifts." (Standard 1.1.1)
- "develop activities that match each student's developmental level and culture-based learning needs." (Standard 1.2.1)
- "provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths." (Standard 1.3.1)
- "identify out-of-school learning opportunities that match students' abilities and interests." (Standard 1.4.2)
- "design interventions for students to develop cognitive and affective growth that is based on research of effective practices." (Standard 1.6.1)
- "develop specialized intervention services for students with gifts and talents who are underachieving and are now learning and developing their talents." (Standard 1.6.2)

With NAGC standards in mind, Callahan et al. (2017) provided an overview of findings related to gifted services in their nationally representative survey of school districts. The research literature has traditionally recognized a variety of models for delivering gifted services to students, ranging from heterogeneous cluster-grouping within classrooms, to pull-out programs where gifted students receive separate instruction from their peers, to special schools focused specifically on the needs of gifted students. Callahan et al. (2017) emphasized that gifted service delivery may reflect one or a combination of these approaches. In their survey, about a third of respondents indicated that there was no articulated framework of research-based gifted education service delivery. The most common model at the elementary level was pull-out classes (51.9% of respondents). In middle school, special gifted classes with "homogeneously grouped gifted students within a regular school setting" was most common.[32] At the high school level, Advanced Placement was overwhelmingly the most common form of service delivery (90.7% of respondents). Roughly two-thirds of respondents indicated the use of teacher- developed materials, public resources, existing materials (e.g. software programs and LEGO robotics sets), and curricular materials developed by universities or academic companies. The remaining respondents indicated no specific materials used to guide instruction. At the elementary level, respondents identified language arts as the primary content focus area (47.2%) while math was the most common focus area at the middle school level (41.7%). The most

[30] VDOE Regulations Governing Educational Services for Gifted Students (2012)
[31] NAGC Standards
[32] Callahan et al. (2017, p. 24)

commonly reported skills instruction given to gifted students at the elementary school level was creative thinking (32.9%), while middle and high school instructors were most likely to focus on problem solving.[33]

Interestingly, a separate study of gifted education curriculum in three states found that while identification practices for gifted programs typically focused on mathematics and language arts, the services provided to participating students largely did not align with these entry criteria.[34] Instead, critical thinking and creative thinking were listed as the top two focus areas of the gifted curriculum. While grade-level extension activities in math and language arts were also included in the top ten focus areas (ranked 3rd and 4th, respectively), the other most common foci were communication skills (5th), technology literacy (6th), metacognitive skills (7th), research skills (8th), academic motivation (9th), and academic self-confidence (10th). The study further found that part-time or pull-out classes were the most common form of delivery for the gifted curriculum and that the majority of teachers have considerable autonomy in selecting content for gifted students, similar to Callahan et al.'s national survey findings described above. In sum, research suggests considerable variability in the focus of gifted education and methods for delivering services.

The Gifted Gap

As we have seen, the early 20th century origins of gifted education are profoundly intertwined with racist and classist beliefs about children. Those earlier beliefs, and the testing and practices that sprang up to support them, were additionally shaped by the interaction between federal and state legislation related to gifted education and school desegregation.

Many states and districts implemented gifted education services during the height of court-ordered desegregation. For example, Sarah Garland's in-depth exploration of desegregation in Louisville-Jefferson County, KY, which to this day remains a substantially desegregated system at the district-level, shows that the system's Advance Program for gifted and talented students originated in 1975, the same year a judge handed down the district's desegregation order. Evidence submitted by plaintiffs interested in furthering desegregation *within* schools in the 1990s indicated that:

- Black students were less represented than White students in the gifted and talented program
- Black students were far less likely to be recommended to take the screening test than White students even if they scored in the top percentile.[35]

Districts around the country that implemented gifted and talented programs in the early aftermath of desegregation did so expressly to hold on to White, middle class families

[33] Callahan et al. (2017, p. 35)
[34] Long et al. (2019)
[35] Garland (2013, p. 166)

fearful of a loss of status and privilege.[36] Contemporary efforts to increase access to gifted education services often encounter similar resistance, defined in no small part by racial prejudice, White privilege, class privilege and elitism.[37] Barriers to access remain. As Donna Ford, a long-time researcher of gifted education, wrote in 2010, "The barriers to increasing the participation of Black and Hispanic students in gifted education…have remained pretty much similar to those that I discussed 20 years ago, 15 years ago, 10 years ago, and 5 years ago."[38] The present gifted gap, or the under-representation of Black and Brown students in gifted programs relative to White and Asian students, then, is a function of this history.

[36] Oakes (2005, p. 278); Kohn (1998); Sapon-Shevin (1994; 1996)
[37] Ford and King (2014)
[38] Ford (2010, p. 33)

WHO RECEIVES GIFTED SERVICES?

In this section we review research and publicly available data illustrating how racial and socioeconomic disparities in gifted education manifest nationally as well as in Virginia. These disparities reflect the enduring troubled history of gifted programs, as the evidence is clear that they disproportionately benefit White, Asian, and higher SES students and families.

Racial Disparities

Nationally, racial minority students are underrepresented in gifted education.[39] The following table depicts racial enrollment disparities using 2015-2016 data from the Office of Civil Rights (OCR).[40]

Table 1. National Percentage of Gifted Enrollment by Race

	%Overall Enrollment	%Gifted Enrollment	Ratio: Gifted/Overall
White	48.9%	58.8%	1.20
Black	15.4%	8.50%	.552
Latinx	25.8%	18.1%	.702
Asian	5.00%	9.90%	1.98

Ratios offer a measurement of over or under representation in gifted programs. A ratio of 1.0 would suggest perfect alignment between overall and program enrollment, and every 0.1 difference represents one decile of discrepancy. For example, a ratio of .5 would indicate half of the expected representation while 2.0 would represent double the expected representation. White students were overrepresented by roughly two deciles in gifted programs and Asian students had nearly double their expected representation. Conversely, Black students had nearly half their expected representation in gifted programs and Latinx were approximately three deciles below their expected representation.[41]

Nationally, White students were overrepresented in gifted enrollment in 47 of 50 states, and Asian students were overrepresented in 49 of 50 states. Conversely, Black students were underrepresented in gifted enrollment in 48 of 50 states[42] (Latinx underrepresentation in 49 states).[43] In their national survey of school district leaders,

[39] Grissom et al. (2019); Parr & Stevens (2019); Wright et al. (2017)
[40] The most recent data available
[41] In this same year, Black students were overrepresented in special education while White and Asian students were underrepresented according to OCR data. Overrepresentation of Black students in SPED programs is another well-documented equity issue in education (Ford, 2010)
[42] All but Utah and Massachusetts
[43] All but Massachusetts

Callahan and colleagues (2017) gathered responses from 1,566 school districts across the country providing self-reported data on gifted programs at the elementary, middle, and high school level. The sample also cut across urban, suburban, and rural districts. Approximately half of respondents indicated an exact alignment between their Black student enrollment and gifted representation. More than 80% reported near alignment (within one decile) between Black and Latinx student enrollment and their representation in gifted programs. This perhaps indicated a tendency to overestimate proportionality in representation, as OCR data included in this report conversely indicates that no states with underrepresentation of Black and Latinx students in gifted programs were within one decile of proportionality.

The following table depicts representation of White, Black, Latinx, and Asian students in gifted programs in Virginia compared to their overall enrollment based on 2015-2016 OCR data.

Table 2. Virginia Percentage of Gifted Enrollment by Race

	%Overall Enrollment	%Gifted Enrollment	Ratio: Gifted/Overall
White	50.5%	61.2%	1.21
Black	22.9%	11.5%	.502
Latinx	14.4%	8.9%	.618
Asian	6.64%	12.4%	1.86

Similar to national trends, White and Asian students are overrepresented in Virginia's gifted programs, with Asian students again representing nearly double their expected proportion based on their share of overall enrollment. Black students fared slightly worse in gifted representation in Virginia compared to national averages (about a half decile difference). Latinx students in Virginia also fared slightly worse than national averages, as they were underrepresented in gifted programs by approximately four deciles.[44] In terms of proportional representation in gifted programs, Virginia ranked 22nd nationally for Black student enrollment and 15th Nationally for Latinx student enrollment.

Identification and referral for gifted programs in elementary school has potential long-term implications for advanced course enrollment and performance in secondary school.[45] Here are the definitions of each according to VDOE guidance:[46]

> "*Identification*" means the multistaged process of finding students who are eligible for service options offered through the division's gifted education program. The identification process begins with a divisionwide screening component that is

[44] Conversely, Black students in Virginia were overrepresented in SPED programs by about two deciles (similar to national averages).
[45] Crabtree et al. (2019)
[46] VDOE Regulations Governing Educational Services for Gifted Students (2012)

> followed by a referral component, and that concludes with the determination of eligibility by the school division's identification and placement committee or committees. The identification process includes the review of valid and reliable student data based on criteria established and applied consistently by the school division. The process shall include the review of information or data from multiple sources to determine whether a student's aptitudes and learning needs are most appropriately served through the school division's gifted education program.
>
> "*Referral*" means the formal and direct process that parents or legal guardians, teachers, professionals, students, peers, self, or others use to request that a kindergarten through twelfth-grade student be assessed for gifted education program services.

The following table depicts the racial breakdown of elementary students in Virginia identified and referred for gifted and talented (GT) programs compared to their overall percentage of the K-5 population based on VDOE data from the 2016-2017 school year.[47]

Table 3. Proportion GT Representation to Total Student Population in Virginia

	% K-5 Population	% Students Identified for GT	Ratio: Identified/ Overall	%Students Referred for GT	Ratio: Referred/ Overall
Black	22.6%	10.4%	0.460	14.0%	0.619
Latinx	15.1%	9.52%	0.630	11.1%	0.735
White	49.7%	58.9%	1.19	55.8%	1.13
Asian	6.8%	14.0%	2.06	12.0%	1.76

According to these data, Black students represented 10.5% of students identified for GT programs, less than half of their percentage of overall K-5 student representation. Latinx students only fared slightly better. That same year, White students were approximately two deciles higher than expected in their representation of students identified for GT, while Asian students more than doubled their expected representation. These disparities reduce slightly in the proportion of students referred for GT, but Black and Latinx students continued to be underrepresented while White and Asian students continued to be overrepresented.

Socioeconomic Disparities

There are clear disparities in gifted education representation based on student socioeconomic status. While roughly half of responding school district leaders in Callahan and colleagues' (2017) study perceived proportionate representation for Black students in

[47] The most recent data available: http://www.doe.virginia.gov/statistics_reports/gifted/index.shtml

gifted programs, only about 18% of district leaders reported proportionate representation for their low-income students. In a 2019 study using a nationally representative dataset, Grissom and colleagues explored how students' race and socioeconomic status predicted their likelihood of receiving gifted and talented services in school. They found that students in the highest SES quintile were more than six times as likely to receive gifted and talented services than students in the bottom quintile. While gifted services increased at each SES quintile for all racial groups included in the study (White, Black, Hispanic, and Asian), the gains were most pronounced for White and Asian students, with Black students in particular not experiencing the same benefits of being higher SES. When controlling for previous achievement in math and reading, researchers found that socioeconomic disparities persisted. Within a subset of students scoring at or above the 95th percentile in math, students in the highest SES quintile still received gifted and talented services at nearly double the rate of students in the lowest SES quintile. The discrepancies were less pronounced for those scoring at or above the 95th percentile in reading, but students in the highest SES quintile were still roughly 10 percentage points higher in their likelihood of receiving these services. These findings suggest that socioeconomic disparities in GT programs are not only pronounced, but they endure even for high achieving low-income students. Further, they suggest that students' race continues to play a role in receiving GT services in school, even after controlling for SES.

The concentration of poverty in a school also predicts the availability of gifted programming. In a 2018 report for the Fordham Institute, Yauluma and Tyner found that the majority of elementary and middle schools (68.3%) in a nationally representative dataset reported having gifted programs. However, while they found that approximately 9% of elementary and middle school students participated in these programs nationally, there were clear discrepancies between students in high and low-poverty schools. While 12.4% of students in low-poverty schools participated, that was only the case for 6.1% of students in high-poverty schools. In a separate (2020) analysis, the authors found that while the overall percentage of schools with gifted programs slightly declined nationally between 2012 and 2016, they increased in low-poverty schools and decreased in high-poverty schools. Additionally, suburban schools had a higher likelihood of offering gifted programs than urban or rural schools.

Students qualifying for free or reduced lunch (FRL) subsidies are also underrepresented in gifted programs in Virginia. A 2013 report by the National Research Center on the Gifted and Talented at the University of Virginia offered an analysis of the number of school divisions in Virginia reporting approximate percentages of their FRL population in GT programs. The authors surveyed school division representatives and asked them to self-report program representation. In Virginia, the results were bimodal, with school divisions most commonly reporting that 1-10% or 11-20% of their FRL population was enrolled in GT programs.

Yauluma and Tyner (2018) offered state by state comparisons of gifted program participation by concentration of school poverty. The following table depicts comparisons of availability and participation in gifted programs by school poverty level in Virginia and nationally in the 2014-2015 academic year.

Table 4. Gifted Programs in Virginia by School Poverty Level*

	Low-Poverty		Middle-Poverty		High-Poverty	
	VA	National	VA	National	VA	National
% Schools Offering Gifted Programming	97.2%	64.5%	96.3%	69.2%	92.9%	69.1%
% Students Participating in Gifted Programming	18.8%	12.4%	11%	9%	6.2%	6.1%

**Low-poverty* = <25% FRL, *middle-poverty* = 25%-75% FRL, *high-poverty* = >75% FRL

Overall, Virginia ranked highest in the country by offering gifted programs in 92.9% of high-poverty schools, and exceeded the national average by at least 23 percentage points at every level of school poverty. The most recent OCR data[48] further supports the availability of gifted programs for students attending lower SES schools in Virginia, as approximately 96% of Title I elementary and middle schools offered gifted programs. The most recent OCR data further supports the availability of gifted programs for students attending lower SES schools in Virginia, as approximately 96% of Title I elementary and middle schools offered gifted programs in the 2015-2016 school year. Still, while Virginia exceeded the national average in percentage of students participating in gifted programming at every level of school poverty concentration, the percentage of students participating in gifted programming dropped precipitously as school poverty level increased, with students at high-poverty schools participating at about a third of the rate of students in low-poverty schools. This suggests that while there may be higher than average availability of gifted programs for low-income students in the Commonwealth of Virginia, their participation remains low.

Persistent racial and socioeconomic disparities in gifted program identification and participation (nationally and in Virginia) have short and long-term implications. In the following section, we explore why underrepresentation in gifted programs matters.

[48] 2015-2016 school year

WHY DOES THIS MATTER?

Racial and socioeconomic disparities in gifted program participation have implications beyond elementary school. This includes limited access to the demonstrated academic and social and emotional benefits of accelerated coursework, as well as disrupted or delayed entry to the pipeline of advanced course taking that often follows gifted identification in elementary school. Still, there is evidence that the academic benefits of participating in specialized "gifted" schools and programs can be marginal when comparing outcomes of accepted and non-accepted students with similar baseline academic performance.[49] This is consistent with a key critique of gifted programs, in that they are often inherently inequitable because they provide high quality, rigorous learning opportunities for only a select group of students.[50]

Mixed Evidence on Academic, Social, and Emotional Benefits

Gifted programs in elementary schools across the country tend to offer unique learning opportunities related to language arts, STEM, creative thinking, and problem solving (among others).[51] By design, students have an opportunity to accelerate in important academic competencies.[52] Research has shown that participation in accelerated classes tends to promote students' academic achievement.[53] However, research is mixed on the specific long term academic benefits of gifted program participation, with some studies showing that students in gifted programs perform better over time than peers demonstrating similar academic prowess on standardized assessments who do not participate,[54] while other studies show these academic achievement differences to be marginal at best.[55]

In a 2014 study by Abdulkadiroglu and colleagues, researchers compared SAT score and college admissions outcomes of students on the cusp of acceptance to "exam schools" in New York and Boston intended to serve gifted students. They found that there were no significant differences in the SAT scores or prestige level of college acceptances between students scoring just under the cutoff scores who were not accepted and those scoring just over the cutoff scores who were accepted. This suggests that for students with similar academic achievement baselines, there was little long-term benefit of the "gifted" label. The authors also found that students accepted to these specialized programs attended school with fewer racial minority and lower-income peers, which is consistent with research findings that racial and socioeconomic disparities in gifted program participation tend to persist when controlling for previous academic achievement.[56]

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[49] Barnum (2019)
[50] Callahan et al. (2017); Hamilton et al. (2018)
[51] Callahan et al. (2017)
[52] Grissom et al. (2019)
[53] Callahan et al. (2015)
[54] e.g. Long et al. (2019)
[55] e.g. Abdulkadiroglu et al. (2014), Dobbie & Fryer (2013)
[56] Grissom et al. (2019)

In a 2019 study from the National Center for Research on Gifted Education at the University of Connecticut, Long and colleagues explored gifted programs using survey and assessment data across three states. The authors found that gifted students started about two grade levels higher than their peers in the 3rd grade, but that their academic achievement tended to accelerate more slowly than students not participating in gifted programs from the 3rd through the 5th grade. Still, the authors found that students identified as gifted had higher achievement growth than other students scoring above the median on 3rd grade standardized tests who were not identified for gifted programs. This offers a mixed assessment of whether there were demonstrated academic benefits of being identified as "gifted." Furthermore, it raises the question of how much the benefits were associated with the gifted label versus the opportunity to engage in accelerated coursework. In the same 2019 survey, schools overwhelmingly reported providing gifted services through pull out classes,[57] suggesting that gifted students received their accelerated curriculum in isolation from their peers (high achieving or not). This highlights a central challenge in parsing out whether any apparent academic benefits of gifted education are attributable to being labeled as "gifted" or exposure to the accelerated coursework that is characteristic of these programs.

Relatedly, there is mixed evidence about the potential social and emotional benefits that students receive specifically through participation in gifted programs. Research has shown that students identified as gifted tend to show increases in self-esteem, self-efficacy, and engagement.[58] Furthermore, research has shown that gifted programs help students develop positive academic identities in STEM subjects.[59] However, critics of gifted education point to the negative social and emotional implications of segregating students (often along racial and socioeconomic lines) through the use of pullout classes[60] and specialized centers.[61] As Dobbie & Fryer (2013) suggested in their study of gifted schools in New York City and Boston, this approach may be based in a belief that high-achieving students benefit from primarily interacting with other high-achieving peers. Given the demonstrated racial and socioeconomic disparities in gifted program representation discussed throughout this literature review, this likely manifests in a lack of diversity in these peer groups. Furthermore, research suggests that racially and socioeconomically integrated schools and classrooms can contribute to reduction in biases, increased desire to seek out integrated settings later in life, improved satisfaction and intellectual self-confidence, enhanced leadership skills, meaningful relationships with diverse peers, and a reduction in anxiety.[62] This suggests that pullout gifted programs, which tend to disproportionately benefit White, Asian, and higher SES students, perhaps circumvent these demonstrated social and emotional benefits for participating students.

Considering how exposure to accelerated coursework may be the source of academic achievement benefits associated with gifted identification and how participation in integrated classes can contribute to student wellbeing in myriad ways, it leads to questions

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[57] Consistent with national survey findings in Callahan et al. (2017)
[58] Grissom et al. (2019)
[59] Crabtree et al. (2019)
[60] Hamilton et al. (2018)
[61] Dobbie & Fryer (2013)
[62] For a summary of this literature, see Burris (2019)

about how beneficial it actually is for students to receive gifted services in isolation from their peers. Furthermore, restricting access to accelerated elementary coursework to only a select few students may prove disruptive in promoting access into the advanced coursework pipeline, as explored in the following section.

Advanced Coursework Pipeline

Students identified for gifted services in elementary school tend to persist in advanced coursework throughout primary and secondary school.[63] Underidentification of low-income and racial minority students in these formative early years therefore has negative consequences for them entering a pipeline of future advanced course taking. In a 2007 study, Wyner and colleagues found that over a million students who qualified for free or reduced lunch demonstrated achievement in the top quartile at the start of elementary school. By the time they reached the 5th grade, only 56% continued to achieve at this high level. Conversely, 69% of higher income students achieving in the highest quartile at the start of elementary school maintained this level of achievement in the 5th grade. This is perhaps evidence that high-achieving students who qualify for FRL tend to be less likely to receive support to maintain that trajectory (e.g. through accelerated courses).

Similarly, research has shown that high achieving, low-SES students in middle school are less likely to maintain that level of achievement when they transition to high school than their higher-SES peers.[64] Lower exposure to gifted programming and advanced coursework are known to be contributing factors to this decline.[65] This may also be attributable to the higher likelihood of low-SES and racial minority students attending high schools with fewer advanced course options like AP.[66] Underrepresentation of Black, Latinx, and low-SES students in AP courses is well-documented in the literature,[67] as is underrepresentation in International Baccalaureate (IB) courses.[68]

Long term, students identified for gifted education in elementary school are more likely to enroll in Advanced Placement classes in high school,[69] which is often the primary form of gifted education at the high school level.[70] This may help explain persistent racial and socioeconomic disparities in AP program participation, as students may be less likely to pursue such academic opportunities in secondary school because of their academic trajectory (or track) established in elementary school.[71] For example, Crabtree et al. (2019) found that 22% of White students in the district they studied received gifted services, and that 11% took AP math or science classes. By contrast, only 3.43% of Black students received gifted services and only 2.6% and 2.8% took AP math or science (respectively).

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[63] Wyner et al. (2007)
[64] Xiang et al. (2011)
[65] Allensworth et al., (2014); Crabtree et al., (2019)
[66] Crabtree et al. (2019); Mullet et al. (2018)
[67] Ford et al. (2016)
[68] Theokas & Saaris (2013)
[69] Crabtree et al. (2019)
[70] Callahan et al. (2017)
[71] Ford et al. (2016)

In a 2010 study by Perrone, Wright and colleagues, researchers analyzed open response item data from a 1988 longitudinal study of 129 high school graduates who were identified as "gifted." The majority had been in advanced courses throughout elementary, middle, and high school, suggesting a clear pipeline. Participants reflected on their experiences in these classes throughout school and overwhelmingly indicated that they had a positive impact on their lives and future trajectories. This included feeling sufficiently challenged in school, decreasing boredom, and feeling prepared for college. Importantly, the vast majority (88%) of participants indicated that they also wanted their children to take advanced courses. The authors described this as evidence of "multigenerational trends in giftedness."[72] While this perhaps indicates that high achieving children are likely to come from high achieving parents, it may also corroborate how racial and socioeconomic disparities in giftedness are explainable, in part, by parents' willingness to advocate for their children.[73] Findings from Perrone, Wright, et al. (2010) suggest that efforts made toward increasing representation of racial minority and low-income students receiving gifted services and advanced courses may contribute to more proportionate representation in future generations.

There is also evidence that gifted program participation has potential postsecondary and career benefits. A separate 2010 longitudinal study by Perrone, Tschopp, and colleagues explored the long term career trajectories of gifted and talented students using the same sample as Perrone, Wright and colleagues (2010). The authors followed up with high school graduates to see where they were in their careers 10 and 20 years later. Participants held careers in a variety of industries, typically requiring postsecondary education. They also tended to describe their work as fulfilling, challenging, intellectually stimulating, and making a meaningful contribution to society. Importantly, the predictions made by participants 10 years after high school graduation about where they would be in their careers 20 years after graduation tended to be accurate. While this does not suggest a causal relationship with being identified as "gifted" or "talented" in school, the authors concluded that involvement in advanced courses in school provided students greater opportunity to develop a sophisticated understanding of who they might become in the future. Although the findings of these two studies by Perrone and colleagues suggest there may be long term benefits of receiving the "gifted" label in school, they also call into question the experiences of students who perhaps demonstrated similar potential but did not receive this designation. While there is abundant research exploring the psychological impact of being identified as gifted,[74] there appears to be relatively little research on the psychological impact of a student being told that he or she does not qualify. Research on self-fulfilling prophecy suggests that this may negatively impact the academic self-confidence of non-identified students.[75] This appears to be a much needed area for future research in gifted education.

Researchers investigating racial and socioeconomic disparities in gifted programs often profess the urgency of this issue by characterizing it as wasted potential. As Crabtree and colleagues (2019) observed, "The potential of millions of gifted students, whose brilliance goes unnoticed due to economic circumstances, racial identity, or both, is a critical

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[72] p. 129
[73] Grissom et al. (2019)
[74] e.g. Bernstein et al. (2020); Cross & Cross (2015); Sayler & Brookshire (1993)
[75] Rist (1970)

untapped resource."[76] Ford (2010) referred to this as a "global disservice."[77] This argument suggests that harm is not only done to the underrepresented students, but to society as a whole.[78] Failing to identify and cultivate academic potential in low-income or racial minority students in elementary school (who now make up the majority in US and Virginia public schools)[79] may prove costly in the long-term, as high school may be too late for gifted identification. Up to one-quarter of dropouts are estimated to be gifted.[80] In the following section we explore the prominent factors identified in the literature that contribute to disparities in gifted services.

[76] p. 203
[77] p. 31
[78] Parr & Stevens (2019)
[79] NCES Condition of Education (2020), VDOE Fall Membership (2019)
[80] Davis et al. (2011); Parr & Stevens (2019)

WHAT FACTORS CONTRIBUTE TO DISPARITIES IN GIFTED SERVICES?

In order to ameliorate racial and socioeconomic disparities in gifted education services it is important to consider the variety of school, family, and student level factors that contribute to them. The factors presented in this section are not intended to serve as a comprehensive review of the broad literature on this topic, but the information included here explores key points to take into consideration when working to address inequities in gifted education.

Opportunity to Learn

Students from lower socioeconomic (SES) backgrounds persistently participate in gifted services at a lower rate than their higher SES peers, even after controlling for race and prior achievement.[81] This suggests that socioeconomic status mediates the likelihood of enrollment in gifted programs. While underidentification of academically qualified students from low SES backgrounds likely contributes to these gaps,[82] research also demonstrates how SES largely determines students' opportunities for learning and enrichment. This is often referred to as "opportunity to learn" (OTL),[83] and it manifests in different ways. Parents in higher socioeconomic brackets tend to have greater ability to spend money on supplemental learning and enrichment opportunities for their children outside of school. Using national data from the Consumer Expenditures Survey, Kornich and Furstenberg (2013) found that parents in the highest two income deciles spent an average of $5,137 on educational enrichment (including high quality childcare) compared to an average of $825 for the lowest two income deciles during the 2006-2007 academic year. In other words, educational enrichment spending was roughly six times as high in the highest SES quintile.

Higher SES parents are also more likely to spend money on music lessons or art classes to develop skills sometimes considered to be valuable in the gifted evaluation process such as creativity.[84] Additionally, higher SES students are more likely to participate in summer enrichment opportunities that promote continued learning when school is not in session.[85] Different levels of investment may also be attributable, in part, to the availability of academic enrichment resources in a student's neighborhood.[86] Relatedly, research has also shown that lower SES students tend to have lower exposure to vocabulary at home than their higher SES peers.[87] Furthermore, higher SES families tend to have the advantage of being able to afford to move into school districts offering more opportunities for gifted programming and advanced coursework.[88] Discrepant opportunities to learn based on

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[81] Grissom et al. (2019)
[82] Olszewski-Kubilius & Corwith (2018)
[83] Peters & Engerrand (2016)
[84] Grissom et al. (2019)
[85] Olszewski-Kubilius & Corwith (2018); Plucker et al. (2017)
[86] Puryear & Kettler (2017, p. 144)
[87] Peters & Engerrand (2016)
[88] Olszewski-Kubilius & Corwith (2018)

socioeconomic status can contribute to a lower likelihood of being identified as a candidate for gifted education services.[89]

In a 2016 literature review, Peters and Engerrand explored national identification practices for gifted programs, documented contributors to gaps in representation, and described efforts to ameliorate inequities. In particular, they focused on OTL to represent how students from low-income families often do not get the same chances for enrichment and education as their peers from higher income families. The authors indicated that observable gaps in achievement as measured by standardized tests[90] are likely to stem from gaps in OTL, which is often difficult to detect and measure. They explain that one way OTL may manifest is in socioeconomic gaps in gifted program representation, as students with higher OTL are more often from higher-income families, and are more likely to be perceived as gifted. The authors emphasized that the key question such programs must ask is how to "compensate for differential OTL to more accurately identify talent and increase the equity of identified populations, while still maintaining the needs-based nature of gifted programming."[91] As discussed earlier in our literature review, "opportunity" often tracks not only along socioeconomic but also racial lines. Effectively addressing these inequities requires attention to their intersectionality, as opportunity gaps experienced by low-income students often extend to students of color.[92] This perhaps manifests itself most prominently in high-poverty urban schools, which also tend to be highly racially segregated and lacking in critical resources.

School Resource Differences

Just as opportunity to learn varies by family resources, student access to quality gifted education programs often varies by school resources (financial and otherwise). Because school funding is often determined by property taxes, schools in wealthier districts (which tend to serve fewer low-income and racial minority students) are more likely to have funding available for educational enrichment opportunities.[93] For example, in a 2017 study of schools in Texas, Puryear and Kettler found that the proportion of spending on gifted programs was positively correlated with the socioeconomic composition of the student body. In other words, wealthier schools and districts were more likely to have enrichment opportunities for gifted students. Schools serving higher concentrations of higher-income students often tend to be staffed with more experienced teachers.[94] Additionally, higher-income parents are more likely to be able to have the resources available to move or opt into private education if they perceive their assigned public school to have insufficient educational opportunities for their children.[95] Taken together, this demonstrates how students from higher socioeconomic backgrounds are more likely to attend schools where they receive high quality gifted education services.

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[89] Crabtree et al. (2019)
[90] Note that standardized tests are often culturally biased, as explored later in this section.
[91] P. 162
[92] Kendi (2019)
[93] Peters & Engerrand (2016)
[94] Olszewski-Kubilius & Corwith (2018)
[95] Grissom et al. (2019)

Low-income students are more likely to attend schools of concentrated poverty, which are less likely to have the resources to support accelerated learning programs, even for students who may have been identified as gifted.[96] Low-income and racial minority students are also less likely to attend high quality preschool, which is when many parents tend to receive information about gifted testing and programming opportunities in elementary school.[97] School resource differences are not exclusively an issue in urban areas, as rural schools are also more likely to struggle to provide gifted programming for their students. Puryear and Kettler (2017) found that non-rural districts allotted on average $80 per student on gifted services compared to $51 per student in rural districts. The authors also found that rural schools tend to be smaller, which may account for some of the differences in resources for gifted programming. Yuauluma & Tyner (2018) similarly showed in an analysis of nationally representative data that the likelihood of offering gifted programs was closely connected to the number of students in a school, with less than 40% of schools with 150 students or less offering such programs compared to approximately 80-90% of schools with around 1500 students. Importantly, these opportunity gaps do not end in elementary school, as lower resourced schools and districts also tend to offer fewer opportunities for advanced classes in middle and high school.[98] This connection between student resources and access to gifted programming is sometimes referred to as the "geography of opportunity,"[99] suggesting that where a student lives and attends school appears to be closely connected with their access to accelerated learning.

Parental Advocacy and Perceptions of Gifted Programs

Because "giftedness" is often determined by achievement on standardized measures, students who are potential candidates for these programs who do not take qualifying assessments or do not have a high enough score on the first attempt may get overlooked. This may help to explain the persistent socioeconomic disparities in gifted programs, as higher SES parents are more likely to be able to pay for private testing to determine giftedness when it is not provided by their child's school, or to have them retested if their first score did not qualify them for gifted services.[100] Higher SES parents are also more likely to advocate for their children to be evaluated for giftedness.[101] This may, in part, be attributable to how lower SES parents perceive gifted programs. However, research has also shown that higher SES parents tend to be more likely to push back against efforts to expand gifted program access, further solidifying its disproportionate benefit to their children.[102]

In a 2017 study of parent perceptions of gifted education in New York City, Roda found that low-income parents expressed some hesitancy with having their children participate in gifted services at their schools. This was partially based on concerns about costly tutoring services to meet the demands of gifted coursework, which they saw as potentially

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[96] Parr & Stevens (2019)
[97] Lu & Weinberg (2016)
[98] Olszewski-Kubilius & Corwith (2018)
[99] p. 144
[100] Grissom et al. (2019)
[101] McBee (2006)
[102] Lewis & Diamond (2015)

invalidating the "gifted" label. Parents also recognized that their child may be the only student of color in gifted classrooms that are traditionally not very racially diverse. Conversely, the Grissom et al. (2019) observed how middle- and upper-class parents tend to be more likely to participate in school activities, partially because of having fewer time constraints related to having basic needs met, but also because their cultural and racial experiences are more likely to align with that of the school.

Student Motivation

According to self-determination theory, there are three elements contributing to a student's sense of intrinsic motivation to participate in an academic task: competence, autonomy, and relatedness.[103] Concerns related to competence ("I can do this") and relatedness ("I identify socially with this") may partially explain racial gaps in gifted education. In a 2004 case study of high achieving Black male students' motivation to participate in gifted programs, Grantham found that participants reported previously turning down participation because they did not expect to perform well (competence), and had concerns about being one of the few minority students in the program (relatedness). Importantly, these concerns (and their negative implications for student motivation) may stem from school level factors.

In their iconic 2015 book, *Despite the Best Intentions*, Lewis and Diamond explored the practices in a racially and socioeconomically diverse high school that contributed to persistent disparities in school discipline and advanced academic coursework participation. Through a series of interviews with students, educators, and parents, they found that adults in the school often unknowingly communicated low expectations for racial minority and low SES student performance, contributing to a stereotype threat where students began to internalize low expectations for themselves. Furthermore, racial minority students and their parents tended to profess a high value for educational achievement, even more so than the White students and parents in the school. Students expressed a desire to learn and perform well in classes, including feeling positive peer pressure to get good grades. From a self-determination theory standpoint, this suggests that these students' may have felt a sense of relatedness associated with academic achievement, but that their sense of competence may have been undermined by internalization of perceived low-expectations. This also runs contrary to the prominent "oppositional culture" argument stating that Black students are less likely to want to perform well in school for fear of "acting White."[104] The crux of the argument put forward in the book was the idea that there are myriad ways that schools contribute to persistent racial and socioeconomic gaps in achievement, including misconceptions that Black students do not care as much about their education.

Low Expectations

It is well documented in research that educator expectations can have a meaningful impact on student achievement, positively or negatively. In the Top 20 Principles from Psychology

[103] Deci & Ryan (2012)
[104] Lundy (2003)

for PreK-12 Creative, Talented, and Gifted Students' Teaching and Learning from the American Psychological Association (APA),[105] principle 11 focuses on how teacher expectations for students can affect their opportunity to learn, motivation, and ultimately their learning outcomes. The report emphasizes that expectations can be communicated directly or indirectly, and that they impact students by shaping teachers' approaches to instruction, grouping practices, and anticipated achievement. The report further emphasizes that these expectations may be particularly impactful in early years and during transitions (e.g. to middle or high school). The impact of low expectations on potentially gifted students is also detailed in the report, "Depending on their personality traits, some students will take teacher expectations as a challenge and cope with them, whereas others may show a decrease in academic performance."[106] Although the impact of educator expectations may be dependent somewhat on how they are interpreted by students, research suggests that some students may be particularly susceptible to the impacts of underestimation.

A 2013 study by Sorhagen analyzed longitudinal data from 894 first grade teachers and 1,273 students to better understand how teacher expectations in elementary school relate to student achievement in secondary school. Teachers were asked to predict how their students would perform on standardized assessments in the first grade. Those predicted scores were then divided by students' actual performance to calculate a variable indicating the degree to which they over or underestimated student achievement. Teacher estimation scores at age six were stronger predictors of student performance at age 15 than actual performance on standardized tests in the first grade, as well as other standardized measures of math and verbal ability. Students who were overestimated at age six tended to perform significantly better than expected based on their early test scores, and those who were underestimated tended to perform significantly worse than expected. These effects were most pronounced for low-income students, suggesting that they may be more influenced by the expectations of their teachers than their higher income peers. These findings may offer insights into the school level factors that contribute to socioeconomic discrepancies in gifted and talented services and the corresponding long-term achievement outcomes. Just as students perceive support from their teachers to achieve success in advanced coursework,[107] underestimation of abilities may prove to be a tangible barrier. This speaks to the importance of maintaining high expectations for all students to not overlook potential giftedness in underrepresented populations.

Identification Practices, Testing, and Tracking

An examination of identification practices for gifted programs is critical to understanding racial and socioeconomic disparities in participation. Although there is not an established national norm for determining a student's qualification for giftedness, identification often occurs through performance on standardized assessments that are normed to a broader population than a student's school or district.[108] Nationally, IQ tests or other measures of intelligence are often the primary instrument used for determining giftedness, along with

[105] 2017
[106] p. 25
[107] Perrone, Wright, et al. (2010)
[108] Peters, et al. (2019)

other standardized achievement tests and teacher referrals.[109] Research has consistently shown that low-income[110] and racial minority students[111] tend to not perform as well as their peers on these forms of assessment, suggesting that their heavy use for gifted identification will further exacerbate disparities. Additionally, these tests have often been found to be culturally biased by asking students questions that are more reflective of White, middle class norms rather than their own familiar experiences,[112] which we address later in this section.

In their 2017 national survey of school districts about their gifted programming, Callahan and colleagues found that standardized, norm-referenced achievement tests were the dominant form of identification practices in most states. They also found that more than half of school districts reported the use of universal assessment to identify students for gifted programs, although this was more common in the early grades (K-2) than upper grades (3-5) of elementary school. Survey respondents commonly reported that teacher or parent nomination was a common entry point for gifted identification. State-level testing and student grades were also commonly used. Sometimes, districts used a combination of nomination and other screening measures like testing or grades, but this was more rare than primarily using assessment data for gifted identification. These prevalent identification practices can each contribute to racial and socioeconomic disparities.

As previously discussed, higher SES parents are more likely to advocate for their children to be tested for giftedness, suggesting that even when lower SES students perform well on standardized measures they are still less likely to be referred for gifted services. This was reflected in Grissom et al.'s (2019) analysis of nationally representative data, which revealed that even high performing[113] students in the lowest SES quintile were less likely to receive gifted services than other high performing students in the higher SES quintiles. Thus, the use of standardized assessments is often not as objective as purported, and referrals play a meaningful role.[114] This may be attributable, in part, to deficit-thinking in which educators serving as gatekeepers for gifted programs are less likely to perceive giftedness in students from underrepresented minority backgrounds.[115] Underreferral for these programs leads to fewer racial minority and low-SES students receiving the high quality instruction provided to students identified as "gifted," leading them to be less likely in the future to be identified for other opportunities for advanced coursework.[116] This is often referred to as a widening "excellence gap."[117]

This pipeline of course taking patterns is referred to as "tracking," a process by which students, starting in early grades and continuing through high school, are identified for either remedial, standard, or advanced pathways (often defined at the state or division

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[109] Olszewski-Kubilius & Corwith (2018)
[110] Grissom et al. (2019)
[111] Ecker-Lyster & Niileksela (2017)
[112] Grissom et al. (2017)
[113] Scoring in the 95th or 99th percentile on standardized measures of reading or math
[114] Olszewski-Kubilius & Corwith (2018)
[115] Ford (2010)
[116] Subtonik et al. (2011)
[117] Crabtree et al. (2019, p. 204)

level) l.[118] Through this system, Black, Latinx, and low-income students tend to be overrepresented in less rigorous tracks while White, Asian, and higher-income students tend to be overrepresented in more rigorous tracks.[119] The practice of tracking contributes to the "excellence gap" in several ways, including lower likelihood of teachers referring lower track students for advanced courses even when they demonstrate the potential for success through previous performance in standard level courses, as well as students assuming they do not have the option to take advanced courses in the future because it is not consistent with their current pathway.[120] In schools attempting to "detrack" students by eliminating these pathways based on previous performance, gifted programs (if retained) tend to be made available to all students who wish to participate in them for the added academic rigor.[121] We discuss examples of this in the strategies section of this review.

Twice Exceptional Students

A population of students which has routinely been overlooked for gifted education services are those found to be "twice exceptional" (exceptional both for their gifted and special needs). Often these students have their special educational needs met, but are rarely considered for gifted services.[122] Twice exceptional students are often misunderstood and methods for their identification may take additional time as they require a team dedicated to remediation and enrichment, hence they tend to be under-identified for giftedness. For example, students with ADHD may be overlooked for gifted services due to their potential talent, creativity, and ability being masked by impulsive behaviors and weaker short term memory performance.[123] The challenge then becomes finding ways to identify twice exceptional students through in-service training and ensuring clear communication between different educators involved in serving their needs.[124] It is also helpful for teachers working with twice exceptional students to provide additional processing time, to limit tasks that require fluency, to differentiate across subject areas and to be aware that the disability may hide the ability.[125]

Bias

Bias contributes to disparities in gifted services in multiple ways. From an assessment standpoint, questions on standardized measures of achievement used in gifted identification are often culturally biased.[126] These may include questions that don't provide sufficient supporting details for students to understand context; demonstrate bias toward a particular ethnicity, sex, culture, etc.; only include names or other designations from White, middle class culture; haven't been normed with different cultural groups before administration; provide inaccurate representations of diverse languages or cultures; or

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[118] Lewis & Diamond (2015)
[119] Ford, 2016, Olszewski-Kubilius & Corwith (2018)
[120] Lewis & Diamond (2015)
[121] Parr & Stevens (2019)
[122] Montgomery (2006)
[123] Fugate et al. (2013)
[124] Yssel (2012)
[125] Maddocks, D. L. S. (2020)
[126] Arewa (1977); Knoester, M., & Au, W. (2017)

offer dated characterizations of genders or other demographic groups.[127] Additionally, because assessments are often selected or created by state or school district representatives that are more likely to be White and from higher socioeconomic backgrounds, there is the potential for these biases to go unnoticed.[128] Thus, White privilege manifests at various levels in gifted education, including the selection and design of identification assessments, representation in test questions, norming practices, and subjective referral processes.[129]

Similarly, because educator referrals are a common method for identifying students for gifted programs,[130] the potential for bias in these subjective identification practices can contribute to racial and socioeconomic gaps. Historically, schools have often employed practices that are "colorblind," meaning they are supposed to apply equally to all student groups regardless of race.[131] In the context of gifted education, this includes the use of a single standardized assessment for identification or providing professional development to teachers of gifted students that does not address the historical and enduring racial disparities in these programs.[132] However, these may contribute to underrepresentation in academically rigorous coursework like gifted programs.[133] Additionally, although racial and ethnic minority students comprise increasingly larger percentages of the population in public schools, the teacher workforce is still predominantly White.[134] Research has shown that teachers of color are more likely to refer students of color for gifted programs than their White colleagues.[135] Furthermore, research suggests that Black students with similar achievement as White students are less likely to be referred for gifted programs in classrooms with White teachers.[136] Expectations for student achievement do not have to be communicated overtly by educators for them to have an impact on student learning, and there is evidence that students from low socioeconomic backgrounds tend to be more vulnerable to the effects of low expectations by their teachers.[137] Often, these expectations are perpetuated by educators with the best intentions for the success of their students, who may not always be aware of how their biases could be guiding their referral practices.[138]

Although not comprehensive, the above research presents myriad factors contributing to racial and socioeconomic disparities in gifted program identification and participation. The following section will discuss some of the prominent policies, practices, and recommendations outlined in the literature for helping to address this issue and promote greater equity in gifted education.

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[127] https://www.brown.edu/academics/education-alliance/teaching-diverse-learners/question-iv-0
[128] Ford (2010)
[129] Ibid.
[130] Olszewski-Kubilius & Corwith (2018)
[131] Ford (2010)
[132] Ibid.
[133] Lewis & Diamond (2015)
[134] Ford (2010)
[135] Grissom et al. (2017)
[136] Crabtree et al. (2019)
[137] Sorhagen (2013)
[138] Lewis & Diamond (2015)

WHAT STRATEGIES HELP TO ADDRESS DISPARITIES IN GIFTED EDUCATION?

Achieving equity in gifted education is a challenging but worthwhile pursuit. As discussed throughout this review, racial and socioeconomic disparities in gifted program representation are significant and long-standing, and research in this field offers several recommendations and strategies for addressing them. In this section, we explore prominent recommendations related to the use of alternative assessments, performance and project-based assessments, universal screening with local norms, committee reviews, and observations to determine "giftedness." Additionally, we explore the importance of diversifying the teacher workforce, using multicultural instructional practices, and providing professional development related to understanding and nurturing giftedness in underrepresented student groups. Ultimately, these recommendations call on educators and school leaders to reimagine "giftedness" as a skill to be developed rather than an innate ability to be identified. Thus, this section offers a range of recommendations, from addressing some of the underlying factors that contribute to inequities to reimagining gifted education entirely.

Revisiting Gifted Identification Practices

Performance and Project-Based Assessments

Using multiple sources of student performance data (e.g. assessments, portfolio reviews, and course grades) can also help increase representation of racial minority and low-income students in gifted programs.[139] In a 2007 study by VanTassel-Baska and colleagues, researchers conducted a three year analysis of gifted identification practices in South Carolina. The state had recently introduced a performance-based assessment option for gifted identification with the goal of identifying more low-income and racial minority students. The authors estimated that when combined with more traditional measures of identification, performance-based assessment could reliably increase representation of these student groups by 20% across the state. They found that students identified through this newly adopted task performance-based criteria tended to demonstrate ongoing achievement in state tests in their identified areas of strength, similar to traditionally identified students.

In a 2005 case study, Hertzog explored the experiences of expanding gifted inclusion in a midwestern elementary school serving predominantly Black and low-income students. The school had a history of low achievement and disproportionately high representation of Black students in special education and low representation in gifted education. They established a project-based learning approach in the school that included efforts to identify potential giftedness in underserved students in general education classrooms through a program called "Project Approach." The goal of the program was to "make the curriculum and instruction in general classrooms more conducive to developing potential and

[139] Callahan et al. (2017)

identifying talents."[140] This primarily involved ongoing documentation offering a detailed account of how students learned in the classroom as evidenced by artifacts generated during project-based learning. Teachers reported that this allowed them to not only detect and develop potential giftedness in more of their students, but to better understand the learning processes of all of their students. The principal reported that the school climate had improved, with more parent participation, teacher collaboration, and universally high expectations for student success. This suggests that use of project-based assessment to prioritize more equitable representation in gifted education may prove beneficial not only for student achievement, but for the culture of a school as well. The VDOE gifted regulations include student products, performance, or portfolio reviews among the recommended criteria for determining giftedness.[141]

Alternative Assessments

The use of alternative forms of assessment for gifted identification may reduce barriers to program inclusion, as the use of a single standardized test can often serve as a filter (or gatekeeper) for underserved students.[142] In fact, the VDOE gifted education guidelines require that "no single criterion is used to determine a student's eligibility."[143] This also reduces the potential negative impact of cultural bias in traditional gifted assessments like IQ tests.[144] For example, in Card & Giuliano's 2015 study, the profiled school district in Florida used the NNAT, a nonverbal assessment, to expand representation in their gifted programs. Students who perform well on nonverbal assessments often also perform well on traditional standardized tests,[145] meaning they may offer more inclusive assessment while not significantly disrupting the pathway to gifted programs for students with high scores in generalized intelligence. They may also be particularly effective in identifying giftedness in English Learners.[146] Since nonverbal testing is less reliant on understanding language and more focused on reasoning skills the assessments are considered more culturally sensitive.[147]

Still, Hever and colleagues (2013) cautioned against sole reliance on nonverbal screening to address minority underrepresentation. Giessman and colleagues (2013) compared student performance on the NNAT and Form 6 of the Cognitive Abilities Test (CogAT-6) and found that both measures produced racial and socioeconomic disparities in performance among participants.[148] This suggests that other assessment strategies may also be necessary to promote proportional representation in gifted programs. In a 2001 study, Lidz and Macrineb investigated the effects of a dynamic assessment approach to gifted testing administration in which the assessor actively intervened with students by ensuring they understood the principles of a task before proceeding independently. This system

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[140] p. 248
[141] VDOE Regulations Governing Educational Services for Gifted Students (2012)
[142] Crabtree et al. (2019); Ford (2010)
[143] VDOE Regulations Governing Educational Services for Gifted Students (2012)
[144] Grissom et al. (2017)
[145] Hodges et al. (2018)
[146] Olszewski-Kubilius & Corwith (2018)
[147] Ecker-Lyster & Niileksela (2017)
[148] NNAT2; Naglieri (2008); CogAT-6; Lohman & Hagen (2001); Giessman et al. (2013)

identified 25 of the 473 students in a school with almost two thirds of those identified coming from culturally or linguistically diverse backgrounds.[149]

Universal Screening and Local Norms

The literature supports that universally screening students provides more opportunity for detecting potential giftedness in low-income and racial minority students.[150] This theoretically reduces the potential for higher SES parents (who are more likely to be White) to have their children independently assessed or reassessed for giftedness where lower SES students do not receive the same opportunities.[151] Card and Giuliano (2015) explored changes in gifted program representation through the use of universal screening in a large, diverse district in Florida. The district used the Naglieri Nonverbal Ability Test (NNAT) to screen all second grade students for giftedness, and adjusted the cutoff scores for English Learners and low-income students from 95th percentile to the 85th percentile for referral to a school psychologist for further assessment. Through this process, the gifted identification rate raised from 3.3% to 5.5%, and the students who were now included in the program showed greater gains in reading and math assessments than those who would have otherwise been identified.

Furthermore, research supports the use of data from universal screenings to create local norms since nationally normed tests often perpetuate racial and socioeconomic gaps and tend to favor White, middle-class students.[152] National norms are often based on grade level comparisons, which do not account for variable access in students' opportunity to learn (OTL) as described earlier in this review.[153] The federal definition for giftedness states that students should be compared to others of similar "age, experience, and environment," further supporting the use of local norms.[154] This approach would allow for more individualized support of students identified as gifted according to local benchmarks, tailoring gifted programs to the identification criteria used in each building. Universal screening and the use of local norms have the potential to capture students who may otherwise be missed, and generate a gifted cohort that is more representative of the population of a school or district. Critics of this approach often cite the financial resources required to assess all students and spend time developing and implementing local norms.[155] However, the potential long-term academic gains experienced by additional students included in accelerated programs as a result of this approach may prove a worthy investment.

Committee Reviews

The VDOE gifted regulations also call for "identification and placement committees" at the division or school level for determining student eligibility for gifted and talented programs.

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[149] Lidz (1991); Lidz & Macrineb (2001)
[150] Card & Giuliano (2015); Rowe (2017)
[151] Grissom et al. (2019)
[152] Peters & Engerrand (2016); Peters et al. (2019); Plucker et al. (2017); Yuauluma & Tyner (2018)
[153] Peters & Engerrand (2016)
[154] Peters & Engerrand (2016, p. 164)
[155] Grissom et al. (2019)

[156] The purpose of the committee is to "review pertinent information, records, and other performance evidence for referred students."[157] The regulations indicate that these committees shall include teachers, administrators, assessment specialists, gifted program staff, and other professionals with experience in gifted education. The committee is tasked with reviewing data from "multiple sources selected and used consistently within the division to assess students' aptitudes in the areas of giftedness the school division serves." Based on this review, the committee determines whether students are eligible for gifted service options in the division. Research suggests that committees utilizing multiple data sources to determine eligibility have the potential for reducing racial and socioeconomic disparities in gifted programming.

For example, the Young Scholar's Program (YSP) in Fairfax County Public Schools uses school based committees composed of educators in various roles in the school to identify potential giftedness in students.[158] The committees review data on all students in the school across multiple settings throughout the year, and work to ensure that students are being challenged and given equitable opportunities for gifted identification.[159] According to Horn (2015), in the year 2000 (three years before the start of YSP), only 76 Black and 66 Latinx students were enrolled in "level IV" of advanced academic services (gifted programs) from grades 3-8.[160] In 2014, Black representation increased 1,221% to 928 students and Latinx representation increased 2,150% to 1,419 students. Over that same time period, Black and Latinx representation also increased in levels II and III of advanced academic services, from 475 to 2,064 Black students (a 435% increase) and from 311 to 4,079 Latinx students (a 1,312% increase). White and Asian student representation in these advanced academic programs also increased over this timespan, but at a less accelerated rate than Black and Latinx students, indicating that the YSP program helped reduce racial disparities in gifted and other advanced programs.

Observations

Classroom observations are among the sources of evidence that committees can use to determine student eligibility for gifted programs according to the VDOE regulations. A program titled Using Science, Talents, and Abilities to Recognize Students (USTARS) demonstrates how teacher observations can help assess students for potential giftedness while working to address underrepresentation of racial minority students.[161] In a 2014 study by Harradine and colleagues, approximately 1,100 teachers in 100 schools across four states in the USTARS program used the Teacher's Observation of Potential in Students (TOPS) protocol[162] to observe academic affinity in elementary school students across nine domains, including "learns easily," "displays spatial abilities," and "displays leadership" (among other criteria).[163] The authors found that use of the protocol resulted in greater identification of

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[156] Ibid.
[157] See previous "Who receives gifted service section" for racial disparities in gifted referrals in Virginia
[158] Horn (2015)
[159] Ibid.
[160] p. 29
[161] Harradine et al. (2014)
[162] Coleman et al. (2010)
[163] p. 27

racial minority students. In a follow up survey, teachers indicated that they would have overlooked academic potential in 22% of their students of color and in 53% of their Black male students[164] specifically without the TOPS protocol.[165] After using the protocol, 74% of participating teachers said that it increased their ability to recognize potential in culturally and linguistically diverse students.[166] Using multiple eligibility criteria including observations, performance- and project-based assessments, and alternative assessments demonstrate clear potential for expanding representation of low-income and racial minority students in gifted programs.

Self Selection or Self Referral

The VDOE Regulations Governing Educational Services for Gifted Students (2012) offers the possibility of students referring themselves for gifted education:

> 8VAC20-40-20. "Referral" means the formal and direct process that parents or legal guardians, teachers, professionals, students, peers, **self**, or others use to request that a kindergarten through twelfth grade student be assessed for gifted education program services.
>
> 8VAC20-40-40-C. These uniform procedures shall permit referrals from parents or legal guardians, teachers, professionals, students, peers, **self**, or others. Such referrals shall be accepted for kindergarten through twelfth-grade students.

Although literature on student self selection or referral for gifted services appears to be limited, research suggests that differentiating instruction for potentially gifted students in classrooms can promote accelerated learning and is an often underutilized strategy.[167] Furthermore, autonomy is a key component of self-determination theory, suggesting that students tend to be more intrinsically motivated when they feel that they had a say in their own learning.[168] Providing opportunities for students to engage in differentiated, accelerated learning within their classrooms could leverage the VDOE provision for students to self-refer for gifted programs and promote greater equity.

Providing Supports to Promote Equity

Diverse Teacher Workforce and Multicultural Instructional Practices

Research supports that employing diverse teachers and administrators at a school tends to increase the number of minority students that qualify for gifted services.[169] In a 2017 study

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[164] For additional exploration of gender differences in gifted education and how it intersects with race, see Young et al. (2017)
[165] p. 24
[166] Ibid.
[167] VanTassel-Baska, Hubbard, & Robbins (2020)
[168] Deci & Ryan (2012)
[169] Grissom et al. (2017)

using nationally representative data from the Schools and Staffing Survey (SASS) and Office of Civil Rights (OCR), Grissom and colleagues explored how teacher and principal diversity contributed to representation of Black students in gifted programs. They found that a 10% increase in the percentage of Black teachers in a school was associated with a 3.2 percentage point increase in Black student representation in gifted programs after controlling for other school and district characteristics.[170] Having a Black principal was associated with a 3.8 percentage point increase.[171] In schools where 30% of the teachers were Black, the share of Black students in gifted programs was 13% under non-Black principals and 20% under Black principals.[172] When 80% of the teachers were Black in schools, the share of Black students in gifted programs was 20% under non-Black principals but 40% under Black principals.[173] The authors also found that having higher percentages of Latinx teachers was associated with a higher percentage of gifted students who were Latinx.[174] These findings speak to the importance of having a teacher workforce that aligns with the demographics of the student body to promote equitable representation in gifted programs.

In order to maintain diversity in gifted programs, research suggests that instructional practices should be grounded in a multicultural curriculum framework to provide learning experiences relevant to the target population and sustain motivation and interest. According to Grantham (2004), this should include four components: 1) acknowledging important figures, holidays, and cultural events, 2) engaging in conversation about race to encourage students to think beyond majority group perspectives, 3) encouraging examination of issues from minority viewpoints, and 4) inviting suggestions for addressing prominent social issues.[175] The curriculum should reflect aspects of diversity such as ethnicity, socioeconomic status, and gender to guide students toward understanding themselves and others.[176] Taken together, these studies suggest that it is not only important to be intentional about identifying more underrepresented students for gifted programs, but also providing a curriculum that is culturally relevant.

Professional Development

Training for teachers that emphasizes recognition of potential giftedness among underrepresented student groups should be taught alongside strategies for identifying giftedness in these populations.[177] Such techniques could be a way to combat under referral and increase the education of teachers regarding how giftedness may appear in economically disadvantaged or racial minority students.[178] The importance of sustained, high-quality professional learning in gifted education is emphasized in the Pre-K to Grade 12 Gifted Programming Standards by the NAGC. However, states vary in their PD requirements related to teachers in gifted programs. Callahan et al. (2017) reported that

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[170] p. 409
[171] p. 412
[172] p. 416
[173] Ibid.
[174] p. 408
[175] p. 241
[176] Ecker-Lyster & Niileksela (2017); Ford (2010)
[177] Crabtree et al. (2019)
[178] Grissom et al. (2019)

only 17 states required teachers of gifted students to hold a certification in gifted education, and only five states required teachers to participate in annual professional development specifically focused on gifted education. In their survey, the authors found that gifted PD commitments at the elementary level ranged from 15 minutes to 4 days per year, while 57.6% of the middle school program representatives and 62% of the high school program representatives reported fewer than five hours per year of PD focused specifically on meeting the needs of gifted students.[179] The VDOE gifted regulations require annual evidence that school divisions provide professional development related to gifted education.

Importantly, professional development related to giftedness should include training on identifying students who have traditionally been underrepresented in the programs to avoid perpetuating inequitable practices. Pierce and colleagues (2006) explored how teachers participating in Project CLUE (Clustering Learners Unlocks Equity) changed their identification practices for potential giftedness in students. This professional learning model instructs teachers to identify students for gifted programs using standardized test scores, a nonverbal ability test score, and checklists developed by teachers and parents. They found that teachers participating in this professional development were more likely to recommend Latinx and English Learner students for gifted programs. Similarly, Frank (2017) observed the positive impact of PD on teachers' perceptions of ability in a district where migrant students were not being identified for gifted programs. After specific training in working with ELL and transient students, teachers were better prepared to nurture and recognize potential in the migrant population which increased student identification at one school from zero to two the following year. Professional development for educators related to identification of potentially gifted students, particularly those from underrepresented populations, is critically important as they often serve as gatekeepers for these programs.[180]

Moving Toward "Talent Development"

Reconceptualizing "Giftedness"

Research in gifted education often suggests that giftedness should be viewed as a developmental construct that begins with demonstration, or potential for, exceptional achievement rather than a discrete trait to be identified in early elementary grades.[181] This approach likely requires a shift in the definition of "giftedness" which historically has been based on cutoff scores at the highest levels of achievement on standardized assessments.[182] While this expanded definition may be perceived by some as sacrifice,[183] efforts to achieve more proportional representation in gifted programs are consistent with the federal definition, which states that "outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor."[184]

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[179] Callahan et al. (2017)
[180] Crabtree et al. (2019)
[181] Cross & Cross (in press)
[182] Peters & Engerrand (2016)
[183] Ibid.
[184] USDOE (1993, p. 3)

In a 2011 literature review, Subtonik and colleagues offered a proposed direction for gifted education based on psychological science. They argued for the importance of considering multiple affinities and types of intelligence (e.g. musical or mathematical) in students rather than relying solely on a generalized form of intelligence (e.g. IQ) when determining potential giftedness. They advocated that while many of these talents and abilities could be nurtured in schools, they are similarly promoted at home and in the community, thus generating more opportunities for parents and mentors to partner with the school to develop student talent. The authors promoted a model based on five principles: 1) that abilities can be developed, 2) that talents in different domains have different developmental trajectories, 3) that students need opportunities to demonstrate their potential talents, 4) that psychosocial tendencies in students contribute to their talent development, and 5) the ultimate goal of gifted education should be ongoing learning and success ("eminence.")[185] Through this proposed framework, expanded inclusion criteria would allow more students to have the opportunity to develop their potential gifts or talents, while still pursuing an ultimate goal of high achievement (consistent with traditional models of gifted education).

Movement toward an expanded view of giftedness that considers multiple domains requires additional student supports. This includes teachers remaining attuned to potential signs of giftedness in their students, which likely entails flexibility in criteria for identification extending beyond standardized test scores[186] (e.g. observations or portfolio reviews).[187] Research suggests that these efforts will be worthwhile in developing potential giftedness in low-income students,[188] who are often particularly underrepresented in gifted education programs.[189] In 2017, the Metropolitan Center for Research on Equity and the Transformation of Schools at New York University Steinhardt established a School Diversity Advisory Group (SDAG) composed of 40 members, including teachers, parents, students, and community partners. The group was charged with offering recommendations to the mayor and Chancellor of New York City Public Schools (NYCPS) about how to better integrate their schools and programs. They explored the history of gifted education in NYCPS, which has overwhelmingly benefitted White students,[190] and offered a series of recommendations on how to better integrate these programs. Among their recommendations, they emphasized the importance of identification moving beyond a stand alone test with strict cutoff scores and advocated further research into differentiated curriculum enrichment opportunities for underserved students.[191]

Talent Development

Increasingly, research has supported movement away from *identification* of giftedness and toward *development* of talent or potential giftedness. This conceptualizes giftedness as a developmental rather than inherent construct.[192] Under this approach, students would have

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[185] p. 30
[186] Plucker et al. (2017)
[187] Peters & Engerrand (2017)
[188] Olszewski-Kubilius & Corwith (2018)
[189] Hamilton et al. (2018)
[190] Fruchter (2019)
[191] SDAG (2019)
[192] Hodges et al. (2018)

equitable access to curricula that support higher level thinking.[193] Labeling a student as "gifted" may also be consistent with a fixed mindset: the belief that intelligence is a fairly static or inherent trait.[194] Research has increasingly shown that it tends to be more beneficial for educators and students to instead exhibit a growth mindset: the belief that intelligence is malleable and can increase through effort.[195] The NAGC recently pushed back on the notion that gifted programs promote a fixed mindset in participating students, stating "These assertions have led some to make sweeping conclusions to dismantle gifted programs and eliminate separate gifted classes, formal identification, and ability grouping, though these practices are considered highly beneficial for gifted students."[196] However, this argument overlooks issues with the identification practices themselves that are often based on performance on a singular measure of intelligence[197] and overwhelmingly benefit White, Asian, and higher SES students.[198] In fact, research has shown that students identified as gifted may be more likely to demonstrate an entity (or fixed) view of intelligence regardless of when they are identified.[199] While the intention of gifted programs to accelerate learning[200] is perhaps consistent with promoting a growth mindset, only providing such opportunities to select students who already demonstrate high achievement early in elementary school is quite the opposite. The following examples help illustrate programs and initiatives that seek to promote equitable representation in gifted programs by detecting and developing talents in underrepresented student populations.

Camp Launch at the College of William and Mary in Virginia provides low-income, seventh and eighth grade students demonstrating potential for giftedness with a summer enrichment opportunity to foster academic growth and self-efficacy. Qualifying students must come from families with less than $45,000 annual income and have scored at or above the 90th percentile in a standardized test (multiple domains and assessments considered) *or* have a recommendation from a teacher accompanied by evidence of their academic performance. Participants engage in culturally relevant STEM courses during the summer and focus on developing a future orientation for continued learning.

Project Excite at Northwestern University also focuses on addressing racial disparities in advanced course representation and achievement in grades 3-8. The program is supported through the Center for Talent Development in the School of Education and Social Policy at Northwestern in partnership with the Evanston/Skokie School District 65 and Evanston Township High School (ETHS) District 202. The goal of the program is to prepare its 130 participating students for future academic achievement in advanced math and science courses in high school. The program was featured in the 2017 "Paper of the Year" by *Gifted Child Quarterly*.[201]

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[193] Subotnik et al. (2011)
[194] Dweck (2015)
[195] Dweck (2006)
[196] Mofield (2018)
[197] Callahan et al. (2017)
[198] Grissom et al. (2019)
[199] Snyder et al. (2013)
[200] Subotnik et al. (2011)
[201] Olszewski-Kubilius et al. (2017)

Charlottesville City schools recently recommended a change to gifted instruction for the 2019 school year supporting gifted specialists to "push in" to classrooms instead of pulling students out for enrichment.[202] The rationale is that more students would be able to benefit from advanced instruction, in turn boosting student confidence and ability for advanced coursework. Under this proposal, elementary teachers would also be trained in talent development, portfolio creation and differentiation of instruction for all students prior to official gifted identification which will also be changed to include a non-verbal test. Said one school board member interviewed about the potential change "I'm excited about this different approach ... it seems like this is more in line with best practices across the country."[203]

Conclusion

This report has highlighted historical and enduring disparities in the representation of low-income and racial minority students in gifted education. Considering the myriad factors contributing to these disparities as well as the demonstrated academic, social, and emotional benefits of accelerated coursework participation, it behooves educators, school division leaders, researchers, and policymakers alike to collaboratively and urgently pursue strategies for increasing access to gifted programs or reimagine their structure. This will require acknowledgement of the racist origins of gifted education and the demonstrated limitations of identification practices based on singular criteria. It will further require stakeholders to embrace a talent development mindset, and recognize the diverse ways that students can demonstrate "giftedness."

[202] Knott & Wrabel (2019)
[203] For a thorough review of successful talent development models cross the country, see Cross & Dockery (2014)

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