The Social Construction of Giftedness: The Intersectional Relationship Between Whiteness, Economic Privilege, and the Identification of Gifted

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Abstract

Wide socio-demographic disparities exist between students identified as gifted and their peers (De Valenzuela, Copeland, Qi, & Park, 2006; Leonardo & Broderick, 2011). In this paper, we examine the intersectional construction of giftedness and the academic achievement of students identified as gifted. Using data from the Toronto District School Board (TDSB), the largest and one of the most diverse public education systems in Canada, we consider racial, class, and gender characteristics of students identified as gifted in comparison to those who have very high achievement. Results demonstrated that there was almost no relationship between students identified as gifted and students who had very high achievement (Pearson's correlation of 0.18). White, male students whose parents had high occupation statuses had the highest probability of being identified as gifted. Female students were more likely to be high achievers. Compared to White students, it was only East Asian students who were more likely to be identified as gifted; yet South, Southeast and East Asian students were more likely to be very high achievers. Parental occupation was strongly related to both giftedness and very high achievement. Results point to the socially constructed nature of giftedness and challenge its usage in defining and organizing students in schools.

Keywords
gifted, giftedness, high achievement, stratification of opportunities, schooling, equity in education, construction of ability, critical disability studies.

"I think your child might be gifted" is an assessment that many parents would be thrilled

to receive. The concept of giftedness connotes brilliance, superior intellect, exceptional cognitive

capabilities, and future academic potential - all attributes valued by schools and society. In

addition to the prestigious label, for many students, an identification of giftedness leads to

greater academic privilege. As a result of the identification process, students identified as gifted

often have the opportunity to access enriched curriculum, specialized programming, smaller

class sizes, as well as the opportunity to embark on a highly successful academic trajectory

towards post-secondary education. However, empirical research shows that these advantages,

both of the gifted identification and access to enriched programming, are not equitably bestowed

across all children. In fact, wide socio-demographic disparities exist between students identified

as gifted and their peers (De Valenzuela, Copeland, Qi, & Park, 2006; Leonardo & Broderick,

2011). These disparities are further exacerbated when exploring the over-representation of male,

racialized students and students living in poverty that proliferate special education programs

designed for students identified as disabled or as having a special educational need (Artiles &

Ball, 2008; Artiles & Trent, 1994; Artiles, Kozleski, Trent, Osher, & Ortiz, 2010; Ford, 1998).

Since we know that there is no biological association between, for example, ability and race or

ability and gender (Gould, 1996), it is of great interest to us how these disparities continue to

persist and the degree to which the identification and placement process contributes to its

replication.

In this paper, we examine the questions, "Who is identified as gifted in a diverse

population of school aged children in Toronto, Canada, and how does the construct of giftedness

secure advantages for a starkly homogenous group of students within the public education

system?" Using the widely-held assumption that giftedness and high achievement are closely

associated, we also explore whether the academic potential recognized through the identification

of giftedness, largely in the elementary years, is realized by the end of secondary school.

Through these analyses, we consider racial, class, and gender characteristics of students

identified as gifted in comparison to those who are high achievers. The Toronto District School

Board (TDSB) is the largest public education system in Canada and is located in one of the most

diverse cities in the world. Through its Student and Parent Census, the TDSB collects

demographic and experiential information on its student population, currently just over 245,000

(TDSB, 2018). The TDSB's immense collection of data has resulted in the largest youth survey

in the country and has provided countless opportunities for scholars and researchers to

investigate areas of equity or inequity within the system. In addition to the demographic and

experiential data collected by the TDSB, student information is also linked to program and

administrative records; thus providing a comprehensive dataset through which we can explore

the intersectional relationship between racial identity, class and the likelihood of being identified

as gifted and placed within gifted programming.

What is giftedness?

The notion of what "giftedness" is occupies an interesting position in the literature. There

are actually (at least) three major conceptualizations of the meaning of giftedness. One

perspective is known as "schoolhouse" gifted and understands the concepts to be deeply rooted

in IQ measures (Renzulli, 1978). Under such an understanding of giftedness, there is typically a

strong association between students' standardized IQ scores and their academic achievement.

However, such a notion of giftedness appears to be entrenched in biology and eugenics. A more

progressive understanding of giftedness – known as "three ring giftedness" – understands the

concept as a skill that can be nurtured and taught. It is therefore a "three-ring combination" of

intelligence, perseverance, and creativity (Renzulli, 1984). A third understanding of giftedness

takes the position that the label is entirely socially constructed (Borland, 2012) citing evidence

that those identified as gifted are not equally distributed across various socioeconomic,

geographical, and racial domains.

In essence, giftedness is assessed through complex intelligence quotient assessments, administered by professional psychologists, who provide comprehensive reports on the finite nuances of cognitive performance. Gagné (2013) argues that giftedness is the possession and expression of a 'genetically anchored', natural ability defined through psychometric assessments. The often medically-based identification, assessment and remediation approaches seem to support that there is an intrinsic difference in gifted-identified students' biology, neurology, or some other internal characteristic. However, there are alternate perspectives gaining salience that challenge giftedness as an innate characteristic and suggest that superior performance is based on environmental factors such as access and opportunity (Subotnik, Olszewski-Kubilius, & Worrell, 2011; Gaztambide-Fernández, Saifer, & Desai, 2013).

In Ontario, giftedness falls within the provincial Ministry of Education's guidelines for exceptionality and is considered to be, among identifications of disability, a special educational need (Ministry of Education, 2016). Interestingly, as with many of the categories of exceptionality, boards have autonomy over determining the criteria for identification resulting in notable variation. While disability, and arguably all identification of exceptionality, is widely understood as "the interaction between the individual and the environment" (Underwood, 2013, 5), it is important to consider how the construction of giftedness could be culturally produced through encounters with hierarchical notions of race and class.

Giftedness differs from other forms of identification of exceptionality in that an identification of 'giftedness' is highly socially valued. Instead of placements within often-stigmatized special education classrooms, with reduced instruction and lower teacher expectations (Mitchell, 2010), an identification of giftedness often offers students the opportunity to enroll in smaller classrooms with academically enriched environments, and

rigorous aims. While some school boards have attempted to reserve gifted placements for students who also require intensive support in areas such as social engagement and self-regulation, access to gifted placements has historically been the only special education placement in which students do not have to demonstrate any identified *need* (TDSB, 2013)[i]. Gifted education was not designed to bring students up to the 'norm', as espoused by other special education programs, but instead it was designed to offer students an additional academic advantage.

The benefits and burden of a gifted identification

As noted above, exceptionality categories carry different meanings, all intended to articulate some aspect of student ability and performance in school. While it is argued that exceptionality categories wrongly assume sameness (Mitchell, 2010) and that an exceptionality label does not provide educators with quality pedagogical direction, there remain sweeping, ability-based assumptions associated with each identification. An identification of giftedness assumes that students have above average intelligence and exceptional academic potential. As described by the Ontario Ministry of Education's definition of giftedness, demonstrable academic potential plays an important role in 'who' is recommended for referral and identification (Ministry of Education, 2016).

'Potential', much like the concept of ability, is at once a vague and commonly shared notion (see Ladwig & McPherson's discussion on ability, 2017). Much like Fullan and Stiegelbauer's use of the term 'false clarity' (Fullan and Stiegelbauer, 1991, 35), what is meant by 'potential' appears clear to many, but is taken up differently within various contexts. Regardless of diverging definitions, 'potential' generally indicates that students have demonstrated a proficiency in a certain skill or possess a quality that *promises* to be further

fulfilled when given the appropriate opportunity for development. An identification of giftedness

serves to ensure students have access to enhanced opportunities to develop their skills in order

for their potential to be fulfilled. These academic opportunities may take the form of specialized

classes, enriched instruction, or self-contained programs. If teacher referrals and employed

psychometric tests are accurate and are appropriately identifying students with exceptional

academic *potential* for which they can access further support, it can be assumed that there would

be evidence of this potential being realized as students navigate through the school system. To

quell this curiosity, our study also explores the extent to which exceptional student achievement

is evidenced by the time students are eligible to graduate high school. Therefore, in addition to

the predictive modelling of gifted identification across student demographic variables, it is

important for this analysis to also include a comparable predictive model of high achievement.

Benefits of gifted education

As educational institutions are grounded on meritocratic principles of demonstrable

knowledge acquisition and skill development, students who demonstrate high achievement are

often afforded privileged education opportunities (Pring & Walford, 1997; Parekh, Killoran &

Crawford, 2011). Access to a gifted education program is considered one such privilege. While

there is little empirical evidence supporting the effectiveness of segregated approaches to special

education as well as ability grouping and/or deficit based programming (Mitchell, 2010), there is

also little evidence of causality attributed to the self-contained nature of gifted education

programs and achievement (see Bui, Imberman, & Craig, 2012; Brulles, D., Peters, & Saunders,

2012, for discussion of limited research and effects). Few studies critically compare academic

outcomes of students identified as gifted in alternate placements, or the function of the gifted

program/class as the causal factor in student achievement. In fact, studies that do look at

achievement experienced by students in gifted programs often attribute their enhanced academic

success to enriched expectations and differentiated pedagogical approaches (McClure, 2007;

Tieso, 2003) – pedagogical strategies that are not unique to gifted programs.

While some school boards in Ontario provide a blanket screening for giftedness, where

all Grade 3 or Grade 4 students are offered a preliminary test, this was not the case in the

Toronto District School Board, prior to September 2016. Historically, the TDSB process of

pursuing a gifted identification began with a recommendation or referral by either the student's

parent or by their classroom teacher to have the student formally assessed[ii]. The TDSB analysis

investigating the outcomes of students identified as gifted both in congregated and mainstream

classrooms reveals a close parity in academic outcomes (TDSB, 2015d)). Across Grade 6

Mathematics scores, Grade 9 credit accumulation, pass rates of the Ontario Secondary School

Literacy Test in Grade 10, graduation rates, and confirmation rates of acceptance to an Ontario

university, there is little difference in achievement between students identified as gifted who are

learning in either self-contained gifted classrooms or within regular, mainstream classrooms.

Both groups consistently demonstrated, on average, higher academic achievement than students

with and without any identification of a special education need or disability (Brown & Parekh,

2010, pp 24-26, 29-31).

The intersections of class, race, gender, and giftedness

Exploring the intersections of how race and ability are constructed in an education

context is not a new area of scholarship. Many American scholars have taken up the issue of

disproportionate representation of ethno-racial groups in special education programs, ability-

based practices of segregation, as well within disability and gifted identifications, (Erevelles,

Kanga, & Middleton, 2006; Annamma, Connor, & Ferri; Reid, & Knight, 2006; De Valenzuela,

Copeland, Qi, & Park, 2006). Drawing from the theoretical frameworks developed by critical race and critical disability theorists, Canadian researchers are beginning to explore similar issues of equity within the Canadian context (Parekh, 2013; Robson, Anisef, Brown &. Parekh, 2014, Underwood, 2011). Emergent research demonstrates that Canada is not immune from racial and class biases (see Smaller, 2014).

Several critical discourses offer perspective on these findings, particularly feminist, critical race and critical disability theories. However, it is almost impossible to consider the role of gender without also considering the impacts of racialization on students' experiences in school. Similarly, it is equally as unlikely to take up experiences of gender and race without also reflecting on the perceptions of ability that are constructed through gendered and racialized notions of what constitutes an 'able-body' or 'able-mind'. In addition, class cannot be dismissed as an isolated experience, separate from experiences of gender, race, and ability. Therefore, like many scholars who study at the intersections of identity and institutional processes, like those found in education, this research adopts an intersectional framework of analysis (see Crenshaw, 1989). As with many privileged identities (e.g. whiteness, masculinity, etc), there is far less attention paid to their deconstruction within academic discourse. Similarly, the social construction of giftedness is only beginning to be taken up in discussions of equity and social justice.

Methodology

The data analyzed in this study are from the Toronto District School Board (TDSB). Canada's national identity embraces multiculturalism and the city of Toronto, Canada's largest urban centre, is arguably one of the most multicultural cities in the world. In addition to its notable diversity, Toronto is also host to the country's largest school system, the TDSB, which

has a regular day student population of just under a quarter million students (TDSB, 2018). Less than 30% of the student population within the TDSB self-identifies as White, most are from immigrant families with both of their parents born outside Canada (67%) and over half (55%) speak another language at home other than English (TDSB, 2015b, 24, 27, 28). In addition, approximately 18% of the student population has been identified as having a Special Education Need or disability, including Giftedness (TDSB, 2015b, 51).

As the TDSB is a milieu of diversity, it provides the ideal location for the study of how racialized and classed tensions around ability play out in a meritocratic education system. This study is drawn from the TDSB's immense Parent and Student Census and program information databases. The TDSB's database includes self-identification information around ethno-racial and class statuses as well as program information such as special education identification, program participation, and achievement records. In addition to exploring the current demographic profile of students identified as gifted, this study develops a predictive model that looks at the likelihood of students being identified as gifted based on characteristics such as ethno-racial status and economic privilege. The dataset is based on Grade 9-12 (secondary) students who attended the TDSB over the 2011-12 school year. During that time (Fall 2011), these students wrote the TDSB Student Census which asks a number of questions around student background (e.g. race, parent occupation) as well as educational attitudes and expectations (see Yau, O'Reilly, Rosolen, Kozovski, & Archer, 2014 for more information).

Definition of Variables

Gifted

In Ontario, students identified as gifted are considered to be students with Special Education Needs. Here, students included in the study as 'gifted' are students who have been

identified as having an exceptionality of giftedness over the 2011-12 school year. Students would have been identified through the Identification, Placement and Review Committee (IPRC), often between Grades 3 and 6. Nearly all students with a gifted exceptionality in elementary school maintain this exceptionality in secondary school.

Very High Achievement

Very high achievement is measured by being in the highest 5 percent of grades during Grades 9 to 12. These data come from the administrative records of the student and were merged into the census data.

Race

Self-identified race was measured with the following categories: White, Black, East Asian, Latin American, Middle Eastern, South Asian, Southeast Asian, and Mixed. White was used as the reference category in the multivariate analyses as it is the largest group (29% of all TDSB students according to the full Student and Parent Census, although this proportion increases slightly to 31% when we look at the Grade 9-12 secondary panel).

Gender

This is taken from the TDSB administrative dataset (male/female) and was merged with the census data. At the time of the analysis, the TDSB administrative data only collected gender identity categories of Male or Female. The TDSB Student and Parent Census has since moved to more inclusive gender categories which we hope can be later incorporated into future analyses.

Class

Class was derived from an open-ended question in the Student Census on parents/caregivers' occupations, and were coded into five socio-economic categories (for more detail, see Yau, et al. 2014, 9, 70).

Grade

We controlled for year of study, as the data contained students in Grades 9 through 12 during the census year. Grade was taken from the administrative dataset.

Our analytic approach had three distinct stages. First, we examined the descriptive statistics around giftedness and high achievement. Then, we tested predictive models with giftedness and high achievement as the outcome measures of interest, using statistical interaction terms to operationalize the identity intersections we hypothesized earlier. In our predictive models, we used multilevel logistic regression (ensuring school identifiers had random intercepts) to allow for variations between schools. We then added interaction terms in a third and final stage to operationalize our theoretical orientations towards intersectionality.

A note on intersectionality and logistic regressions: Intersectionality is a concept often taken up in the theoretical or qualitative literature. However, it can also be explored through statistics. We can operationalize intersectionality in regression analysis by using interaction effects (or moderators, as they are often called). This allows us to examine if the effect of one identity characteristic on an outcome of interest is different according to the level of some other characteristic. For example, we can look at the interaction between gender and race by examining if the likelihood of being gifted is stronger for boys if they identify as White versus if they identify as Black? Such an approach allows us to examine identity characteristics in combination with each to reveal their impacts on academic outcomes, rather than treating them independently and in isolation from each other as though their intersectional characteristics are of no consequence. Due to the insight into intersectionality offered through a logistic regression, it was important that we employed such an analysis in our own deconstruction of giftedness.

Results

Our first table looks at the disproportionate representation of several student identity

characteristics across the entire data set (N=56,961), of students identified as gifted (N=2222),

and students whose report cards marks fell within the very high achievement range (N=3796).

Immediate disparities are observed particularly across students' racial, gender and class

identities. Overall, students identified as gifted are approximately 4% of the overall student

sample of 56, 961. They are somewhat more high achieving students, accounting for just under

7% of the total sample. What is immediately obvious is that gifted and high achieving students

are not equally distributed amongst the race, gender, and parental occupational classes. As can

be seen in Table 1, the racial categories of students as percentages within the data as a whole

compared to the percentage of gifted are starkly different. Black students are far less represented

in gifted programs (11 % of students, but just under 3 % gifted) while East Asian students are

over represented (17% vs 26%). Similarly, South Asians students are present in the gifted

category at a percentage that is far less than their representation in the student sample (10% in

gifted, 21% in sample), while nearly half of all gifted students are White, despite being less than

one third of the overall sample. Notable differences between gifted and high achievers are also

noticed at this preliminary stage; White students are similarly presented in both the population

and among high achievers as are South Asian students, but East Asian students represent over a

third of high achievers, compared to being less than a fifth of the student population.

We also observe that there appears to be a gender bias favouring males in gifted

identification, While the gender distribution is fairly equally divided between males and females

in the overall sample, 60% of gifted students are male. This gender lopsidedness is flipped

around in the case of high achievers where over two thirds are female. In terms of the bivariate

association between parental occupational class and giftedness, one only must look at the highest

category of this variable – professional and senior management – to observe that around half of

gifted children are from relatively affluent families. Less than 10 percent originate from the

bottom two categories of the occupational classes, combined. In terms of high achievers, there is

still a heavy clumping of students in the higher categories, also there are also considerably more

high achievers whose parents are in the skilled and semi-skilled clerical and trades compared to

gifted.

Table 1. Descriptive Statistics in Percentages

Variable		All data (N=56, 961)	Gifted (N=2222)	High Achievers (N=3796)
Year of Study in 2011				
	9	23.24	30.69	29.08
	10	24.23	26.24	27.48
	11	24.19	22.1	22.95
	12	28.34	20.97	20.50
Self-Identified Race				
Black		11	2.61	1.82
East Asian		17.12	25.7	34.11
Latin American		2.09	0.72	0.50
Middle Eastern		5.87	1.62	3.32
Mixed		7.07	8.37	4.85
South Asian		21.49	10.04	21.21
Southeast Asian		4.50	1.85	3.87
White		30.87	49.1	30.32
Gender[1]				
Female		50.11	40.28	67.97
Male		49.89	59.72	32.03
Parental Occupational Class				
Nonremunerative		15.08	5.85	7.56
Unskilled clerical and trades		8.00	3.00	3.90

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[1] At the time of the analysis, the TDSB administrative data only collected gender identity categories of Male or Female. The TDSB Student and Parent Census has since moved to more inclusive gender categories which we hope can be later incorporated into future analyses.

Skilled/semi- skilled clerical and trades	24.00	11.00	17.18
Semi-professional and middle management	27.14	31.23	28.21
Professional and senior management	25.91	49.64	43.15

As noted earlier, it would be logical to assume that there is a high association between giftedness and high academic achievement. This is, however, not the case. In the current sample, the Pearson's correlation between those identified as gifted and those having the highest 5% of grades was only 0.18. This shows that there is almost no relationship between the identification of giftedness and very high achievement. In predicting giftedness and high achievement (Table 2), our first step was to run the null models, with no independent variables, fitting a random intercept for individual schools. This is a necessary first step in multilevel model building because the intraclass coefficient that results from this model can inform the analyst as to whether random intercept models are indeed necessary. Our null model for giftedness had an ICC of 0.45, indicating that 45 percent of the variation in giftedness could be attributed to differences between schools. This is, in fact, a significant finding, suggesting that inequalities between schools are a major driving force in giftedness identification in Toronto. In the null model for high achievement, the ICC was comparably less, at 0.25. When the main variables were added to the model, the ICC for the gifted model dropped to 0.38, suggesting that even after controlling for class, race, gender, and grade, 38 percent of the variation in giftedness was explained by differences between schools. Part of this can be partly explained by the clustering of different gifted programs within schools in Toronto. Schools with a gifted program are located at only certain secondary schools in the TDSB (see TDSB, 2015c). In contrast, adding

race, class, and gender to the high achiever model reduced the ICC to just 0.13. Thus, differences

between schools explain considerably more variance in giftedness than high achievement.

In the predictive model, we added the race, class, and gender variables, controlling for

year of study in the census year. We found evidence that race, class, and gender predict both

giftedness identification and high achievement – but the differences in the predictors were far

from trivial. Using White students as a reference category, as it is the largest group, it is evident

that all racial groups, apart from East Asian and Mixed students, have a statistically significantly

lesser chance of being identified as gifted. East Asian students are over one and half times more

likely than White students to be identified as gifted, and there is no effect for racially mixed

students. When we compared these odds ratios to the model predicting high achievement, we

found that Black, Latin American, Middle Eastern, and Mixed students are less likely to be high

achievers than White students, but that it is not only the East Asian students who are more likely

– this applies to South Asian and Southeast Asian students as well.

Additionally, each increase in parental occupational class increased the odds of being

identified as gifted by 42% and 39% for high achievers. Male students, however had a 51%

increased odds over female students to be identified as gifted. --but a 53% decreased odds for

being high achievers.

Table 2. Multilevel Logistic Regression Predicting the Identification of Giftedness and Very
High Achievement (N=56,961)

Odds ratios

	Gifted		High Achievement	
	Null		*Null*	*With independent variables of interest*
Race (ref=White)				
Black	0.268***			0.253***
East Asian	1.563***			3.045***

Latin American		0.326***		0.341***
Middle Eastern		0.242***		0.789***
Mixed		0.914		0.742*
South Asian		0.387***		1.309***
Southeast Asian		0.402***		1.265*
Social Class		1.424***		1.388***
Male		1.510***		0.428***
Random Effects				
Level 2 Variance	1.640	2.006	1.014	0.505
Model Fit				
Intraclass Correlation	0.450	0.378	0.235	0.133
LR χ^2	4028.89	3373.62	1113.68	683.98

Controlling for year of study during census year.
$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Figure 1. Comparison of Odds of Being Identified as Gifted or a Very High Achiever, by Self-Identified Characteristics (note: 'White' used as Reference Category)
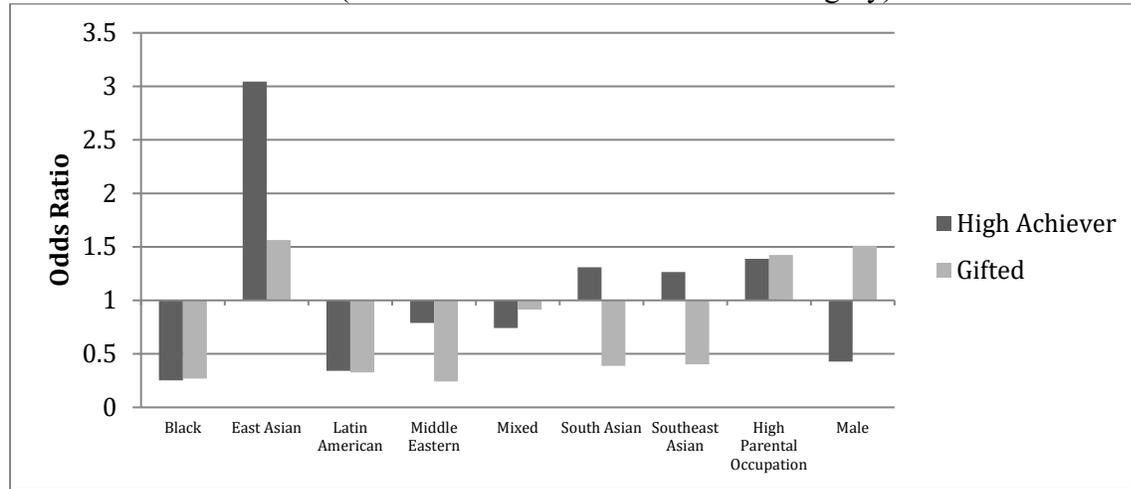
*This figure is a bar graph that compares the odds ratios for students identified as gifted and students who were very high achievers across racial, parental occupation, and gender categories.

Figure 1 graphically represents these odds ratios by gifted and high achievers to further illustrate the different predictors of these two concepts of interest. In summary, there are notable differences in the main effects of gender and several racial categories in what predicts the identification of giftedness and high achievement. Male students are more likely to be deemed gifted, but less likely to be high achievers. Compared to White students, it is only East Asian

students who are more likely to be gifted. But South, Southeast Asian and East Asian students

are more likely than White students to be high achievers.

In order to further operationalize the theoretical orientation of intersectionality, we

examined whether these status traits in their combination serve to advantage or disadvantage

students. This was possible through the inclusion of interaction terms which test if an

independent variable has a different effect on a dependent variable, contingent upon values of a

second independent variable. For example, is the effect of being male on giftedness

identification different according to race?

While it was possible to run exploratory interactions between all categories of all

variables of interest, this produced cluttered models that were difficult to interpret. Instead, we

opted to focus on interactions between groups that have been observed in our analyses up to this

point as occupying positions of privilege when giftedness identification is considered: East

Asian and White students, children of parents from the highest occupational class (where highest

parental occupational class was dichotomized into a dummy variable), and male students. Table

3 displays the results of these interactions.

Table 3. Multilevel Logistic Regression Predicting the Identification of Giftedness Using
Selected Interactions

Odds Ratios	
White	2.638***
East Asian	5.003***
Male	1.415***
High Parental Occupation	2.713***
White X High Parental Occupation	0.672***
White X Male	1.072
East Asian X High Parental Occupation	0.552***
East Asian X Male	0.891
Male X High Parental Occupation	1.093
Random Effects	

Level 2 variance	1.469
Model Fit	
Intraclass Correlation	0.396
LR χ^2	3465.98

Controlling for year of study
$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

The interactions between identifying as White and having High Parental Occupation and identifying as East Asian and having High Parental Occupation were both statistically significant (see Table 3), suggesting that the effects of identifying as White and East Asian on giftedness were differentially impacted by parental occupational status. It is difficult to understand the implications of interactions by looking at a table because the main effects of the variables from which the interactions were composed must also be taken into account. It is therefore more useful to graph the relationships by creating different types of "cases" based upon combinations of traits that were estimated in the model.

Figure 2. Combinations of Student Characteristics and Predicted Probability of Being Identified as Gifted
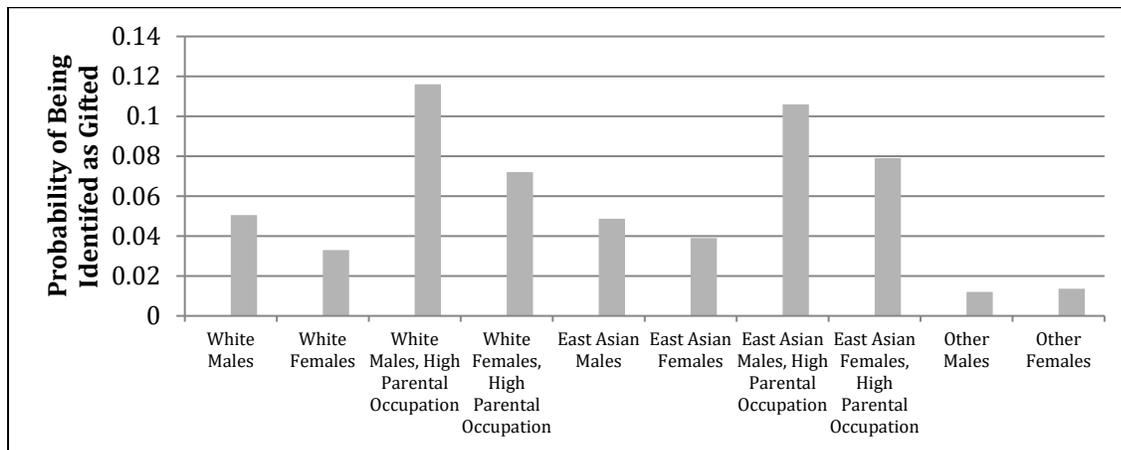
*This figure is a bar chart that demonstrates the predicted probability of being identified as gifted across a combination of racial, gender, and parental occupation characteristics. White, male students with high parental occupations have the greatest chance at being identified as gifted, followed by East Asian male students with high parental occupations.

In Figure 2, predicted probabilities derived from the estimates in Table 3 are graphed, using different combinations of race, gender, and parental occupation. As can be seen, the groups most likely to be identified as gifted were White and East Asian male students with a parent in a high status occupation (predicted probabilities of around 0.11 and 0.10, respectively), followed by female East Asian students with a parent in a high status occupation (probability of around 0.08). White female students of similarly affluent backgrounds are the fourth most likely to be gifted (probability of around 0.07). The much shorter bars of White and East Asian students who do not have parents with high status occupations demonstrates the importance of such parental traits in the identification of gifted students. The bars at the far right end of the graph represent students who neither identify as White nor East Asian and do not have parents in high status jobs. Their probability of being identified as gifted is around 0.01.

Table 4. Multilevel Logistic Regression Predicting Very High Achievement Using Selected Interactions

Odds Ratios

Black	0.236***
East Asian	3.455***
Latin American	0.361***
Middle Eastern	0.556***
Mixed	0.856
South Asian	1.394***
Southeast Asian	1.410**
High Parental Occupation	2.418***
Black X High Parental Occupation	1.198
East Asian X High Parental Occupation	0.735***
Latin American X High Parental Occupation	0.836
Middle Eastern X High Parental Occupation	1.898**
Mixed X High Parental Occupation	0.755
South Asian X High Parental Occupation	0.774*
Southeast Asian X High Parental Occupation	0.67

Male	0.428***
Random Effects	
Model Fit	
Intraclass Correlation	0.139
LR χ^2	702.28

Controlling for year of study
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3. Combinations of Student Characteristics and Predicted Probability of Very High Achievement in Secondary School
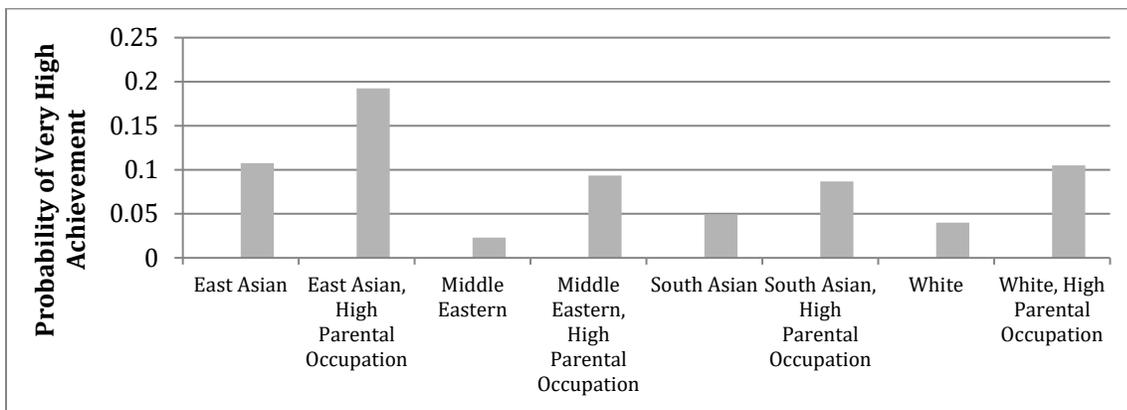
* This figure is a bar chart that demonstrates the predicted probability of being a very high achiever across a combination of racial and parental occupation characteristics. The significant interaction means that the effect of parental occupation on high achievement varies by race.

In terms of the interactions of characteristics predicting high achievement, we focused on the combination of race and income after finding that the race and gender interactions failed to achieve statistical significance. While it is definitely the case that female students were more likely to be high achievers, this gender effect did not vary according to race or parental occupation. We found, however, that the effect of identifying as East Asian, Middle Eastern, and South Asian on high achievement was contingent upon parental occupation (Table 4). Again, we use a visualization (Figure 3) to demonstrate how these factors interact with each other. The odds ratios between the variance racial categories comparing membership to highest parental

occupation or not demonstrate that the effect of parental occupation on high achievement varies by race. The statistically significant interactions indicate that the relationship between occupational status and high achievement is different for East Asians, South Asians, and Middle Eastern students compared to Whites. The predicted probabilities have been plotted in Figure 3, revealing that the effect of parental occupation on being a high achiever varies by race. For instance, we can see that high parental occupation increases the probability of high achievement in Middle Eastern students (the bar in Figure 3 for Middle Eastern students with high parental occupation is over three times larger than for students without parents in high status occupations).

Thus, the examination of *interactions* between race, class, and gender have revealed that while *all of these factors matter for identification of giftedness and high achievement*, race has a *differential impact* upon being deemed gifted or high achiever by parental occupation. In other words, White and East Asian students from more affluent backgrounds were more likely to be identified as gifted, while similar findings were found for White, East Asian, Middle Eastern and South Asian students with regard to being high achievers.

Discussion

Due to the exploration of interactions between student demographic variables (e.g. race, class and gender), the nature of how these identities intersect in relation to the identification of giftedness and very high achievement can be further investigated. Resulting from the outcomes of these analyses is evidence that it is not just race, class or gender in isolation that relate to giftedness. Rather, it is the intersection of these variables that relate to the construction of giftedness and the outcomes of very high achievement. Class and race demonstrate to have significant interactions with high achievement, however, the identification of giftedness includes

a significant interaction with gender as well. Since we know that traditional notions of intelligence are equitably distributed across gender and racial groups (Gould, 1996), the resulting interactions with gender, race and class within gifted identifications adds further evidence and complexity to the socially constructed nature of the identification. Whereas the disparities evidenced within the very high achiever category may be the result of systemic and structural barriers to educational resources, it is interesting that 'who' is identified as gifted, with its connotation to brilliance, includes a complexity of dominant identities which are not replicated for students with very high achievement. In essence, this study finds that there are two distinct groups, each with their own intersectional dynamics at play. Whereas very high achievement results from consistently reported academic performance, giftedness is constructed by the illusion of potential tied up in notions of masculinity, whiteness, and affluence.

Leonardo and Broderick (2011) query the connection between whiteness, privilege and smartness. They claim that constructions of 'smartness' and 'whiteness' are not meant to denote biological or neurological traits of ability or race, but that the identification of smartness is very much to align certain bodies (e.g. able, White bodies) with material advantages, access, entitlements, privileges and further cultural capital. In addition, the construct of smartness is a prevalent discourse in schools and employed as a "mechanism of control and social positioning along racial and class lines" (Hatt, 2012, 438). The alignment between whiteness and giftedness in myriad areas (e.g. sports, arts, and academics) has been evidenced throughout many TDSB specialized program opportunities. For example, White, affluent students enjoy far greater access to specialized programs such as Specialty Arts Programs (e.g. performance in music, theatre, dance and visual arts) (Gaztambide-Fernández & Parekh, 2017), as well as Elite Athletic and French Immersion Programs (Parekh, 2013). Not only did these students enjoy greater access

and social capital within school, but this sense of value was embodied. Students who were identified as gifted were among the most likely to report a sense of belonging, of feeling valued, particularly in the context of their school and classroom (Parekh, 2014).

Erevelles, Kanga and Middleton (2006) clearly articulate through a historical materialist lens how intersecting forces of race, gender, and ability collude to reproduce advantage inside and outside the education institution. They argue that in the education system, whiteness is used as property and centralizes "the nondisabled White heterosexual male body as the most productive and profitable citizen for the burgeoning capitalist society" (Erevelles, et al. 2006, 93). Additionally, Mansfield (2015) supports that in an educational context, ability, akin to property, can be bartered for greater access to socioeconomic status and capital. In much the same way, the identification of giftedness can be used as a form of currency or property, employed in order to access greater advantages and resources within the public education system. With the relationship of giftedness more closely tied to whiteness, wealth, and masculinity as compared to achievement, the identity of giftedness becomes symbolic of academic dominance and prestige.

In contrast to very high achievement, which is highly correlated to characteristics such as being female, not living within higher income families, and self-identifying as a racial minority, giftedness is highly correlated to masculinity, wealth, and whiteness. In education systems governed under meritocratic, neoliberal principles (Duncan-Andrade & Morell, 2008), constructions of whiteness and smartness rise from the largely multicultural and "normative center of schools" as privileged identities (Baglieri et al, 2011; Leonardo & Broderick, 2011). Whiteness and smartness represent two ideological systems shaping both racial identity and perceptions of ability that ultimately converge together to further advantage and privilege a

select group of students and replicate a strict social hierarchy. Investigating smartness or

giftedness as an ideology and cultural practice, it is clear that these ideologies shape who is

identified as having academic potential and entitled to programmatic and material advantages.

Starkly, these privileged bodies are infrequently racialized, female, or poor.

The current research on giftedness appears to be at a crossroads. Kaufman and Sternberg

(2007, p. 81) outline multiple 'waves' of gifted identification, but conclude that the first wave, via

IQ identification, remains the dominant model in practice in the United States- and presumably,

Canada. The limitations of this model (and gifted identification in general) have increasingly

been called under question not only due to the well-documented under-representation of key

socio-economic and demographic groups (low-income, Black, Latinx) but also because of the

inability of the gifted exceptionality to predict future achievement. Citing a study from the

known American school, Hunter College, there appears to be a distinct disconnect between early

identification of giftedness and outcomes of excellence in adult achievement (see *Genius

Revisited*, Subotnik, Kassan, Summers, & Wasser, 1993). While most genius identified students

involved in the renowned study at Hunter College went on to do well, very few went on to

achieve exceptional greatness in adulthood. Speaking to the Hunter College study in his talk to

the Association for Psychological Science (2006), Gladwell supposes that the disconnect

between identification and achievement may lie within our understanding of the relationship

between potential and performance. Potential may indicate exceptional ability to learn, however

exceptional performance requires an entirely different skill set, one that involves students to act

upon their learning. The potential for or aptitude in transforming knowledge from learning into

'doing' is not measured in current assessments of giftedness.

It is awkward to deconstruct notions of ability only to employ them later on in the discussion. However, we felt it important to also examine the role and construction of giftedness using the very logic upon which the concept of giftedness relies for its own legitimacy. As Subotnik et al (2011) argue, the challenge lies in "our current inability to accurately identify who will be gifted in the long term... Although substantial numbers of children with outstanding academic or intellectual ability are identified and some resources are expended on them, few of these children become eminent in adulthood" (Subotnik et al, 2011 4-6). Students with a gifted identification generally do quite well in life as do many other students with similar social capital; yet they tend not to be *exceptional* in their life course, as the term is implied by the literature on giftedness. The lack of connection of identification in elementary school with very high achievement by secondary school, highlights these concerns that the identification process for giftedness does not appear to be measuring what it purports to be measuring. In other words, early assessments of giftedness functions as an identification of potential for very high achievement in a particular area which should then be confirmed by very high achievement in secondary school. This study illustrates the significant gap between early identified potential and future realization of very high achievement.

The relationship, or lack thereof, between the identification of giftedness (demonstrable potential) and very high achievement (fulfillment of potential) presents a conundrum for the justification of public resources towards the identification of giftedness and subsequent programming. However, the gendered, racialized and classed correlations point to a deeper inequality that challenges the purpose and role of giftedness in public schools. While we argue that the construction and assessment of ability foregrounds the structure of public education, there are racialized, classed and gendered factors that contribute to the disproportionate

representation and inequitable distribution of privilege across normative and non-normative perceptions of ability.

Conclusion

This study has highlighted inconsistencies within the current narrative around the identification of giftedness in school age children. Based on constructs of giftedness, results demonstrate that not only is there almost no relationship between the early identification of academic potential and very high achievement in secondary school, but there are also highly concerning correlations between who is perceived to embody potential. However, our analyses found that most students with gifted identification were not among the very highest achievers and that most very high-achieving students did not have a gifted identification. Additionally, the students comprising these two groups had widely variant characteristics. That is, we found that race, class and gender predict both giftedness and high achievement, but in different ways. Male students were more likely to be identified as gifted, but female students were more likely to be very high achievers. Compared to White students, it was only East Asian students who were more likely to be identified as gifted; yet South, Southeast and East Asian students were more likely than White students to be very high achievers. Class was strongly related to both giftedness and high achievement. It seems clear, that the identification of giftedness and very high secondary school achievement are different constructs, shaped by very different influences. Since there is almost no relationship between the early identification of giftedness and very high achievement in secondary school, it leads us to query the purpose of the identification and programming process for students identified as gifted. The identification of giftedness and access to gifted programming seem to be replicating social structure and advantage, which are more likely to disproportionately privilege White, wealthy, male students. In light of these findings,

we feel it important that school boards in Ontario examine the roles gifted identification and

programming play in their own districts.

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[i] As of 2015, the TDSB has encouraged students identified as gifted to remain in the regular program and suggested that students with more compounded or complex learning needs be offered placements in gifted programs (TDSB, 2015a).

[ii] The TDSB has changed its gifted selection process. Rather than parent and teacher nomination, Grade 3 students are given a gifted screening assessment which is used to determine which students will be recommended for further testing. All students in the cohort will then be followed to see achievement patterns over time, of those with and without an identification of giftedness.