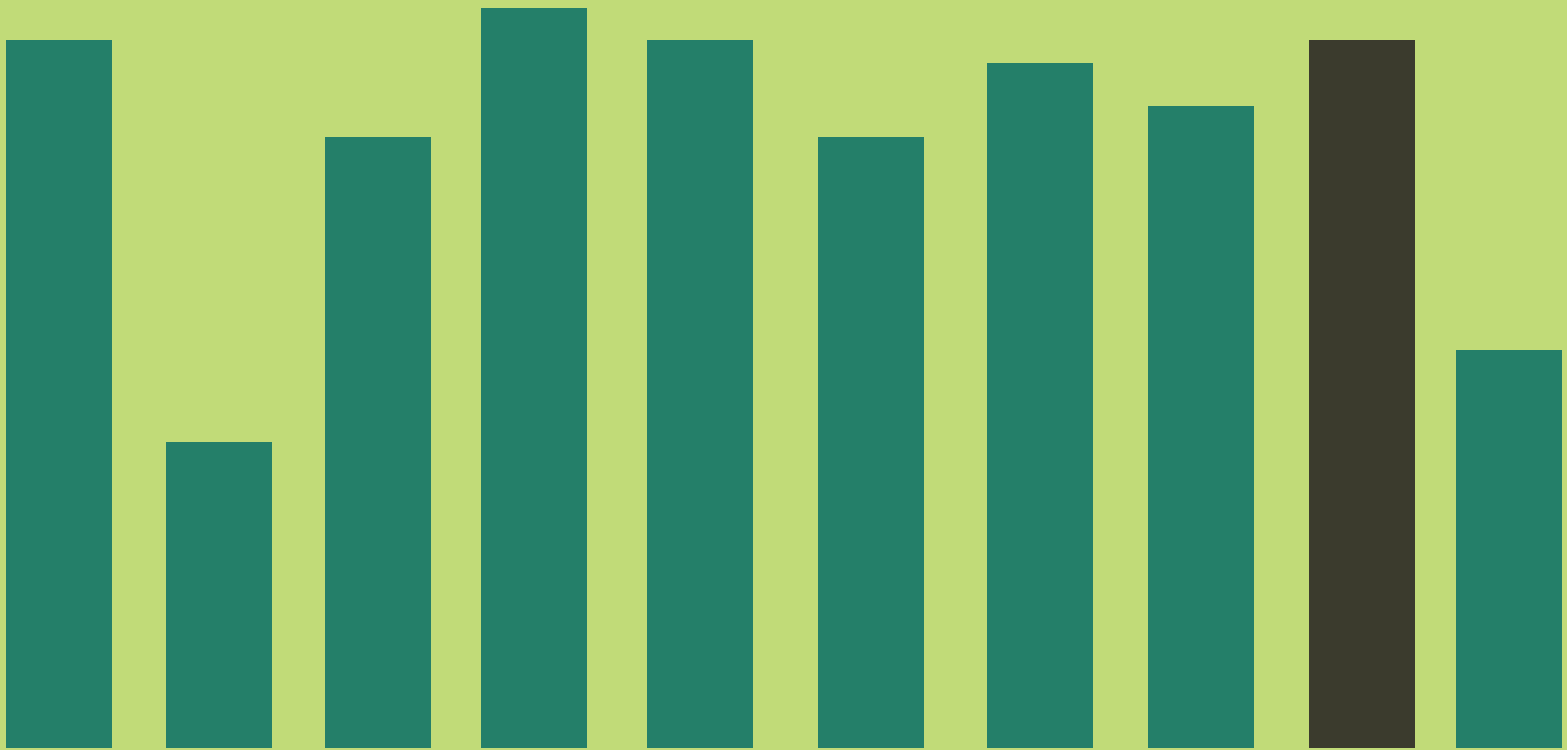


Special Education Funding Designations Across Racial Groups in B.C.

Technical Report



BRITISH
COLUMBIA

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Preamble

Content warning

This report covers topics related to [systemic racism](#) and may trigger unpleasant memories, feelings and thoughts.

The [BC Mental Health & Crisis Response Line](#) is available for emotional support, information and resources specific to mental health at [310-6789](#) (no area code needed). This service works 24 hours a day, seven days a week and is available in 140 languages.

The National Indian Residential School Crisis Line provides 24-hour crisis support to former Indian Residential School students and their families toll-free at [1-866-925-4419](#).

The [KUU-US Crisis Line](#) provides Indigenous-specific mental health support at [1-800-588-8717](#). This service is available 24 hours a day, seven days a week, toll-free from anywhere in British Columbia.

Territorial acknowledgment

This report was prepared on the ancestral territories, traditional lands and unceded territory of the Quw'utsun' people, the Lək̓ʷəŋən speaking peoples (today known as the Esquimalt and Songhees Nations), the MĀLEXEL First Nation and W̱SÁNEĆ Peoples, and the Snuneymuxw First Nation, who have kept their homelands strong. We are grateful to live here.

Distinctions-based approach

Although this report does not include Indigenous data, the B.C. government remains committed to taking a distinctions-based approach to Indigenous data sovereignty and self-determination. We recognize and respect the distinct rights of First Nations, Métis and Inuit people. We are working to address the consequences of colonial policies which have had lasting effects on all Indigenous Peoples living in the province.

Team positionality statement

This work was co-authored by a team of [BC Stats](#) employees, in consultation with subject matter experts from the [Ministry of Education and Child Care](#). All BC Stats team members share the privilege of being gainfully employed with high educational attainment relating to statistical, economic and social data analysis and research. The team is diverse in age, gender and career stage; however, it is disproportionately White identifying. Some team members are racialized or have experienced discrimination; some others are first generation immigrants to Canada. For all team members, this is the first experience working on research focused on [anti-racism](#) in education. We each have a personal, but different, connection to the B.C. education system.

As a team, we have collective experience working with administrative educational data, being students in the B.C. K-12 education system, parenting White or racialized school-aged children enrolled in a B.C. school and navigating the [special education funding designation](#) process and resulting supports. Most of the team have Western science and research training, and we each acknowledge that these learned approaches may overlook certain perspectives or unintentionally perpetuate biases. Each team member is committed to the principles of anti-racism, [equity](#) and justice, and we are all working to unlearn our biases, embrace humility and new perspectives, and actively engage in efforts to promote these principles within this research and reporting practices. All members of the research team swore under the BC [Statistics Act](#) to not disclose or knowingly cause to be disclosed protected information.

Note on use

The findings presented in this report are based on information provided by individuals who completed the 2023 [BC Demographic Survey](#)¹ and who were enrolled in the B.C. K-12 education system from 2012/13 to 2022/23. The findings presented here may differ from other publicly released statistics that are based on full administrative datasets representing the entire B.C. population or the whole student body in the B.C. education system.

These findings do not constitute an extensive assessment of the special education funding designation process in the B.C. K-12 education system and, as such, should not be used to make funding decisions or program and policy changes. Instead, they should be used as a starting point for discussion and to guide further inquiries into the topics discussed in this report.

These findings should not be used to reinforce positive or negative stereotypes, as both are harmful.

Data Innovation Program disclaimer

The following data sets were used in this study:

- BC Demographic Survey – Ministry of Citizens’ Services
- K to 12 Student Demographics and Achievements – Ministry of Education and Child Care
- K to 12 Socio Economic Status (SES) Index – Ministry of Education and Child Care
- Central Demographics File + Census Geodata – Ministry of Health

You can find further information about the Data Innovation Program by visiting its [website](#), and additional information regarding these data sets by visiting the [BC Data Catalogue](#).

All inferences, opinions, and conclusions in these materials are those of the authors. They do not reflect the opinions or policies of the provider(s) of the data upon which they are based.

Recommended Citation: BC Stats (2024), Special Education Funding Designations Across Racial Groups in B.C., British Columbia, Canada.

¹ BC Stats (2024). BC Demographic Survey [Technical Report](#).

Executive summary

[Systemic racism](#) has and continues to impact the delivery of government programs and services in British Columbia. To guide [anti-racism](#) research in the province, the B.C. government announced [10 anti-racism research priorities](#) in 2023, with systemic racism in B.C.'s education system identified as one of them.

Systemic racism in education occurs through [inequities](#) that are built into the system disadvantaging Indigenous and racialized students. This includes the supports and services students receive, representation and bias among teachers, inclusive curriculum, and other factors. The B.C. government is committed to making schools safe and welcoming for all students, and research into systemic racism in education will support this effort.

What is this research about?

This report describes progress made in an initial, preliminary phase of anti-racism research that aims to understand how students with special needs across racial groups are designated for education supports in the B.C. K-12 public education system. In B.C., designating students into special education categories is a process that school districts use to access additional funding to support their students. While some designations generate additional funding, a designation or medical diagnosis are not required for students to access supports and services in the B.C. K-12 school system. School districts and school-based teams are responsible for all decisions regarding the designation of a student in special education funding categories.

How are we doing this research?

This research uses data from the [BC Demographic Survey](#). The survey, conducted in 2023, was the first instance of racial identity data being collected by the Province to identify and address systemic racism in government services. We looked at designation rates among students whose racial identity information was available through the BC Demographic Survey and who were enrolled in a B.C. school at any point over the past 10 years. We focused on recent data to ensure any findings from this research reflect current educational policies and programs.

Our [study sample](#) of students with available self-reported (or reported by a family member) racial identity data from the survey represented approximately 2% of all students enrolled in the K-12 education system over the past 10 years. In addition to this limited sample size, our sample data has more representation from students living in urban areas and families with higher socio-economic status.

What did we find?

Despite these limitations, we found that [special education funding designation](#) rates varied across student racial identity groups over the past 10 years, and these differences cannot be explained by chance alone.

When looking at special education funding designation rates (other than [Gifted](#)), students who identified with some racialized groups tended to be less likely to be designated than the average student over the same period, though students from other racialized groups did not fit this pattern. Across all designation types, non-racialized students (i.e., students who identify with the European racial identity) tended to be more likely than the average student to receive a designation. It is important to note that a lower likelihood of being designated in a special education funding category does not necessarily mean a lower likelihood of receiving services.

While we also observed variations across racial identity groups for Gifted designations, our study sample had substantially higher designation rates than the provincial average, limiting our ability to draw conclusions about differences by racial identity group in the provincial student population.

What are the next steps?

A student's racial identity should not be a factor in receiving a special education funding designation. Many systemic factors might influence whether a student receives a designation. These include awareness of special needs assessments and available supports, availability of assessment programs and resources within school districts, and availability of safe and affordable or specialized services for assessments and diagnoses in general.

These findings should be used as a starting point for discussion and engagement with communities, education system partners, school districts and families and to guide further research into the systemic barriers faced by racialized students in B.C.

Introduction

Anti-racism research in B.C.

[Systemic racism](#) has impacted the delivery of government programs and services for generations and continues to cause harm to Indigenous and racialized people in British Columbia. In June 2022, the Province passed the [Anti-Racism Data Act](#) to enable the collection and use of information for the purpose of identifying systemic racism and advancing racial equity. In 2023, the Province announced [10 anti-racism research priorities](#) to guide [anti-racism](#) research in the province for the next two years.

To provide the data needed to start this research, in June 2023 [BC Stats](#) launched the [BC Demographic Survey](#). The survey collected demographic information from more than 200,000 people across the province in a safe and centralized way. This data is now available to approved government and academic researchers through the [Data Innovation Program](#), which is based on the [Five Safes privacy and security model](#).

This technical report describes progress made in an initial phase of anti-racism research using BC Demographic Survey data to understand how students across racial groups access and use education supports in the B.C. K-12 public education system.

Why are we doing this research?

Systemic racism in B.C.'s education system was identified as a research priority by Indigenous Peoples (including First Nations and Métis Nation British Columbia) and the [Anti-Racism Data Committee](#). This issue has also been highlighted in community publications and government reports. For example, McCreary Centre Society (2018)² and Angus Reid Institute (2021)³ reported that racialized and Indigenous youth are more likely to experience discrimination and bullying than their White counterparts. In 2021, the Ministry of Education and Child Care reported that Indigenous students who were underserved by the K-12 system prior to the pandemic were among the populations most impacted by COVID-19.⁴ And a 2022 report on anti-racism in Burnaby schools identified that families of Black and other racialized students felt excluded and stigmatized.⁵

Systemic racism in education occurs through inequities that are built into the system disadvantaging Indigenous and racialized students. This includes the supports and services students receive, representation and bias among teachers, inclusive curriculum, and other factors. This report focuses on

² McCreary Centre Society (2018). [BC youth who experienced racial discrimination](#).

³ Angus Reid Institute (2021). [Diversity and Education: Half of Canadian kids witness ethnic, racial bullying at their school](#).

⁴ Ministry of Education (2021). [COVID-19 Student Impacts](#).

⁵ The Co-Laboratorio Project (2022). [Anti-racism in Burnaby Schools Listening, learning and actioning change Final report](#).

a specific set of data related to special education funding and does not explore the full and complex context of the K-12 education system.

Systemic racism adversely impacts student well-being, learning, and other outcomes. Among its signs and impacts are lower self-reported mental health and lower graduation rates.^{6,7}

Government is committed to eliminating systemic racism from all its institutions and services, including education. In support of this commitment, the Ministry of Education and Child Care developed a [K-12 Anti-Racism Strategy](#), which will guide action against systemic racism in B.C. schools.

Understanding and raising awareness of systemic racism and its impacts is the first step towards eliminating it. Currently, there is a lack of publicly available reports describing K-12 experiences and outcomes of students impacted by systemic racism in B.C. The most comprehensive description available to date is provided in the 2022/23 [How Are We Doing?](#) report that is jointly produced by the First Nations Education Steering Committee (FNESC) and the Ministry of Education and Child Care through a long-standing partnership. The above report compares indicators and outcomes for Indigenous and non-Indigenous⁸ students in the K-12 public education system, including graduation rates and special education funding designation rates.⁹ However, similar information is not available for racialized students.

This research aims to fill a knowledge gap about systemic racism in B.C.'s education system, beginning with this first phase of research focused on patterns of assignment of [special education funding designations](#) among student racial identity groups using the demographic information collected by the BC Demographic Survey under the Anti-Racism Data Act.

Research objective

In October 2023, the Ministry of Education and Child Care and BC Stats began this exploratory research project to advance research on systemic racism in education. Race is a socially constructed concept used to assign people to groups based on their skin colour and physical appearance (e.g., facial features, hair type). Race is not to be confused with culture, ethnicity, ancestry, country of origin, language or other overlapping concepts. Definitions and categorizations of racial groups vary across geographies, cultures and disciplines. Within our analysis, we relied on the self-reported (or reported by a family member) racial identity information that was collected through the BC Demographic Survey and made available in

⁶ First Nations Education Steering Committee and Ministry of Education and Child Care (2022). [Aboriginal Report: How are we doing? 2022/2023](#).

⁷ Ministry of Education and Child Care (n.d.). [Racial Equity Together K-12 Anti-Racism Action Plan](#).

⁸ Note that the referenced report uses the outdated terms Aboriginal and Non-Aboriginal because they were in use when the data was collected; we have chosen to use the more accepted terms Indigenous and Non-Indigenous here.

⁹ The How Are We Doing? report uses the term "students with disabilities or diverse abilities designations" rather than the term used in this report, "special education funding designations".

December 2023.¹⁰ Racialized students are considered those whose racial identity is anything other than only European.

In this report, we focus specifically on student racial identity groups available through the BC Demographic Survey. First Nations, Métis and Inuit students have and continue to be impacted by systemic racism in government programs and policies, including in the B.C. K-12 education system¹¹. This phase of research excludes information on Indigenous students to enable sufficient and meaningful engagement with Indigenous Peoples (First Nations, Métis and Inuit) to take place.

Within the broad scope of understanding systemic racism in education, we focused this initial phase of research on patterns of special education funding designations among students from different racial identity groups. Special education funding designations were selected for initial research because there is an established reporting approach and designations may reflect an important aspect of student experiences and outcomes.

We recognize that this research topic and our approach to investigating designation patterns are situated in a specific social, political and historical context that is continually evolving. The intent of this research is to use data to help eliminate systemic racism in government programs and policies. However, it is important to acknowledge firstly that the special education model is a dated model focussed more on medical diagnosis rather than assessing individual needs and strengths; secondly, that development of special education funding designations and policies likely bear the imprint of historical attitudes toward diverse learning styles and neurodivergence and were influenced by systemic racism.

Special education funding designations in B.C. schools

To deliver education programs, school districts receive base funding for every student and supplemental funding for students who meet criteria for designation in each of 12 special education funding categories related to special needs. Special needs for students can arise from a range of intellectual, physical, sensory, emotional or behavioural challenges, learning disabilities and high capabilities related to intellect or creativity that may impact a student's ability to learn effectively. School district and school-based teams are responsible for deciding which designation a student receives. Not all medical diagnoses or learning needs are associated with a special education funding category. Further, a designation should not be taken to reflect the full range of needs and abilities of a given student. For some students, diagnosis of their disabilities may be associated with some challenges (e.g., labelling, stereotyping, stigma).

Four special education funding categories are included in the base funding allocated to school districts: mild intellectual disability, learning disability, gifted, and moderate behaviour support/mental illness.

¹⁰ For more detail on how racial identity was collected on the survey, see BC Stats (2024). BC Demographic Survey [Technical Report](#).

¹¹ First Nations Education Steering Committee and Ministry of Education and Child Care (2022). [Aboriginal Report: How are we doing? 2022/2023](#).

Base allocation funds are used to provide supports and services including learning assistance, school psychology services, occupational therapy, physical therapy, speech and language therapy and hospital and homebound programs.

School districts receive supplemental funding for eight special education funding categories: physically dependent, deafblind, moderate to profound intellectual disability, physical disability or chronic health impairment, visual impairments, deaf or hard of hearing, autism spectrum disorder, and intensive behaviour supports or serious mental illness. Allocation amounts differ depending on the type of designation reported.¹² Supplemental funding is not targeted to specific students but is used at the discretion of each school district to support educational programming for their student populations.

Students who meet criteria for designation in one of the 12 special education funding categories must have an Individual Education Plan (IEP). An IEP is a documented plan developed for a student with disabilities or diverse abilities that describes individualized goals, adaptations, modifications, as well as the services to be provided, and includes measures for tracking achievement.

In B.C., every student, regardless of whether they have a medical diagnosis or designation, has the right to access supports and services to meet their learning needs and access an education. Research has demonstrated that students can benefit greatly from receiving personalized supports, and it may be advantageous to begin providing these supports as early as possible.^{13,14}

Special education funding designations are tracked through an administrative reporting system for the primary purpose of determining school district funding allocations. However, the reporting system only allows for a single designation to be recorded per term; students with diagnosed conditions are identified in the special education funding category that best supports their individual needs as documented in their IEP. School district policy guides which special education funding designation should be listed for a student with multiple disabilities, and this is typically the higher funded designation.¹⁵ As a result, it should be emphasized that special education funding designation data does not capture a student's full diagnostic profile.

Systemic barriers may affect the likelihood of students receiving diagnoses.¹⁶ Certain diagnoses require specialized testing and confirmation of health conditions that take time and resources to obtain. These can also be influenced by biases of people involved in assigning them. Research indicates that racialized students may be over- or underrepresented in certain diagnoses due to factors like lack of access to necessary supports, discrimination and racial profiling.¹⁷ Understanding these factors is crucial for implementing inclusive policies that address systemic barriers to specialized support for all students, regardless of race, background or circumstance.

¹² See [Appendix A: List of special education funding designations](#)

¹³ Toronto District School Board (2023). [Special Education Plan 2023-2024](#).

¹⁴ Robson et al. (2022). [A Comparison of High School Graduation Predictors Between Two Ontario Student Cohorts](#). *Canadian Journal of Education*.

¹⁵ In the last 20 years, about one quarter of students with designations have had more than one designation throughout their education journey. For example, a student with a learning disability designation in one term may later receive an autism spectrum disorder designation in a subsequent term. If a student received these two diagnoses at the same time, the autism spectrum disorder designation is more likely to be recorded in the data because it has a higher supplemental funding amount attached to it.

¹⁶ Russell, et al. (2021). [Cross-ministry data on service use and limitations faced by children in special education](#).

¹⁷ Too (2018). [Pedagogical Challenges with Diversity in Special Education Referrals in Ontario](#).

Methodology

In this section, we have hyperlinked key terms used throughout this report; definitions for these key terms can be found by clicking on the hyperlinked term, or by reviewing the [Key terms](#) section near the end of the report.

This section describes the methodology used to answer our research question related to [special education funding designations](#) of K-12 students in B.C. This was a descriptive [cross-sectional study](#) that relied on linked administrative and survey data available through the [Data Innovation Program](#). Because racial identity data is not collected for students in B.C.’s K-12 system, our analysis focused on a sample of students who completed the [BC Demographic Survey](#). We also used inferential statistics to assess the reliability of our descriptive estimates.

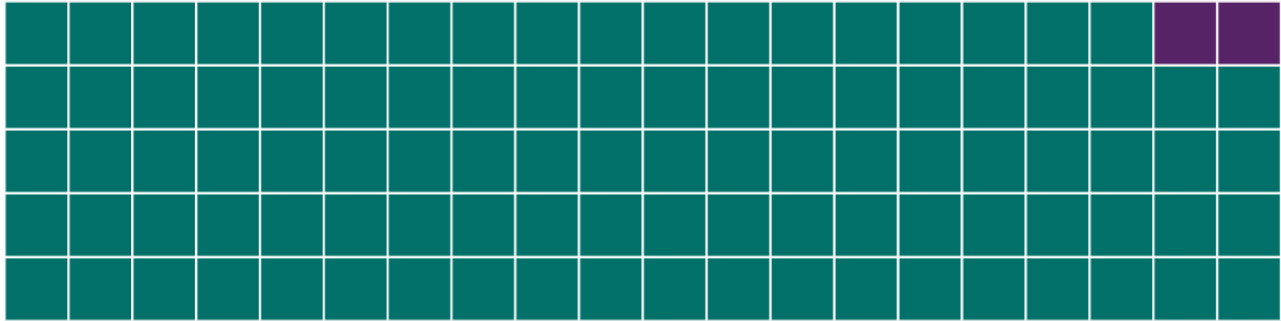
Study sample

Our [study sample](#) included 26,700 individuals (i.e., “students in study”) whose applicable racial identity information was available through the BC Demographic Survey and who were enrolled¹⁸ in a B.C. school at any point between 2012/13 and 2022/23 school years. This accounts for only 2% of the 1,361,557 students who were enrolled in the education system in this same time frame (i.e., “all B.C. students” or “[reference population](#)”) (see [Figure 1](#) below). The focus on recent data will help ensure the findings from this analysis reflect the current state (or recent past) of the educational system and are actionable.

Figure 1: Proportion of B.C. students in study sample

Proportion of B.C. students in our study sample

In the past 10 years there were **1,361,557 students in the B.C. K-12 Education System**. We have **BC Demographic Survey racial data for 26,700 (2%) of these individuals**.



Each square represents ~13,600 students, or 1% of students in the past 10 years.

¹⁸ This does not include non-resident and home-schooled students. Only enrolment records for authority schools (i.e., the school with the highest reported FTE count for the student in a given semester) are included in the analysis, to prevent double counting of students enrolled in multiple institutions at the same time.

Below, we describe enrolment and socio-demographic characteristics of the study sample and assess how representative it is of all students who were enrolled in the same time frame.

Enrolment characteristics

Our study sample includes students from both public and [independent schools](#) in B.C. Within our sample, there are 2,091 (7%) students with only an independent school enrolment record in the last 10 years. This is similar to the 8% independent school enrolment rate observed for all students in the same time frame.

Twelve percent of our sample are [adult learners](#), with no school age enrolment record in the last 10 years. They have a different type of interaction with the school system than the typical K-12 learner. This is higher than the 8% observed for all students in the last 10 years. This may mean our sample is slightly older than the [reference population](#).

Like in the reference population, 25% of our sample are students who were not enrolled in the B.C. K-12 education system in kindergarten, but instead transferred into the B.C. education system later. This could be due to delayed enrolment until Grade 1 (as kindergarten is not mandatory), immigration, provincial migration, change in home-schooling status or other reasons.

Collectively, the enrolment characteristics of our sample appear relatively comparable to those of the reference population and we do not anticipate this impacting our analysis on designation rates by racial group.

Geographic characteristics

The study sample includes representation from every school district (SD) within B.C. (see [Figure 2](#) below). However, as expected given the BC Demographic Survey's intentional oversampling in urban areas (i.e., regions with higher density of racialized individuals)¹⁹ there is significant overrepresentation in the sample in urban school districts relative to the number of enrolments in the last 10 years. For example, Richmond (SD 40) had 3.1% of all students with an enrolment in the last 10 years but accounts for over 6.5% of the students in the study sample, so is 109.7% overrepresented in our sample data.

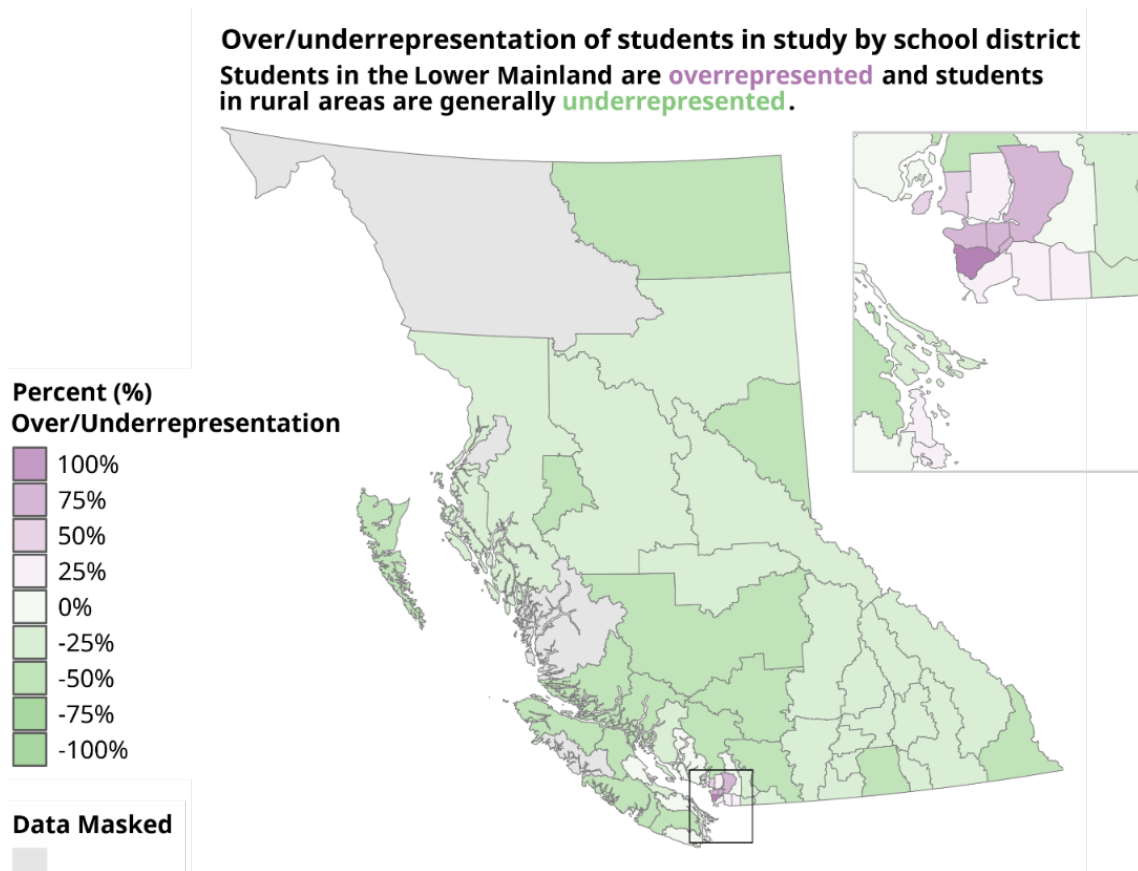
Vancouver (SD 39) and Coquitlam (SD 43), the second and third largest school districts by number of students with an enrolment in the last 10 years, both have over 50% more representation in this sample compared to their respective student populations. Not all urban school districts are overrepresented; the largest school district, Surrey (SD 36) has equivalent representation in the sample (11.1%) as expected by its student population (11.0%).

School districts that are already small relative to the entire B.C. K-12 education system are even smaller in representativeness in our study sample. The smallest 29 school districts account for 10.3% of students in the last 10 years; however, in our sample, they only account for 5.3% of students. These school districts are mostly rural, including school districts such as Campbell River (SD 72), Vancouver Island

¹⁹ See the BC Demographic Survey [Technical Report](#) for more information.

North (SD 85) and Haida Gwaii (SD 50). When comparisons are made to the provincial benchmarks in our findings, these geographic limitations should be kept in mind.

Figure 2: Study sample representation levels by school district



Socio-demographic characteristics

Women and girls²⁰ are slightly overrepresented within the study sample (52.5%) compared to all students (49.6%). The proportions are still similar enough to give confidence in the overall gender representation.

To assess socio-economic representation of our study sample, we used the Socioeconomic Status (SES) index²¹ developed by the Ministry of Education and Child Care. The SES index was developed using 53 variables from Statistics Canada Census data related to income, educational attainment, community, family and occupation at the postal code level. Each annual student record has an associated SES index score for that year, and we calculated an average score among years for each student. According to this index, scores above 0 represent higher than average SES, and scores below 0 represent lower than average SES. The average score of our study sample was 0.2, while students in the reference population

²⁰ We have updated the outdated gender term 'female' used in the Ministry of Education and Child Care dataset to reflect current [Gender and Sex Data Standard](#).

²¹ Data Innovation Program (2023). This metric covers five domains: economics, education, occupation, family measures and community measures and is the most comprehensive metric we have available for testing the representativeness of our sample.

had an average SES score of -0.1. In other words, students in our sample were raised in neighbourhoods with a slightly higher socio-economic status than all students in the past 10 years. This may limit our ability to identify differences in designation patterns among students of differing racial identities, if higher socio-economic status overall generally reduces barriers for assessment and diagnoses.

Neighbourhoods with higher SES indexes are typically associated with higher incomes, higher education levels and higher-paying occupations. To understand the role income plays in the difference between students in the study and all students enrolled in the same time frame, we looked at family neighbourhood income level (before tax) of students. The average neighbourhood income level for all students was \$116,000, while for the study sample it was only slightly higher at \$119,000. This indicates that other factors, such as educational attainment of parents or guardians, may account for some of the observed difference and that income alone is not driving the different SES scores between our research populations.

The self-reported racial identity of students in this study is described in [Figure 3](#) below and [Appendix B](#). There is no direct way of assessing representativeness of the self-reported racial identity composition of our sample because racial identity data is not available for the whole student population in B.C. As a proxy, we assessed our sample against the wider B.C. population using 2021 Census data on racialized populations.²² This comparison is limited because the wider B.C. population may be different in age²³ and racialized population makeup from all students enrolled in the past 10 years. Also, Census racialized population groups are not produced in the same way as our racial identity groups, so comparisons must be made in broad scope only.²⁴

With these limitations in mind, we found high agreement between the racial identities self-reported through the BC Demographic Survey in our study sample data and the racialized population groups reported in the 2021 Census. In particular, nearly all racial groups that may be approximately associated with Census racialized population groups are within 1% of the Census group proportions, with the exception of people who identified as Chinese and South Asian which are 6% greater and 5.5% smaller than the Census, respectively. Though the majority of the Census population falls in the 'Not a racialized population' group (59%), there is no directly comparable group in our study sample.²⁵

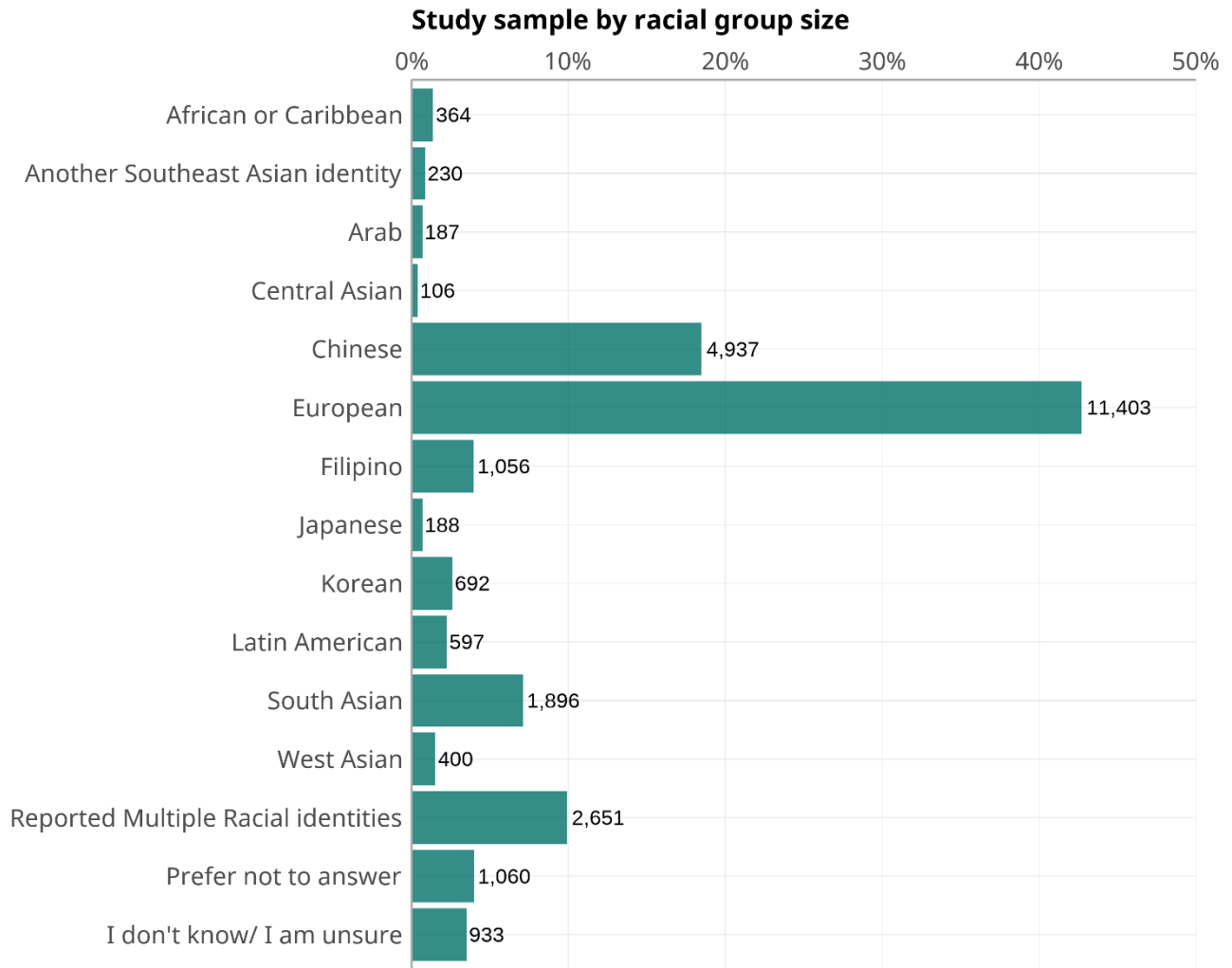
²² Note that the Racialized Population classification now in use by Statistics Canada on the Census and related publications is historically known as the Visible Minority classification.

²³ Our study population is too small to stratify by age without risking disclosure of personal information. To make the most complete comparison between the two datasets, we excluded any records from both the Census data and our sample that were not between the ages of 5 and 35 as of December 31, 2023. This is the age of the majority of students who were enrolled in the B.C. education system within the last 10 years, and accounts for 90% of our study population.

²⁴ See [Appendix C: Analytic approach to coding racial identity data from the BC Demographic Survey](#) to understand how our racial identity groups were produced.

²⁵ The most closely aligned racial group would be European, which accounts for 44% of our study sample. The lower representation here is almost certainly due to the definition of 'not a Racialized Population,' which is far broader than the European category from the survey. For more information about composition differences between the European racial group in our study sample, the BC Demographic Survey and the "Not a Racialized Population" Census group, refer to [Appendix C: Analytic approach to coding racial identity data from the BC Demographic Survey](#) and the BC Demographic Survey [Technical Report](#).

Figure 3: Study sample by racial identity group size



Overall sample representativeness

Overall, we find the study sample to be broadly representative of our reference population of all B.C. students over the past 10 years. Where distributions are skewed, this generally aligns with what is reported for the entire BC Demographic Survey, which saw a larger representation of some racialized identity groups, immigrants and individuals with higher education and income across all racial groups. Acknowledging that our study sample has these socio-economic and geographic limitations, its overall representativeness of the reference population was considered adequate for this preliminary examination of patterns of special education funding designations by racial identity. Due to time constraints, sample weighting was not considered for this phase of analysis.

Research methods

Datasets

To answer our research questions, we used descriptive and inferential statistical analyses of administrative and survey datasets available through the [Data Innovation Program](#):

1. [K to 12 Student Demographics and Achievements](#). This dataset contains administrative records collected by schools and reported to the Ministry of Education and Child Care since 1991. It includes enrolment information (including [special education funding designations](#)), along with some demographic information for all students enrolled in schools that are or have been under the Ministry of Education and Child Care's jurisdiction. The dataset does not include data on students in federally-funded schools under First Nations jurisdiction. This was the primary dataset for our analysis.
2. [BC Demographic Survey](#). This is a survey conducted by BC Stats with socio-demographic information on over 200,000 residents of B.C., collected in 2023. We used racial identity and gender data from this dataset.
3. [K to 12 Socio Economic Status \(SES\) Index](#). This index was created by the Ministry of Education and Child Care using Statistics Canada's Census data. It contains SES scores for students who were enrolled in B.C. schools from 2000-2021. This data can be used to explore the relationship between neighbourhood Census data and the education outcomes of students in those neighbourhoods. This data was used for evaluating the representativeness of the study sample.
4. **Canadian 2021 Census** (Statistics Canada).²⁶ We used custom age-stratified racialized population counts for the B.C. population to assess representativeness of the study sample.

Racial identity variable

Each student's self-reported (or reported by a family member) racial identity was determined from a single Demographic Survey entry, and therefore applied to the entire history of a student's enrolment data. This method is a consequence of having a single year of demographic data and assumes that racial identity is static over time. [Appendix C](#) describes how racial identity was measured in the survey and assigned to students in the sample.²⁷

Special education funding designation variables

To answer our research question, we created four variables using the `special_needs_code` field in the student enrolment data. These variables were binary (True/False) and indicated whether a designation was ever assigned to a student in the study sample. Each variable was chosen in consultation with subject matter experts from the Ministry of Education and Child Care.

²⁶ Statistics Canada (2024). Custom tabulation of 2021 Census by Racialized Population status.

²⁷ Responses of "I don't know" or "Prefer not to answer" have been excluded from most analyses. However, results for these response categories can still be found in the tables in the Appendices.

A single student may receive multiple [special education funding designations](#) over the course of their K-12 education, so we defined several variables that track designations in four ways: [Special Education Funding \(Excluding Gifted\) designations](#), [Supplementally Funded designations](#), [Base Funded designations](#) and [Gifted](#) designations.²⁸ These designation variables are not mutually exclusive; the same student can be in one or more of these designation categories over their enrolment history. The temporal observation window extended back as far as the 1991-92 school year to capture whether a student had ever received one of these designations during their enrolment history.

The four binary variables we have used include:

- [Special Education Funding \(Excluding Gifted\) designations](#): Indicates if a student has ever had a special education funding designation (other than Gifted) recorded in their enrolment record. Students with a Gifted designation are separated into another category to align with standard reporting used by the Ministry of Education and Child Care.
- [Supplementally Funded](#): Indicates if a student's enrolment record has ever had one of the Supplementally Funded designations listed in [Appendix A](#). Supplementally Funded designations refer to special education funding categories where the school district receives additional funding (above the base allocation) to support delivery of special educational needs.
- [Base Funded](#): Indicates if a student's enrolment record has ever had one of the Base Funded designations listed in [Appendix A](#). Base Funded refer to those categories that do not garner the school district supplemental funding under Ministry of Education and Child Care's operational funding policy
- [Gifted](#): Indicates if a student has ever had a Gifted designation in their enrolment record. To receive a Gifted designation, a student is assessed as having demonstrated or potential abilities that give evidence of exceptionally high capability with respect to intellect, creativity or the skills associated with specific disciplines.

Analytic approach

Special education funding designation rates

For each of the four designation categories, we standardized sample group totals for comparison against the provincial totals by calculating rates per 100 students for each racial group, all students in our study, and all B.C. students. These rates per 100 students are equivalent to percentages. Because we are reporting on a sample of students only, the sample rates by racial group represent estimates of the true rate in B.C.'s K-12 population.

We employed a data masking strategy to mitigate the risk of inadvertently disclosing personally identifiable information. Masking is a statistical approach used to protect privacy or confidentiality. Small

²⁸ 'Supplementally funded' designations may also be known as 'low incidence' designations. Similarly, 'base funded' designations may also be known as 'high incidence' designations. See [Appendix A: List of special education funding designations](#) for a full list of designation codes and descriptions, including how we have grouped them for analysis.

sample group totals and rate estimates were masked in our tables and charts to minimize the chance of re-identification and possible harms to individuals in those racial identity groups.

For each estimated rate, we have provided a 95% confidence interval inside which we can be 95% confident that the true provincial rate lies. We calculated two-sided 95% confidence intervals on the designation rates using the R software package DescTools.²⁹ As the expected proportions were close to 0 for some derived measures and racial groups, the Wilson interval was chosen because it is well suited to compensate for small proportions.³⁰ See [Appendix D](#) for a full list of results.

To determine if there is an association between special education funding designations and racial group in our study sample, we ran two inferential tests: Pearson's Chi-squared and Fisher's Exact³¹. Details from these tests can be found in [Appendix E](#). Note that this approach does not make comparisons of designation rates between individual racial groups, only to say whether designation rate patterns overall are associated with student racial groups.

Statistical limitations

Confidence intervals provide insight into how well our study sample estimates the true school population (e.g., wider intervals indicate higher uncertainty in estimates). Confidence intervals on each rate estimate also allow us to compare the relationship between the percentage of students with special education funding designations in each racial identity to provincial rates, assuming our study sample is representative.

While our study sample aligns with the B.C. student population across some characteristics (such as with gender, proportional representation for most racial identities and proportion of students in independent schools), we also know our study sample differs in some significant ways, such as higher socio-economic status and higher representation from urban school districts. Estimates and confidence intervals should be interpreted with these known sample deviations, and future phases for this research should consider applying weighting methodologies to the study sample.

Pearson's Chi-squared test of independence is considered an omnibus test, that is, it tells us there is enough evidence to suggest a relationship but provides no information about the source of statistical significance. To obtain results which speak to the strength and type of relationships between variables tested, further statistical testing would be required.³² For example, when a Pearson's Chi-squared test produces a significant result, further post-hoc tests are often needed for detailed comparisons between groups.

²⁹ Signorell (2024). [DescTools: Tools for Descriptive Statistics](#).

³⁰ Brown, Cai & Dasgupta (2001). Interval estimation for a binomial proportion.

³¹ R Core Team. (2023). [R: A Language and Environment for Statistical Computing](#).

³² Sharpe [2015] evaluated four approaches to determine the source of statistical significance in the analysis of contingency tables, including partitioning. Partitioning is a strategy discussed in depth by Takane (2014).

Benchmark comparisons

We produced an estimated rate for all students in the study sample, each racial group category, and for the overall B.C. student population from the last 10 years. By producing identically calculated B.C. student benchmark results, we have a provincial value against which we may compare our sample estimates. This has multiple purposes: first, it allows us to immediately identify how close our student sample is to representing the B.C. student population for a given measure. When these two measures diverge substantially, we should treat further inferences against the B.C. student population with caution as this indicates where the sample is non-representative of the larger B.C. student body. Second, this gives us a benchmark against which we can compare individual racial groups. It should be noted that the provincial benchmark is not necessarily the measure to 'strive' for, as there are many societal factors influencing these measures (e.g., stigmatization of disabilities requiring special needs supports, differences between education jurisdictions on how special needs are identified and resourced, cultural backgrounds influencing one's understanding of and approach to disability, etc.). However, our hypothesis is that these societal factors should be exclusive of racial identity, and thus an educational system free of systemic racism would not show variation between our benchmarks and racial groups, all other factors being equal.

Findings

How do special education funding designation rates vary for students across racial groups?

We found sufficient statistical evidence that, over the past 10 years, the rates for all four [special education funding designation](#) categories varied across racial groups, and this difference cannot be explained by chance. For each category in our analysis, we estimated designation rates and uncertainty for each self-reported (or reported by a family member) student racial identity group, compared each observed estimate with the rate for all students in our study and, where appropriate, to the equivalent provincial average.

Overall, our sample averages ranged from 3.5% for [Gifted](#) designations to 14.1% for Special Education Funding (Excluding Gifted) designations. Racial identity group designation rates had high variation ranging from 1.1% to 6.1% for Gifted and 5.1% to 20.1% for all Special Education Funding (excluding Gifted) designations. Overall, designation rates for students who identify as European were higher than the provincial average rates for all four designation categories. Designation rates for students who identify as African or Caribbean were higher for two of the four measures: [Special Education Funding \(Excluding Gifted\)](#) and [Supplementally Funded](#) designations. Designation rates for students who identify as Chinese, Korean, South Asian and West Asian were lower than the provincial average rate for all but the Gifted designation category. This suggests that while there are variations in designation rates among racial groups, different groups may be facing different types of barriers (e.g., some groups are being over-designated while others under-designated).

Our findings for the Gifted designation showed notably higher designation rates for our [study sample](#) (and several racial identity groups within the sample) than the provincial average, though this may be explained by the differences in socio-economic and demographic characteristics of our sample compared to the provincial K-12 population. Designation rates for students who identify as Filipino or South Asian were lower than our study sample rate for the Gifted designation category.

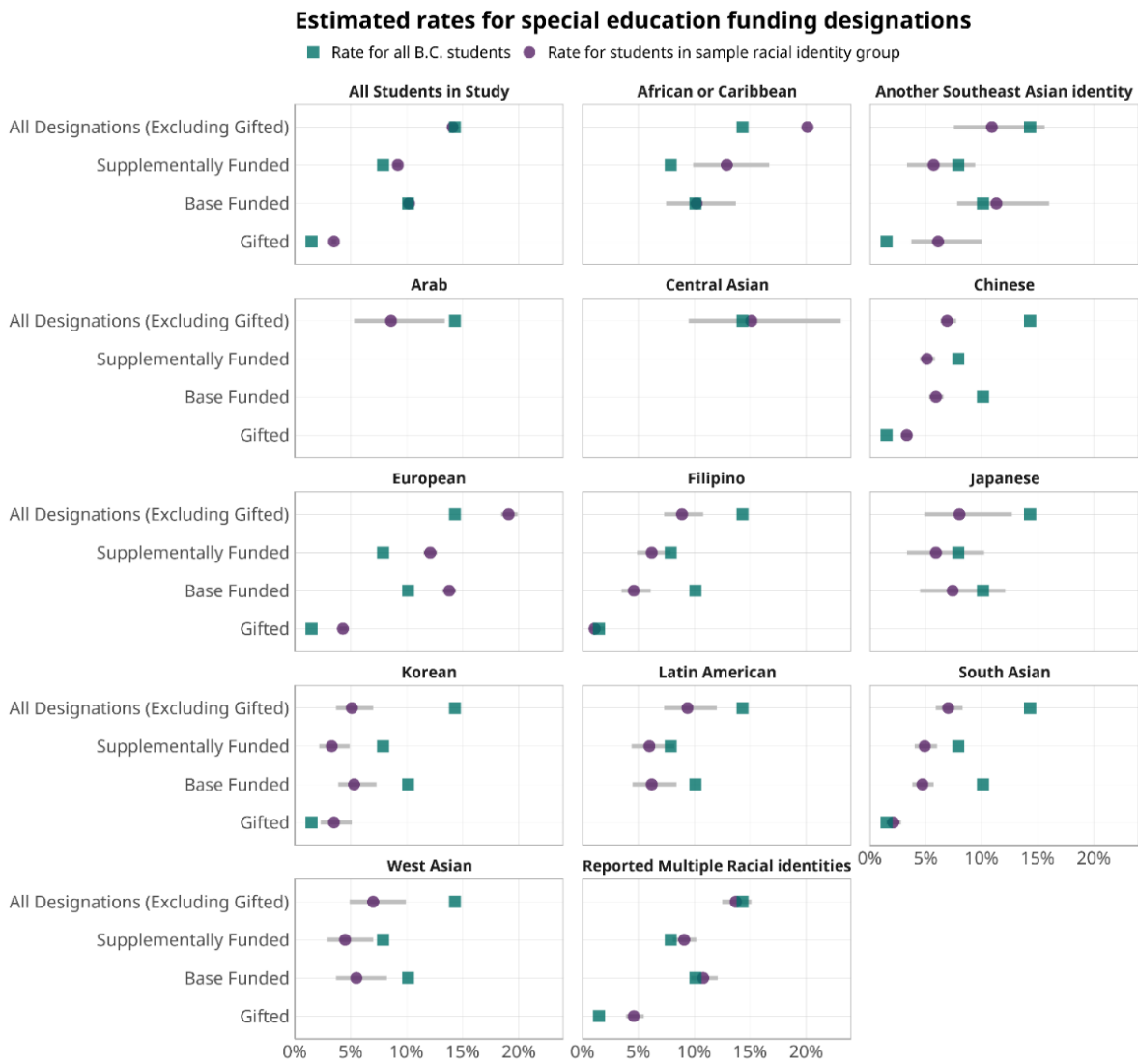
Despite breaking out Supplementally Funded designations from [Base Funded](#) designations in the analysis, we did not observe substantial differences in patterns between the two categories, with the exception that rates for students who identify as African or Caribbean were higher than our baselines for Supplementally Funded designations but not for Base Funded ones. Indeed, the overall patterns for three of our four designation categories (with the exception of the Gifted category) were broadly comparable.

Comparing to the provincial student average was selected not as a benchmark for designation rates, but instead as a baseline for testing the hypothesis that while many factors might influence a student receiving a designation, racial identity should not impact their chance of having their special needs

recognized at school. Race is a social construct that has no bearing on whether a student needs specialized supports at school.³³ When we are seeing differences by racial group, there may be other systemic factors involved. Among these factors could be resourcing at schools, differential or biased treatment from school staff, availability of specialized programs within school districts, barriers to accessing health services needed to confirm a medical diagnosis, and general availability of safe and affordable testing or diagnostic services. More analysis is needed to understand which factors are influencing the differences observed in our analysis.

Detailed findings for each designation category follow below the summarized findings in [Figure 4](#).

Figure 4: Estimated rates for special education funding designations



Grey interval bars represent 95% confidence intervals on rate estimates. Some data was masked (not shown) to eliminate the risk of re-identification. Unweighted data was used when calculating racial group estimates.

³³ Race is not to be confused with culture, which can and does have influence on various aspects of a student's educational experience.

All Special Education Funding (Excluding Gifted) designations

- An estimated 14.1% of students in our study sample received a Special Education Funding (Excluding Gifted) designation, similar to the provincial rate for all B.C. students (14.3%). Within our sample, this equates to 141 out of every 1,000 students receiving a designation.
- Across all racial identity groups, designation rate estimates ranged from 5.1% to 20.1%.
- Designation rates for students who identify as African or Caribbean and European were highest in our study sample (20.1% and 19.1%) and above the provincial rate for all B.C. students.
- Designation rates for a number of student racial identity groups (Arab, Chinese, Filipino, Japanese, Korean, Latin American, South Asian and West Asian) were lower (5.1 to 8.6%) than our average study sample rate and below the provincial rate for all B.C. students.
- While designation rate estimates for some racial identity groups were observed to be below or near the provincial rate for all B.C. students (e.g., Central Asian and students with Another Southeast Asian identity³⁴), the wide range of uncertainty in these group estimates makes it difficult for us to infer if these estimates reflect the equivalent racial identity group in the larger student population.
- Overall, the findings for the Special Education Funding (Excluding Gifted) designation measure were found to be significant (see [Appendix E](#)).

Supplementally Funded designations

- An estimated 9.2% of students in our study sample received a Supplementally Funded designation, which was 1.3% higher than the provincial rate for all B.C. students (7.9%). Within our sample, this equates to 92 out of every 1,000 students receiving a Supplementally Funded designation.
- Across all racial identity groups in our sample, Supplementally Funded designation rate estimates ranged from 3.3% to 12.9%.
- Supplementally Funded designation rates for three racial identity groups (African or Caribbean, European, and multiracial) were highest in our study sample (9.1% to 12.9%) and above the provincial rate for all B.C. students.
- Supplementally Funded designation rates for four racial identity groups (Chinese, Korean, South Asian and West Asian) were lower (3.3 to 5.1%) than our average study sample rate and below the provincial rate for all B.C. students.
- While Supplementally Funded designation rates for some student racial identity groups were observed to be below the provincial rate for all B.C. students (e.g., Filipino, Japanese, Latin American, and students who identify as Another Southeast Asian identity), the wide range of uncertainty in these group estimates makes it difficult for us to infer if these estimates reflect the equivalent racial identity group in the larger student population.

³⁴ This and other broad racial identity groups are described in more detail in the BC Demographic Survey [Technical Report](#).

- Supplementally Funded designation rates for students who identify as Arabic or Central Asian could not be accurately calculated due to the limited sample size. Furthermore, attempting to ascribe a Supplementally Funded designation rate to the small number of students available in the sample data would risk reidentification of these individuals.
- Overall, the findings for the Supplementally Funded designation measure were found to be significant (see [Appendix E](#)).

Base Funded designations

- An estimated 10.2% of students in our study sample received a Base Funded designation, which was very similar to the provincial rate for all B.C. students (10.1%). Within our sample, this equates to 102 out of every 1,000 students receiving a Base Funded designation.
- Across all racial identity groups in our sample, Base Funded designation rate estimates ranged from 4.6% to 13.8%.
- The Base Funded designation rate for students who identify as European was highest in our study sample (12.9%) and above the provincial rate for all B.C. students.
- Base Funded designation rates for a number of racial identity groups (Chinese, Filipino, Korean, Latin American, South Asian and West Asian) were lower (4.6% to 6.2%) than our average study sample rate and below the provincial rate for all B.C. students.
- While Base Funded designation rates for some student racial identity groups were observed to be below or near the provincial rate for all B.C. students (e.g., African or Caribbean, Japanese, multiracial, and students who identify as Another Southeast Asian identity), the wide range of uncertainty in these group estimates makes it difficult for us to infer if these estimates reflect the equivalent racial identity group in the larger student population.
- Base Funded designation rates for students who identify as Arabic or Central Asian could not be accurately calculated due to the limited sample size. Furthermore, attempting to ascribe accurately a Base Funded designation rate to the small number of students available in the sample data would risk reidentification of these individuals.
- Overall, the findings for the Base Funded designation measure were found to be significant (see [Appendix E](#)).

Gifted designations

- An estimated 3.5% of students in our study sample received a Gifted designation, which was more than twice as high as the provincial rate for all B.C. students (1.5%). Within our sample, this equates to 35 out of every 1,000 students receiving a Gifted designation.
- Since our average sample rate differs substantially from the provincial average for Gifted designations, we do not recommend using any of the racial identity group rate estimates from our study sample as proxies for these racial groups in the provincial student population.
- Across all racial identity groups, Gifted designation rate estimates ranged from 1.1% to 6.1%.

- Gifted designation rates for students who identify as Another Southeast Asian identity were highest in our study sample (6.1%).
- Gifted designation rates for students who identify as Filipino and South Asian were lowest in our study sample (1.1% and 2.1%).
- Gifted designation rates for a number of racial identity groups (African or Caribbean, Arab, Central Asian, Japanese, Latin American and West Asian) could not be accurately calculated due to the limited sample size. Furthermore, attempting to ascribe a Gifted designation rate to the small number of students available in the sample data would risk reidentification of these individuals.
- Overall, the findings for the Gifted designation measure were found to be significant (see [Appendix E](#)).

Limitations of this research

Because racial identity data is not collected for all students in B.C.'s K-12 system, our analysis focused on a sample of students who completed the [BC Demographic Survey](#) (2% of all students enrolled over the past 10 years). As such, the findings may differ from other publicly released statistics that are based on full administrative datasets representing the entire provincial student population.

Administrative data on student special education funding designations is collected primarily to determine funding levels for school districts, and the data entry system does not allow for multiple designations in a single term. This prevents us from examining whether the prevalence of students with multiple designations differs by racial identity. In addition, with higher funded designations taking precedence in the administrative data, we expect that designations with lower or no supplementally funding attached to them (e.g., Base Funded, Gifted designations) are likely to be underrepresented.

These findings should not be used to make any causal inferences between student racial identity and designation rates. Further investigation is required with more sophisticated models, additional data and sample data weighting methods to improve sample representativeness.

Summary and next steps

This report summarizes the findings of an initial phase of [anti-racism](#) research with the aim to understand how students with special needs across racial groups are designated for special education funding in the B.C. K-12 public education system. We used data from the [BC Demographic Survey](#), the first instance of racial identity data collected by the Province to identify and address systemic racism in government programs and services.

The [study sample](#) data from the survey represented a relatively small proportion of all students enrolled in the K-12 education system over the past 10 years (2%), with more representation in the sample data from students living in urban areas and families with higher socio-economic status. Despite some limitations, we found that [special education funding designation](#) rates varied across student racial identity groups, and these differences cannot be explained by chance alone. Within special education funding designations, when excluding [Gifted](#) designations, there is a general pattern of higher rates for non-racialized students and lower rates for some – though not all – racialized student groups. Gifted designations also varied by racial identity in our study, though notably higher rates in our study sample prevent us from estimating similar patterns in the provincial student population.

Many systemic factors could contribute to a student not receiving a special education funding designation, such as awareness of special needs assessments and available supports, availability of assessment programs and resources within school districts, and availability of safe and affordable or specialized services for assessments and diagnoses. However, the findings of this preliminary research looking at patterns of special education funding designations across racial groups are concerning because a student's racial identity should not make it more or less likely for them to receive a designation.

We selected patterns of special education funding designations as an initial focus because related funding helps schools provide important supports that create equitable access to education for all learners. We are presenting preliminary findings that should be used as a starting point for discussion and engagement with communities, education system partners, school districts and families. As previously mentioned, these findings do not include Indigenous learners, as additional conversations with Indigenous partners are needed to make sure similar research is distinctions-based and useful to Indigenous Peoples (First Nations, Métis and Inuit). Given the importance of this research topic, the Ministry of Education and Child Care and [BC Stats](#) will use these findings to guide further research into the systemic barriers faced by racialized students in B.C.

Key terms

TERM	DEFINITION
Adult learner	Learners who are 18 and older and have no school-age enrolment record in the last 10 years within our sample dataset.
Anti-racism	Anti-racism is the deliberate act of opposing racism and promoting a society that is thoughtful, inclusive and just.
Base Funded designation	Base Funded designations refer to special education funding designation categories that do not get supplemental funding under the Ministry of Education and Child Care operational funding policy. These designations are the responsibility of school districts and school-based teams.
Cross-sectional study	A cross-sectional study is a type of observational study that analyzes data from a population, or a representative subset, at a specific point in time. In our research, we used racial data from the BC Demographic Survey conducted in the summer of 2023 and connected it with educational enrolment data ranging from the 2012/13-2022/23 school years.
Equity/Equitable, or Inequity/Inequitable	<p>To be equitable means that something is fair and just for everybody. It may refer to many things, including programs, services and society as a whole. Inequity means the opposite.</p> <p>Equity is different than equality, which means everyone is treating in the same way. Equity recognizes that we are not starting at the same place and seeks to address these imbalances.</p>
Gifted	Indicates if a student has ever received a Gifted designation in their enrolment record. To receive a Gifted designation, a student is assessed as having demonstrated or potential abilities that give evidence of exceptionally high capability with respect to intellect, creativity, or the skills associated with specific disciplines. These designations are the responsibility of school districts and school-based teams.
Independent schools	Independent schools in British Columbia are independently-operated institutions that are primarily governed by not-for-profit societies, serving K-12 students. They are regulated, certified and routinely inspected by the Ministry of Education and Child Care.
Reference population	All students in the education system enrolled in the B.C. school system between the 2012/13 school year and 2022/23 school year, which includes 1,361,557 individuals.

Special education funding designation	Special education funding designations are used to provide funding to school districts to cover the additional costs of programs and services for students with disabilities and diverse abilities. For this research, we split these designations into four categories: Special Education Funding (Excluding Gifted), Gifted, Base-Funded, and Supplementally-Funded. See Appendix A for a full list of reasons a student may receive a designation.
Special Education Funding (Excluding Gifted) designation	Indicates if a student has ever received a special education funding designation other than Gifted in their enrolment record (see Appendix A for details on designation types). Students with a Gifted designation are excluded to align with standard reporting used by the Ministry of Education and Child Care.
Study sample	The 29,622 individuals whose racial information was available through the BC Demographic Survey and who were enrolled in a B.C. school between the 2012/13 school year and 2022/23 school year.
Supplementally Funded designation	Supplementally Funded designations refer to special education funding designation categories that get supplemental funding to support students' educational needs.
Systemic racism	Systemic racism occurs through inequities that are built into services, systems, and structures. These are often caused by hidden biases that disadvantage people based on their race. For many Indigenous and racialized people, this results in inequitable access, poorer outcomes, and negative experiences with public services such as education, health care, child welfare, and policing.

References

- Angus Reid Institute (2021). Diversity and Education: Half of Canadian kids witness ethnic, racial bullying at their school. Retrieved February 27, 2024, from: https://angusreid.org/wp-content/uploads/2021/10/2021.10.19_canada_school_kids_racism_diversity-1.pdf.
- B.C. Ministry of Education [creator]. K to 12 Socio Economic Status (SES) Index E03. Data Innovation Program, Province of British Columbia [publisher]. Data Extract. Approver Year (2023). Retrieved February 27, 2024, from <https://catalogue.data.gov.bc.ca/dataset/6e600c62-9d95-48a8-8ea1-c665cb5c086f>.
- B.C. Ministry of Education [creator]. K to 12 Student Demographics and Achievements E06. Data Innovation Program, Province of British Columbia [publisher]. Data Extract. Approver Year (2023). Retrieved February 27, 2024, from <https://catalogue.data.gov.bc.ca/dataset/6fb841f4-66b7-4cbe-9082-a2b4896d4bc5>.
- B.C. Ministry of Education. (2016). Special Education Services: A Manual of Policies, Procedures and Guidelines. Retrieved February 27, 2024, from: https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/inclusive/special_ed_policy_manual.pdf.
- BC Stats [creator]. BC Demographic Survey E01. Data Innovation Program, Province of British Columbia [publisher]. Data Extract. Approver Year (2023). Retrieved February 27, 2024, from <https://catalogue.data.gov.bc.ca/dataset/381445d7-c58b-452e-bf2b-9ad8c6fac499>.
- BC Stats. (2024). BC Demographic Survey Technical Report. Retrieved from <https://www2.gov.bc.ca/assets/download/2F5AEE0EAAD04D3AA1683F98C00D8680>.
- Brown, L. D., Cai, T. T., & DasGupta, A. (2001). Interval estimation for a binomial proportion. *Statistical science*, 16(2), 101-133.
- First Nations Education Steering Committee and Ministry of Education and Child Care (2022). Aboriginal Report: How are we doing? 2022/2023. Retrieved February 27, 2024, from: <https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/reports/ab-hawd/ab-hawd-school-district-public.pdf>.
- McCreary Centre Society (2018). BC youth who experienced racial discrimination. Retrieved February 27, 2024, from: https://www.mcs.bc.ca/pdf/2018bcahs_factsheet_racial_discrimination.pdf.
- Ministry of Education (2021). COVID-19 Student Impacts. Retrieved February 27, 2024, from: <https://files.eric.ed.gov/fulltext/ED616968.pdf>.
- Ministry of Education and Child Care. (2023) 2023/24 interim operating grants. Province of British Columbia. Retrieved February 27, 2024, from: <https://www2.gov.bc.ca/gov/content?id=0D587C8B70144144AEC968630DBB8BBE>.

- Ministry of Education and Child Care. (2023). K-12 Funding – Special Needs. Province of British Columbia. Retrieved February 27, 2024, from: <https://www2.gov.bc.ca/gov/content?id=539034EA83554537AEE3444F3A8279B0>.
- Ministry of Education and Child Care. (n.d.). Racial Equity Together K-12 Anti-Racism Action Plan. Retrieved from <https://www2.gov.bc.ca/assets/gov/erase/documents/k-12-anti-racism-strategy.pdf>.
- MyEducationBC. (2021). 1701 Student Services Designation Programs. Retrieved February 27, 2024, from: <https://www.myeducationbc.info/wp-content/uploads/1701-Student-Services-Designations-v1.4.pdf>.
- R Core Team. (2023). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. Retrieved February 27, 2024, from: <https://www.R-project.org>.
- Robson et al. (2022). A Comparison of High School Graduation Predictors Between Two Ontario Student Cohorts. *Canadian Journal of Education*. Retrieved February 27, 2024, from: <https://journals.sfu.ca/cje/index.php/cje-rce/article/view/5181/3255>.
- Russell, M. J., Scott, C. W. M., Murias, K., Gibbard, W. B., Cui, X., Tough, S., & Zwicker, J. D. (2021). Cross-ministry data on service use and limitations faced by children in special education. *Disability and Health Journal*, 14(4). Retrieved February 27, 2024, from: <https://doi.org/10.1016/j.dhjo.2021.101118>.
- Signorell, A. (2024). DescTools: Tools for Descriptive Statistics. R package version 0.99.53. Retrieved from: <https://CRAN.R-project.org/package=DescTools>.
- Statistics Canada. (2024). Custom tabulation of 2021 Census by Racialized Population status.
- The Co-Laboratorio Project (2022). Anti-racism in Burnaby Schools Listening, learning and actioning change Final Report. Retrieved February 27, 2024, from: <https://burnabyschools.ca/wp-content/uploads/2022/11/22-09-27-CoLab-Final-Report.pdf>.
- Too, M. (2018). Pedagogical Challenges with Diversity and Special Education Referrals in Ontario. *Prandium: The Journal of Historical Studies at U of T Mississauga*, 7(1). Retrieved February 27, 2024, from: <https://jps.library.utoronto.ca/index.php/prandium/article/view/32115/24483>.
- Toronto District School Board. (2023). Special Education Plan 2023-2024. Retrieved February 27, 2024, from: https://www.tdsb.on.ca/Portals/0/docs/Special_Education/TDSB_SEP.pdf.

Appendices

Appendix A: List of special education funding designations

Ministry of Education and Child Care administrative data captures 12 [special education funding designations](#), each with a corresponding code, funding and incidence level. Special education funding designation data is used to determine the per student funding allocation to school districts each year^{35,36}.

Table 1: Special education funding designation types and related funding levels

CODE	DESIGNATION DESCRIPTION	SUPPLEMENTAL FUNDING LEVELS (2023/24 PER STUDENT ALLOCATION RATE)	GROUPING FOR ANALYSIS
A	Physically Dependent	Level 1 (+\$49,070)	Supplementally Funded designations
B	Deafblind		
C	Moderate to Profound Intellectual Disability	Level 2 (+\$23,280)	Supplementally Funded designations
D	Physical Disability or Chronic Health Impairment		
E	Visual Impairment		
F	Deaf or Hard of Hearing		
G	Autism Spectrum Disorder		
H	Intensive Behaviour Interventions or Serious Mental Illness	Level 3 (+\$11,760)	Supplementally Funded designations
K	Mild Intellectual Disability	Basic Allocation only (\$8,625)	Base Funded designations
P	Gifted		
Q	Learning Disabilities		
R	Moderate Behaviour Support / Mental Illness		

³⁵ Ministry of Education and Child Care (2023). [2023/24 interim operating grants](#).

³⁶ Ministry of Education and Child Care (2023). [K-12 Funding – Special Needs](#).

Appendix B: Racial representation of study population compared to Census data

Table 2: Racial group distributions in sample and comparable groups in Census

RACIAL GROUP (DEMOGRAPHIC SURVEY)	PERCENT OF SAMPLE (AGE 5 – 35)	RACIALIZED POPULATION ³⁷ (CENSUS)	PERCENT OF POPULATION (AGE 5 – 35)	DIFFERENCE
African or Caribbean	1.4%	Black	1.8%	-0.5%
Another Southeast Asian identity	0.8%	Southeast Asian	1.9%	-1%
Arab	0.6%	Arab	0.8%	-0.2%
Chinese	17.5%	Chinese	11.5%	6%
Filipino	4.1%	Filipino	4.1%	0%
Japanese	0.6%	Japanese	0.9%	-0.3%
Korean	2.2%	Korean	1.8%	0.4%
Latin American	1.8%	Latin American	1.7%	0.1%
South Asian	7.2%	South Asian	12.8%	-5.5%
West Asian	1.2%	West Asian	1.5%	-0.4%
Central Asian	0.3%	No Comparable Census Group	-	-
European	44%	No Comparable Census Group	-	-
I don't know/ I am unsure	3.5%	No Comparable Census Group	-	-
Prefer not to answer	4%	No Comparable Census Group	-	-
Reported Multiple Racial Identities	10.8%	No Comparable Census Group	-	-
No Comparable Survey Group	-	Multiple racialized populations	1.8%	-
No Comparable Survey Group	-	Not a racialized population	59%	-
No Comparable Survey Group	-	Racialized population, not indicated elsewhere	0.4%	-

³⁷ Formerly referred to on the Census as 'Visible Minority'.

Appendix C: Analytic approach to coding racial identity data from the BC Demographic Survey

The BC Demographic Survey collected information about racial identity by asking the following question:

How would you best categorize your racial identity. Are you...?
Select all that apply; please indicate which categories apply to you and not how you may be perceived

Respondents³⁸ were also given the following instructions when asked to categorize their racial identity:

Racial categories are not based in science. There is no agreement on how race is categorized. A person's racial identity may influence the way they are treated by individuals and institutions. The categories used here are based on feedback from people living in British Columbia.

Respondents were given 16 defined options for race as well as 'I don't know/I am unsure', 'Prefer not to answer', and 'Prefer to self-describe'.³⁹ Métis, Inuit/Inuk and First Nations were included as racial options within this question. Participants were given the option to provide an alternative description through the 'Prefer to self-describe' field. Multiple options could be selected, including self-describing and choosing from one or more of the 16 defined options.

Self-described responses were re-coded by the survey data provider into the original 16 racial groups where possible prior to the data being provisioned to the [Data Innovation Program](#). A further 10 additional sub-groups were created that align with the 16 original groups but maintained in the data to retain specificity of responses. The data provider supplied information to map these 10 additional sub-group codes to the 16 defined options. The remaining 'Prefer to self-describe' responses that did not fall definitively into any of the 16 racial groups (e.g. 'Canadian') were marked as 'Undefined'.

We implemented the following methodology to define racial categories within the January 12, 2024 provisioned [BC Demographic Survey](#) dataset:

- Filter out any StudyID (single study participant) with First Nations, Métis, or Inuit/Inuk responses to the question on racial identity (coded as Q32). This is done to eliminate conflation of concepts

³⁸ For some respondents, racial identity may have been reported by members of the same household who were completing the survey on their behalf.

³⁹ Defined options included: African or Caribbean, Arab, Central Asian, Chinese, Japanese, Korean, East Asian, European, First Nations, Inuk (Inuit), Latin American, Métis, South Asian, Filipino, Another Southeast Asian identity, and West Asian. For more details on the racial categories provided by the survey, including sub-groups for some categories such as Another Southeast Asian identity, see the BC Demographic Survey [Technical Report](#).

of identity (Indigenous vs. racial identity). Indigenous identity data is captured in detail in a separate section of the survey (coded as Q14).

- Transform the 10 sub-groups to their corresponding defined option using the mapping provided: the response to Q32 (Q_CODE) is transformed into OUT_CODE_1 using the metadata-codes crosswalk file.
- For the remaining self-described codes, retain code 30000 (Mixed), and recode all others as 'Undefined' (relative to the 16 defined options).
- The following hierarchy was then established to derive a racial identity category for every study participant:
 1. Use the defined race value where a unique StudyID has a single defined category from the original 16 racial groups, or a single defined category AND a response from 'I don't know/I am unsure' or 'Prefer not to answer'. Any further undefined categories reported by a StudyID are not taken into consideration.
 2. Use 'Reported Multiple Racial Identities' where a unique StudyID has multiple defined categories, or multiple defined categories AND a response from 'I don't know/I am unsure' or 'Prefer not to answer', or a 'Prefer to self-describe' response of Mixed, or some combination of the above. Any further undefined categories reported by a StudyID are not taken into consideration.
 3. Use 'I don't know/I am unsure' and/or 'Prefer not to answer' when a unique StudyID has only this as a response.
 4. Use 'Prefer not to answer' as higher priority over 'I don't know/I am unsure' if a unique StudyID has both responses.
 5. Use 'Undefined' for all other unique StudyIDs that do not fall into the above categories. This corresponds to those who only had 'Undefined' self-description responses (relative to the 16 defined categories).

The result of implementing these data preparation steps is a single racial category for every respondent in the data. Those respondents with a final category of 'Undefined' were excluded from this first stage of analysis. Note that due to small sample sizes in some groups, the removal of Indigenous identity options, and the inclusion of 'Reported Multiple Racial Identities' as an option, the exact number of racial categories reported on will differ from the 16 defined options presented in the survey.

Appendix D: Special education funding designation rates by racial identity

Measures represent students ever having been designated in one of the 12 special education funding categories over their entire enrolment history.

Note: These estimates are derived from a [study sample](#) whose racial identity information was available through the [BC Demographic Survey](#) and who were enrolled in a B.C. school at any point between 2012/13 and 2022/23 school years (this accounts for 2% of all students in the education system enrolled in the same time frame). These estimates and findings do not constitute official statistics on the performance of the education system and should not be used to make funding decisions or program and policy changes. Instead, they should be used to guide further inquiries and future research. Confidence intervals should be used with caution; care should be taken not to make statements comparing estimate rates between individual racial groups.

Estimates and confidence intervals for racial groups with small group totals have been replaced with the word “MASKED” to reduce harm caused by re-identification.

Special Education Funding (Excluding Gifted) designations

Table 3: Rates of Special Education Funding (Excluding Gifted) designations, by racial group.

RACIAL GROUP	ESTIMATED PERCENT	CONFIDENCE INTERVAL (CI)
African or Caribbean	20.1%	95% CI [16.3, 24.5]
Another Southeast Asian identity	10.9%	95% CI [7.5, 15.6]
Arab	8.6%	95% CI [5.3, 13.4]
Central Asian	15.1%	95% CI [9.5, 23.1]
Chinese	6.9%	95% CI [6.3, 7.7]
European	19.1%	95% CI [18.4, 19.9]
Filipino	8.9%	95% CI [7.3, 10.8]
I don't know/ I am unsure	22%	95% CI [19.4, 24.7]
Japanese	8%	95% CI [4.9, 12.7]
Korean	5.1%	95% CI [3.7, 7]
Latin American	9.4%	95% CI [7.3, 12]
Prefer not to answer	17%	95% CI [14.8, 19.4]
Reported Multiple Racial Identities	13.7%	95% CI [12.5, 15.1]
South Asian	7%	95% CI [5.9, 8.3]
West Asian	7%	95% CI [4.9, 9.9]
All Students in Study	14.1%	95% CI [13.7, 14.5]
B.C. Students	14.3%	95% CI [14.3, 14.4]

Supplementally Funded designations

Table 4: Rates of Supplementally Funded designations, by race.

RACIAL GROUP	ESTIMATED PERCENT	CI
African or Caribbean	12.9%	95% CI [9.9, 16.7]
Another Southeast Asian identity	5.7%	95% CI [3.3, 9.4]
Arab	MASKED	MASKED
Central Asian	MASKED	MASKED
Chinese	5.1%	95% CI [4.5, 5.8]
European	12.1%	95% CI [11.5, 12.7]
Filipino	6.2%	95% CI [4.9, 7.9]
I don't know/ I am unsure	14.9%	95% CI [12.8, 17.3]
Japanese	5.9%	95% CI [3.3, 10.2]
Korean	3.3%	95% CI [2.2, 4.9]
Latin American	6%	95% CI [4.4, 8.2]
Prefer not to answer	10.3%	95% CI [8.6, 12.3]
Reported Multiple Racial Identities	9.1%	95% CI [8.1, 10.2]
South Asian	4.9%	95% CI [4, 6]
West Asian	4.5%	95% CI [2.9, 7]
All Students in Study	9.2%	95% CI [8.8, 9.5]
B.C. Students	7.9%	95% CI [7.8, 7.9]

Base Funded designations

Table 5: Rates of Base Funded designations, by race.

RACIAL GROUP	ESTIMATED PERCENT	CI
African or Caribbean	10.2%	95% CI [7.5, 13.7]
Another Southeast Asian identity	11.3%	95% CI [7.8, 16]
Arab	MASKED	MASKED
Central Asian	MASKED	MASKED
Chinese	5.9%	95% CI [5.3, 6.6]
European	13.8%	95% CI [13.2, 14.4]
Filipino	4.6%	95% CI [3.5, 6.1]
I don't know/ I am unsure	12.8%	95% CI [10.8, 15]
Japanese	7.4%	95% CI [4.5, 12.1]
Korean	5.3%	95% CI [3.9, 7.3]
Latin American	6.2%	95% CI [4.5, 8.4]
Prefer not to answer	11.5%	95% CI [9.7, 13.6]
Reported Multiple Racial Identities	10.8%	95% CI [9.7, 12.1]
South Asian	4.7%	95% CI [3.8, 5.7]
West Asian	5.5%	95% CI [3.7, 8.2]
All Students in Study	10.2%	95% CI [9.8, 10.5]
B.C. Students	10.1%	95% CI [10.1, 10.2]

Gifted designations

Table 6: Rates of Gifted designations, by race.

RACIAL GROUP	ESTIMATED PERCENT	CI
African or Caribbean	MASKED	MASKED
Another Southeast Asian identity	6.1%	95% CI [3.7, 10]
Arab	MASKED	MASKED
Central Asian	MASKED	MASKED
Chinese	3.3%	95% CI [2.8, 3.8]
European	4.3%	95% CI [4, 4.7]
Filipino	1.1%	95% CI [0.7, 2]
I don't know/ I am unsure	1.5%	95% CI [0.9, 2.5]
Japanese	MASKED	MASKED
Korean	3.5%	95% CI [2.3, 5.1]
Latin American	MASKED	MASKED
Prefer not to answer	2.1%	95% CI [1.4, 3.1]
Reported Multiple Racial Identities	4.6%	95% CI [3.9, 5.5]
South Asian	2.1%	95% CI [1.5, 2.8]
West Asian	MASKED	MASKED
All Students in Study	3.5%	95% CI [3.3, 3.7]
B.C. Students	1.5%	95% CI [1.5, 1.5]

Appendix E: Special education funding designation rates: statistical tests

Statistical tests used

Pearson's Chi-squared Tests of Independence or Fisher's Exact Test of statistical significance were performed to test the association between student group racial identity and [special education funding designations](#). In total, four tests were performed on the following combinations of variables:

- racial group vs [Special Education Funding \(Excluding Gifted\)](#) designation,
- racial group vs [Supplementally Funded](#) designation,
- racial group vs [Base Funded](#) designation, and
- racial group vs [Gifted](#).

For all four tests, the purpose was to determine the likelihood that the distribution of racial groups within each designation measure was due to chance. Cases representing the racial group categories from the [BC Demographic Survey](#) "I don't know" and "Prefer not to answer" were removed from these tests as they did not provide relevant information about racial identity.

Pearson's Chi-squared Test of Independence assumes sample size is sufficiently large and cell sizes are adequate. The rule of thumb followed in this analysis is that the expected value for each cell is no less than 5. Where small cell counts invalidated the assumptions of Pearson's Chi-squared Test, as in the case of racial group vs Gifted, Fishers Exact test was performed post-hoc to test the association between variables.

All tests were performed using `chisq.test` and `fisher.exact` functions from the R statistical software package stat and were run against the null hypothesis that the two variables are independent. A p-value of $p = 0.05$ was used to reject or accept the null hypothesis for all tests. For Fisher's Exact test, 40,000 Monte Carlo simulations were used.

Significance testing

There is a statistically significant relationship between racial identity and Special Education Funding (Excluding Gifted) designations, Supplementally Funded designations, Base Funded designations and Gifted designations. The relationship between racial identity and all measures of designations examined were similar, with high test statistics and significant p-values (< 0.0001) for all measures (see Methods for statistical approaches). Combined, these findings show sufficient statistical evidence that rates for all four designation categories are associated with a student's self-reported (or reported by a family member) racial identity and cannot be explained by chance alone.

Table 7: Test Results for Pearson’s Chi-squared Tests of Independence on Special Education Funding designation Measures against Race

DESIGNATION CATEGORY	X ² STATISTIC	DEGREES OF FREEDOM	P-VALUE
Special Education Funding (Excluding Gifted)	661	12	< 0.0001
Base Funded	359	12	< 0.0001
Supplementally Funded	354	12	< 0.0001

Table 8: Test Results for Fisher’s Exact Test on Gifted Designation against Race

DESIGNATION CATEGORY	P-VALUE
Gifted	< 0.0001

