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High school graduation and postsecondary enrolment of Black, Latin American and other population groups: What explains the differences?

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Abstract

Given the large differences in educational attainment observed across non-Indigenous population groups in Canada, understanding when these differences emerge and what may explain them is an important first step in informing policy discussions on the issue. Using the British Columbia kindergarten to Grade 12 dataset, the Postsecondary Student Information System, the 2016 Census of Population, and the T1 Family File tax data, this study follows several cohorts of Grade 9 students in British Columbia over time to explore differences between population groups, by gender, in the probability and timing of high school graduation and enrolment in academic postsecondary programs. The analysis assesses the extent to which differences in high school course marks (Grade 10 English, science and math) and other factors, such as adjusted parental income and immigrant status, account for differences in these outcomes between population groups.

On-time high school graduation rates varied by upwards of 10 percentage points across population groups for each gender, with lower rates registered by Latin American, Black and West Asian students, and higher rates by Japanese, Korean, Chinese and South Asian students. In all population groups, girls were more likely than boys to graduate high school on time. Given an extra year, the graduation rate increased among all groups, most notably among Black boys. For boys and girls, enrolment rates in postsecondary programs were lowest among Latin American, Black and White students, and highest among Chinese, Korean and South Asian students. Differences in Grade 10 course marks explained a substantial share of the gaps in education outcomes between many of the population groups and White students. By contrast, adjusted parental income differences explained smaller shares of the gaps than differences in course marks did, in most cases. Comparing the standardized test scores for literacy of Latin American and Black students with those of White students in grades 4 and 7, and provincial exam marks in Grade 10 English, showed that skill gaps implied by the lower (relative to White students) course marks obtained by Latin American and Black students in Grade 10 may have existed at least as early as Grade 4. Parental income may have exerted an indirect effect on educational outcomes through its influence on academic performance (though this study cannot shed light on this).

Keywords: high school graduation, postsecondary enrolment, course marks, test scores, population group

Authors

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Introduction

Previous research has shown that, among working-age individuals born in Canada, educational attainment was low among Black and Latin American Canadians and high among Chinese, South Asian and Korean Canadians, compared with White Canadians (Qiu and Schellenberg, 2022; Statistics Canada, 2023). Group-level differences in educational attainment have implications for other outcomes, particularly earnings (e.g., Qiu & Schellenberg, 2022; Chen & Hou 2019).

Chen and Hou (2019) documented substantial differences in university completion rates between second-generation immigrants from different population groups. They also showed that educational mobility between immigrant parents and their Canadian-born children varied across groups (it was lower among groups with parents who were, on average, less educated). University completion rates and educational mobility were lowest among Latin American and Black second-generation immigrants, especially among men. By contrast, second-generation immigrants of Chinese or Korean origin had the highest rates of university completion. Comparing Black individuals who were born in Canada or who immigrated as children with all other similarly aged Canadians who were not Black, Turcotte (2020) found that Black youth were as likely as their counterparts who were not Black to have graduated high school. However, they were less likely to have obtained a postsecondary certificate, diploma or degree. The gap in postsecondary education persisted when differences in socioeconomic and family characteristics were controlled for. A more recent study also documented educational attainment among working-age Canadians belonging to different population groups (Statistics Canada, 2023). While existing studies focus on final educational attainment differences across various population groups, i.e., university degree or college diploma or certificate completion, less is known about how differences in these outcomes arise.

This study addresses some of the limitations of the existing literature by comparing the incidence and timing of high school graduation and enrolment in academic postsecondary programs across non-Indigenous population groups, by gender. The objective is to first explore when, in the progression through the educational system, differences in educational outcomes emerge between various population groups and, second, explore what factors contribute to observed differences in educational outcomes. The analysis will focus on four outcomes: (1) on-time high school graduation, (2) high school graduation with a one-year delay, (3) enrolment in a postsecondary program (certificate, diploma or degree) and (4) enrolment in a degree program.

A key explanatory factor in this analysis is high school course marks. High school marks are a crucial determinant of university admission. In fact, differences in course marks at age 15 explained a substantial share of the gap in university participation observed between girls and boys (Frenette & Zeman, 2007) and between youth from higher- and lower-income families in Canada (Frenette 2007). Using a unique administrative dataset from the British Columbia Ministry of Education, the British Columbia kindergarten to Grade 12 data (BC K-12), linked to the 2016 Census of Population, the Postsecondary Student Information System (PSIS) and the T1 Family File (T1FF), this study examines the role of high school course marks, as well as other factors, in explaining differences in high school graduation rates and postsecondary enrolment between students from different population groups. Blinder–Oaxaca decompositions were conducted to analyze differences in outcomes between pairs of population groups, where White students were the reference group in each pairwise comparison. All decompositions were run separately by gender.

The next section describes the data and methodology used in the study. The section that follows this describes the educational outcome differences observed across population groups and in characteristics, followed by the decomposition results. This is followed by descriptive analysis of standardized test score differences between population groups in grades 4 and 7, and in provincial exams in Grade 10. The final section summarizes and discusses the results.

Data and methods

The objective of this study is to first explore when, in the progression through the educational system, differences in educational outcomes emerge between various population groups and, second, explore what factors contribute to observed differences in educational outcomes. The analysis will focus on four outcomes: (1) on-time high school graduation, (2) high school graduation with a one-year delay, (3) enrolment in a postsecondary program (certificate, diploma or degree) and (4) enrolment in a degree program. The analysis is based on four linked datasets: (1) the BC K-12, an administrative dataset from the British Columbia Ministry of Education; (2) the 2016 Census of Population; (3) the PSIS; and (4) the T1FF, based on individual T1 tax returns. The BC K-12 is a longitudinal dataset that tracks the individual-level academic progress of students in the British Columbia public and independent school systems from kindergarten to Grade 12. One of the strengths of the BC K-12 data is the detailed student assessment information, including subjects, course marks and standardized test scores. The 2016 Census of Population linked to the BC K-12 is crucial for this study because it identifies the population group categories. It is also the source of immigrant status and background information. The PSIS dataset contains detailed academic information on nearly all students who were enrolled in publicly funded Canadian postsecondary institutions. Finally, the T1FF dataset allows family-level information (parental income and family composition) to be derived for students around the time of their expected high school graduation.[1]

The paper focuses on eight cohorts of high school students, based on the year they were first enrolled in Grade 9, from the 2004/2005 to 2011/2012 school years. The choice of cohorts was dictated by data availability. PSIS enrolment information is almost fully comprehensive from 2009 onward for institutions across Canada. This provided a lower bound for the selection of high school students for the study sample. The upper bound was determined such that students were given a sufficient window of opportunity to enrol in postsecondary programs given the last year of PSIS data available when this analysis was conducted (2018). Grade 9 students in each entry cohort were followed over time for a total of eight academic years. Because some students leave the British Columbia schooling system before graduating from high school, their presence in the sample would bias the estimated high school graduation rate. The sample was thus restricted to those who either remained in the BC K-12 data until graduation or were living in British Columbia in the calendar year of their expected on-time high school graduation (this information was obtained from the T1FF province of residence in combination with the family postal code). Similarly, because some students leave Canada after graduating from high school to attend postsecondary institutions abroad, or for other reasons, the sample was further restricted to individuals who were observed either in the PSIS within the eight-year timeframe or in the T1FF in the seventh year after Grade 9, indicating that they were still living (and filing taxes) in Canada.

Students from population groups with fewer than 200 observations for both girls and boys were dropped from the analysis. The population groups included in the study are Latin American, Black, West Asian, Southeast Asian, Filipino, South Asian, Chinese, Korean, Japanese and White.[2] The sample includes students who were born in Canada and those who were immigrants or temporary residents (as reported on the 2016 Census). By default, foreign-born students would have arrived in Canada as children because they must be observed living in British Columbia when enrolled in Grade 9. The total sample size is 62,615.

1. CanCHECw2 weights, which adjust the sample to the 2016 Census population, were used throughout the analysis.
2. The 2016 Census asked respondents to indicate what population groups they belong to, allowing them to circle multiple responses or specify another group not present in the list of options provided. In this study, each population group other than White consists of individuals who reported belonging only to that population group, or who reported both belonging to that population group and being White. Individuals who reported belonging to two population groups other than White, to three or more population groups, or to population groups identified only as “other” in census data were excluded from the analysis.

The study uses a Blinder–Oaxaca decomposition, with differences in group characteristics weighted by estimated coefficients from a pooled model, to explore the sources of differences in the four educational outcomes of interest between students from each of the nine population groups and White students, separately by gender. The decomposition takes the following form:

$$\overline{Educ_{W,g}} - \overline{Educ_{P,g}} = \left(\bar{X}'_{W,g} - \bar{X}'_{P,g}\right)\hat{\beta}^{*} + \left[\bar{X}'_{W,g}\left(\hat{\beta}_{W,g} - \hat{\beta}^{*}\right) - \bar{X}'_{P,g}\left(\hat{\beta}_{P,g} - \hat{\beta}^{*}\right)\right] \quad (1)$$

where $\overline{Educ}$ is the average educational outcome of a particular population–gender group; the subscript *W* refers to White, *P* refers to a population group other than White and *g* refers to gender; and $\bar{X}$ is the vector of mean values of the explanatory variables used in the analysis. The coefficients $\hat{\beta}_{W,g}$ and $\hat{\beta}_{P,g}$ are estimated in regressions run separately for White students and students belonging to the population group *P*, respectively, for gender *g.* Meanwhile, $\hat{\beta}^{*}$ is a vector of coefficients estimated from a pooled regression of students who are White and those belonging to population group *P*, for gender *g*, which additionally includes an indicator for group *P* as a control variable. The first term on the right-hand side of the equality sign in equation (1) represents the “explained” component of the gap in outcomes—it is the share of the gap that stems from a difference in observed characteristics between the two groups being compared, multiplied by the estimated coefficient from a pooled regression. In this study, the explained component is further broken down into the contribution of differences in characteristics for subgroups of the variables included in the model. The second term in equation (1) is the “unexplained” component.

The key explanatory variables in the analysis are Grade 10 course marks for English, science and mathematics (see the appendix for a detailed description of variables used in the models).[3] Each set of marks enters the models as a series of indicator variables for the grade level received (e.g., 90% or higher, or 80% to 89%). The models also include an indicator for whether the student took an advanced math course in Grade 10. The second explanatory variable of interest is parental income. In this analysis, it is after-tax total parental income adjusted for family size (by dividing by the square root of the number of family members) and expressed in 2018 constant dollars, which enters the models as a series of indicators for income quintiles. The variable was derived from the T1FF for students who could be linked to their parents around the year they were last observed in the BC K-12 data. This variable captures the financial resources of a family and, to some extent, reflects parental education and any parental attitudes and behaviours that may be correlated with parental income and education, and also with the educational outcomes of their children. Parental education is an important correlate of children’s educational attainment; however, this variable is not available in the administrative datasets used in this study. Parental education can be inferred from the 2016 Census, provided that students resided with their parents in 2016. Additional analysis including parental education as an explanatory variable was conducted with a subset of students who were expected to graduate from high school close to 2016, a higher share of whom were observed living with their parents at the time of the census.

The models also include neighbourhood characteristics,[4] namely the proportion of residents with a bachelor’s degree and average neighbourhood income, expressed in 2015 constant dollars (both enter models with a linear and quadratic term), derived from the 2016 Census but available on the BC K-12

3. As a robustness check, decompositions were rerun using marks from provincial exams as control variables instead of course marks. Provincial exams in Grade 10 are available for English and science. Course marks in English and science also incorporate scores from provincial exams. Differences in provincial test scores explained a slightly smaller share of the gaps in outcomes than did differences in course marks; however, the overall conclusions were unchanged.
4. Measured at the postal-code level.

dataset. Student characteristics controlled for in the model include gender;[5] age in Grade 9 (measured with indicators for age 13 or younger, 14, and 15 or older);[6] indicators for being an immigrant, being a temporary resident (at the time of the 2016 Census), one parent who is an immigrant and having both parents who are immigrants; and the student's age at immigration (measured with indicators for age 5 or younger, 6 to 11, and 12 or older). All are derived from information in the 2016 Census. Immigrant status was included in the models because children of immigrants and childhood immigrants in Canada attain higher levels of education, on average, than White third-generation Canadians do (Chen & Hou, 2019). At the same time, some childhood immigrants might fall behind in high school because of a language barrier. The models therefore include an indicator for whether the student attended an English as a second language (ESL) program at any time during high school, using information available in the BC K-12 data. The models also include an indicator for whether the student lived in a one-parent family around the time of high school graduation, derived from the T1FF—there is some evidence of a negative correlation between growing up in a one-parent family and educational attainment (Patacchini & Zenou, 2009). Parental income and family type information is available only when students can be linked to their parents in the tax data. The proportion of students who cannot be linked, either because they no longer live with their parents or because the parents are not filing taxes in the relevant years, varies substantially across population groups. A separate indicator for students who were not linked is therefore included in all models. Finally, the models have indicators for the Grade 9 entry cohort year and indicators for the last high school attended, all derived from the BC K-12 data. The high school indicators (or fixed effects) will capture school-level factors impacting students' academic performance and education outcomes, such as the impact of the principal and school resources and peer effects.[7]

Results

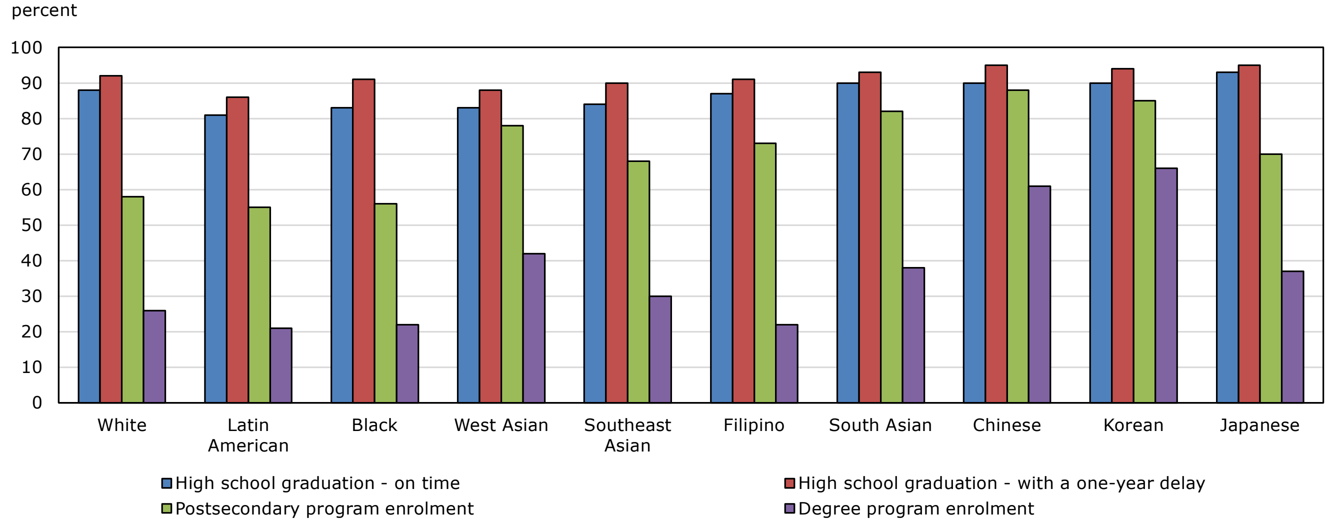
Educational outcomes and group characteristics

On-time high school graduation rates varied by upwards of 10 percentage points across population groups for each gender (charts 1 and 2). Among boys, Latin American students had the lowest on-time graduation rates (81%), followed by Black and West Asian students (83%). The highest rates were observed among Japanese boys, at 93%, with White boys falling roughly between the lowest and highest rates, at 88%. Among girls, the pattern across population groups was very similar to that observed among boys. However, girls in all groups were somewhat more likely than boys to graduate on time. The on-time graduation rates for girls varied from 85% (Latin American) to 95% (Korean).

After one extra year of high school, graduation rates rose in all groups. This increase was particularly notable among Black boys. After an extra year in high school, 91% of Black boys graduated (up from 83% for on-time graduation), compared with 90% of Black girls (up from 86% for on-time graduation). Overall, 86% (Latin American) to 95% (Chinese and Japanese) of boys and 89% (Latin American) to 97% (Chinese and Korean) of girls graduated high school within five years of starting Grade 9.

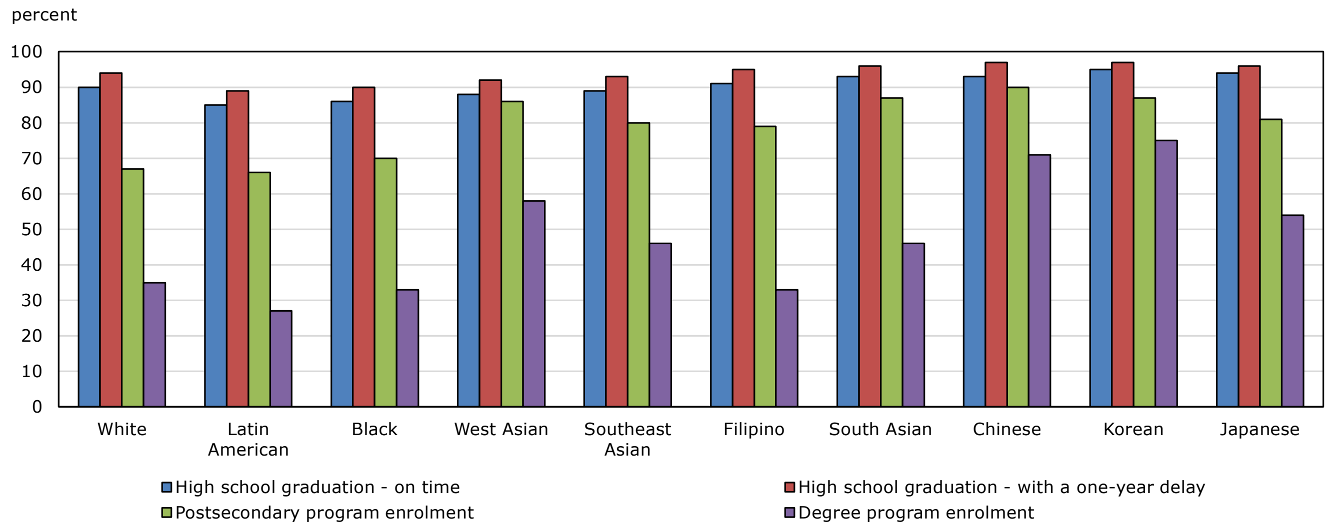
5. This study uses the 2016 Census of Population variable on respondent's sex. The 2021 Census of Population asked separate questions about sex at birth and current gender. The 2016 Census of Population collected information on sex only. The terms sex and gender are used interchangeably in this study.
6. The majority of students were aged 14 at the start of Grade 9.
7. The BC K-12 data contain information on whether a student had any special needs in a given academic year. If there were multiple needs, only one type was noted in the dataset. This information was originally included in the models, but the special needs indicators did not have much explanatory power over and above that of other variables in the models and were ultimately excluded.

Chart 1
Educational outcomes by population group, boys



Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Chart 2
Educational outcomes by population group, girls



Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

To some extent, enrolment rates in a postsecondary program (certificate, diploma or degree) followed a ranking across population groups similar to that of high school graduation rates, but differences between groups were much larger. The lowest rates of enrolment among boys were observed among Latin American, Black and White students (between 55% and 58%). The highest enrolment rate was observed among Chinese students, at 88%—a difference of about 30 percentage points. Students of Asian origin had higher enrolment rates in postsecondary programs than White students, even in groups that had lower high school graduation rates, such as West Asian students.

In all population groups, a higher share of girls than boys enrolled in a postsecondary program. The gender gap was low in the groups with the highest enrolment rates—e.g., 90% of Chinese girls enrolled in a postsecondary program, compared with 88% of Chinese boys (a 2.0 percentage point difference).

Conversely, larger gender gaps were observed in groups with some of the lowest enrolment rates among boys. For example, 70% of Black girls (14 percentage points higher than their male counterparts) and 66% of Latin American girls enrolled in a postsecondary program (11 percentage points higher than their male counterparts).

Enrolment in a degree program followed a pattern across population groups similar to that of enrolment in any academic postsecondary program. One exception was Filipino youth, who had relatively high enrolment rates in postsecondary programs overall (compared with other groups), but relatively low enrolment rates in degree programs specifically. The largest gender gaps (in favour of girls) in terms of enrolment in a degree program were observed among youth of Japanese, Southeast Asian and West Asian origin, at 16 to 17 percentage points.

Underlying the differences between population groups in high school graduation and postsecondary enrolment were differences in observed characteristics and academic performance in high school (tables 1 and 2). Differences in Grade 10 marks across population groups mirrored differences in graduation and postsecondary enrolment. The lowest course marks were observed among Latin American and Black students, the highest among Chinese and Korean students. Latin American and Black students did somewhat better in English and science than in math, while Chinese and Korean students did better in math and science than English, but still, the latter two groups had, on average, higher marks in English than the former. Consistent with earlier studies (e.g., Frenette & Zeman, 2007), girls in all groups had course marks that were at least as high as or higher than those earned by boys. This was true in all three subjects, including math, while the gender gap in course marks (in favour of girls) was most pronounced in English.

Parental income (after tax and adjusted for family size) varied substantially across population groups. It was highest among White and Japanese students and lowest among Southeast Asian, West Asian and Korean students. Given that Korean students also tended to live in areas with higher neighbourhood income than some other groups, it is likely that income is a less precise indicator of financial resources among some groups than others (wealth was not accounted for in this analysis). Family composition also varied considerably across groups. For example, among boys, the share of students who were living in a one-parent family around the time of high school graduation was 18% to 20% among Latin American, Black and Japanese boys, compared with 14% among White boys. The corresponding shares were lower than 10% among Korean, Chinese, South Asian and West Asian boys. At the same time, nearly one-third of Black boys were not matched to their parents in tax data around the time they were last observed in the BC K-12 data, the highest proportion among all population groups.

White and Japanese students were the least likely to be first-generation immigrants, or even children of immigrants. By contrast, around 80% of Korean and close to 70% of West Asian students were first-generation immigrants. This pattern was also reflected in the share of students who attended ESL classes at some point during high school (with the highest proportions reaching about one-quarter for Korean and West Asian students).

Table 1
Descriptive statistics, boys

	White	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	mean									
Grade 10 science course mark	72	68	66	71	73	71	72	79	80	75
Grade 10 English course mark	71	68	67	70	71	71	71	75	75	74
Grade 10 math course mark	69	65	64	71	71	69	70	79	82	72
Adjusted parental income among those linked to parental records (2018 constant dollars)[1]	56,400	37,200	42,300	31,300	29,500	42,600	39,400	36,600	27,100	49,100
Neighbourhood income (2015 constant dollars)	97,600	86,700	89,900	88,500	86,900	85,700	88,900	90,600	95,000	102,100
	percent									
Proportion of residents in the neighbourhood with an undergraduate degree	14	16	15	21	16	18	14	21	20	18
	mean									
Age at immigration (among immigrants)	7	8	8	8	8	8	7	8	11	8
	percent									
Immigrant	4	35	26	68	18	47	17	41	81	5
One parent is an immigrant	16	19	32	3	8	12	7	7	2	28
Both parents are immigrants	8	78	47	95	91	87	90	86	97	20
English as a second language	1	10	6	25	6	14	5	16	27	x
Family type										
One-parent family	14	18	19	9	14	11	8	7	7	20
Two-parent family	69	60	49	70	58	79	83	77	76	70
Family type unknown[1]	17	22	31	21	28	10	9	16	18	10
Sample size	20,612	342	316	322	542	1,162	3,110	4,237	607	286

1. Parental income and family type information is unavailable when no link was found between students and their parents in the T1 Family File.
x suppressed to meet the confidentiality requirements of the *Statistics Act*
Sources: Statistics Canada, Postsecondary Student Information System, 2016 Census of Population and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Table 2
Descriptive statistics, girls

	White	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	mean									
Grade 10 science course mark	73	69	70	75	76	75	74	81	83	78
Grade 10 English course mark	77	72	74	76	77	77	76	80	80	80
Grade 10 math course mark	71	67	67	73	74	72	71	81	85	76
linked to parental records (2018 constant dollars)[1]	57,200	37,400	38,900	34,700	29,400	42,900	39,700	38,200	27,100	59,200
Neighbourhood income (2015 constant dollars)	97,500	87,200	87,800	92,500	87,500	85,900	88,600	91,400	96,400	103,100
	percent									
Proportion of residents in the neighbourhood with an undergraduate degree	14	16	15	21	17	18	14	21	21	18
	mean									
Age at immigration (among immigrants)	7	8	7	8	8	9	7	7	10	9
	percent									
Immigrant	3	35	27	67	20	51	15	42	79	8
One parent is an immigrant	17	23	29	6	7	12	8	7	3	21
Both parents are immigrants	7	72	49	93	91	87	89	86	96	25
English as a second language	0	8	4	20	6	15	4	15	26	x
Family type										
One-parent family	14	16	20	7	14	13	8	8	5	15
Two-parent family	66	58	47	70	61	77	81	77	79	74
Family type unknown[1]	19	27	33	23	24	11	10	15	16	10
Sample size	20,560	406	329	331	503	1,088	2,987	4,044	566	265

1. Parental income and family type information is unavailable when no link was found between students and their parents in the T1 Family File.

x suppressed to meet the confidentiality requirements of the *Statistics Act*

Sources: Statistics Canada, Postsecondary Student Information System, 2016 Census of Population and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Decomposition results

Blinder–Oaxaca decompositions were conducted for all pairwise comparisons with White students, even when the gaps in outcomes between them were very small. The discussion will focus on groups with larger gaps in outcomes.

Generally, differences in observed characteristics accounted for a large share of the observed gap in on-time high school graduation between students from various population groups and their White counterparts, regardless of whether that gap was positive or negative (Table 3). In most pairwise comparisons, differences in Grade 10 marks accounted for a substantial share of the observed gaps. For most population groups, differences in adjusted parental income predicted lower on-time graduation rates than those of White students, although the magnitude of that predicted difference was generally small. Similarly, differences in immigrant characteristics also predicted lower on-time graduation rates among non-White students than among White students, but only among boys.

Across the different population groups, however, various factors accounted for different shares of the observed gaps. Compared with other population groups, Latin American students experienced the lowest rates of on-time high school graduation. Compared with White students, differences in observed characteristics accounted for almost the entire gap in on-time graduation among boys and over 70% of the gap among girls (Table 3). A dominant share of those gaps was explained by differences in high school grades (which were lower, on average, among Latin American students than White students), with 45% (3.2 out of 7.1 percentage points) among boys and 62% (3.1 out of 5.0 percentage points) among girls. By contrast, adjusted parental income differences accounted for 7% to 8% of the gaps.

The entire gap in on-time high school graduation between Black and White students can be explained by differences in characteristics. Differences in course marks accounted for nearly 70% of the gap (3.1 out of 4.5 percentage points) between Black and White boys, and about 50% (2.3 out of 4.5 percentage points) of the gap between Black and White girls. Adjusted parental income differences accounted for a very small share of the gap in on-time graduation, at 7% among girls and 2% among boys. However, other demographics accounted for around one-quarter of the gap. A small share of that amount was attributable to differences in living in a one-parent household. The bulk was attributable to differences in the share of students who were not matched to a parent in tax data, so their parental income and family type were unknown.

Among students of West Asian origin, the negative gap in on-time graduation, more pronounced among boys than girls, was not as well explained by differences in observed characteristics. Overall, a little over half of the gap between West Asian and White boys could be accounted for, and differences in course marks did not contribute to the gap; however, differences in adjusted parental income and neighbourhood characteristics together accounted for nearly 40% of the gap, with a further 32% accounted for by differences in immigrant characteristics. This was counterbalanced to some extent by differences in schools attended.

Among most population groups that had higher on-time graduation rates than White students, the fact that they had higher Grade 10 marks played a dominant role in accounting for the gap. In the case of Chinese and Korean boys and Chinese girls, differences in course marks alone explained more than 100% of the gap.

Table 3
Blinder–Oaxaca decompositions of population group differences in on-time high school graduation, by gender

	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	percentage points								
Boys									
Difference (population group - White)	-7.1 **	-4.5 *	-5.0 *	-3.8 *	-1.0	1.8 **	2.7 ***	2.5 †	5.0 **
Explained	-7.0 ***	-6.3 ***	-2.6 †	-3.9 **	-1.2	0.0	1.5 *	2.4 †	4.2 ***
Course marks	-3.2 ***	-3.1 ***	-0.2	1.4 **	0.1	0.7 **	5.3 ***	5.7 ***	3.4 ***
Parental income	-0.5 ***	-0.1	-0.9 ***	-0.9 ***	-0.1	-0.6 ***	-0.6 ***	-1.3 ***	-0.2 *
Neighbourhood characteristics	-0.7 **	-0.4 **	-1.0 *	-0.6 **	-0.7 *	-0.3 *	-0.5	-0.5 †	-0.1
Immigrant characteristics	-0.8	-0.7 †	-1.6 †	-0.8	-1.6 *	-1.2 *	-2.3 ***	-2.9 **	0.0
Other demographics	-0.5 **	-1.1 ***	-0.1	-0.6 ***	0.6 ***	0.7 ***	0.3 **	0.1	0.2
High school attended	-1.3	-0.9	1.1	-2.5 **	0.5	0.7	-0.8	1.3 *	0.8
Unexplained	-0.2	1.8	-2.4	0.1	0.2	1.8 *	1.2	0.1	0.9
Girls									
Difference (population group - White)	-5.0 **	-4.5 *	-2.9	-0.9	0.8	2.8 ***	2.7 ***	4.7 ***	3.5 *
Explained	-3.6 **	-4.5 ***	0.7	0.0	2.8 ***	2.6 ***	4.3 ***	5.1 ***	4.0 ***
Course marks	-3.1 ***	-2.3 ***	-0.1	1.2 **	1.2 ***	0.5 *	3.9 ***	3.7 ***	2.5 ***
Parental income	-0.4 **	-0.3 *	-0.7 **	-0.7 **	0.0	-0.4 **	-0.5 **	-1.2 ***	-0.1
Neighbourhood characteristics	-0.3	-0.2	-0.2	-0.2	0.0	-0.1	0.1	0.2	0.2
Immigrant characteristics	0.7	0.5	0.4	0.3	0.2	1.0 †	-0.1	0.2	0.1
Other demographics	-0.6 ***	-1.2 ***	0.1	-0.4 *	0.6 ***	0.7 ***	0.4 ***	0.4 *	0.7 ***
High school attended	0.1	-1.0	1.2 †	-0.2	0.8	0.9 †	0.4	1.8 ***	0.6
Unexplained	-1.4	0.0	-3.6 *	-1.0	-2.0 †	0.1	-1.5 *	-0.4	-0.5

† significantly different from reference category ($p < 0.1$)

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: A separate decomposition was completed for the outcome of each population group (relative to the White group) and gender. The explained component of the decomposition is divided into groups of variables. Course marks include Grade 10 marks in English, science and math, and a flag for taking a more advanced math course in Grade 10. Neighbourhood characteristics include average neighbourhood income and the percentage of residents with an undergraduate degree in the neighbourhood (the specifications for both variables include squared terms). Immigrant characteristics include indicators for age at immigration brackets, whether one or both parents were immigrants, temporary resident status and whether the student was enrolled in an English as a second language program in high school. Other demographics include indicators for missing parental information, living in a one-parent family, age in Grade 9 and Grade 9 entry cohorts.

Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Table 4
Blinder–Oaxaca decompositions of population group differences in high school graduation with a one-year delay, by gender

	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	percentage points								
Boys									
Difference (population group - White)	-5.8 **	-1.0	-4.1 *	-2.0	-1.0	1.2 *	3.1 ***	2.2 *	3.2 *
Explained	-5.5 ***	-4.6 ***	-3.1 **	-3.5 **	-1.9 *	-0.3	1.1 *	0.9	2.5 ***
Course marks	-2.5 ***	-2.3 ***	-0.3	0.9 *	-0.1	0.4 †	3.7 ***	4.0 ***	2.5 ***
Parental income	-0.3 **	-0.1	-0.5 *	-0.6 **	-0.1	-0.3 **	-0.4 **	-0.7 **	-0.1 †
Neighbourhood characteristics	-0.4 *	-0.3 *	-0.9 *	-0.4 *	-0.6 *	-0.2	-0.5 *	-0.5 †	-0.1
Immigrant characteristics	-0.8	-0.6 †	-1.6 †	-0.8	-1.3 *	-1.0 †	-1.0 †	-2.5 **	-0.1
Other demographics	-0.2	-0.6 **	0.1	-0.3 *	0.6 ***	0.7 ***	0.4 ***	0.2	0.4 **
High school attended	-1.3 *	-0.7	0.1	-2.3 **	-0.6	0.1	-1.0 *	0.4	-0.1
Unexplained	-0.3	3.7 *	-1.0	1.5	1.0	1.5 *	2.0 **	1.3	0.7
Girls									
Difference (population group - White)	-4.6 **	-4.3 *	-1.6	-1.3	1.2 †	1.8 ***	2.9 ***	3.2 ***	2.4 †
Explained	-2.2 *	-3.5 ***	0.4	0.6	2.7 ***	2.5 ***	3.1 ***	4.0 ***	2.6 ***
Course marks	-2.4 ***	-1.6 ***	-0.3	0.6 †	0.8 ***	0.2	2.5 ***	2.3 ***	1.7 ***
Parental income	-0.1	-0.1	-0.4 *	-0.4 *	0.1	-0.2	-0.3 *	-0.7 **	-0.1
Neighbourhood characteristics	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.1	0.2
Immigrant characteristics	0.8 *	0.5 †	0.7	0.6	0.4	0.8 †	0.1	0.7	0.2
Other demographics	-0.5 **	-1.0 ***	0.0	-0.3 †	0.6 ***	0.7 ***	0.5 ***	0.5 **	0.7 ***
High school attended	0.3	-1.1	0.6	0.2	0.8 †	1.0 **	0.3	1.1 **	0.1
Unexplained	-2.4 †	-0.8	-2.0	-1.9	-1.5 †	-0.6	-0.2	-0.8	-0.3

† significantly different from reference category ($p < 0.1$)

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: A separate decomposition was completed for the outcome of each population group (relative to the White group) and gender. The explained component of the decomposition is divided into groups of variables. Course marks include Grade 10 marks in English, science and math, and a flag for taking a more advanced math course in Grade 10. Neighbourhood characteristics include average neighbourhood income and the percentage of residents with an undergraduate degree in the neighbourhood (the specifications for both variables include squared terms). Immigrant characteristics include indicators for age at immigration brackets, whether one or both parents were immigrants, temporary resident status and whether the student was enrolled in an English as a second language program in high school. Other demographics include indicators for missing parental information, living in a one-parent family, age in Grade 9 and Grade 9 entry cohorts.

Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Gaps in high school graduation within five years of enrolment in Grade 9, relative to White students, were generally smaller than gaps in on-time graduation (Table 4). The most noticeable convergence in graduation rates was among Black and White boys. Given one extra year, the gap between them became small and no longer statistically significant. In most of the remaining pairwise decompositions, the explanatory power of the observed characteristics dropped somewhat, as students with characteristics that were less favourable to graduation tended to graduate nonetheless.

While there were several population groups in which students, particularly boys, lagged behind White students in on-time graduation, most groups had substantially higher rates of enrolment in postsecondary programs than White students (Table 5). There were two exceptions, however: the gaps between Latin American and White students and between Black and White students were negative (except for the gap between Black and White girls), relatively small (3 percentage points or below) and not statistically significant. For these groups, differences in Grade 10 marks between students in each pairwise comparison alone explained all or more than all of the negative enrolment gaps (or had negative explanatory power, for the positive gap observed between Black and White girls). The second factor that predicted a negative gap in all four cases was adjusted parental income, but, in most instances, the role played by the related differences was much smaller than that played by differences in Grade 10 marks. At the same time, these negative influences were counterbalanced by the higher shares of immigrants among Latin American and Black students, compared with White students—differences in shares of immigrants predicted higher rates of enrolment among students from these two population groups than among White students.

For the remaining population groups, postsecondary enrolment rates among both boys and girls were substantially higher than among their respective White counterparts. These gaps ranged from 9.8 (Southeast Asian) to 30.1 (Chinese) percentage points for boys and from 12.1 (Filipino) to 23.3 (Chinese) percentage points for girls. The most important factors in explaining these gaps varied across population groups. For example, nearly the entire gap in postsecondary enrolment between Japanese and White students was explained by differences in observed characteristics. Among them, Grade 10 marks explained the biggest share, and a higher share among boys (63%) than among girls (56%). Differences in the high school attended explained a further one-fifth to nearly one-quarter of the gap for girls and boys, respectively.

By contrast, less than half of the large gaps in enrolment between students of West Asian and South Asian origin and their White counterparts was explained by differences in characteristics. Differences in Grade 10 marks accounted for around 10% of the gaps for South Asian students, and less than that for West Asian students (differences in immigrant shares explained one-quarter to one-third of the gaps). In contrast, differences in course marks explained about 40% and 60% of the Chinese–White and Korean–White gaps in enrolment, respectively.

The gap in degree enrolment between Latin American and White youth was higher than the gap in any postsecondary enrolment between these two groups (Table 6). Latin American boys were 5.1 percentage points less likely to be enrolled in a degree program than their White counterparts, while the gap was larger among girls, at 7.6 percentage points. Black youth were also less likely to enrol in a degree program than White youth, but the gaps were relatively smaller and not statistically significant for girls. For both sets of comparisons, differences in Grade 10 course marks explained almost all or all of the gap. Adjusted parental income differences explained a much smaller portion of the gaps. In the comparison of degree enrolment for Black and White youth, there is also a positive unexplained component suggesting that, on average, Black youth were more likely to enrol in a degree program than their (observed) characteristics would predict.

While Filipino youth were far more likely to enrol in a postsecondary program than White youth, they were slightly less likely to enrol in a degree program. Compared to postsecondary enrolment, the percentage point gap in degree enrolment was also much smaller—although still positive—between South Asian and White youth. By contrast, the gaps became more pronounced between Chinese and Korean youth on the one hand and White youth on the other. As was the case with gaps in all postsecondary enrolment, for most pairwise comparisons, differences in course marks contributed to positive gaps, while differences in adjusted parental income predicted negative gaps.

Parental education is an important characteristic that has been shown to influence students' educational outcomes (Holmlund et al., 2011) but that is missing from the analysis in this study. This information is not available in tax data or the BC K-12 data, but it is available in the 2016 Census data. More precisely, parental education can be derived for individuals who were living with their parents at the time of the census. To explore the importance of parental education in the analysis conducted in this paper, the decomposition exercises were replicated for the two most recent Grade 9 entry cohorts (2010/2011 and 2011/2012), in which students were young enough that most would still be living with their parents during the 2016 Census. Adding parental education as an explanatory variable in Blinder–Oaxaca decompositions did not increase the explained share of between-group gaps in students' education outcomes. The sample in this exercise, however, was likely highly selective. The students would have been one to two years out from their on-time high school graduation and still living with their parents. However, it is possible that, by controlling for adjusted parental income, neighbourhood characteristics (including education) and school fixed effects—in addition to course marks—a sizable share of what would comprise a "parental education effect" has already been accounted for indirectly by the other variables in the model.

Table 5
Blinder–Oaxaca decompositions of population group differences in enrolment in a postsecondary program, by gender

	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	percentage points								
Boys									
Difference (population group - White)	-3.0	-2.6	19.4 ***	9.8 ***	14.9 ***	23.6 ***	30.1 ***	25.8 ***	11.9 ***
Explained	-3.7 *	-6.9 ***	8.0 ***	5.1 **	8.7 ***	8.1 ***	22.8 ***	20.2 ***	11.7 ***
Course marks	-6.4 ***	-7.3 ***	1.3	3.6 ***	1.2 †	2.5 ***	12.6 ***	14.8 ***	7.5 ***
Parental income	-2.3 ***	-1.2 ***	-3.5 ***	-3.4 ***	-1.4 ***	-2.1 ***	-2.4 ***	-4.0 ***	-0.7 *
Neighbourhood characteristics	-0.5	-0.2	0.6	-0.2	0.2	-0.5 **	0.8 †	1.2 **	1.1 ***
Immigrant characteristics	5.2 ***	3.1 ***	6.9 ***	5.3 ***	6.0 ***	6.3 ***	5.2 ***	6.5 ***	1.0 ***
Other demographics	-0.7 **	-1.7 ***	-0.5 *	-1.2 ***	0.1	0.5 ***	0.0	-0.3	0.0
High school attended	0.9	0.3	3.3 ***	0.9	2.6 **	1.4 *	6.6 ***	2.0 **	2.8 ***
Unexplained	0.7	4.3	11.4 ***	4.8 *	6.2 ***	15.5 ***	7.3 ***	5.6 **	0.1
Girls									
Difference (population group - White)	-1.2	2.7	19.0 ***	12.9 ***	12.1 ***	20.1 ***	23.3 ***	20.0 ***	13.5 ***
Explained	-3.7 *	-4.7 **	9.2 ***	7.9 ***	11.1 ***	8.6 ***	19.0 ***	15.7 ***	13.0 ***
Course marks	-6.4 ***	-5.8 ***	1.7	4.1 ***	3.2 ***	1.9 ***	10.0 ***	11.6 ***	7.5 ***
Parental income	-2.3 ***	-2.0 ***	-2.9 ***	-3.4 ***	-1.2 ***	-1.9 ***	-2.1 ***	-4.1 ***	0.0
Neighbourhood characteristics	-0.4	-0.5 †	0.5	-0.3	0.1	-0.5 **	0.4	0.9 *	1.0 ***
Immigrant characteristics	5.3 ***	3.8 ***	6.6 ***	6.5 ***	5.1 ***	6.3 ***	5.4 ***	6.0 ***	1.4 ***
Other demographics	-0.8 **	-1.2 ***	-0.6 *	-0.7 ***	0.0	0.4 **	0.0	-0.4 †	0.4 †
High school attended	0.9	1.0	3.8 ***	1.8 †	4.0 ***	2.4 ***	5.4 ***	1.8 **	2.7 ***
Unexplained	2.5	7.4 **	9.8 ***	5.0 **	1.0	11.5 ***	4.3 ***	4.2 *	0.5

† significantly different from reference category ($p < 0.1$)

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: A separate decomposition was completed for the outcome of each population group (relative to the White group) and gender. The explained component of the decomposition is divided into groups of variables. Course marks include Grade 10 marks in English, science and math, and a flag for taking a more advanced math course in Grade 10. Neighbourhood characteristics include average neighbourhood income and the percentage of residents with an undergraduate degree in the neighbourhood (the specifications for both variables include squared terms). Immigrant characteristics include indicators for age at immigration brackets, whether one or both parents were immigrants, temporary resident status and whether the student was enrolled in an English as a second language program in high school. Other demographics include indicators for missing parental information, living in a one-parent family, age in Grade 9 and Grade 9 entry cohorts.

Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Table 6
Blinder–Oaxaca decompositions of population group differences in enrolment in a degree program, by gender

	Latin American	Black	West Asian	Southeast Asian	Filipino	South Asian	Chinese	Korean	Japanese
	percentage points								
Boys									
Difference (population group - White)	-5.1 *	-4.0 †	15.8 ***	4.0 †	-3.9 **	11.7 ***	35.6 ***	39.7 ***	10.9 ***
Explained	-6.6 ***	-8.1 ***	8.9 ***	1.6	0.9	1.4	24.2 ***	23.1 ***	7.6 ***
Course marks	-6.5 ***	-8.0 ***	1.9	3.1 **	0.7	2.1 ***	16.1 ***	18.0 ***	6.2 ***
Parental income	-1.8 ***	-1.3 ***	-2.1 ***	-2.4 ***	-1.4 ***	-1.5 ***	-1.4 ***	-2.4 ***	-0.4 †
Neighbourhood characteristics	0.1	0.0	1.7 **	0.0	0.6 †	-0.4 **	1.1 **	1.6 ***	1.3 ***
Immigrant characteristics	3.6 ***	2.0 ***	4.6 ***	3.9 ***	3.3 ***	4.1 ***	6.1 ***	5.8 ***	0.5 *
Other demographics	-0.3 *	-0.5 **	-0.1	-0.2 †	-0.1	0.1	0.0	-0.2	-0.1
High school attended	-1.8 **	-0.4	2.9 *	-2.7 ***	-2.4 ***	-3.0 ***	2.3 **	0.3	0.2
Unexplained	1.5	4.1 *	6.9 **	2.3	-4.8 ***	10.4 ***	11.5 ***	16.6 ***	3.3
Girls									
Difference (population group - White)	-7.6 ***	-2.3	22.5 ***	11.0 ***	-2.5 †	11.4 ***	36.1 ***	39.9 ***	18.5 ***
Explained	-6.9 ***	-7.9 ***	11.1 ***	5.3 **	3.6 **	2.0 †	24.8 ***	23.1 ***	14.7 ***
Course marks	-7.5 ***	-6.9 ***	2.8 *	4.7 ***	2.6 ***	1.2 *	14.9 ***	17.9 ***	9.1 ***
Parental income	-2.3 ***	-2.0 ***	-2.6 ***	-3.2 ***	-1.8 ***	-2.2 ***	-1.6 ***	-3.5 ***	0.1
Neighbourhood characteristics	0.2	0.1	2.0 ***	0.4	0.7 *	-0.4 *	1.5 ***	1.8 ***	1.2 ***
Immigrant characteristics	5.0 ***	3.6 ***	5.5 ***	5.8 ***	4.5 ***	5.4 ***	7.3 ***	6.1 ***	1.3 ***
Other demographics	-0.2 †	-0.4 *	-0.1	-0.2	0.1	0.2 †	0.1	0.0	0.3 *
High school attended	-2.2 **	-2.2 **	3.5 **	-2.2 *	-2.5 **	-2.1 **	2.6 ***	0.7	2.8 ***
Unexplained	-0.7	5.5 *	11.4 ***	5.8 **	-6.0 ***	9.4 ***	11.3 ***	16.7 ***	3.8

† significantly different from reference category ($p < 0.1$)

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: A separate decomposition was completed for the outcome of each population group (relative to the White group) and gender. The explained component of the decomposition is divided into groups of variables. Course marks include Grade 10 marks in English, science and math, and a flag for taking a more advanced math course in Grade 10. Neighbourhood characteristics include average neighbourhood income and the percentage of residents with an undergraduate degree in the neighbourhood (the specifications for both variables include squared terms). Immigrant characteristics include indicators for age at immigration brackets, whether one or both parents were immigrants, temporary resident status and whether the student was enrolled in an English as a second language program in high school. Other demographics include indicators for missing parental information, living in a one-parent family, age in Grade 9 and Grade 9 entry cohorts.

Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Test score trends

Given the important role that high school course marks play in students' further educational outcomes, the next question of interest is when do gaps in marks between population groups emerge, particularly among groups that lagged behind the majority-White student population in Grade 10? While there is no information on course marks from elementary school in the BC K-12 data, there are standardized test scores from the Grade 4 and Grade 7 Foundation Skills Assessment (FSA) in literacy (reading and writing) and numeracy. This section looks at how Latin American and Black students performed on standardized tests, compared with White students, in each of the three grades, focusing on Grade 4 and

Grade 7 FSAs in literacy (averaging the reading and writing scores) and English provincial exams in Grade 10 (charts 3 and 4).[8]

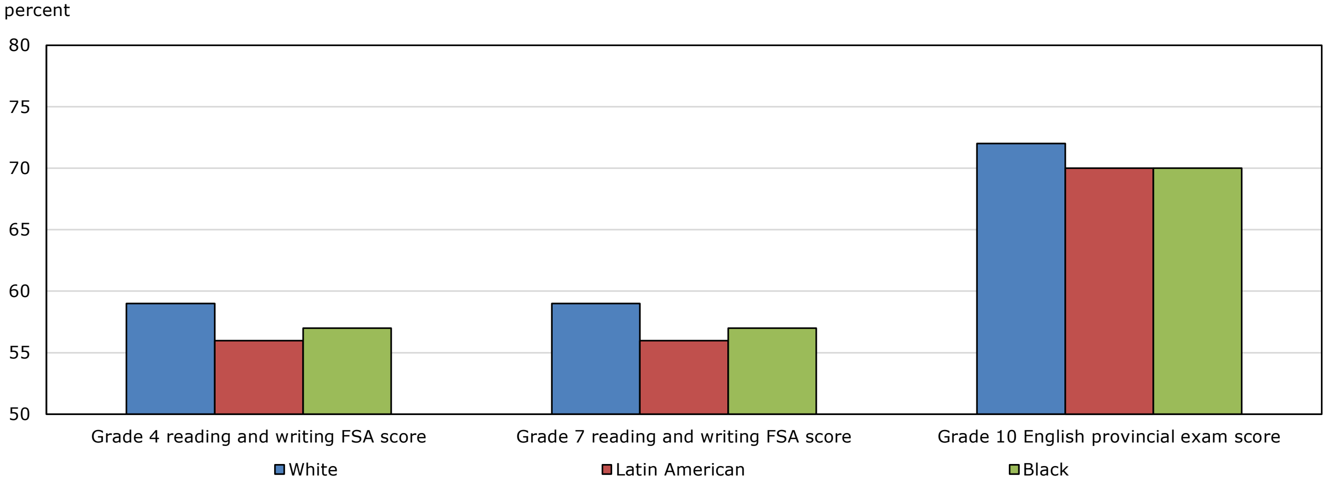
The FSAs are not compulsory tests; therefore, some students in the sample did not have valid test scores even though they were in the British Columbia education system in those grades.[9] The analysis in this section was conducted using a subsample of students who had a valid test score for Grade 4 and Grade 7 literacy FSAs and the Grade 10 provincial exam in English (henceforth the FSA subsample). A comparison of Grade 10 course marks in the main sample and the FSA subsample suggests that the students who did not write the FSAs were not a random sample of their cohort, but were in the lower end of the skill distribution (subsequently had lower Grade 10 marks than the average student who wrote the FSAs in both Grade 4 and Grade 7).

In all three grades, Latin American and Black boys and girls had lower average test scores in literacy and English than White boys and girls, with all gaps being statistically significantly different from 0, at least at the 10% level.[10] It is not straightforward to draw conclusions about convergence or divergence of skills of the three population groups over time, especially between Grade 7 and Grade 10, because of the different types of tests available in these grades. Nevertheless, the simple comparison of mean scores within each grade suggests that a skill gap was present between Latin American and Black students on one hand and White students on the other since as early as Grade 4.

An additional test of the significance of the test score gaps observed in Grade 4 was conducted by rerunning the decomposition exercises from the previous section but substituting Grade 4 literacy and numeracy FSA scores for the Grade 10 course marks (results not shown). In these decompositions, the share of gaps in educational outcomes explained by differences in test scores was lower than when Grade 10 course marks were controlled for. However, they still explained a non-trivial share of the gaps. This suggests that individual students in all population groups could see their skills and course marks increase, decrease or remain unchanged over time. Therefore, Grade 4 test scores are a poor proxy for individual educational outcomes such as high school graduation and postsecondary enrolment. However, at the population group level, there appears to be a pattern of some groups lagging behind others in test scores at least as early as in Grade 4, and as a group they do not appear to catch up by Grade 10, with consequences for postsecondary enrolment.

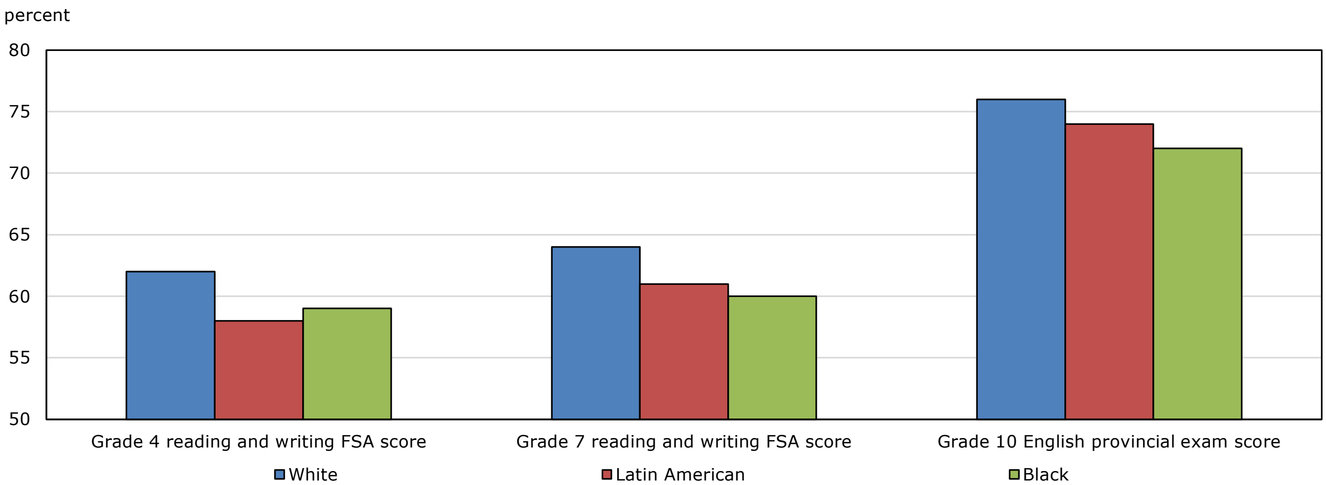
8. While Grade 4 and Grade 7 FSA scores in numeracy are available, there is no provincial exam in Grade 10 math, so the comparison is restricted to literacy and English tests.
9. A small number of students from the main sample did not have FSA scores because they were not in the British Columbia education system in those grades.
10. As expected with smaller sample sizes, estimates of the average test scores for Latin American and Black students are less precise (have larger standard errors associated with them) than those for White students.

Chart 3
Mean standardized test scores, boys



Notes: FSA = Foundation Skills Assessment. Differences in average test scores between Latin American and White students and between Black and White students in each grade were all statistically significant at the 10% level.
Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Chart 4
Mean standardized test scores, girls



Notes: FSA = Foundation Skills Assessment. Differences in average test scores between Latin American and White students and between Black and White students in each grade were all statistically significant at the 10% level.
Sources: Statistics Canada, 2016 Census of Population, Postsecondary Student Information System and T1 Family File; and British Columbia Ministry of Education, kindergarten to Grade 12 dataset.

Summary and discussion

This study compared educational outcomes—on-time high school graduation, high school graduation with a one-year delay, enrolment in a postsecondary program and enrolment in a degree program—among various population groups relative to White students and explored the sources of the observed differences. A key explanatory factor in this analysis was students' academic performance, as measured by their Grade 10 course marks. As this information is currently available only in an administrative dataset from British Columbia, the analysis is restricted to students who attended high school in that province.

On-time high school graduation rates varied by upwards of 10 percentage points across population groups for each gender. In all population groups, girls were more likely than boys to graduate from high school on time. Using longitudinal data to study high school graduation and its timing has the advantage of revealing potentially consequential differences across population groups that would be missed in cross-sectional data. For example, given an extra year, the high school graduation rate increased among all groups, most notably among Black boys. Population groups with higher shares of immigrants might be expected to experience delays in high school graduation because of a language barrier among new arrivals, yet on-time graduation rates were higher, on average, among those groups than among White students.

Enrolment rates in postsecondary programs (certificate, diploma and degree programs) were lowest among Latin American, Black and White youth, and highest among Asian groups. For Latin American and Black youth, compared with White youth, differences in academic performance in high school—as measured by Grade 10 course marks—predicted a much higher negative gap in enrolment between these groups. Differences in adjusted parental income also predicted a negative gap, although to a much smaller extent than differences in course marks. These results suggest the following: given the observable characteristics included in this analysis, compared with White youth, Latin American and Black youth were, on average, somewhat more likely to enrol in postsecondary programs than would be expected, given their Grade 10 course marks and adjusted parental income.

Youth from some population groups, notably Chinese and Korean youth, were more likely than others to enrol in degree programs than in certificate or diploma programs. Filipino youth, by contrast, were less likely to enrol in degree programs than other types of postsecondary programs, and less likely than White youth to enrol in degree programs. Differences in course marks were again the main explanatory factors in most pairwise comparisons with White youth.

Among all Asian groups, the gender gap in degree enrolment was higher than in all postsecondary program enrolment—girls in these groups were more likely than boys to enrol in degree programs, while boys were more likely than girls to enrol in certificate or diploma programs. Among Black and Latin American youth, girls were more likely than boys to enrol in degree programs, and also more likely to enrol in certificate or diploma programs. White girls were more likely than White boys to enrol in degree programs, but equally likely to enrol in certificate or diploma programs.

Comparing the standardized test scores in literacy of Latin American and Black students with those of White students in Grade 4 and Grade 7 and provincial exam marks in Grade 10 English revealed that skill gaps implied by lower course marks obtained by Latin American and Black students in Grade 10 may have existed at least as early as Grade 4.

Of course, course marks are themselves an individual outcome. The next question is how do differences in course marks between population groups arise? Although this is left to further research, work in various disciplines and countries has revealed some factors that affect high school course marks, high school graduation timing, and postsecondary enrolment and completion—data on which are not available in larger-scale datasets. These factors include students' locus of control, or their belief that their own actions can influence their outcomes (Coleman & DeLeire, 2003); psychosocial factors, such as motivation and self-control (Farrington et al., 2012); parental interest and investments, which could be a function of parental income (Patacchini & Zenou, 2009); identity and cultural norms (Fryer & Torelli, 2010); and teacher bias in marking (Botelho et al., 2015), which may be less of a concern in the case of standardized tests.

A final point to note is that some of the smallest population groups in this study, the Black and Latin American groups, are also some of the most diverse. For example, substantial differences in educational attainment were observed within the Black population in Canada, based on region of origin and period of arrival in Canada (Statistics Canada, 2023). British Columbia, from which data on academic performance were used in this study, is not the most popular destination for immigrants who are Black or Latin American. Data from other parts of Canada, which are home to more Black and Latin American youth (e.g., Ontario), will be necessary to further explore the characteristic and outcome diversity of these groups.

Appendix

Definitions of explanatory variables used in Blinder–Oaxaca decompositions

Course marks: Marks for Grade 10 English and science are the final course marks, which incorporate both the classroom grade and the provincial exam grade. There is no provincial exam for Grade 10 math, so the course mark reflects only the classroom mark. There are different types of Grade 10 math courses, which also change over the timeframe of this study. However, they can be grouped into lower-level math and advanced math. Some students completed more than one Grade 10 math course. The math course mark used in this study represents the mark obtained on the advanced course when students took both types of courses. It represents the higher mark if a student repeated the same math course. When a student completed two of the lower-level courses and no advanced course, the average mark from the two courses was calculated. These variables were taken or derived from the BC K-12 data.

Advanced math: This is an indicator for whether the student completed an advanced Grade 10 math course. This variable comes from the BC K-12 data.

Adjusted parental income: Parental income is derived from the T1FF and was measured during the last year a student appears in the BC K-12 data. If no record was found for the student that year, the information is sought in the following years: one year earlier, one year later, two years earlier and two years later. If no linkage to parental information was established at that point, parental income is flagged as missing. Adjusted parental income is the total after-tax income of parents, adjusted for inflation (2015 dollars), and adjusted for family size by dividing its value by the square root of family size.

One-parent family: This is an indicator for whether the student lived in a one-parent family during the year parental income was measured. This variable was derived from the T1FF in a similar way to that for parental income.

ESL: This is an indicator for whether the student attended English as a second language program at any point during high school (i.e., from Grade 9 to Grade 12). This variable comes from the BC K-12 data.

Age: The student’s age in Grade 9 was derived from birth year information in the 2016 Census.

Immigrant: This is an indicator for whether the student was a landed immigrant, as indicated in the 2016 Census.

Parents’ immigrant status: These are indicators for whether one parent or both parents were landed immigrants, as indicated in the 2016 Census.

Temporary resident: This is an indicator for whether the student was a temporary resident in Canada in 2016, as reported in the 2016 Census.

Age at immigration: The student’s age at immigration was derived from the 2016 Census.

Average neighbourhood income: This pertains to the neighbourhood where the student lived the most years during all school years in which they appear in the BC K-12 data. Income information was derived from the 2016 Census. The variable itself is available in the BC K-12 data.

Proportion of residents in the neighbourhood with an undergraduate degree: The neighbourhood was determined in the same manner as for the calculation of average neighbourhood income. Education information was derived from the 2016 Census. The variable itself is available in the BC K-12 data.

Cohort indicators: These are indicator variables for the Grade 9 entry cohort. These variables were derived from the BC K-12 data.

High school fixed effects: These are indicators for the high school that the student was last observed attending in the BC K-12 data. These variables were derived from the BC K-12 data.

Definition of variables used in additional analysis

Grade 4 literacy score: This is an average of scores received on the reading and writing components of the FSA, a standardized test administered in Grade 4. This information comes from the BC K-12 data.

Grade 7 literacy score: This is an average of marks received on the reading and writing components of the FSA administered in Grade 7. This information comes from the BC K-12 data.

Grade 4 numeracy score: This is the score received on the FSA numeracy test, a standardized test administered in Grade 4. This information comes from the BC K-12 data.

Grade 7 numeracy score: This is the score received on the FSA numeracy test, a standardized test administered in Grade 7. This information comes from the BC K-12 data.

Parental education level: This information was derived from the 2016 Census. The parents or guardians of the students in the sample were identified using information on the relationship between household members.

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