

## Comparing the Family Income of Students in British Columbia's Independent and Public Schools

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### SUMMARY

- On average, families with children in independent schools earned \$88,367 in income (after taxes) compared to \$77,396, on average, for families with children in public schools, which represents a gap of 14.2 percent.
- If the families with children attending elite independent schools are removed, the average income (after tax) for the remaining families with children attending independent schools falls to \$78,894, which is only 1.9 percent above the average income for families with children in public schools.
- Only 7.7 percent of independent schools in British Columbia were categorized as elite as of the year of analysis.
- Families with children in elite independent schools maintained an average income (after tax) of \$119,242, which is 54.1 percent higher than the average income for families with children in public schools.
- Increasing the coverage ratio to 80 percent or decreasing it to 50 percent does not materially change the results. Families with children attending non-elite independent schools maintain roughly the same level of total after-tax income as families with children attending public schools.

## Introduction

In recent years, there has been much debate about government funding for independent schools. This discussion is particularly pertinent in British Columbia as independent schools meeting certain criteria receive per-student grants of between 35 and 50 percent of the base allocation to public schools. Moreover, the province has one of the highest independent school enrolment rates in Canada, second only to Quebec (Van Pelt et al., 2015). The demands for a reduction in independent school funding stem from an incorrect assumption that independent schools cater exclusively to the wealthiest of society and should not, therefore, be eligible for government grants (Van Pelt et al., 2016).

This report adds a crucial element to the ongoing debate on this topic by analyzing the average income of parents in British Columbia, adjusting for the type of school attended by children in the home.<sup>1</sup> Specifically, this paper explores the degree to which family income differs between parents that send their children to public schools versus those that choose independent schools.

The first section provides an overview of the types of independent school present in British Columbia, as background to the central question, which is comparing the family income of independent school parents and public school parents. The second section outlines the approach and methodology used in the analysis. The third section presents the results under a number of different scenarios.

## Background: Independent Schools in British Columbia

In 2011, the most recent year for which data are available, 72,016 students were enrolled in an independent school in BC. This accounted for 10.7 percent of all K–12 students in the province. Contrary to popular belief, only 27 (or 7.7 percent) of the 349 independent schools in the province qualify as university preparatory schools that are stereotypically perceived as “elite.” In this essay, elite schools consisted of members of the Independent Schools Association of British Columbia (ISABC) as well as Little Flower Academy, St. Thomas More Collegiate and Vancouver College.

Independent schools in British Columbia offered a broad spectrum of educational approaches and perspectives encompassing a varied set of religious and pedagogical preferences. In 2013/14, 188 of British Columbia's independent schools had a religious orientation, and one-fifth of independent schools in the province were categorized as specialty schools that address specific curriculum and pedagogical preferences. Waldorf schools, Montessori schools, special needs education, as well as schools focusing on specific subject matter such as arts, athletics, or STEM (Science/Technology/Engineering/Math) fall within this categorization.

Put simply, the share of all the independent schools in British Columbia that can reasonably be defined as elite and serving the wealthy is actually fairly small.

## Data Sources and Methodology

The analyses in this report rely on two distinct datasets, one provided by the Ministry of Education in British Columbia and the other from Statistics Canada. This section provides an overview of the data sources and outlines the calculations used to determine parental income by family, differentiated by the type of school attended by children in the family.

### Data from the BC Ministry of Education

BC's Ministry of Education compiles data that indicates enrolment by school distributed by postal code, census division, and dissemination area. In other words, this dataset specifically shows the postal code, census division, and dissemination areas for students attending each school in the province. This paper employs the 2011 file as important details are suppressed in versions created from 2012 onwards. For example, the ministry suppressed enrolment for any dissemination area with fewer than ten students after 2011.

A second related ministry file provided enrolment data allocated by grade and school. This dataset was used to calculate the proportion of a school's total enrolment in elementary grades. In order to determine the elementary enrolment ratio, we categorized schools as elementary, secondary, or both, where "both" signifies that elementary and secondary students are enrolled in a single school.

Total enrolment for the province in 2011 was 674,092, the majority of which (598,978) were in standard schools. British Columbia has "non-standard" schools that are mainly classified as "alternate," "continuing," or "distributed," offering a different type of education from standard schools.<sup>3</sup> Data gaps between the two source files excluded 21,839 students and, due to differences in funding structure from other

independent schools, 868 students attending Aboriginal independent schools were also excluded, leaving 576,271 students.

### Data from the 2011 National Household Survey

Average parental income is based on "average total income after tax" for Census families as defined by and obtained from Statistics Canada.<sup>3</sup> The dataset was categorized by dissemination area and filtered to include only families with at least one child within the age range specified by the analysis. In other words, the data was filtered to exclude families without children. Also, as per Statistics Canada's standard practice, we excluded any records that had a global non-response rate of 50 percent or more. To clarify, Statistics Canada uses a global non-response rate as an indicator of data quality for the NHS. A global non-response rate of 50 percent means that 50 percent of BC residents in the specific region of interest did not provide information. In other words, we dropped any dissemination area where more than half of the relevant population did not provide income information for the NHS. Students in dissemination areas with no reported parental income in the Statistics Canada source file were also filtered out.

Families were matched to enrolment by age. Students in Kindergarten through grade 5 were matched to families with children aged 5 to 10 and students in grades 6 through 12 were matched to families with children aged 11 to 16. We used two smaller age ranges rather than one large one to account for the likelihood that families with older children would have higher income (because the parents were older and more experienced and therefore earning more income). We chose age ranges with six years in each group.

Parental income was matched to enrolment by dissemination area for both elementary and secondary schools. A school in this context refers to the group of elementary or secondary students within a school. Although many actual schools contain only elementary or secondary students, a number of schools have both. For each age group, average income by school was calculated as the sum of the share of students in each dissemination area multiplied by income in the dissemination area. Average income as reported in the tables herein is an average of income by school, weighted by the number of students in the school.

A number of the records in the files supplied by Statistics Canada were suppressed to meet the confidentiality requirements of the Statistics Act. For this reason, 171,156 of the 576,271 students in the ministry-provided files were excluded.

Allowing for data gaps, these files provided full information for a total of 405,116 students, with 360,542 in public schools and 44,574 attending independent schools. This represented 60.1 percent of all students enrolled in BC in 2011 and 67.6 percent of students enrolled in standard schools.<sup>4</sup>

## Coverage: Share of Students with Income Data Available

The starting sample was 405,116 students. Suppressed parental income data further impacts the sample as many of the schools have no reported parental income for a select number of their students. The main analysis utilized a 65 percent coverage ratio, which means that at least 65 percent of the students in these schools had reported parental income available. Any schools with less than 65 percent coverage were dropped from the analysis.

Results are also reported for 50 and 80 percent coverage ratios in order to highlight the small variance from the 65 percent coverage ratio.

## Empirical Results

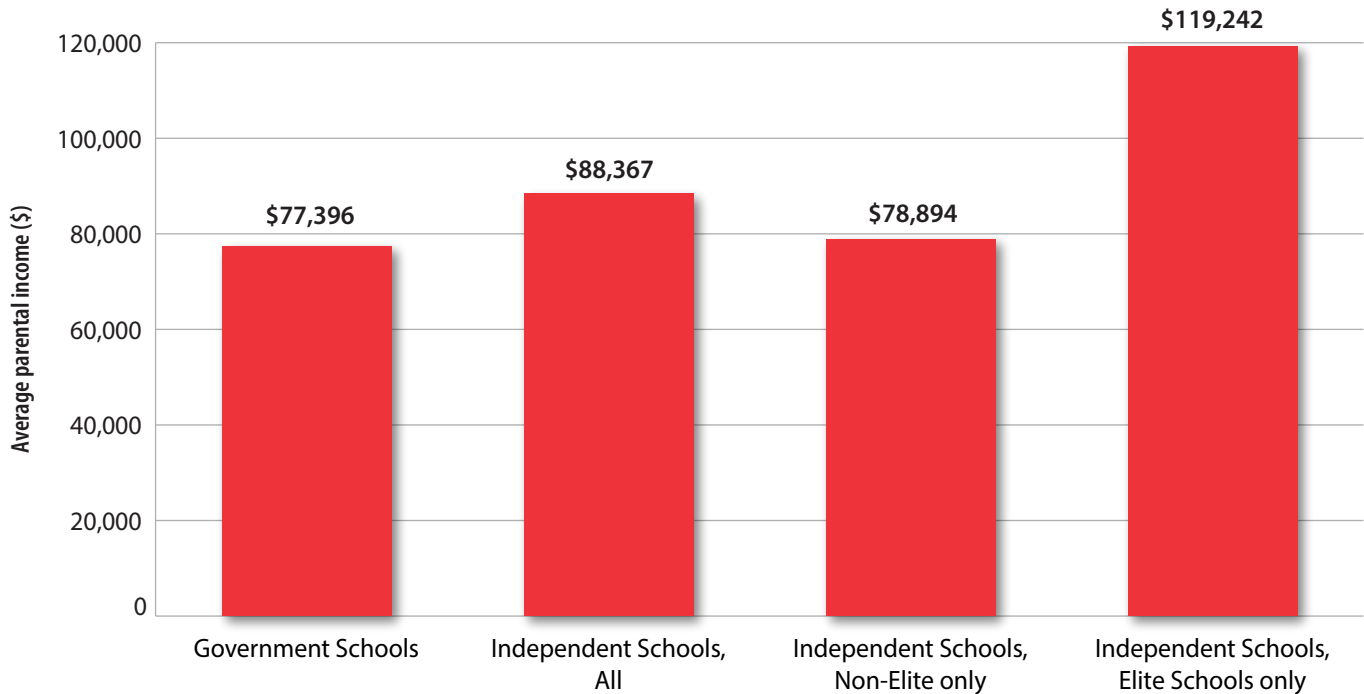
**Table 1** presents (and **figure 1** illustrates) the empirical results from the 65 percent coverage ratio analysis. Any schools where we did not have parental income data for at least 65 percent of the student body were excluded from the analysis. This filter removes 60,352 students (15 percent) from the 405,116 students with parental income.<sup>5</sup>

**Table 1: Parental Income, Public Versus Independent Schools (65% and above coverage)**

	Average Parental Income \$	Difference Compared to Public Schools \$	Difference Compared to Public Schools %	Number of Students
Public Schools	77,396			304,895
Independent Schools, All	88,367	10,972	14.2%	39,868
Independent Schools, Non-Elite only	78,894	1,498	1.9%	30,507
Independent, Non-Elite, Religious Affiliation	78,246	850	1.1%	28,295
Independent, Non-Elite, No Religious Affiliation	87,182	9,787	12.6%	2,212
Independent Schools, Elite Schools only	119,242	41,847	54.1%	9,361

Note: The 65% Coverage Ratio used in this analysis removes 60,352 (15%) of the 405,116 students with parental income.

**Figure 1: Parental Income, Public vs. Independent Schools**



The first comparison in table 1 (rows 1 and 2) is between families with children in public schools and families with children attending independent schools. On average, the families with children in independent schools earned \$88,367 in income (after taxes) compared to \$77,396, on average, for families with children in public schools. This represents a gap of 14.2 percent for families with children attending independent schools compared to families with children attending public schools.

However, these numbers for independent schools include elite independent schools. If the families with children attending elite independent schools are removed, the average income (after tax) for the remaining families with children attending independent schools falls to \$78,894, which is only 1.9 percent above the average income for families with children in public schools (table 1, line 3). Put simply, families with children in public schools have roughly the same level of income as families with

children in independent schools once the elite preparatory schools are removed. Recall that only 7.7 percent of independent schools in British Columbia were categorized as elite as of the year of analysis.

The reason for this much narrower gap is that the average income for families with children in elite independent schools was \$119,242 (table 1, line 6), which is 54.1 percent higher than the average income for families with children in public schools. Indeed, it is 51.1 percent higher than the average income for families with children in non-elite independent schools.<sup>6</sup>

Finally, we can break down non-elite independent schools into those that have a religious affiliation versus those that have none. Lines 4 and 5 of table 1 show the respective breakdown for average income for families in non-elite religious and non-religious independent schools. Families with children in non-elite, religious independent schools maintained, on average, \$78,246

in income (after tax), which is 1.1 percent higher than families with children in public schools.<sup>7</sup> It is almost 1 percent less than the average for all families with children in independent schools excluding elite independent schools.

Families with children in non-elite, non-religious schools, which are largely specialty schools, maintained average income (after tax) of \$87,182, which is 12.6 percent higher than families with children attending public schools.<sup>8</sup>

## 50 Percent Coverage

**Table 2** displays the empirical results for schools with at least a 50 percent coverage ratio. This indicates that we have average parental income for 50 percent or more of the school's student population. This filter removes only 16,158 students (4.0 percent) of the 405,116 students. Consequently, the number of students included in this calculation differs only minimally from an analysis using no filter.

Lines 1 and 2 of table 2 compare families with children enrolled in public schools and families with children attending independent schools. On average, families with children in non-elite, independent schools earned \$79,007 in income (after tax) compared to \$77,183, on average, for families with children in public schools.

This means average income for families with children in independent schools (excluding elite independent schools) was 2.4 percent higher than families with children attending public schools. This is only slightly higher than the 1.9 percent calculated using a 65 percent coverage ratio.

## 80 Percent Coverage

Finally, **table 3** illustrates the empirical results for schools with a coverage ratio of 80 percent. This indicates that 80 percent of the school's student population had parental income available. This filter removes 167,799 students (41.0 percent) of the 405,116 students with parental income.

The average income (after tax) for families with children in independent schools (non-elite only) was \$77,393 in comparison to \$77,898 for families with children in public schools, which represents a negative -0.6 percent gap. In other words, when an 80 percent coverage ratio is used, families with children in public schools maintained a slightly higher level of average income compared to families with children in non-elite independent schools. These results are again generally in line with the results from the main analysis using the 65 percent coverage ratio.

**Table 2: Parental Income, Public Versus Independent Schools (50% and above coverage)**

	Average Parental Income \$	Difference Compared to Public Schools \$	Difference Compared to Public Schools %	Number of Students
Public Schools	77,183			344,919
Independent Schools, All	87,925	10,742	13.9%	44,039
Independent Schools, Non-Elite only	79,007	1,824	2.4%	34,079
Independent Schools, Elite Schools only	118,443	41,260	53.5%	9,959

Note: The 50% Coverage Ratio used in this analysis removes 16,158 (4%) of the 405,116 students with parental income.

**Table 3: Parental Income, Public Versus Independent Schools (80% and above coverage)**

	Average Parental Income \$	Difference Compared to Public Schools \$	Difference Compared to Public Schools %	Number of Students
Public Schools	77,898			213,843
Independent Schools, All	87,088	9,190	11.8%	23,474
Independent Schools, Non-Elite only	77,393	-505	-0.6%	18,372
Independent Schools, Elite Schools only	122,000	44,102	56.6%	5,102

Note: The 80% Coverage Ratio used in this analysis removes 167,799 (41%) of the 405,116 students with parental income.

## Conclusion

This report provides an analysis of average parental (family) income in British Columbia with regard to parental school choice. Although it focused on schools with a coverage ratio of 65 percent, the results calculated at the 50 percent threshold are highly comparable. With a coverage ratio of 80 percent, a little more than 40 percent of the students in the sample are excluded from the calculation. The primary concern here is the representativeness of the data for the 80 percent coverage ratio. Despite these concerns, the results for the 80 percent coverage ratio are generally in line with those observed for the 65 and 50 percent coverage ratios.

The data indicates that families with children enrolled in non-elite independent schools have essentially the same level of after-tax income of families with children attending public schools. The vast majority of independent schools, therefore, serve families at comparable income levels to families who send their children to public schools.

## Endnotes

1 A “census family” refers to a married couple and the children, if any, of either or both spouses; a couple living common law and the children, if any, of either or both partners; or a lone parent of any marital status with at least one child living in the same dwelling and that child or those children. All members of a particular census family live in the same dwelling. A couple may be of opposite or same sex. Children may be children by birth, marriage, or adoption regardless of their age or marital status as long as they live in the dwelling and do not have their own spouse or child living in the dwelling. Grandchildren living with their grandparent(s) but with no parents present also constitute a census family.

2 A “Distributed Learning School” is defined as a school that offers a method of instruction that relies primarily on indirect communication between students and teachers, including internet or other electronic-based delivery, teleconferencing, or correspondence. Continuing Education is an education program offered by school districts, primarily for adults, leading to either secondary school completion or the upgrading of a current graduation certificate. For more information, see <<http://www2.gov.bc.ca/gov/content/education-training/administration/legislation-policy/glossary>>. Alternate Education Programs focus on educational, social, and emotional issues for students whose needs are not being met in a traditional school program. An alternate education program provides its support through differentiated instruction, specialized program delivery and enhanced counselling services based on student needs. See <<http://www2.gov.bc.ca/gov/content/education-training/administration/legislation-policy/public-schools/alternate-education-program>>.

3 A separate analysis was undertaken using 2006 Census income data to assess the income differences between families with children in independent schools versus public schools examining only labour income, specifically wages, salaries, and income from self-employment. This is a narrower definition of income than was used in the main analysis presented in this paper. The results of this alternative analysis are generally consistent with the results presented in tables 1 through 3. For example, using the main 65 percent coverage ratio, families with children attending public school had average income of \$66,300 when only labour income is counted. Families with children in non-elite independent schools, using the same coverage ratio and narrower measure of income, had income of \$68,754, which represents a 3.7 percent premium compared to families with children in public schools. The key insight is that the differences in family income remain marginal even when a narrower measure of income is used.

4 Recall that students enrolled in alternate, continuing, or distributed schools are excluded.

5 The number of students attending government schools decreases to 304,895 and the number of independent school students declines to 39,868.

6 When the alternative analysis—with a narrower definition of income including only wages, salaries, and income from self-employment based on Census 2006 data—is used (see note 4), essentially the same result occurs. Specifically, families with children in elite independent schools had, on average, \$105,716 of income, which is a 59.4 percent premium compared to families with children in public schools.

7 If the narrower definition of income is used (see note 4), the result is similar: families with children in non-elite, religious independent schools had, on average, \$68,766 of income, which is a 3.7 percent premium compared to families with children in public schools.

8 If the narrower definition of income is applied (see note 4), there is a material difference in the result compared to the analysis presented in table 1 that uses a broader measure of income. Specifically, families with children attending non-elite, non-religious independent schools maintain, on average, income of \$68,619, which is 3.5 percent higher than families with children in public schools. However, the premium for this group as noted in the main text is 12.6 percent when the broader measure of income is applied. This may indicate that the group of parents

choosing non-elite, non-religious independent schools earn proportionately more income than all other groups (except families with children in elite independent schools) from other sources of income such as investment income. Further analysis, which is beyond the scope of this report, would be required to determine the reasons for this difference.

## References

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