

PASS OR FAIL?

Comparing the performance of private and public school graduates in post-secondary education

June 2020





ISBN 978-1-9992542-0-9

This report is available free of charge at www.bchumanist.ca

About the BC Humanist Association

Since 1984, the British Columbia Humanist Association has provided a community and a voice for Humanists, atheists, agnostics and the non-religious in BC. Humanism is a worldview that promotes human dignity without belief in a higher power. We are a registered charitable organization that promotes progressive and secular values and challenges religious privilege.

Support our work

This and our other work is made possible through the support of our members and individual supporters. Become a member at www.bchumanist.ca/join or make a donation at www.bchumanist.ca/donate

Recommended Citation:

Bushfield, I (2020). "Pass or Fail? Comparing the performance of private and public school graduates in post-secondary education." *BC Humanist Association*.

Credit for cover image

Class at UBC 2 by Don Erhardt via UBC Media Relations. CC BY-NC 2.0



Humanism relies on free inquiry, the power of science and creative imagination to solve the problems that confront us all.

As such, this work is licensed under a **Creative Commons Attribution 4.0 International License**. Feel free to share and reproduce this content but please acknowledge its source.

PASS OR FAIL? PERFORMANCE OF PUBLIC VS PRIVATE STUDENTS AT UBC

Author: Ian Bushfield

Executive Summary

Proponents of British Columbia's (BC) private education funding model have claimed that private schools provide students with an academic advantage over their public school peers. By comparing the performance of graduates of BC private and public schools at the University of British Columbia (UBC), we can test this thesis. Our results show no significant difference in the four-year retention rates or fourth year sessional average between the students. Students from private schools were more likely to graduate UBC within four years, though fewer than one-in-three of all students still completed their degree in that timespan. This result can be explained by the greater availability of university credit courses in private schools and differences in socioeconomic status between private and public school families. There was no significant difference between graduates of elite and non-elite private schools. Similarly, graduates of secular and faith-based private schools were largely identical, with the possible exception that graduates of smaller secular schools tended to have lower four-year retention and graduation rates.

Background and motivation

The Independent Schools Act sets out the regulations for private schools in British Columbia (BC) [1]. It also provides for public funding of certain private schools, depending on which group they are classified under. Group 1 private schools receive 50% of the per-student funding compared to the amount that a public school in the same district receives. These schools must operate at or below the per-student cost of a neighbouring public school. Group 2 private schools are often more elite schools and can operate with higher costs, and therefore typically have significantly higher tuition, yet still receive a 35% public subsidy. This adds up to nearly half a billion dollars in funding each year [2]. The BC Humanist Association (BCHA) has called for this money to be phased out and public funds to be directed to public schools [3]. Both group 1 and group 2 schools must operate as a non-profit society, employ teachers certified by the Teacher Regulation Branch and their educational programs must comply with standards set by the Ministry of Education [4]. There are a smaller number of group 3 and 4 private schools, which are subject to fewer regulations and receive no direct public funding.

The BCHA has previously documented the background of this funding model [5], shown that everyone appointed to oversee independent schools has come from an Evangelical Christian school [6], broken down the funding for these schools showing it disproportionately goes to Christian and Catholic schools [7], exposed private schools that teach creationism in science class [8] and found examples of private schools that exclude LGBTQ2S+ families [9].

Proponents of providing public funding to private schools have claimed that students educated in private schools perform better than their public school educated peers. For example, the Fraser Institute's Report Card on Schools is often cited for the disproportionate number of private schools at the top of its rankings [10]. Teachers unions and other critics largely dispute such rankings, which are largely based on standardized testing [11]. These tests have drawn significant criticism for their reliance on superficial understandings of how students learn and the inability to account for the test-taker's mental or emotional state, which can vary greatly day-to-day in children [12].

An analysis of the performance of private school students was conducted by Statistics Canada in 2015, which involved a cohort of 7142 students who were followed from age 15 to 23 [13]. That study found that students from private schools performed better on standardized tests and had higher academic achievements than students who attended public school; however, the study also found that private school students came from families with a higher socioeconomic status and whose parents were more likely to have attended university. In fact, the study concludes that "two factors accounted for a substantial portion of the differences between the public and private sectors in all of the academic outcomes examined: socio-economic characteristics and peers." In other words, the school matters less than the family's privilege. These factors are compounded by the fact that private schools are able to select who is and is not admitted into their student bodies, whereas public schools are built to accept everyone.

An additional challenge in comparing the performance of private and public schools is the fact that not all grades are assigned equally. Specifically, various schools have been accused over the years of inflating the grades of their students, such that those students' performance in university did not match their high school marks.

The University of Waterloo's engineering faculty admissions team gained prominence for the release of the adjustment factor they applied to Ontario high schools [14]. By comparing students' high school marks with their results at the end of their first year, administrators were able to generate a table that quantified how different schools inflated their students' grades and adjust their applications accordingly.

The list was released in 2018 following a freedom of information (FOI) request by Global News. In reporting the story, Patrick Cain noted that, "Of the five private schools on the list, four had adjustment factors above [the average of] 16 per cent" [14]. This prompted further discussion by Amelia Eaton in the University of Toronto's student newspaper, *The Varsity*, where she wrote [15]:

This disproportion should bring about critical discussions regarding why private schools are on the list at all. Quite simply, for high schools to justify charging substantial tuition fees, their graduates must be doing better than average in postsecondary education, and not experiencing such substantial drops. While it is hard to extrapolate beyond the given context of Waterloo's engineering program, the representation of private schools on the list calls into question whether there are high schools in Ontario where grades are bought, rather than earned.

Eaton then pointed to a 2011 investigation by Toronto Star reporter Jennifer Yang who went undercover in a private high school [16]. Yang's teacher reportedly helped her "pad" her mark from 60% up to 85%.

While Ontario's Information and Privacy Commissioner ruled that Waterloo was required to release the information, the University of British Columbia (UBC) won a BC Court of Appeal ruling that found that releasing its admissions information would cause economic harm to the institution [17] [18]. In other words, UBC is under no similar obligation to release its own adjustment factor of BC schools, should such a factor exist.

So the question remains yet unanswered for students here in BC: Does attendance at a private school confer a measurable academic advantage in postsecondary education over public schools?

Data and methods

To consider this question we sought data on the performance of students at UBC, the largest post secondary institution in the province. Through a FOI request, we received a data set comprising the fourth year retention, fourth year graduation and fourth year sessional averages for degree-seeking students admitted to UBC's Vancouver and

Okanagan campuses in Winter 2014 based on the BC high school that they graduated from. For privacy reasons, UBC withheld data from any school where fewer than five students were admitted.

School classifications are available from the Ministry of Education and the religious identity of independent schools was previously categorized based on a review of their websites and public materials [7].

The entire dataset includes 3651 students from 162 schools. 46 students were reported as being admitted from “unknown school” and were excluded from this analysis. There were no group 3 schools in the dataset and only one group 4 school (with nine graduates who attended UBC, five of whom were still attending UBC after four years). The group 4 school was excluded from comparisons between private school classifications.

Several assumptions had to be made in transcribing the data from the FOI into the list of schools available from the Ministry of Education [19].

1. “BC Online School” describes itself as a “division of Heritage Christian Online School.” The Ministry does not distinguish between the two, so their data were combined. Note that the fourth year sessional average was not provided for “Heritage Christian Online School” as only four students were retained, so the sessional average is based solely on students from BC Online School.
2. There are two “David Thompson Secondary” schools in BC. It was assumed more UBC students arrived from the school in Vancouver.
3. “Prince of Wales Mini Secondary School” was combined with Prince of Wales Secondary School.
4. There are two “Princess Margaret Secondary” schools in BC. It was assumed more UBC students arrived from the Surrey school.
5. “Southridge Independent School” has been combined with “Southridge School” as the Ministry’s list only includes the latter.
6. “St T Aquinas Sec School” has been combined with “St Thomas Aquinas Regional Secondary School”.
7. Surrey’s online learning, Surrey Academy of Innovative Learning, was previously known as Surrey Connect, the latter of which was included in the dataset.
8. VSB Adult Education consists of several education centres including “Main Street Education Centre” and “South Hill Education Centre”. Their data have been combined here. Note that the fourth year sessional average was not available for either centre based on the low retention rates for each.
9. “Windermere Secondary School” and “Windermere Community Secondary School” have been combined.

After these assumptions were made, our sample included 3605 students from 156 schools.

UBC's Office of Planning and Institutional Research additionally provided several notes with the dataset:

1. Cohort consists of new to UBC students in Winter 2014, 1st year 1st time full-time degree-seeking students from BC High Schools.
2. Retention & Graduation rates are measures of persistence and completion regardless of whether a student switched programs or campuses at any point.
3. The sessional average is the average in their 4th year at UBC, not a cumulative average, and not an average from when they are in the 4th year-level of a particular program.
4. Low Ns have been suppressed.

It should be noted that graduating after 4 years is not as common in the present day - many students have a skip-out year, or undertake co-op terms, which extend the length of their program. UBC normally compares to other institutions at a 6-year rate, which is much closer to the ultimate graduation rate regardless of time.

The full data are available with this report.

We calculated weighted averages to compare the four-year retention rates, fourth year sessional averages and four-year graduation rates of students from public schools versus those from private schools. We also compared graduates of private schools based on the classification of those schools and whether the school's character was secular or faith-based. To test for statistically significant differences between the comparators, we performed analysis of covariance (ANCOVA) tests, using the natural logarithm of the number of students per school as a covariate. For each test, we report the sample size and p-values when there was evidence of an effect.

Results

Public versus private school graduates

We first sought to compare UBC students from public schools against those from private schools. This dataset included 3076 students from 123 public schools and 529 students from 33 private schools.

After four years, 2673 (86.9%) students from public schools and 467 (88.3%) students from private schools were still at UBC. While the four-year retention rates were high for both groups, there was no evidence of a significant difference between them (Figure 1).

Students admitted from private schools ($n=529$, 73.8%) had marginally higher fourth year sessional averages than those from public schools ($n=3076$, 72.2%); however, evidence for this effect was very weak ($n_{\text{schools}} = 151$, $p = 0.107$) (Figure 2). There was far more variation between different public schools and private schools than between the separate cohorts.

Notably, there was strong evidence ($n_{\text{schools}} = 156$, $p < 0.001$) that private school students ($n = 2673$, 27.2%) had higher fourth year graduation rate than public school students ($n = 529$, 21.1%) (Figure 3). In particular, students from elite group 2 schools had the highest graduation rate ($n = 187$, 31.0%) of any cohort. Nevertheless, fewer than one-third of students graduate UBC within four years. We consider some possible explanations for this difference in the next section.

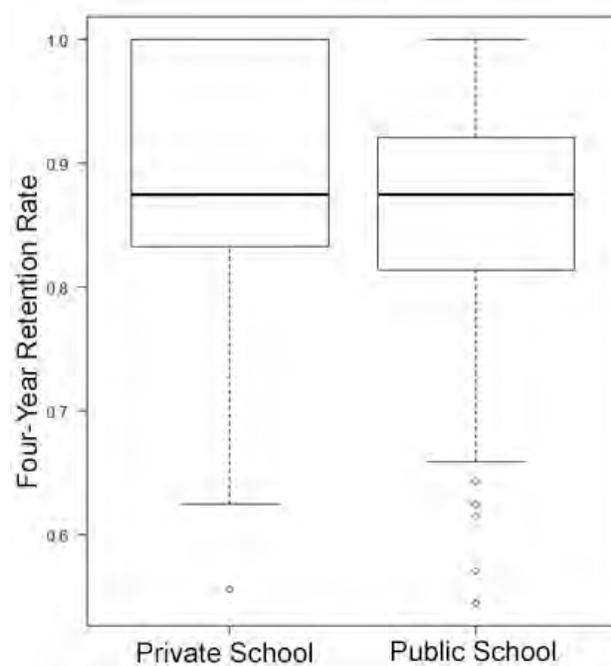


Figure 1 - Comparison between private and public school four-year retention rates

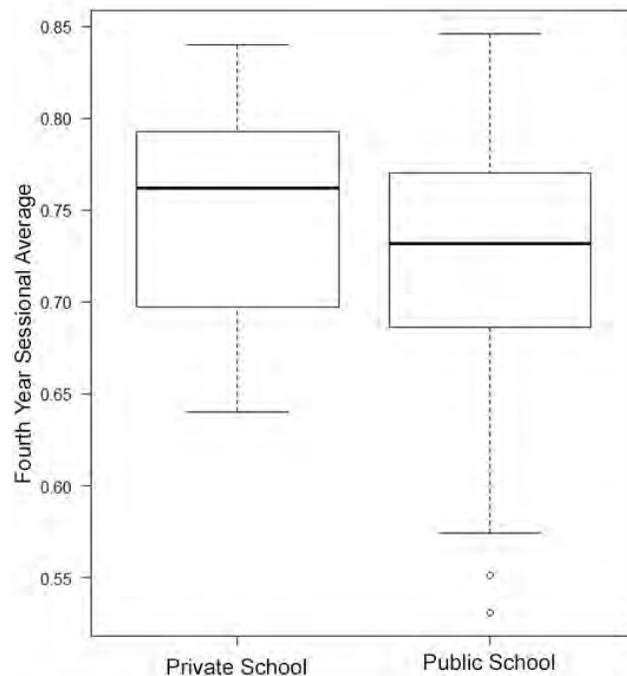


Figure 2 - Comparison between private and public school fourth year sessional averages

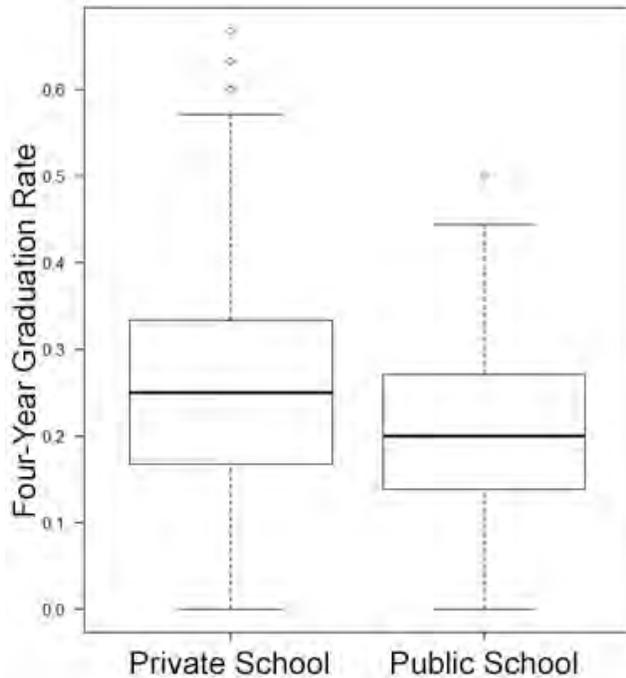


Figure 3 - Comparison between private and public school four-year graduation rate

Group 1 versus group 2 private schools

Looking just at the subset of students from private schools, we next looked for differences between graduates of group 1 (elite) and group 2 private schools. There were 333 students from 18 group 1 schools and 187 from 14 group 2 schools.

After four years, the number of students still at UBC from group 1 schools (88.9%) was almost indistinguishable from the number remaining from group 2 schools (88.8%).

Slightly more students from group 2 schools (31.0%) graduated within four years compared to students from group 1 schools (24.9%).

There was very weak evidence that the size of the graduating class from group 1 and group 2 schools had different effects on the four-year retention rate ($n_{\text{schools}} = 32, p = 0.102$) and four-year graduation rates ($n_{\text{schools}} = 32, p = 0.114$) of each cohort; however, we cannot draw any conclusions from this effect given the high variation in the data and small sample sizes.

Further, there was no evidence of a statistical difference between the fourth year sessional average of Group 2 grads ($n = 166, 74.6\%$) versus group 1 grads ($n = 296, 73.3\%$) (Figure 4).

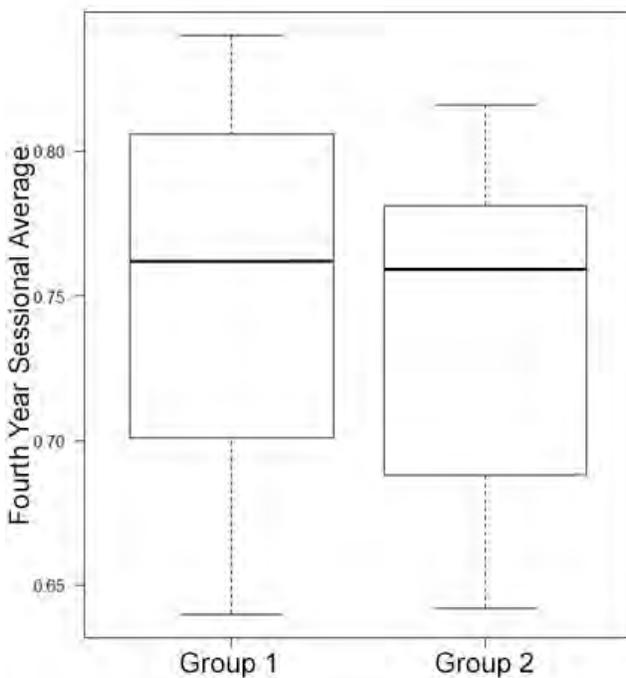


Figure 4 - Comparison between group 1 and group 2 private schools fourth year sessional averages

Secular versus faith-based private schools
 Next we compared private schools with a religious character against those without. There were 161 students from 13 secular private schools and 354 students from 19 religious schools.

Overall, 138 (85.7%) students from secular private schools were still at UBC after four years, compared to 315 (89.0%) students from religious private schools. There was weak evidence of a different relationship between the size of the graduating classes and the four-year retention rates for religious and secular private schools ($n_{\text{schools}} = 32$, $p = 0.137$); however, again there was significant variation in the data and this result could be driven by very poor performances in a few secular private schools.

More students from secular private schools (33.5%) graduated within four years compared to those from faith-based schools (24.6%). There was evidence that faith-based and secular schools had different relationships to the size of the graduating classes ($n_{\text{schools}} = 32$, $p = 0.051$), with larger secular schools having significantly higher graduation rates (Figure 5).

There was no discernible difference, however, in fourth-year sessional averages between graduates from secular private schools ($n=138$, 74.4%) compared to students from religious schools ($n=311$, 73.5%) (Figure 6).

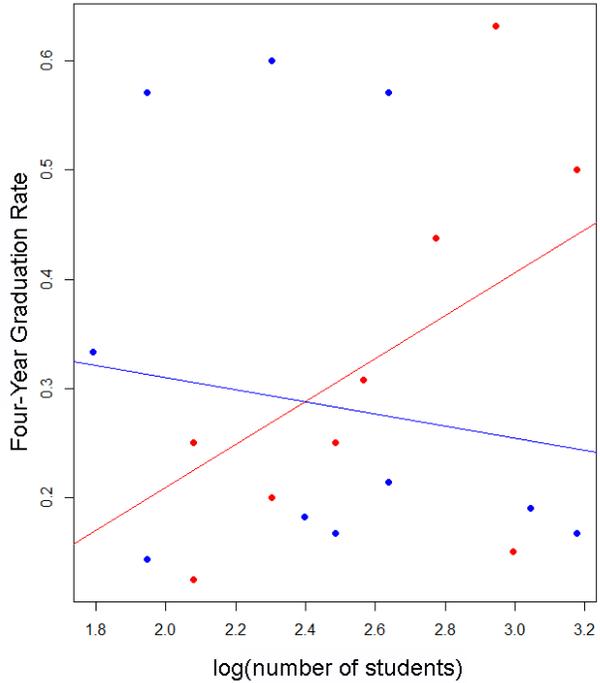


Figure 5 - Relationships between four-year graduation rate and size of secular (red) and religious (blue) private school graduating classes.

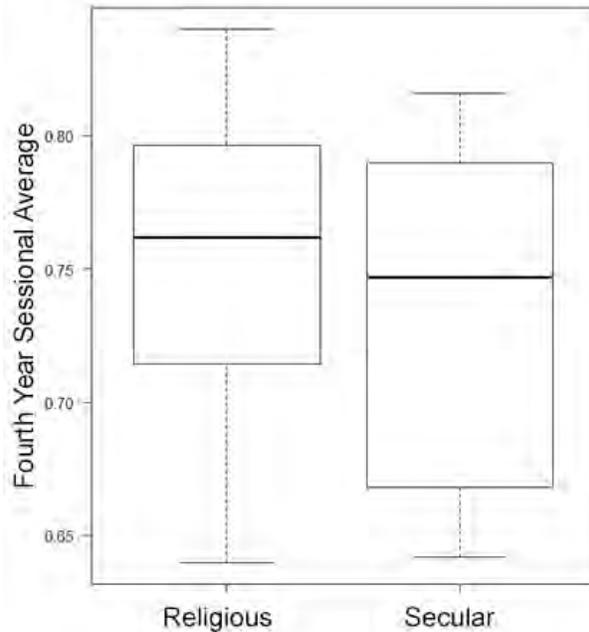


Figure 6 - Comparison between religious and secular private schools fourth year sessional average

Comparing public schools

Among the eight public school districts where at least 100 students were admitted to UBC, Central Okanagan (n=197, 77.4%), North Vancouver (n=143, 74.9%) and Langley (n=102, 74.7%) had the highest fourth-year sessional averages, while students from Surrey (n=299, 69.4%), Burnaby (n=231, 70.8%) and Coquitlam (n=237, 70.9%) had the lowest averages.

City of Vancouver case studies

Given its main campus is located next door to the City of Vancouver, unsurprisingly the largest number of students admitted to UBC came from schools in the Vancouver School District. This included 793 students from 20 public schools and 218 from 12 private schools, 718 (90.5%) and 200 (91.7%) of whom were still at UBC after 4 years, respectively. Table 1 shows the fourth year sessional averages of the 15 public schools and three private schools in Vancouver where at least 20 students made it through to their fourth year at UBC.

Table 1 - Fourth year sessional average of Vancouver high schools where at least 20 students were retained after four years

School	Sessional Average	n
Templeton Secondary (public)	80.4%	20
Crofton House (secular group 2 private)	79.9%	23
University Hill Secondary (public)	79.3%	32
Lord Byng Secondary (public)	78.2%	43
Kitsilano Secondary (public)	77.8%	30
Prince of Wales Secondary (public)	77.6%	50
Eric Hamber Secondary (public)	76.3%	54
Vancouver College (secular group 1 private)	76.3%	29
Point Grey Secondary (public)	75.6%	48
Sir Charles Tupper Secondary (public)	74.9%	22
Sir Winston Churchill Secondary (public)	74.5%	107
Magee Secondary (public)	74.2%	66
Little Flower Academy (Catholic group 1 private)	74.0%	47
Vancouver Technical Secondary (public)	72.9%	29
David Thompson Secondary (public)	72.6%	61
John Oliver Secondary (public)	72.4%	20
Gladstone Secondary (public)	66.7%	24
Killarney Secondary (public)	63.0%	57

Discussion

These data provide little evidence for claims that students who graduate private schools have a significant academic advantage in university over those who attend public schools. The only significant difference between the cohorts was in fourth year graduation rates. Nevertheless, still fewer than one-in-three students at UBC graduated within four years. This is particularly notable as only a handful of programs are listed as taking longer than four years on UBC's own website [20]. Among the caveats to accompany the data, UBC noted that "graduating after 4 years is not as common in the present day" and that internally they compare six-year graduation rates instead.

There are a couple possible explanations for the difference in four-year graduation rates. First, enrolment in high school university credit courses, such as International Baccalaureate (IB), is likely to be more common in private schools than public schools. There are 30 schools that offer IB Diploma programs in BC [21]. Of these, 18 are public and 12 are private, representing 7.4% and 4.0% of all private and public secondary schools, respectively. So any given private school is almost twice as likely to offer an IB programs as a public school; therefore, private school graduates are more likely to enter UBC with several university-level course credits already obtained, making it easier to graduate within four years.

Further, the aforementioned socioeconomic factors that differentiate private school families from their public school counterparts provides another potential advantage in university as fewer of these students would need to take on part-time or summer employment to afford tuition.

Overall, students from elite private schools had a fourth-year sessional average that was 2.4% higher than public school students. This result was not statistically significant and, as identified by Statistics Canada, such differences can reasonable be attributed to the different socioeconomic status and peer groups of private versus public school students.

There was no discernible difference between private school students who attended a religious versus a secular school; however, this comparison is limited by the small number of private school students in the cohort and the large variations in performance between schools. We detected possible different relationships between the size of the school's cohort at UBC for secular and religious schools and their four-year retention and graduation rates. Specifically, smaller secular schools tended to have much lower retention and graduation rates; however, there was a lot of noise in these data and the effects may have been skewed by outliers.

Our study has several limitations. First, we only looked at those students who pursued postsecondary education at UBC and were accepted. There may be differences between the sample sets in the types of post secondary institutions that students pursue. For example, students from elite private schools may be more likely to attend more prestigious universities abroad and students from religious schools may apply instead to

faith-based universities. Further, students from different schools may pursue higher education altogether at different rates and UBC may accept students from different schools at different rates.

It is also possible that attendance at UBC has a levelling effect, where differences in educational background are largely erased by a student's fourth year. If this is the case, we would expect the fourth year sessional GPA of students to converge. However, this scenario only further diminishes any purported value provided by private schooling, as any benefit in the first few years of university will have disappeared by the time students are ready to graduate.

We plan to build on this work by requesting further data to test these additional hypotheses; however, we prioritized the publication of this the data we have received to date. These additional data would also allow us to compare the sixth year graduation rates, as are used internally by UBC.

Conclusion

There was no discernible difference in the performance of students at UBC based on the characteristics of their high school. The only identifiable advantage conferred by attendance at a private school was marginally higher four-year graduation rates, which can likely be explained by differences in socioeconomic status and increased access to university credit programs such as IB.

REFERENCES

- [1] *Independent School Act*, RSBC 1996 ch 216.
- [2] British Columbia Ministry of Finance, "Estimates - Fiscal Year Ending March 31, 2020," 2020. Available: https://www.bcbudget.gov.bc.ca/2020/pdf/2020_Estimates.pdf.
- [3] BC Humanist Association, "Issues Summary - 4.2 End Public Funding of Independent Schools," 20 April 2018. Available: https://www.bchumanist.ca/issues_summary#4.2.
- [4] Government of British Columbia, "Classification of Independent Schools," Available: <https://www2.gov.bc.ca/gov/content/education-training/k-12/administration/legislation-policy/independent-schools/classification-of-independent-schools>. [Accessed 8 June 2020].
- [5] BC Humanist Association, "It's time for public funds to go to public education," 4 September 2020. Available: https://www.bchumanist.ca/public_funds_for_public_education_launch.
- [6] I. Bushfield, "Fox in the henhouse: Oversight of BC independent schools," 6 September 2020. Available: https://www.bchumanist.ca/oversight_of_bc_independent_schools.
- [7] BC Humanist Association, "Who reaps the most rewards? The landscape of independent school funding in BC," 10 September 2020. Available: https://www.bchumanist.ca/who_reaps_the_most_rewards.
- [8] I. Bushfield, "BC subsidizes the teaching of creationism in science class," 24 September 2020. Available: https://www.bchumanist.ca/bc_subsidizes_the_teaching_of_creationism_in_science_class.
- [9] I. Bushfield, "Are LGBTQ2+ families welcome at BC independent schools?," 14 December 2020. Available: https://www.bchumanist.ca/are_lgbtq_families_welcome_at_bc_independent_schools.
- [10] P. Cowley and A. MacLeod, "Report Card on British Columbia's Secondary Schools 2019," Fraser Institute, 2019. Available: <https://www.compareschoolrankings.org/pdf/british-columbia-secondary-school-rankings-2019-627.pdf>.
- [11] C. Killian, "BCTF flunks Fraser Institute school rankings," 7 February 2011. Available: <https://theyee.ca/Blogs/TheHook/Education/2011/02/07/SchoolRankings/>.
- [12] The National Center for Fair and Open Testing, "What's Wrong With Standardized Tests?," 22 May 2012. Available: <http://www.fairtest.org/facts/whatwron.htm>.
- [13] M. Fresnette and P. C. W. Chan, "Why Are Academic Prospects Brighter for Private High School Students?," 31 March 2015. Available: <https://www150.statcan.gc.ca/n1/pub/11-626-x/11-626-x2015044-eng.htm>.
- [14] P. Cain, "One university's secret list to judge applicants by their high schools - not just their marks," 13 September 2018. Available: <https://globalnews.ca/news/4405495/waterloo-engineering-grade-inflation-list/>.
- [15] A. Eaton, "From grade inflation to grade deflation," 23 September 2018. Available: <https://thevarsity.ca/2018/09/23/from-grade-inflation-to-grade-deflation/>.
- [16] J. Yang, "How a reporter became a high school student," 16 September 2011. Available: https://www.thestar.com/news/gta/2011/09/16/how_a_reporter_became_a_high_school_student.html.
- [17] Ubysey Editorial Board, "Editorial: Congrats, UBC, you've won another fight in your war against transparency," 26 April 2018. Available: <https://www.ubyssey.ca/opinion/how-does-it-feel-to-win-for-the-first-and-only-time/>.

- [18] *University of British Columbia v. Lister*, 2018 BCCA 139 (CanLII), <http://canlii.ca/t/hrgg3>.
- [19] British Columbia Ministry of Education, "BC K-12 School and District Contact Information," 2020. Available: <http://www.bced.gov.bc.ca/apps/imcl/imclWeb/Home.do>.
- [20] The University of British Columbia, "UBC Programs | UBC Undergraduate Programs and Admissions," Available: <https://you.ubc.ca/programs/>. [Accessed 4 June 2020].
- [21] BC Association of IB World Schools, "DP Diploma Programme," Available: <https://bcaibws.ca/schools/dp-diploma-program/>. [Accessed 8 June 2020].