



Long-term impacts of supporting all students leaving high school to apply to college or university

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July 2016



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Published in 2016 by the Social Research and
Demonstration Corporation

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1. Executive Summary

This report presents the latest results from the *Life After High School* project. The results from the previous *Life After High School* report (Ford et al., 2013) supported the notion from behavioural economics that relatively small differences in approach (the “nudge” of three hours of workshops) can have major consequences for behaviour in that it induced many more Grade 12 students to complete postsecondary applications. But surprisingly, across all students and pre-identified subgroups, the intervention did not lead to an increase in post-secondary education enrollment in the year immediately following high school.

This final evaluation report seeks to answer outstanding questions about whether students were motivated to access postsecondary education later by staying on in high school for an extra year or for longer by persisting in their studies. The analysis of additional data in this study allows for the detection of additional enrollment among those in program schools and thus improves understanding of youths' behavioural responses to such nudge approaches. It is the final deliverable for the Max Bell Foundation, evaluating the *Life After High School*'s impact on long-term post-secondary outcomes.

The key findings

- **Post-secondary Education Enrollment:** *Life After High School* had no significant impacts on students enrolling in postsecondary education overall, but did increase the rate of university enrollment.
- **Student Financial Aid:** Students offered *Life After High School* were more likely to receive financial aid than their comparison group counterparts.
- **Post-secondary Education Graduation:** Overall, *Life After High School* had no significant impacts on students graduating from postsecondary education within the three years following immediately after Grade 12.
- **Subgroups of interest:** *Life After High School* induced a significantly higher proportion of boys to enroll in university than would have happened in its absence. The program also encouraged a higher proportion of boys to receive financial aid. However, *Life After High School* had an adverse effect on college enrollment for Aboriginal students. Surprisingly, modest impacts on receipt of student financial aid by Aboriginal students reported in the previous report did not persist.

The main outcomes do not provide strong evidence to support the hypothesis underlying *Life After High School*, which is that “nudging” Grade 12 students to make applications to postsecondary education and for financial aid, will increase participation in post-secondary education. Except with respect to student aid participation for some students, the “nudge” theory was not supported by the program as implemented in British Columbia. Preliminary results from a subsequent, improved implementation of *Life After High School* in Ontario are more encouraging. There, the program has significantly increased postsecondary enrollment by 3 percentage points among all students in low transition schools in Ontario (5 per cent among high school graduates): about 20 per cent more students from low-transition schools are attending community college as a result.

2. Evaluation report

2.1 Introduction

Life After High School is a research project originally supported by the Canada Student Loans Program at Employment and Social Development Canada to develop, implement and test a new intervention to lower non-financial barriers on access to postsecondary education. The objective of the intervention is to increase the proportion of students who access postsecondary education and student financial aid. The overall goal of the project is to determine to what extent the intervention achieves this objective among Grade 12 students from high schools with low postsecondary enrolment rates. The project involved the following three major design components:

- **Develop an intervention that provides labour market information about the economic benefits of postsecondary education — increased earnings and employment.** It should provide an awareness of “how” to get those promised benefits through step-by-step information about applying for postsecondary education and student financial aid in a series of three workshops.
- **Implement the intervention in British Columbia among students who could enrol in postsecondary education within 12 months.** The program was targeted at Grade 12 students in schools with low proportions of such students entering postsecondary education (called “low transition” schools).
- **An evaluation of how effective the intervention is at nudging Grade 12 students into:** 1) learning more about the benefits of postsecondary education, 2) learning more about expected costs of postsecondary education; 3) accurately understanding how to afford postsecondary education, and 4) actually applying (and being accepted) into at least one postsecondary education program, supported by student aid where eligible. The evaluation included results up to one year following program implementation and appeared in an earlier submitted report (Ford et al., 2013).

This report is the final deliverable from the extension of the project’s impact analysis. The earlier report could only consider impacts on immediate transitions to postsecondary education. Surprisingly, across all students and pre-identified subgroups, the intervention did not lead to an increase in postsecondary education enrollment in the year immediately following high school. More worryingly, in the program schools, Aboriginal students and those who were least likely to graduate high school were significantly less likely to enrol immediately in postsecondary education than they were in the absence of the program. Aboriginal youth are a key target group for policy and it is very rare to find projects like LAHS BC that have precise results of interventions to promote postsecondary education activities among this group. The drop in participation could indicate this approach has negative consequences for Aboriginal youth. Alternatively it could indicate that some students deliberately delay graduation and postsecondary enrollment as a result of the intervention in order to increase their chances of enrolling in different types of postsecondary program. Either way, it is important to establish the longer term consequences of exposure to *Life After High School*.

Life After High School had significant positive short term impacts on the proportion of students using student financial aid and on the amounts of student financial aid received. The impacts on student aid were seen across subgroups including Aboriginal youth. The results from Ford et al. (2013) suggest that inviting students to the workshops increased the amount of government aid they received collectively by one-fifth. Such a result supports the notion from behavioural economics that relatively small differences in approach (the “nudge” of three hours of workshops) can have major consequences for behaviour. This final report on the extended analysis seeks to answer outstanding questions about whether additional students were motivated to access postsecondary education later, by staying on in high school for an extra year. The additional analysis in this study also allows for the detection of further postsecondary education enrollment among those in program schools, as well as persistence in postsecondary education and yields a better understanding of youths' behavioural responses to such nudge approaches.

This project is not the sole opportunity to learn about the new programming approach under test. SRDC has conducted additional trials of more refined versions of the program in over 70 Ontario schools in 2011-12 and 2013-14. Analyses from these later implementations will be available shortly.

2.2 Overview of *Life After High School*

The development of *Life After High School*

The *Life After High School* project was focused on developing and testing an intervention that provided information about the benefits of postsecondary education and step-by-step practical assistance about how to apply for postsecondary education and student aid, so that students can become aware of their actual postsecondary opportunities. This information and assistance were provided in a sequence of three workshops, which for the most part were incorporated into the regular Grade 12 class schedule. The overarching goal was to see whether the resulting intervention increased postsecondary enrolment rates.

SRDC worked with Professor Oreopoulos¹ to run the research project. Several experimental evaluation design options were evaluated by SRDC and Professor Oreopoulos and a clustered random assignment design, which randomly assigns schools rather than individuals, was identified as the most appropriate and least risky option. SRDC investigated the policy and data environments of possible provinces and British Columbia was selected as the most promising location for the test.

¹ Department of Economics, University of Toronto.

Schools (lowest transition rates to PSE)

SRDC identified schools with “low transition” rates using Student Transitions Project (BC Ministry of Advanced Education) data provided for the 2007/08 post-secondary enrolment rates of 2006/07 high school graduates, aggregated by school. Principals at the 82 schools were contacted by SRDC and asked about their interest in participating.

Clustered random assignment design

Allowed for a more robust impact analysis for key outcomes, by taking advantage of historical data in addition to the randomization and calculating impacts using an approach known as difference-in-differences.

Random Assignment

By late August 2010, a total of 52 school principals had agreed to participate. These 52 schools were randomized to program and control statuses and notifications to principals began on September 1, 2010. Two school districts declined to participate, despite principal approval, leaving 24 program schools (and 26 control schools) participating in the study.

Difference-in-difference model for impacts estimates

The precision of the analysis is increased by use of differencing to compare trends in outcomes over several cohorts of students at program and control schools.

The analysis calculates the change in outcomes at program schools (the difference in the proportion of the 2010-11 Grade 12s experiencing an outcome compared to earlier cohorts of Grade 12s at the same school). It calculates the equivalent change at control schools and subtracts this from the change at program schools to derive the final impact estimate.

SRDC and Professor Oreopoulos also designed and developed the content, materials and Web site² components of the three workshops that would deliver the intervention (See Ford et al., 2013).

The design of *Life After High School*

Life After High School was designed essentially as a multi-media information package to be delivered to all Grade 12 students in program schools in a sequence of three workshops and in sufficient numbers to allow every Grade 12 student at the program schools to attend, with mandatory attendance expected. Each workshop was expected to be of 60-70 minutes in duration in computer-equipped classrooms.

² Content developers and subcontractors were engaged from April 2010 to June 2011, working on a Web site that incorporated videos on the benefits of postsecondary enrolment, a financial calculator, and a “Choose Your Program” feature.

Fifty high schools in British Columbia with low rates of postsecondary participation took part in the project by agreeing to run multiple sessions of three different 70-minute workshops for Grade 12 students during class time. About half these schools were selected at random as implementation sites. The others continued with normal Grade 12 schedules. The workshops provided information about the benefits of post-secondary education; step-by-step practical assistance about how to apply for post-secondary education and for student financial aid.

1 Workshop

2 Workshop

3 Workshop

When:

Late October-November 2010

Purpose:

Provide students in program schools with information on different types of post-secondary education, descriptions of local college and university programs, occupational opportunities and other expected benefits. It also included an overview of how much the programs would cost when attended close to home or away from home, and the role of financial aid in budgeting.

Activities:

Information was presented using a mix of video, printed material and a project Web site. Students were directed to use a project-developed financial aid calculator.



When:

Two to five weeks after workshop 1.

Purpose:

Assist students in selecting and applying to at least one public post-secondary program.

Activities:

Students explored possible programs based on their interests, using the "Where would you go?" to interrogate the Web site's program database. Students applied to their chosen program with the application fees paid for by the project staff. The fees were paid online through use of a credit card issued by the project exclusively for this purpose. Students absent from the workshop or unable to complete the application process during the workshop could also pay using their own funds and then submit a request for reimbursement.



When:

May 2011

Purpose:

Design to help students with application for financial aid once the online aid application form became available.

Activities:

A short video was shown during the workshop which walked students through the student aid application form and assessment of post-secondary education affordability. Students completed the paper application form as far as possible during the workshop. An information package including the parent form was sent to parents – who were encouraged to view a video made specifically to inform them about the project and to guide their role in completing the application form at home.



The delivery of *Life After High School*

The three classroom workshops took place during school hours at program schools. Marketing materials were sent at the start of the school year to introduce the program to students, parents, and teachers. Information sheets were handed out to Grade 12 students containing general information about the purpose of the project and the intention to inform and assist students in applying to at least one postsecondary education institution and for financial aid. Information letters were also distributed to parents, through the schools' regular newsletter. Posters were sent to schools, and an internet web link to a general information page about the program was added to each school's Web site (subject to permission from the principal).

The main treatment involved school counsellors or SRDC-hired facilitators delivering sequenced sets of three 70-minute workshop sessions in computer-equipped labs.³ A sufficient number were held such that all Grade 12 students at each program school had the opportunity to be present at each of the three types of workshop sessions. For example, at a school with 200 students and a maximum capacity of 30 in a single computer lab, seven sets of the three workshops (21 sessions in total) were conducted.

In essence, the intervention was designed to instruct students to consider postsecondary education and to help them learn how to make it part of their future through hands-on instruction to every student to complete the process of applying. Engaging with the tasks carried no risk, provided students were aware that their applications could be accepted or rejected. The intervention left students at a minimum better equipped with the experience, knowledge and confidence to apply for a second time. Of course many applied, when in the absence of the intervention, they would not have done so. The study measures the impact of these additional applications on student outcomes.

Participation in *Life After High School*

Across the 24 program schools, 165 or more sessions of each workshop type, 581 workshops in total, were run. The intent was to simulate a mandatory program. Thus, schools were asked to require attendance in one of each type of the three sequenced sessions. Although the number of workshop participants (at 4,758) came close to matching the total headcount of graduating classes (at 4,809), there was considerable non-attendance at the second and, especially, third workshops.

By the second workshop participation had declined, and about 25 per cent of students who registered with *Life After High School* in workshop 1 did not complete a paid application. This may not all be due to non-participation. Some students attended, but chose not to complete an eligible application. Additionally, students faced computer login challenges, problems with online application forms (some pages froze during sessions) and a small proportion was not interested in

³ Most BC schools are equipped with computer labs featuring multiple workstations. Of the three proposed workshops, the second was the most dependent on individual access to the internet for each student in the class.

applying to a BC public institution, because they had firm alternate plans. However, most of the shortfall was because students did not attend the workshop sessions.

The drop off in participation continued in workshop 3. The feedback from schools indicated that although all students were aware of workshop 3, some elected not to attend when their class was scheduled, due to other priorities (e.g., exam preparation) or anticipation that the sessions would not be of specific use to them. An estimated 2,068 students attended workshop 3 and there was evidence from StudentAid BC that just 301 submitted the project's paper application forms – about 15 per cent of estimated attendees. The most likely scenario is that many students who attended workshop 3 abandoned their paper applications and submitted online applications instead in June when the online forms became available or later in the year when their postsecondary plans became clearer. Postsecondary enrolment and student aid receipt rates findings (Ford et al., 2013) substantiate this scenario.

2.3 Context of this report among other reports

This report presents the impacts of *Life After High School* on secondary and postsecondary outcomes to the extent that could be observed by the completion of the third year of postsecondary studies, assuming continuous school attendance and conventional progress. It relies on data from academic years 2004/2005 through to 2013/2014, and thus adds two extra academic years of data to the “*Impact of Lowering Non-financial Barriers on Access to Post-secondary Education*” report (Ford et al., 2013).

- In addition to updating the results in Ford et al., 2013 with respect to initial enrolment in university and/or college, this report also analyzes persistence separately for university and college.
- As the project's design and implementation phases are over, the report concentrates on presenting impacts on postsecondary outcomes, drawn from administrative data.
- New results in this evaluation report are focused on the impacts attributable to the *Life After High School* program.

The next section provides an overview of the *Life After High School* research sample and outcomes of interest. Sections 2.5 presents the methodology, section 2.6 presents the evaluation results and section 2.7 concludes the report, synthesizing the analysis of results.

2.4 Overview of research samples and outcomes of interest

Research samples

Data was collected from several sources to support the evaluation of *Life After High School*. This included an educators' survey from both program and control schools, two focus group sessions, and administrative data comprising high school records and postsecondary enrolment. Most of these data were featured in analysis work on the previous report.

Administrative data were provided by BC Student Transitions Project, which includes secondary school records for Grades 10 through 12 for program and control schools for four cohorts of Grade 12 students (i.e., for Grade 12 students in the program year 2010-11 and three years prior 2007-8, 2008-9 and 2009-10) as well as – for all cohorts recorded postsecondary enrolment in BC public institutions and receipt of financial aid. This report continues the analysis of postsecondary records data for three more years after the immediate transition year. Again, the BC Student Transitions Project provided postsecondary records covering the 2002/2003 to 2014/2015 academic years.

Outcomes of interest

The outcomes of interest cover four years of postsecondary studies, assuming continuous school attendance and progression to postsecondary education. There are three types of outcomes of interest to be discussed in the results sections below and included in more detailed tables in the report appendix:⁴

- Impact on postsecondary enrollment
 - By type of institution (university, college or apprenticeship)
 - Duration of enrollment
 - Program switches
- Impact on use of Student Financial Aid
 - Receipt and amounts of aid received
- Impact on postsecondary graduation

2.5 Methods of analysis

For *Life After High School*, the study population comprised Grade 12 students at 50 schools with traditionally low postsecondary transition rates and where principals had expressed an interest in participating. Each of these eligible schools was assigned at random either to receive the intervention or not. By randomizing schools to the treatment rather than students, the study simulated appropriately the group collaboration and peer effects likely (alongside individual effects) when all Grade 12 students in a school can take part in the intervention. Changes over time in the outcomes of the Grade 12 students at program schools (the schools allocated to the intervention) were compared to the equivalent changes at control high schools where no Grade 12 students could receive the intervention. Across the 24 program schools, 4,758 Grade 12 students

⁴ All analyses were also performed for the Impact of *Life After High School* on high school graduation using updated high school graduation data. However, these results are not shown in the figures of this report. Important patterns of high school graduation rates are noted in footnotes to the text.

participated in at least some of the intervention. This compares to a graduating cohort of 4,809 students at these schools.

A simple experimental analysis to compare outcomes at program schools to those at control schools is imprecise with just 50 units of assignment (schools), so the difference-in-difference estimation technique is employed to improve the precision of experimentally-derived impacts, taking advantage of administrative data that are available for multiple cohorts.

In this methodology, a great deal of the variation in outcomes that naturally occurs between schools – and which is due to ongoing differences at the school level – such as the socio-demographic characteristics of the neighbourhood, the quality of the school library or principal – can be netted out of the estimate of the program impact. Outcomes such as postsecondary education transition rates for program group schools for the (untreated) cohorts of Grade 12 students prior to the intervention are subtracted from the outcomes for the (treated) program-group cohort that received the intervention. A similar subtraction (or difference) is done for the equivalent cohorts in the control schools. The average difference in the control group is then subtracted from the average difference in the program group to estimate the impact of the intervention. The interventions' impacts on post-secondary enrolment are estimated for the full research sample as well as for selected subgroups. The four subgroups of interest investigated are as follows: Aboriginal status; gender; quality of intervention implementation; and a categorization of students' propensities to graduate high school and attend postsecondary education (based on a statistical model).

The methodology used for analysis controls for a wide range of observed and unobserved differences between cohorts of students at treated and untreated and yields very precise estimates compared to other approaches. To a large degree, this method avoids the risk of attributing program effects to a treatment when differences in outcomes could in fact arise from variations between students due to something other than the treatment.

2.6 Evaluation results

Impacts were estimated for the full research sample as well as for selected subgroups. Four subgroups of interest were investigated: Aboriginal status; gender; implementation completion; and the propensity to graduate high school and attend postsecondary education. The previous report described impacts on the first year of postsecondary education after the implementation of the *Life After High School* program. This report extends this impact analysis to include three additional years of postsecondary education outcomes.

Unexpectedly, 2011-12 was a year of lower postsecondary participation in BC than previous years – at least as far as the students from lower-transition schools were concerned. This trend is picked up in the transition rates of students from control schools over time. This means that positive impacts of the program on students in program schools do not necessarily manifest as 'increases' in postsecondary participation. Rather the program can have a positive impact merely by reducing or arresting the rate of decrease in postsecondary participation, relative to control schools.

Impact of *Life After High School* on Postsecondary Enrollment

***Life After High School* had no significant impacts on students enrolling in postsecondary education⁵ overall, but did increase the rate of university enrollment.** The proportions enrolling in post-secondary education are reported in Figure 1. The **red trend line** represents the program schools with the starting point of the line showing the proportion of earlier cohorts of Grade 12 students (cohorts before the offered *Life After High School*) and the ending point of the line showing the proportion of 2010/11 cohort students (when Grade 12 students from program schools were offered *Life After High School*).

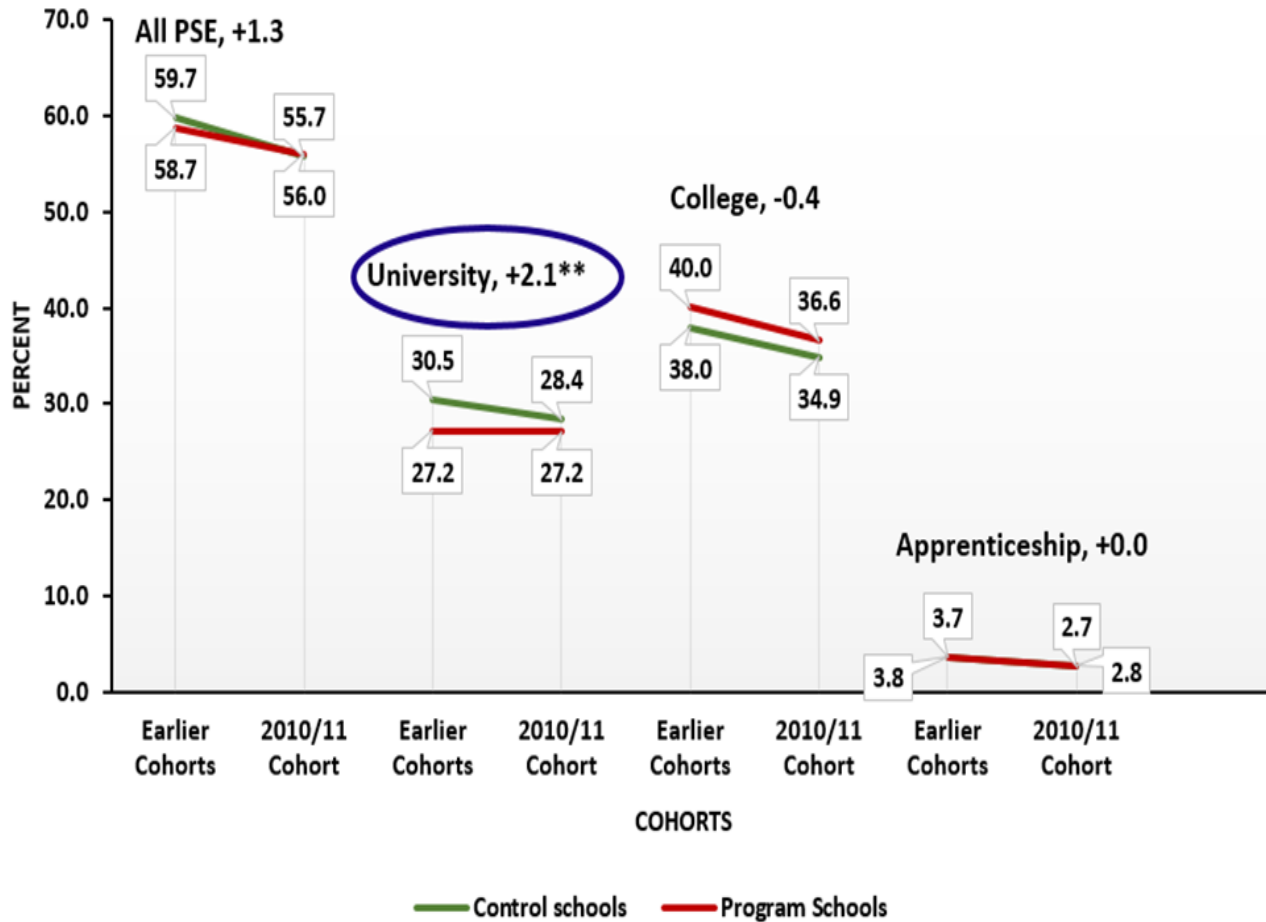
Similarly, the **green trend line** represents the control schools with the starting point of the line showing the average postsecondary enrolment for earlier cohorts of Grade 12 students (cohorts before the one offered *Life After High School*) and the ending point of the line showing the average for the 2010/11 cohort (among whom Grade 12 students from program schools were offered *Life After High School*). It is expected that the impact of *Life After High School* should arrest or alter the direction of the trend line for the program schools relative to the control schools.

As shown, postsecondary enrolment drops from 58.7 per cent (earlier cohort of Grade 12 students) to 56.0 per cent (2010/11 cohort of Grade 12 students) in the program schools. A similar trend was observed for the control schools, a drop from 59.7 to 55.7 per cent respectively. The green and the red trend lines are closely matched suggesting, as in the previous report, that there are no significant impacts on postsecondary education enrolment over the four years after Grade 12.

Life After High School did significantly increase university enrolments. The trends for university enrolments depicted in Figure 1 shows that enrollment rates were declining overall in the target schools, but *Life After High School* helped to arrest the decline in the program schools. A small impact on University enrolment rates (of 2.1 percentage points) was observed. Whereas, no impacts were observed for public college and apprenticeship programs postsecondary enrolment.

⁵ The sum of the proportion enrolled in each post-secondary education type is not equal to the proportion enrolled in post-secondary education because of institutional switching. For example a student can enrolled in one type of post-secondary institution (university, college or apprenticeship) in one year and switch institution in another year.

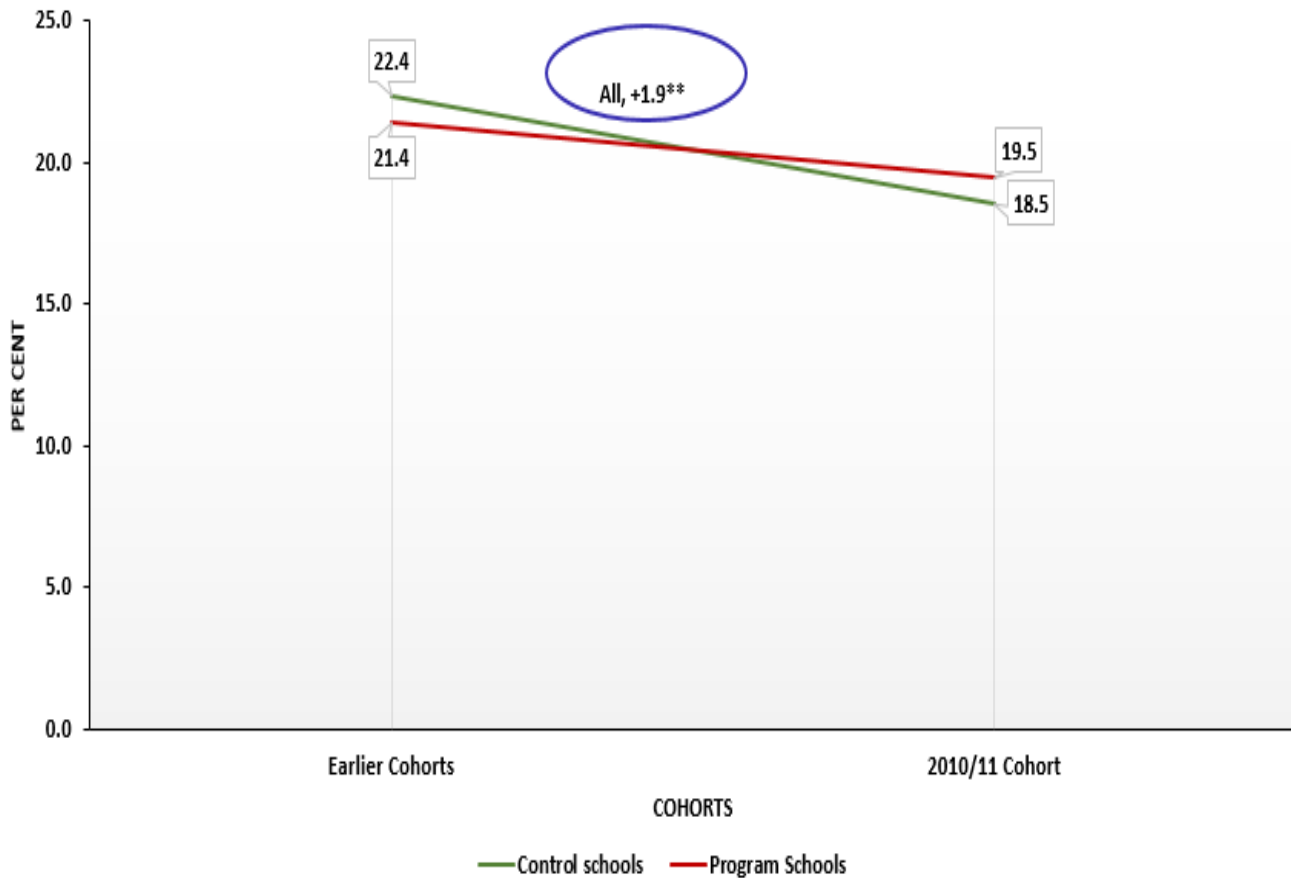
Figure 1 *Life After High School* significantly increased university enrollment



Impact of *Life After High School* on student financial aid

Students offered *Life After High School* were significantly more likely to receive financial aid. While *Life After High School* had no impact on postsecondary enrolment, the program increased the use of financial aid by 1.9 percentage points for students from the program group (See Appendix Table A1). Furthermore, an interaction of postsecondary enrolment and financial aid shows an increase in students making use of financial aid to go to university. This result is consistent with findings in the previous report. However, the decrease in college enrolment without financial aid seen in the previous report appears to have been short-lived (see Appendix Table A1).

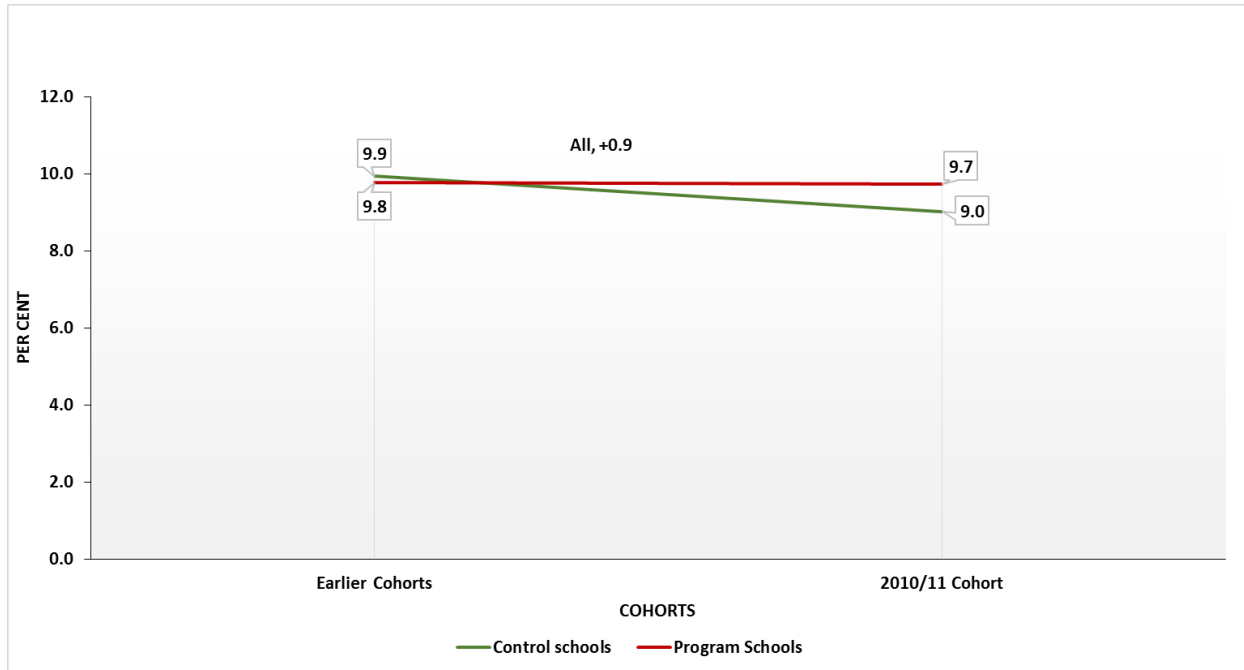
Figure 2 *Life After High School* significantly increased receipt of student financial aid



Impact of *Life After High School* on Postsecondary Graduation

Overall, *Life After High School* had no significant impacts on the proportion of students becoming postsecondary education graduates. Figure 3 reports the proportion of students graduating from postsecondary education within the three years immediately following Grade 12. The proportion of students from control schools who became graduates declined over the period, while at schools offering *Life After High School* the proportion becoming graduates remained stable. It is possible that *Life After High School* contributed in a small way to arrest the decline in the proportion of Grade 12 students becoming postsecondary graduates, but the difference was not statistically significant.

Figure 3 *Life After High School* did not significantly impact postsecondary graduation rates



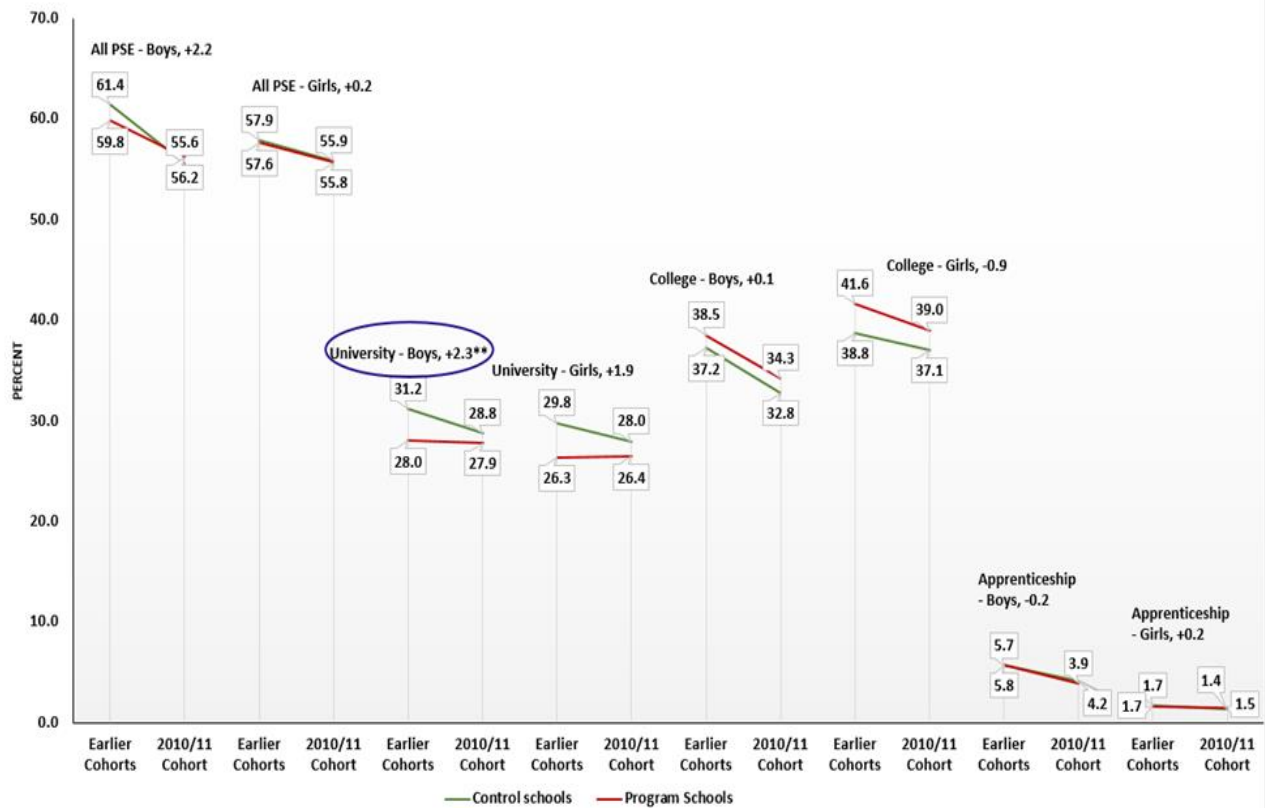
Subgroup impacts

In addition to looking at overall impacts, the evaluation estimated impacts by gender, Aboriginal status, by a set of students' characteristics indicating propensity to attend postsecondary education and by the quality of implementation of the program prevailing in their school district. As in the previous report, the first two groups are of particular interest, since they consist of segments of the population – boys and Aboriginal youth – who historically have lower postsecondary access rates. Because the extent to which the study hypothesis has been fairly tested can be affected by the extent to which the intervention was fully implemented, the impacts of *Life After High School* were also evaluated by districts with higher and lower program fidelity.

Gender

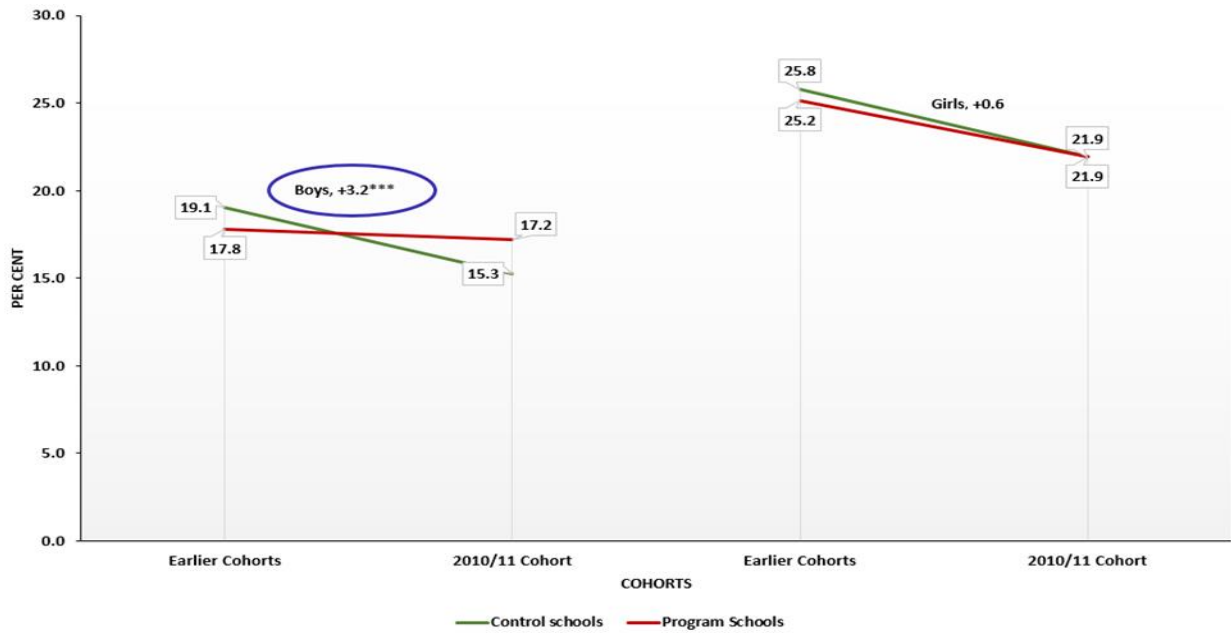
Overall, *Life After High School* did not lead to difference in postsecondary education enrolment by gender. However, the program induced a significantly higher proportion of boys to enrol in university than would have happened in its absence. The proportions enrolling in postsecondary education by gender are reported in Figure 4 for control schools and program schools. As shown in Figure 4, the proportion of boys enrolling in university programs dropped from 59.8 per cent (earlier cohort of Grade 12 students) to 56.2 per cent (2010/11 Grade 12 cohort) in the program schools compared to a bigger drop from 61.4 per cent to 55.6 per cent respectively in the control schools.

Figure 4 *Life After High School* significantly increased university enrollment for boys



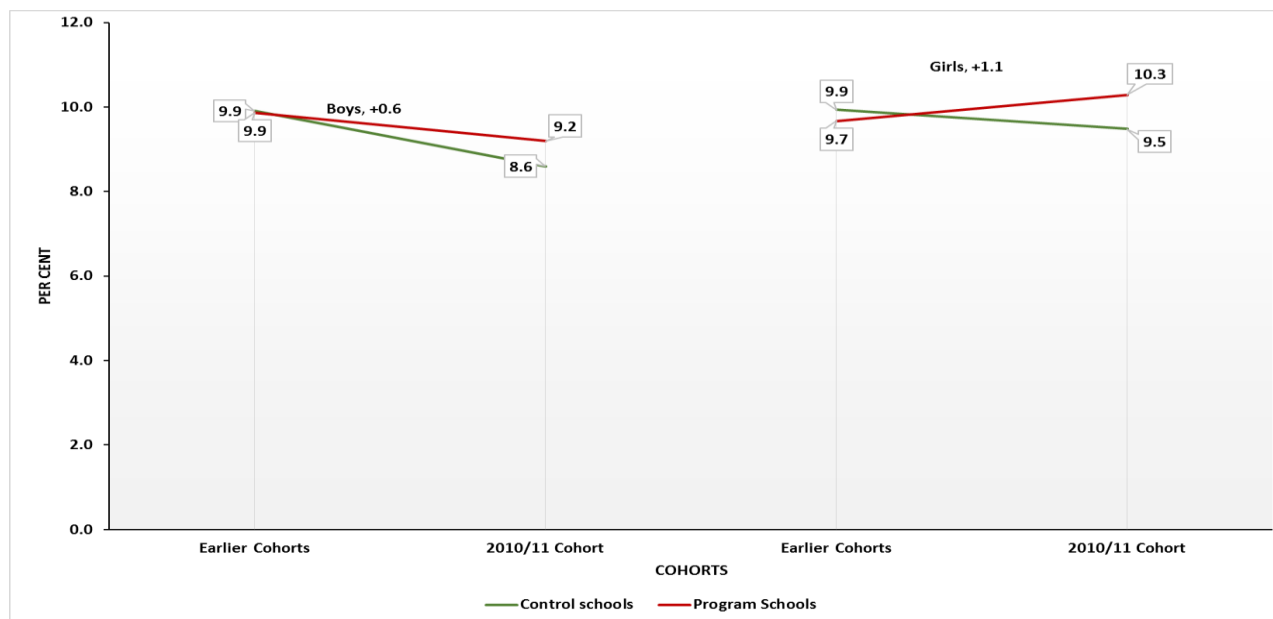
***Life After High School* also encouraged a higher proportion of boys to receive financial aid than would have happened in its absence.** The program increased the use of financial aid by 3.2 percentage points for boys and the average amount received was \$475.87 higher than in the absence of the program. This four-year amount is understandably higher than the \$154.42 reported in the previous report for financial aid receipt in the one postsecondary year following immediately after Grade 12. Note that the amount received is an average across all program group students meaning that the average amount of the increase across the roughly one in five actually receiving aid would be five times higher. Like findings in the previous report, the program did not influence significantly the amount of aid received by girls in the program group. Girls were already much more likely to take up student aid.

Figure 5 *Life After High School* significantly increased receipt of student financial aid for males



***Life After High School* had no impacts on postsecondary graduation regardless of gender.** As shown in Figure 6, the proportion of boys from program schools graduating from postsecondary education dropped from 9.9 per cent (earlier cohort of Grade 12 students) to 9.2 per cent (2010/11 Grade 12 cohort). At control schools, the drop was from 9.9 per cent to 8.6 per cent. The proportion of girls from program schools graduating increased from 9.7 per cent to 10.3 per cent. At control schools, the drop was from 9.9 per cent to 9.5 per cent. The differences between genders were marginal and not significant.

Figure 6 *Life After High School* did not significantly impact postsecondary graduation for boys



Aboriginal Status

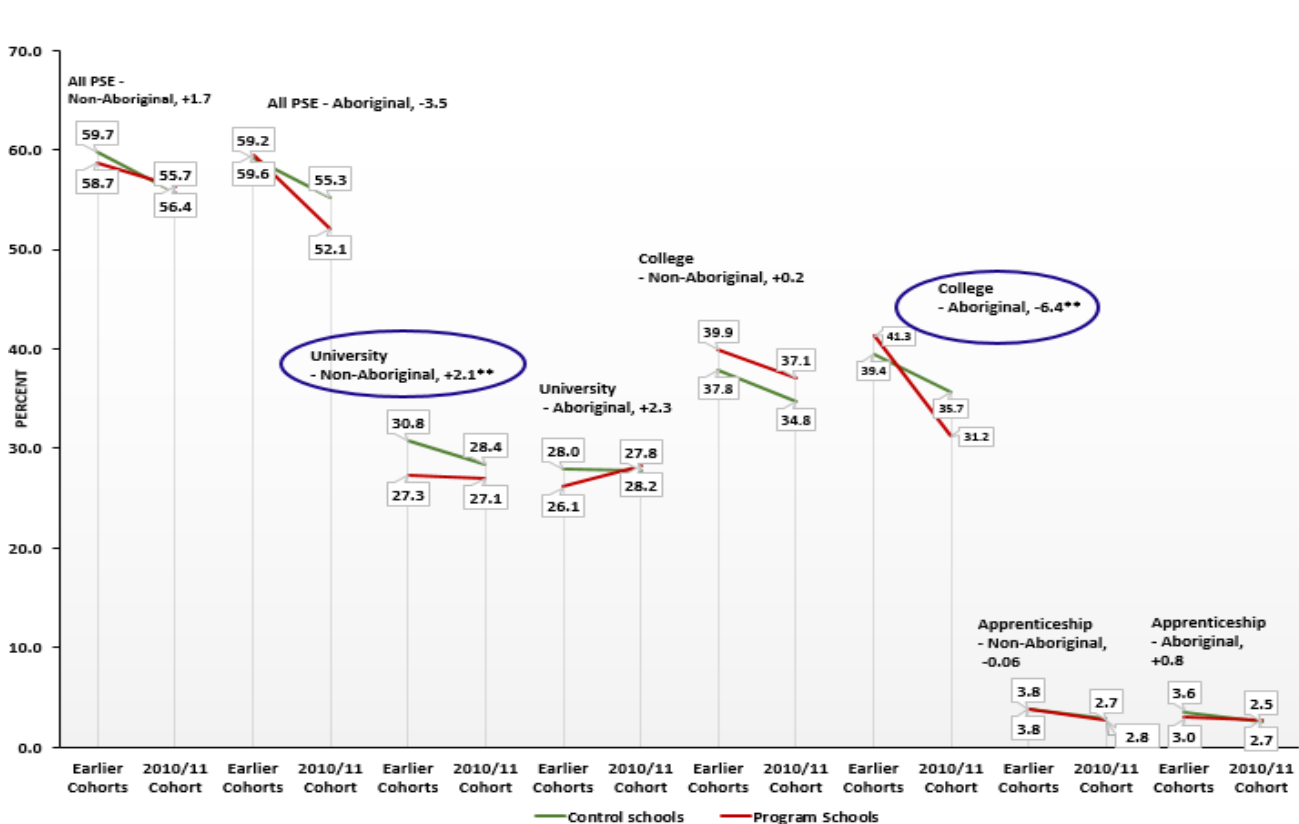
***Life After High School* had no significant impact on postsecondary enrolment among Aboriginal students overall, but had an adverse effect on college enrolment.** Figure 7 shows that, compared to Aboriginal students in control schools, there was a drop of 6.4 percentage points in Aboriginal students from program schools enrolled in college. The program's impact was also 6.6 percentage points lower than the impact observed for non-Aboriginal students (see Appendix Table A5). Similar results were obtained for the Aboriginal subgroup in the previous report. Under the program Aboriginal students were significantly less likely to enrol immediately in postsecondary education than they were in the absence of the program (Ford et al., 2013).⁶ However, results for non-Aboriginal students, who make up about 90 per cent of the student population in the study, include a statistically significant 2.1 percentage point increase in university education enrolment for program schools compared to control schools (Figure 7).

Perhaps the most notable finding in Figure 7 has little to do with *Life After High School*. It seems that among students from British Columbia's low-transition schools, Aboriginal students enter

⁶ This pattern of results for Aboriginal and non-aboriginal students is similar to the effect of *Life After High School* on high school graduation. Even though the program had no impact on all high school graduation three years following the Grade 12 year, Aboriginal students were significantly less likely to graduate high school than they would have been in the absence of the program (Table A6). Also, Aboriginal students were significantly less likely to graduate high school compared to non-aboriginal students.

postsecondary education at rates very similar to non-Aboriginal students. In fact, for the 2010-11 Grade 12 in program schools, participation in university was marginally higher for Aboriginal students than for non-Aboriginal students. In this context, Aboriginal students in these schools who reach Grade 12 may not represent such a critical target group.⁷

Figure 7 *Life After High School* had an adverse effect on Aboriginal students college enrollment



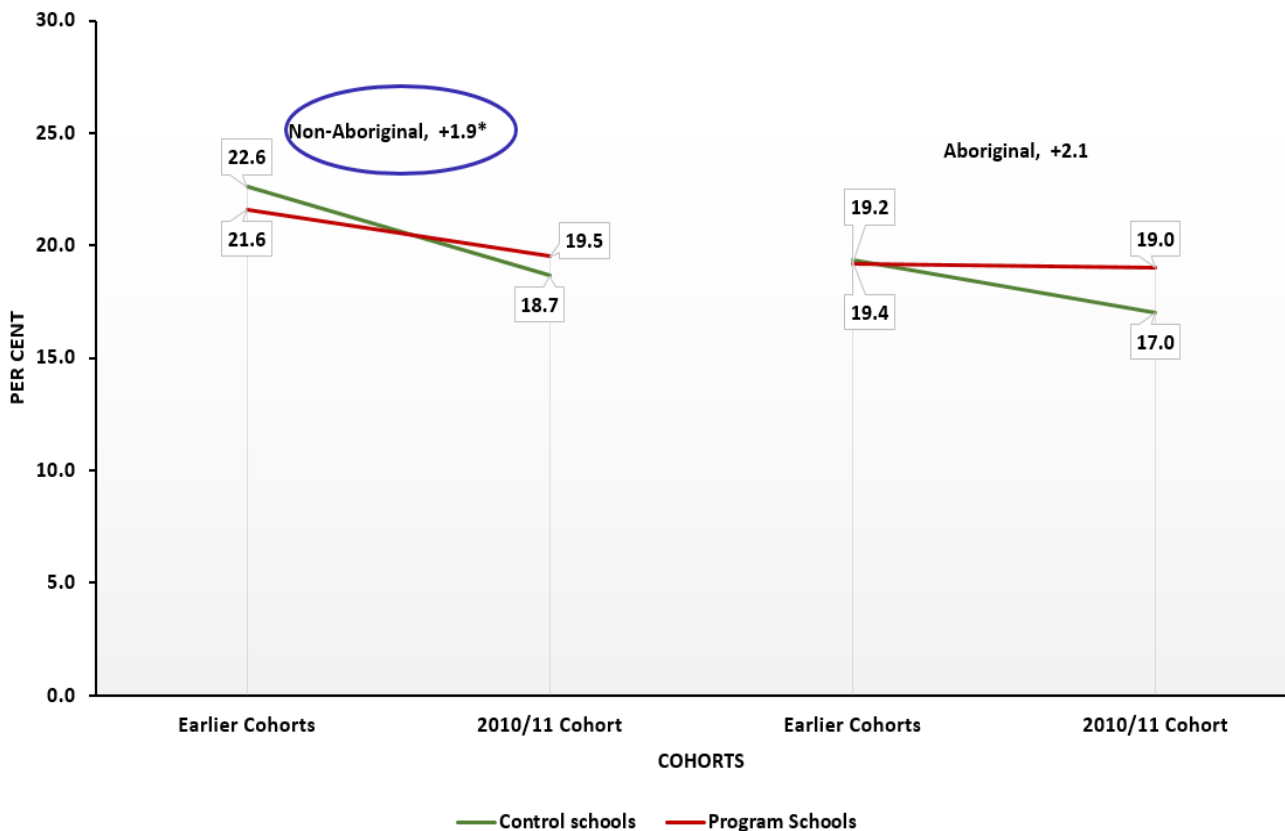
***Life After High School* had no significant positive impacts on the proportion of Aboriginal students using student financial aid and in the amounts of student financial aid received.** Despite findings in the previous report that there was a noticeable increase in the proportion of Aboriginal students receiving student financial aid for postsecondary education and an increase in the average amount of aid received after the immediate transition year, these impacts did not persist over the three years that followed. Results for non-Aboriginal students, show a significant

⁷ More generally for Canada, Mendelson (2006) has noted that Aboriginal students who graduate high school do achieve equivalent postsecondary participation to non-Aboriginal students. The overall low rates of participation in postsecondary education among Aboriginal students are in fact due to low high school completion rates rather than low postsecondary transition rates among graduates.

increase of 1.9 percentage points on receipt of financial aid, and the average amount of aid increased by \$181.11 (See Appendix Table A6).

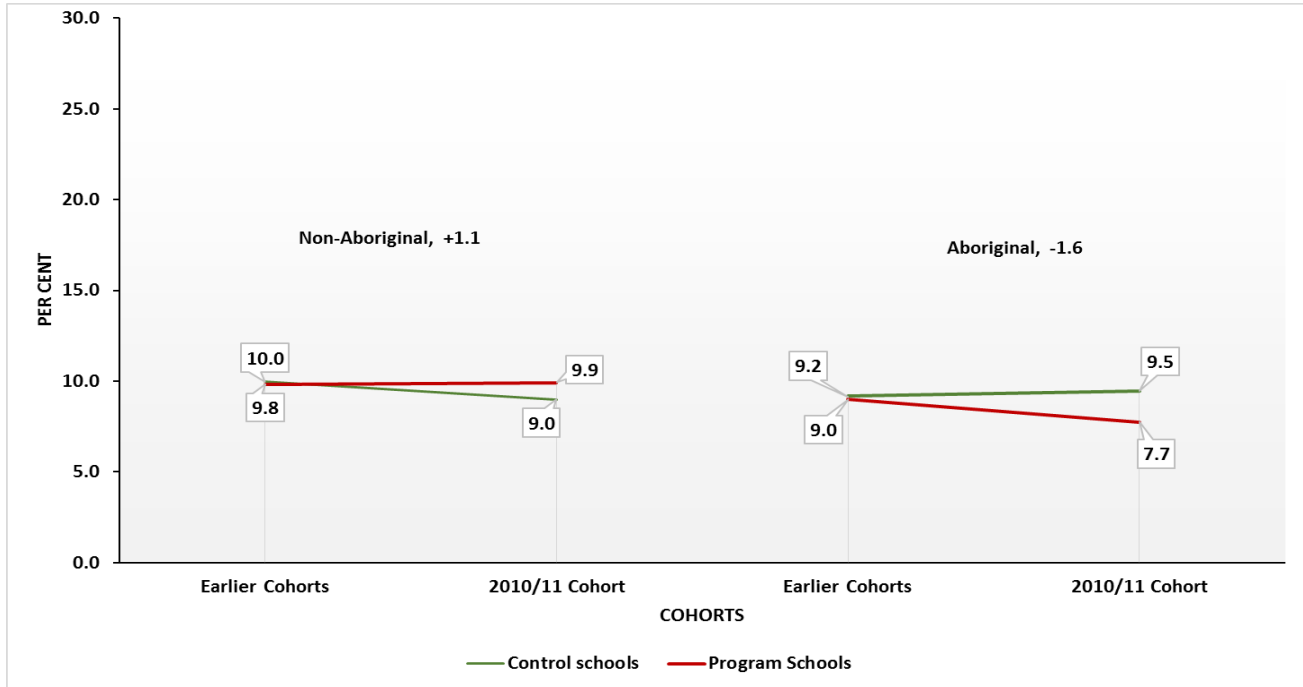
The small sample size for Aboriginal students may mean impact estimates of similar magnitude are found statistically significant for non-Aboriginal students but not for Aboriginal students.

Figure 8 *Life After High School* marginally increased receipt of student financial aid by non-Aboriginal students



***Life After High School* had no significant impact on postsecondary graduation rates of Aboriginal students overall.** Figure 9 shows that, in the program schools the proportion of Aboriginal Grade 12 students going on to graduate postsecondary education dropped from 9.0 per cent (earlier cohort of Grade 12 students) to 7.7 per cent (2010/11 cohort of Grade 12 students). The opposite trend was observed for the control schools, an increase from 9.2 to 9.5 per cent. This difference was not significant, but in line with the observed effect of *Life After High School* on Aboriginal students on college enrolment. Note that any impact on university graduation would not be seen in the three year window of postsecondary outcomes observed for this report.

Figure 9 *Life After High School* had no effect on Aboriginal students postsecondary graduation rates overall

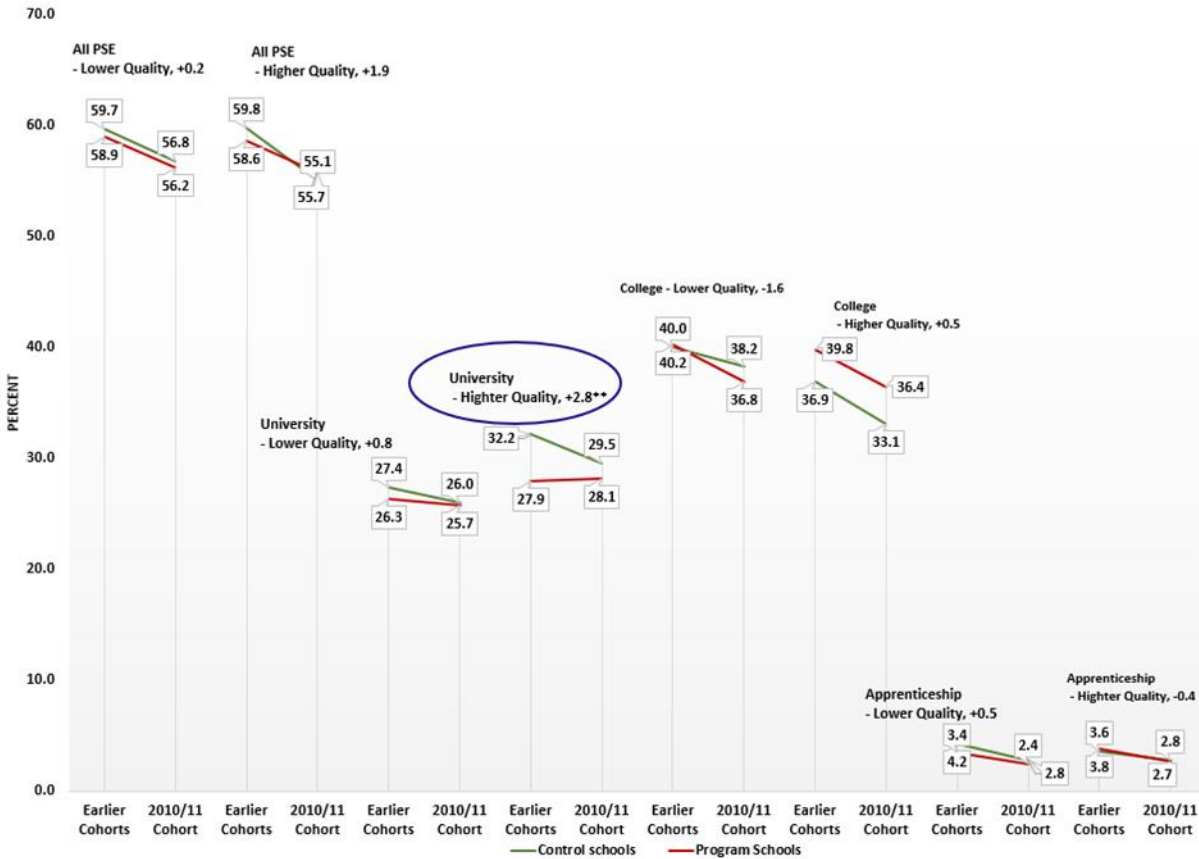


Implementation quality

Using the proportion of Grade 12 students in program schools whose applications were paid for by *Life After High School* as a measure of how well the intervention was implemented, school districts whose program schools averaged a project-paid application rate of 70 per cent or higher were deemed “high implementation” districts (higher quality). Schools in high and low quality implementation districts were compared to see whether results differed in line with this measure of implementation. It should be noted that if other factors besides program fidelity vary between these groups of schools (like school board education policies) the differences in program impact may not wholly be due to implementation differences.

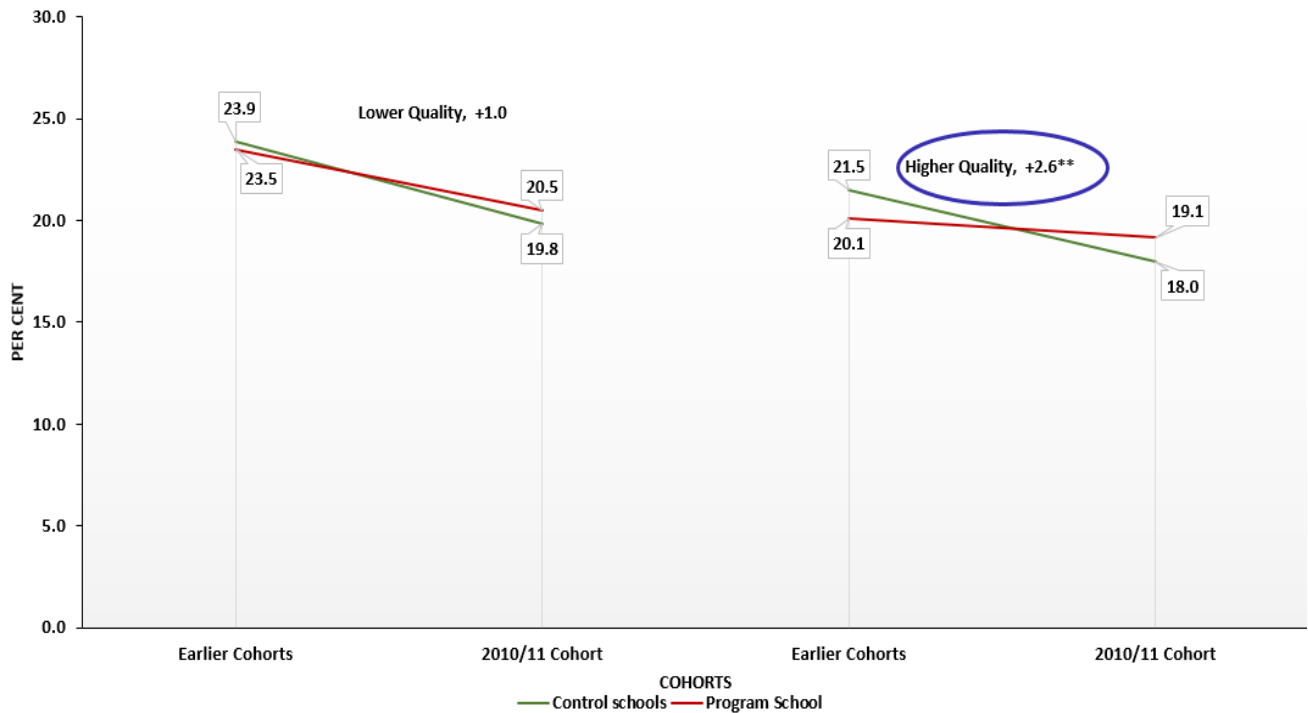
There were no impacts on all postsecondary education enrolments regardless of implementation quality. However, impacts were observed on university enrolment in school districts with project-paid application rates of 70 per cent or higher. In “high implementation” districts, 2.8 percentage points more students enrolled in university programs than in the absence of the program (Figure 10). In other words, positive impacts seen in this extended analysis were concentrated in higher quality implementation sites.

Figure 10 *Life After High School* significantly increased university enrollment for high implementation school districts



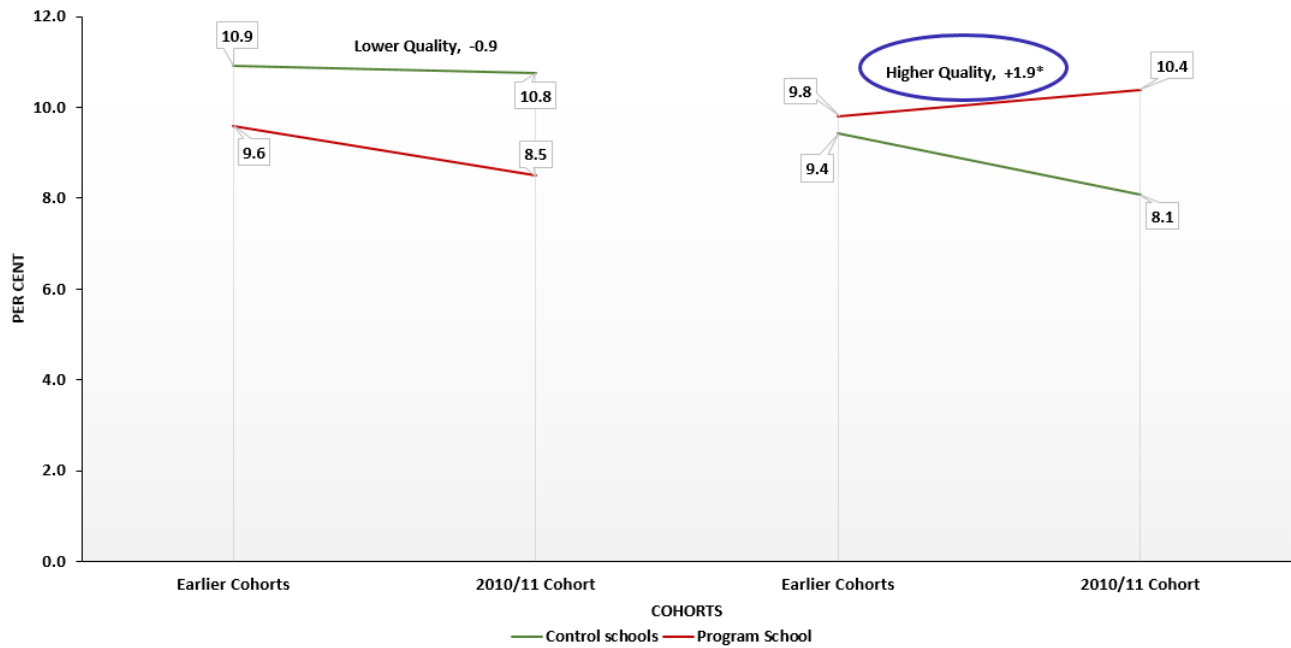
As reported previously, positive impacts observed on the receipt of financial aid in the full sample were only evident in school districts with project-paid application rates of 70 per cent or higher. Figure 10 shows that in “high implementation” districts, significantly more students received aid (by 2.6 percentage points) and the average amount of aid was \$261.05 higher than in the absence of the program. Notably, in those high implementation districts, students shifted towards enrolment in university programs with financial aid, away from enrolment without aid (See Appendix Table A7).

Figure 11 *Life After High School* significantly increased receipt of student financial aid by high implementation school districts



***Life After High School* significantly increased the proportion of students becoming postsecondary graduates in school districts with project-paid application rates of 70 per cent or higher.** Figure 12 shows a marginally significant increase in the proportion of students who became graduates from postsecondary education within the three years immediately after Grade 12 (an increase of 1.9 percentage points) in “high implementation” districts, While marginally significant, this finding suggests that – with more thorough implementation of the program – the number of postsecondary graduates can be increased by a quarter.

Figure 12 *Life After High School* marginally increased postsecondary graduation rates for high implementation school districts



Propensity to graduate and enroll in postsecondary education

If *Life After High School* were to have an impact on enrolment, the expectation is that it would affect students differently depending on how prepared they were already to attend postsecondary education. We consider here students who are on the margin of going to postsecondary education (meaning they are likely to qualify but it is unclear whether or not they would go), those who are not prepared for postsecondary education and those who are clearly predisposed to go on to postsecondary, even without the support of a new program. It is reasonable to expect that major impacts observed for *Life After High School* would be due primarily to students who would have a marginal likelihood to attend a postsecondary education program in the absence of the program. For students not likely to graduate high school, the impact of *Life After High School* is expected to be negligible, since the change in behaviour required for them to complete their studies and become eligible for a postsecondary education is quite large.

Among students who would be expected to attend a postsecondary program without an intervention, the expected effect of a program like *Life After High School* would be on altering the type of program they attend and how it is financed. These expected variations in impacts were investigated using an estimate of the propensity to graduate high school and attend a postsecondary education program. The propensity to graduate high school and attend a postsecondary program in the absence of treatment was measured using a multinomial logistic

regression with the sample of students from earlier cohorts (i.e., 2007/08, 2008/09, and 2009/10), before *Life After High School* began.

The dependent variable for the model was a categorical variable of three possible outcomes after Grade 12:

- did not graduate from high school;
- graduated from high school but did not attend a public postsecondary program in BC;
- graduated and attended a public postsecondary program in BC.

Independent variables included gender, age, Aboriginal status, counts of courses taken and passed in Grades 10 and 11, grade point average in Grades 10 and 11, course marks for compulsory courses, selected popular courses, and several interaction terms with course marks. Using the generated propensity scores from this model, a “less likely to graduate high school” subgroup was defined as those with a propensity of not graduating high school greater than 30.9 per cent. The remaining sample was then split using the propensity of attending postsecondary education at 47.9 per cent, where “likely to graduate but not likely to attend postsecondary” are students with a propensity of less than 47.9 per cent and “likely to graduate and attend postsecondary” are those with a propensity of 47.9 or higher. The impact results for these three subgroups are presented in Appendix Table A9.

***Life After High School* had no impact on the three subgroups on all postsecondary education enrolment.** But for the subgroup “likely to graduate and attend postsecondary” enrolment in university programs increased significantly by 3.8 percentage points for program schools compared to control schools. For this same subgroup, receipt of financial aid was also 3.8 percentage points more than it would have been in the absence of the program. This increase was primarily concentrated in financing their university education. These are results expected from those “likely to graduate and attend postsecondary”. They imply that this implementation of *Life After High School* increased university enrollment and decreased other postsecondary choices among students already predisposed to attend postsecondary education. The program did not, by and large, achieve impacts for students positioned more marginally with respect to their likely postsecondary participation. However, for the subgroup who were predicted “likely to graduate and not attend postsecondary”, the program significantly increased the proportion graduating postsecondary education by 2.7 percentage points for program schools compared to control schools. This means the number of students from these schools graduating postsecondary increased by around 25 per cent.

2.7 Conclusions

The main evaluation results on the longer term consequences of exposure to the *Life After High School* program have not provided strong evidence to support the main hypothesis underlying development of the program, which is that “nudging” Grade 12 students to make applications to postsecondary education and for financial aid, will increase participation in postsecondary education. Rather, the results are somewhat consistent with findings from the previous report covering analysis up to one year following the program implementation. Overall, *Life After High*

School had no discernible impacts on postsecondary education enrolment four years after the implementation of the program. But small impacts were observed for university program enrolments. Overall, the program did not have any impact on graduating from postsecondary education within the three years immediately following Grade 12. Yet for a key subgroup, those who without the program were likely to graduate and not attend postsecondary, the proportion becoming postsecondary graduates increased by a quarter.

In general, students in schools offered the program were positively influenced to increase their use of financial aid: results that have persisted over time. Aboriginal students were less likely to enrol in college education than they were in the absence of the program. Nonetheless, the intervention did uniformly nudge those who would attend postsecondary education to make more use of student financial aid.

Reasons underlying the evidence of *Life After High School* impacts on enrolment to postsecondary education are not entirely clear. Some possible explanations could be as follows:

Postsecondary education enrolment shifts outside of the province of British Columbia. The program may have raised expectations about the affordability of studying outside BC, thus encouraging students to apply to and attend non-BC institutions or possibly even more expensive private institutions. Such programs are often eligible for student financial aid. The results for such students cannot be extrapolated from the current data, which only provides information for those enrolling in public BC institutions.

Rejection of submitted applications for programs or financial aid. The program may have encouraged students to make more ambitious applications for programs (more ambitious in terms of their academic entry requirements, distance from home or raised costs) and in turn possibly also altered the content of their needs assessments for student financial aid. If either of these types of applications were not sufficiently successful, the program may have encouraged the student to pursue a less attainable form postsecondary education than they would have otherwise, and thus reduced their likelihood of going.

The “nudge” theory may not hold with the version of the program implemented. It is possible that the theory underlying *Life After High School* does not hold for the program at the level of intensity implemented (three workshops which students were expected, but not mandated, to attend). The program meant students at low-transition schools were significantly more likely to apply, but those increased applications translated much less often than forecast into enrolment.

The last of these explanations is most plausible, though none of the three can be ruled out. This first implementation of *Life After High School* faced implementation challenges. It raised application rates by 35 per cent but there is no evidence to show whether or not those in the potentially marginal group most susceptible to the nudge of a program offer applied. Importantly, *Life After High School* implementation improved in later trials, with 75 to 80 per cent of high school graduates applying in participating Ontario high schools since 2011. The impacts observed in the first Ontario implementation are also more encouraging. For low transition schools in Ontario, *Life After High School* produced significant increases in postsecondary enrollment of 3 percentage points (5 percentage points among high school graduates). Thus the nudge theory may well apply at

higher participation levels than seen in BC, when applications are truly made the default. When more marginal students actively participate and apply, they have the chance to receive the program offers that they would not otherwise have received, and that the theory posits will make the difference in increasing postsecondary transitions. Later implementations may have done better in ensuring more such students applied.

These results illustrate the importance of testing program ideas at scale before moving to more widespread adoption. Not only does evidence on program effectiveness help guide future policy decisions, and targeting, but the challenges of implementation can be observed and potential solutions developed to improve future program delivery. The results included in this report have already contributed to refining the *Life After High School* model and improving its future implementation.

References

- Ford, R., Nicholson, C., Kwakye, I. and Hui, T.S.-W. 2013. *The Impact of Lowering Non-financial Barriers on Access to Post-secondary Education: Final Report*. Ottawa, ON: Social Research and Demonstration Corporation.
- Mendelson, M. 2006 *Aboriginal Peoples and Postsecondary Education in Canada* Ottawa: Caledon Institute of Social Policy.

Appendix A: Impact tables

Table A1: Adjusted impacts of *Life After High School BC* – PSE participation

Outcomes	<u>Control Group</u>		<u>Program Group</u>		Mean Impacts	S.E.
	<u>Means</u>		<u>Means</u>			
	Earlier Cohorts	2010/11 Cohort	Earlier Cohorts	2010/11 Cohort		
Enrolment in PSE in the 4 Years Following Grade 12						
Ever Enrolled in a PSE program (%)	59.68	55.70	58.72	56.00	1.26	(1.05)
Enrolled for only 1 Year (%)	11.01	11.85	11.37	11.96	-0.26	(0.69)
Enrolled for at least 2 Years (%)	48.68	43.85	47.35	44.04	1.52	(1.09)
Enrolled for at least 3 Years (%)	38.95	35.12	37.95	33.92	-0.20	(0.97)
Enrolled for 4 Years (%)	30.81	27.34	29.97	26.02	-0.48	(0.98)
Graduated within 3 years (%)	9.93	9.02	9.77	9.74	0.88	(0.69)
Dropout PSE after 1 year (%)	8.76	9.51	8.95	9.92	0.21	(0.53)
Dropout PSE after 2 years (%)	3.69	3.38	3.55	3.98	0.74	* (0.40)
Ever Enrolled in a University program (%)	30.51	28.36	27.19	27.16	2.12	** (0.83)
Enrolled for only 1 Year (%)	5.57	5.00	5.11	5.14	0.59	(0.55)
Enrolled for at least 2 Years (%)	24.95	23.36	22.08	22.02	1.53	* (0.79)
Enrolled for at least 3 Years (%)	20.59	18.87	18.02	17.48	1.18	(0.77)
Enrolled for 4 Years (%)	16.90	15.02	14.53	13.58	0.93	(0.80)
Graduated within 3 years (%)	0.02	0.02	0.04	0.03	-0.02	(0.03)
Dropout from the program after 1 year (%)	2.64	2.80	2.25	2.90	0.49	(0.36)
Dropout from the program after 2 years (%)	0.89	0.91	0.71	1.22	0.49	* (0.26)
Ever Enrolled in a College program (%)	37.97	34.86	40.04	36.59	-0.35	(1.01)
Enrolled for only 1 Year (%)	11.92	12.43	12.14	12.46	-0.19	(0.73)
Enrolled for at least 2 Years (%)	26.06	22.43	27.91	24.13	-0.15	(1.09)
Enrolled for at least 3 Years (%)	17.17	14.13	19.08	15.12	-0.91	(0.88)
Enrolled for 4 Years (%)	12.51	9.70	14.18	10.33	-1.04	(0.69)
Graduated within 3 years (%)	9.73	8.85	9.55	9.58	0.92	(0.67)
Dropout from the program after 1 year (%)	5.93	6.57	6.44	6.83	-0.26	(0.48)
Dropout from the program after 2 years (%)	2.98	2.67	2.91	2.96	0.36	(0.34)
Enrolled in Apprenticeship (%)	3.76	2.78	3.71	2.72	0.00	(0.44)
Enrolled for only 1 Year (%)	1.69	1.54	1.76	1.65	0.04	(0.32)
Enrolled for at least 2 Years (%)	2.08	1.23	1.95	1.07	-0.04	(0.29)
Enrolled for at least 3 Years (%)	0.76	0.35	0.74	0.16	-0.18	(0.15)
Enrolled for 4 Years (%)	0.12	0.02	0.09	0.00	0.01	(0.04)
Graduated within 3 years (%)	0.21	0.18	0.18	0.13	-0.02	(0.10)
Dropout from the program after 1 year (%)	1.07	1.29	0.98	1.35	0.15	(0.24)
Dropout from the program after 2 years (%)	0.58	0.78	0.57	0.85	0.06	(0.20)

Table A1: Adjusted impacts of *Life After High School BC* – PSE participation

Outcomes	Control Group		Program Group		Mean Impacts	S.E.
	Means		Means			
	Earlier Cohorts	2010/11 Cohort	Earlier Cohorts	2010/11 Cohort		
Switched PSE Program Type (%)	12.52	10.29	12.16	10.47	0.53	(0.64)
2 Types of PSE Programs (%)	12.48	10.29	12.11	10.47	0.55	(0.65)
3 Types of PSE Programs (%)	0.04	0.00	0.06	0.00	-0.02	(0.03)
Ever Received Financial Aid (%)	22.35	18.53	21.41	19.48	1.90	** (0.86)
Received for only 1 Year (%)	11.27	8.21	11.69	9.87	1.25	** (0.50)
Received for at least 2 Years (%)	11.08	10.31	9.72	9.60	0.65	(0.73)
Received for at least 3 Years (%)	6.06	5.83	4.95	5.10	0.38	(0.52)
Received for 4 Years (%)	2.83	2.64	2.17	2.42	0.44	(0.33)
Amount of Financial Aid (\$)	3,565	3,032	3,187	2,865	211	(197)
Interaction of Enrolment in PSE and Financial Aid						
PSE Program - Always with Financial Aid	6.22	5.19	5.58	5.35	0.80	(0.55)
PSE Program - Sometimes with Financial Aid	10.45	8.82	9.84	9.21	1.00	(0.69)
PSE Program - Always without Financial Aid	43.01	41.69	43.30	41.44	-0.54	(1.05)
University Program - Always with Financial Aid	4.54	3.62	3.74	3.76	0.94	*** (0.36)
University Program - Sometimes with Financial Aid	5.26	4.30	4.29	4.61	1.27	*** (0.39)
University Program - Always without Financial Aid	20.71	20.45	19.15	18.79	-0.10	(0.90)
Non-University Program - Always with Financial Aid	3.96	3.21	3.98	3.70	0.47	(0.37)
Non-University Program - Sometimes with Financial Aid	5.48	4.65	5.76	4.52	-0.41	(0.50)
Non-University Program - Always without Financial Aid	30.79	28.61	32.47	30.10	-0.19	(0.96)
College Program - Always with Financial Aid	4.04	3.25	4.04	3.76	0.52	(0.37)
College Program - Sometimes with Financial Aid	5.34	4.54	5.61	4.44	-0.37	(0.49)
College Program - Always without Financial Aid	28.59	27.07	30.40	28.39	-0.49	(0.89)
Apprenticeship - Always with Financial Aid	0.04	0.06	0.07	0.06	-0.02	(0.04)
Apprenticeship - Sometimes with Financial Aid	0.04	0.02	0.05	0.00	-0.03	(0.03)
Apprenticeship - Always without Financial Aid	3.68	2.70	3.58	2.66	0.06	(0.43)
Sample size	19,195	6,249	17,015	5,756		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A2: Adjusted impacts of *Life After High School BC* – during and right after high school

Outcomes	Control Group Means		Program Group Means		Mean Impacts	S.E.
	Earlier Cohorts	2010/11 Cohort	Earlier Cohorts	2010/11 Cohort		
Transition to PSE Right After Grade 12						
Enrolled in a PSE program (%)	44.52	42.39	43.61	41.54	0.06	(1.22)
Enrolled in a University program (%)	22.53	21.12	19.58	19.37	1.21	(0.86)
Enrolled in a College program (%)	24.13	22.34	26.36	23.90	-0.67	(1.08)
Enrolled in Apprenticeship (%)	1.22	1.00	1.06	0.85	0.02	(0.25)
Received Financial Aid (%)	8.83	8.63	7.73	9.56	2.02 ***	(0.68)
Amount of Financial Aid (\$)	723.14	696.75	619.52	733.88	140.74 **	(58.88)
Interaction of Transition to PSE and Financial Aid						
PSE Program with Financial Aid	6.41	6.42	5.46	7.26	1.80 ***	(0.62)
PSE Program without Financial Aid	38.11	35.97	38.15	34.28	-1.73	(1.11)
University Program with Financial Aid	4.10	3.89	3.06	4.27	1.42 **	(0.57)
University Program without Financial Aid	18.43	17.23	16.52	15.10	-0.22	(0.85)
College Program with Financial Aid	2.84	2.78	2.80	3.53	0.79 **	(0.32)
College Program without Financial Aid	21.29	19.55	23.56	20.37	-1.46	(1.02)
Apprenticeship with Financial Aid	0.02	0.03	0.04	0.02	-0.03	(0.03)
Apprenticeship without Financial Aid	1.20	0.97	1.02	0.83	0.04	(0.25)
Academic Performance (Grade 12 School Year)						
High school graduation within 3 years (%)	87.85	88.00	88.57	88.95	0.24	(0.72)
Sample size	19,195	6,249	17,015	5,756		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A3: Adjusted impacts of *Life After High School BC* – PSE participation, by gender

Outcomes	Male		Female		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Enrolment in PSE in the 4 Years Following Grade 12					
Ever Enrolled in a PSE program (%)	2.19	(1.38)	0.18	(1.54)	-2.01
Graduated within 3 years (%)	0.64	(0.93)	1.08	(0.92)	0.44
Ever Enrolled in a University program (%)	2.29	** (1.12)	1.92	(1.18)	-0.36
Ever Enrolled in a College program (%)	0.14	(1.32)	-0.94	(1.46)	-1.08
Enrolled in Apprenticeship (%)	-0.20	(0.85)	0.16	(0.20)	0.36
Switched PSE Program Type (%)	0.06	(0.90)	0.97	(0.90)	0.91
2 Types of PSE Programs (%)	0.08	(0.90)	0.99	(0.90)	0.90
3 Types of PSE Programs (%)	-0.03	(0.05)	-0.02	(0.02)	0.01
Ever Received Financial Aid (%)	3.16	*** (0.93)	0.63	(1.36)	-2.53
Amount of Financial Aid (\$)	475.87	** (221.64)	-44.97	(284.42)	-520.83
	9,847		9,349		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A4: Adjusted impacts of *Life After High School BC* – during and right after high school, by gender

Outcomes	Male		Female		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Transition to PSE Right After Grade 12					
Enrolled in a PSE program (%)	0.62	(1.50)	-0.60	(1.88)	-1.22
Enrolled in a University program (%)	1.68	(1.05)	0.71	(1.22)	-0.98
Enrolled in a College program (%)	0.07	(1.30)	-1.50	(1.59)	-1.57
Enrolled in Apprenticeship (%)	-0.09	(0.49)	0.12	(0.13)	0.21
Received Financial Aid (%)	2.47 ***	(0.83)	1.54 *	(0.86)	-0.93
Amount of Financial Aid (\$)	163.57 **	(74.75)	117.95	(83.02)	-45.62
Academic Performance (Grade 12 School Year)					
High school graduation within 3 years (%)	0.49	(0.94)	-0.02	(0.85)	-0.51
	9,847		9,349		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A5: Adjusted impacts of *Life After High School BC* – PSE participation, by Aboriginal status

Outcomes	Non-Aboriginal		Aboriginal		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Enrolment in PSE in the 4 Years Following Grade 12					
Ever Enrolled in a PSE program (%)	1.69	(1.09)	-3.47	(3.53)	-5.15
Graduated within 3 years (%)	1.12	(0.72)	-1.58	(1.94)	-2.71
Ever Enrolled in a University program (%)	2.11 **	(0.89)	2.29	(2.22)	0.18
Ever Enrolled in a College program (%)	0.21	(1.07)	-6.40 **	(2.85)	-6.62 ++
Enrolled in Apprenticeship (%)	-0.06	(0.44)	0.78	(1.38)	0.84
Switched PSE Program Type (%)	0.59	(0.68)	0.21	(1.65)	-0.37
2 Types of PSE Programs (%)	0.60	(0.69)	0.30	(1.64)	-0.30
3 Types of PSE Programs (%)	-0.01	(0.03)	-0.09	(0.08)	-0.07
Ever Received Financial Aid (%)	1.88 *	(0.99)	2.14	(2.31)	0.25
Amount of Financial Aid (\$)	181.11	(219.54)	486.73	(473.74)	305.62
	17,556		1,640		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A6: Adjusted impacts of *Life After High School BC* – during and right after high school, by Aboriginal status

Outcomes	Non-Aboriginal		Aboriginal		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Transition to PSE Right After Grade 12					
Enrolled in a PSE program (%)	0.11	(1.33)	-0.46	(2.84)	-0.57
Enrolled in a University program (%)	1.13	(0.92)	1.84	(1.96)	0.71
Enrolled in a College program (%)	-0.39	(1.09)	-3.56	(2.62)	-3.16
Enrolled in Apprenticeship (%)	0.06	(0.26)	-0.40	(0.62)	-0.46
Received Financial Aid (%)	1.95 ***	(0.74)	2.72 *	(1.44)	0.77
Amount of Financial Aid (\$)	128.57 *	(67.58)	259.22 *	(133.94)	130.65
Academic Performance (Grade 12 School Year)					
High school graduation within 3 years (%)	0.63	(0.74)	-3.92 *	(2.17)	-4.55 +
	17,556		1,640		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A7: Adjusted impacts of *Life After High School BC* – PSE participation, by implementation quality

Outcomes	Lower Quality		Higher Quality		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Enrolment in PSE in the 4 Years Following Grade 12					
Ever Enrolled in a PSE program (%)	0.19	(1.34)	1.85	(1.44)	1.66
Graduated within 3 years (%)	-0.93	(1.23)	1.93 **	(0.76)	2.86 +
Ever Enrolled in a University program (%)	0.80	(0.99)	2.84 **	(1.17)	2.04
Ever Enrolled in a College program (%)	-1.55	(1.74)	0.46	(1.20)	2.01
Enrolled in Apprenticeship (%)	0.48	(0.67)	-0.38	(0.55)	-0.86
Switched PSE Program Type (%)	-0.43	(1.10)	1.09	(0.76)	1.51
2 Types of PSE Programs (%)	-0.40	(1.11)	1.10	(0.77)	1.50
3 Types of PSE Programs (%)	-0.03	(0.05)	-0.02	(0.03)	0.01
Ever Received Financial Aid (%)	1.01	(1.13)	2.57 **	(1.12)	1.55
Amount of Financial Aid (\$)	173.18	(345.07)	261.05	(231.27)	87.87
	7,114		12,082		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A8: Adjusted impacts of *Life After High School BC* – during and right after high school, by implementation quality

Outcomes	Lower Quality		Higher Quality		Subgroup Difference
	Mean Impacts	S.E.	Mean Impacts	S.E.	
Transition to PSE Right After Grade 12					
Enrolled in a PSE program (%)	-0.78	(1.94)	0.49	(1.56)	1.27
Enrolled in a University program (%)	0.27	(1.49)	1.66	(1.03)	1.38
Enrolled in a College program (%)	-1.56	(1.93)	-0.08	(1.22)	1.48
Enrolled in Apprenticeship (%)	0.55	(0.45)	-0.33	(0.27)	-0.88 +
Received Financial Aid (%)	1.50	(0.94)	2.37 ***	(0.89)	0.87
Amount of Financial Aid (\$)	26.62	(90.79)	211.21 ***	(71.18)	184.59
Academic Performance (Grade 12 School Year)					
High school graduation within 3 years (%)	0.88	(1.23)	-0.07	(0.77)	-0.95
	7,114		12,082		

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Rounding may cause slight discrepancies in sums and differences.

Table A9: Adjusted impacts of *Life After High School BC* – PSE participation, by propensity to graduate high school and attend PSE

Outcomes	Not Likely to Graduate High School						Likely to Graduate but Not Likely to Attend PSE						Likely to Graduate and Likely to Attend PSE						Subgroup Differences
	Control Group		Program Group		Mean Impacts	S.E.	Control Group		Program Group		Mean Impacts	S.E.	Control Group		Program Group		Mean Impacts	S.E.	
	Earlier Cohorts	2010/11	Earlier Cohorts	2010/11			Earlier Cohorts	2010/11	Earlier Cohorts	2010/11			Earlier Cohorts	2010/11	Earlier Cohorts	2010/11			
Enrolment in PSE in the 4 Years Following Grade 12																			
Ever Enrolled in a PSE program (%)	51.77	50.04	51.13	50.38	0.98	(2.72)	57.74	51.97	55.85	50.91	0.83	(2.04)	62.36	59.01	61.83	60.07	1.58	(1.21)	
Graduated within 3 years (%)	9.29	8.90	8.77	10.18	1.79	(1.27)	9.57	7.60	8.57	9.31	2.71 ***	(0.92)	10.25	9.91	10.69	9.95	-0.41	(0.88)	++
Ever Enrolled in a University program (%)	27.08	27.08	26.82	25.36	-1.45	(1.03)	28.42	27.83	27.11	27.00	0.48	(0.97)	32.49	28.93	27.28	27.55	3.83 ***	(1.40)	++
Ever Enrolled in a College program (%)	31.54	29.59	31.93	31.96	1.98	(2.51)	37.09	31.99	36.08	32.18	1.19	(1.82)	39.69	37.60	43.94	40.09	-1.76	(1.33)	
Enrolled in Apprenticeship (%)	2.93	2.56	1.69	1.10	-0.21	(1.01)	3.73	1.61	3.15	1.99	0.95	(0.72)	3.93	3.52	4.42	3.45	-0.56	(0.52)	
Switched PSE Program Type (%)	9.77	9.17	9.29	8.02	-0.67	(0.96)	11.43	9.44	10.47	10.24	1.77 **	(0.80)	13.71	11.04	13.72	11.04	-0.02	(1.12)	+
2 Types of PSE Programs (%)	9.77	9.15	9.27	7.99	-0.67	(0.96)	11.38	9.41	10.44	10.22	1.74 **	(0.81)	13.66	11.06	13.64	11.07	0.03	(1.12)	+
3 Types of PSE Programs (%)	0.01	0.02	0.02	0.03	0.00	(0.01)	0.06	0.03	0.02	0.02	0.02	(0.03)	0.04	-0.01	0.08	-0.03	-0.05	(0.04)	
Ever Received Financial Aid (%)	16.64	14.94	15.45	13.83	0.07	(1.91)	20.58	16.82	20.25	15.80	-0.68	(1.20)	24.52	20.21	23.18	22.71	3.83 ***	(1.26)	++
Amount of Financial Aid (\$)	2,440	2,372	2,352	1,956	-328	(281)	3,148	2,702	2,854	2,386	-22	(217)	4,035	3,356	3,540	3,316	455	(290)	
			1,932						6,893						10,563				

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

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Table A10: Adjusted impacts of *Life After High School BC* – during and right after high school, by propensity to graduate high school and attend PSE

Outcomes	Not Likely to Graduate High School						Likely to Graduate but Not Likely to Attend PSE						Likely to Graduate and Likely to Attend PSE						Subgroup Differences			
	Control Group Means		Program Group Means		Mean Impacts	S.E.	Control Group Means		Program Group Means		Mean Impacts	S.E.	Control Group Means		Program Group Means		Mean Impacts	S.E.				
	Earlier Cohorts	2010/11	Earlier Cohorts	2010/11			Earlier Cohorts	2010/11	Earlier Cohorts	2010/11			Earlier Cohorts	2010/11	Earlier Cohorts	2010/11						
Transition to PSE Right After Grade 12																						
Enrolled in a PSE program (%)	39.98	39.76	40.09	36.24	-3.64	*	(2.16)	43.00	39.48	41.44	39.13	1.21	(1.80)	46.31	44.64	45.56	43.93	0.05	(1.68)			
Enrolled in a University program (%)	21.22	21.51	21.32	19.65	-1.97	**	(0.77)	21.18	20.89	20.43	20.07	-0.08	(0.75)	23.65	21.16	18.72	18.89	2.65	*	(1.43)	++	
Enrolled in a College program (%)	20.53	19.76	20.92	18.39	-1.76		(2.05)	23.66	20.29	23.05	21.37	1.69	(1.58)	25.06	24.07	29.38	26.41	-1.98		(1.33)		
Enrolled in Apprenticeship (%)	1.05	0.93	0.55	0.37	-0.05		(0.71)	1.38	0.82	0.97	0.95	0.53	(0.41)	1.15	1.12	1.20	0.88	-0.29		(0.26)		
Received Financial Aid (%)	6.18	7.00	5.90	4.34	-2.38	**	(1.00)	7.82	6.98	7.03	7.55	1.36	*	(0.70)	9.94	9.92	8.50	11.68	3.20	***	(1.02)	+++
Amount of Financial Aid (\$)	525	614	520	337	-272	**	(125)	622	557	547	633	151	**	(74)	823	797	682	864	208	**	(90)	+++
Academic Performance (Grade 12 School Year)																						
High school graduation within 3 years (%)	75.52	75.51	79.65	80.58	0.94		(2.91)	88.36	88.27	88.53	89.44	1.01	(1.54)	89.82	90.18	90.16	90.08	-0.44		(0.37)		
	1,932						6,893						10,563									

Source: Administrative data from Student Transitions Project, BC Ministry of Advanced Education and BC Ministry of Education.

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