Economic and Social Reports

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by Marc Frenette

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Abstract

Following high school graduation, some students decide to delay their postsecondary education (PSE). This raises the issue of the long-term implications of taking a gap year. On the one hand, youth who choose this path substitute one year of lower-paying, pre-PSE work (or non-work) (i.e., the opportunity cost may be high). On the other hand, the additional year may be well needed for youth who are still discovering what they want to do for the rest of their lives. They may come back to school with greater career focus or more maturity, which could lead to improved labour market outcomes in the long term. The main question asked in this study is, "Among high school graduates who eventually registered for postsecondary studies, how do the long-term labour market outcomes compare between those who took a gap year (i.e., began their PSE between 12 and 15 months after high school graduation) and those who followed a more linear path into PSE (i.e., began their PSE within 3 months of high school graduation)?" The analysis is based on data from the Youth in Transition Survey, Cohort A, which is linked to the T1 Family File, and takes into account differences in a very rich set of characteristics, including academic performance, cognitive and non-cognitive ability, parental characteristics (presence, education, aspirations and education savings behaviour), peers, and high school fixed effects. The findings suggest a substantial negative association between taking a gap year and cumulative earnings among individuals who enrolled in a degree program shortly after high school. Specifically, men who took a gap year before enrolling in a degree program earned $57,448 (2015 constant dollars), or 11.6%, less from the ages of 17 to 31 than their counterparts who did not take a gap year. Similarly, women who took a gap year prior to enrolling in a postsecondary degree program earned $49,788 (12.5%) less over the same time span than their counterparts who did not take a gap year. Based on annual data, the negative association between taking a gap year and earnings grew more or less consistently in an absolute sense as individuals aged, at least until they were 31 years old (when the data end). In contrast, taking a gap year was positively associated with earnings among men who enrolled in a non-degree postsecondary program ($70,416, or 14.6%, more), while there was no association for their female counterparts. The study also found a small negative relationship between taking a gap year and other cumulative job characteristics over the period (number of years of union membership and with an employer-sponsored pension plan) among women who enrolled in a postsecondary degree program.

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Introduction

The COVID-19 pandemic has changed the way that many people work or study. There has been a substantial increase in telework (Mehdi & Morissette, 2021), thus opening up new opportunities for job seekers who were previously constrained by geography. Combined with a re-evaluation of life priorities in light of the pandemic, this has fuelled concerns about mass job quitting, often termed the "Great Resignation."[1] Similarly, students have had to pivot to a virtual learning environment, with many postsecondary programs offered in part or in their entirety online to help reduce the spread of the virus. This may have prompted some students to consider delaying their postsecondary education (PSE)—i.e., taking a gap year—out of concern for the quality of online learning.[2]

Taking a gap year between high school and PSE is not a new concept. Although there are no official statistics or definitions related to taking a gap year, a few studies have documented the incidence of delayed postsecondary entry. For example, Hango (2011) reported that 24% of Canadian high school graduates from the early 2000s delayed their postsecondary enrolment by up to 12 months, which could include full gap years as well as shorter delays (e.g., one term of 3 or 4 months). Ferrer and Menendez (2014) focused on a cohort of Canadian postsecondary graduates from the class of 1995 who entered PSE after high school and found that 17.3% delayed their entry by at least one year.

During their break from school, "gappers" may choose to acquire work experience (possibly to save money for PSE), travel domestically or abroad, volunteer, take up a new hobby, or otherwise enjoy or enrich their lives. Of course, the decision to take a gap year may have long-term economic implications, which could be positive or negative. On the positive side, taking a gap year could help students become more mature prior to starting their postsecondary studies. Having an additional year of work or life experience could also help them make more informed decisions about their future career, possibly leading to superior labour market outcomes later on. On the negative side, taking a gap year involves substituting a lower-paying year of work (or no work at all) prior to PSE—in other words, taking a gap year may involve substantial opportunity costs. Thus, it is not clear a priori how a gap year affects long-term labour market outcomes.

The purpose of this study is to estimate the impact of taking a gap year on the long-term labour outcomes of postsecondary students. More specifically, the main question asked in this study is, "Among high school graduates who eventually registered for postsecondary studies, how do the long-term labour market outcomes compare between those who took a gap year (i.e., began their PSE between 12 and 15 months after high school graduation) and those who followed a more linear path into PSE (i.e., began their PSE within 3 months of high school graduation)?" The analysis is based on data from the Youth in Transition Survey, Cohort A (YITS-A), which is linked to the T1 Family File (T1FF). Labour market outcomes are available for people aged 17 to 31 years, and include cumulative earnings over the period, the present value of cumulative earnings, the total number of years that union dues were paid and the total number of years with an employer-sponsored pension plan. These data are based on a cohort of youth born in 1984, who graduated from high school in the early 2000s.[3]

Previous research on the relationship between taking a gap year and earnings has come to mixed conclusions, which could be the result of the different methodologies adopted by the studies. In Canada, two studies have examined the impact of taking a gap year on earnings shortly after postsecondary

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1. https://www.theatlantic.com/ideas/archive/2021/10/great-resignation-accelerating/620382/.
2. https://www.cnbc.com/2021/06/09/many-college-students-chose-time-off-over-remote-learning-during-covid.html.
3. Since data used in this study are historical, they may or may not adequately reflect the decisions faced by today's youth. However, historical data are required to obtain estimates of the long-term implications of taking a gap year. Therefore, readers are reminded that the results in this article pertain to the specific sample considered here. Only time, data and research will enable more relevant estimates of the long-term consequences of taking a gap year to be produced for the current context.

graduation. Ferrer and Menendez (2014) used the National Graduates Survey, which contains a sample of postsecondary graduates from the class of 1995, to estimate the separate effects of delaying the transition from high school to the trades, college or a bachelor's degree, as well as the effect of delaying the transition from a bachelor's degree to a master's degree. They found that delaying studies resulted in positive effects on annual earnings in 1997, although the results for the transition from high school to the trades were not statistically significant. They also showed that the advantages to delaying studies were observed mainly for those who had been working in between educational credentials. The second study, conducted by Hango (2008), examined those aged 22 to 24 years in the data from the YITS, Cohort B, and found a negative association between delaying entry and weekly earnings for those who initially enrolled in university shortly after high school, as well as no association for their college counterparts.

Notably, no Canadian study has looked at the long-term impact of taking a gap year. However, two European studies did look at the issue. Crawford and Cribb (2012) used British survey data linked to academic achievement data and found that gappers in Britain registered slightly lower weekly earnings at ages 30 and 34 than students who enrolled in PSE directly, although the differences were not statistically significant. Holmlund et al. (2008) used Swedish register (administrative) data to study the impact of taking up to four gap years between high school and university. They found that taking one additional gap year resulted in 2.1% lower annual earnings at age 35. Notably, when examining cumulative lifetime earnings, Holmlund et al. (2008) found that taking one gap year (versus taking no gap year) was associated with a reduction in the present value of lifetime earnings equivalent to 21% of annual earnings at age 40 for men and 31% for women.

Delaying entry to PSE may be a highly selective decision. For example, individuals faced with a high opportunity cost of delaying their studies (i.e., those expecting to benefit more from PSE) may be less likely to delay. The identification strategies in the studies described above include using a highly descriptive approach based on no covariates (Hango, 2008); using a rich set of personal and family characteristics, including ability measures (Crawford & Cribb, 2012; Holmlund et al., 2008); and using instrumental variable estimation to complement a somewhat less extensive set of background characteristics (Ferrer & Menendez, 2014).[4]

The current study contributes to the literature by producing the first Canadian estimates of the long-term implications of taking a gap year on various labour market indicators. The focus is on cumulative outcomes, as the impact of taking a gap year may be felt for many years. The identification strategy follows Crawford and Cribb (2012) and Holmlund et al. (2008) by taking into account differences in a very

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4. Specifically, Ferrer and Menendez (2014) instrumented the decision to delay postsecondary studies with the national unemployment rate in the year prior to graduation with the previous educational credential. Intuitively, this strategy may be effective, as high school graduation cohorts facing higher unemployment rates may be less likely to delay PSE than their counterparts facing lower unemployment rates for no other reason than luck (i.e., their birth year). However, since the sample is restricted (by survey design) to one specific cohort of postsecondary graduates (the class of 1995), only subsamples of different high school graduation cohorts can be compared in this study (specifically, delayers in one cohort and non-delayers in another). While these two subsamples will be determined in part by the national unemployment rate that each cohort faced, they are also determined by the many factors that influence the decision to delay PSE in any given year (e.g., ability). While the study accounts for many important factors behind the decision to delay (e.g., gender, marital status, presence of children younger than 6, province of residence, immigrant status, field of study pursued in PSE), which no doubt facilitate the comparisons, the National Graduates Survey does not contain any direct ability measures. The closest is perhaps the field of study pursued in PSE, but Ostrovsky and Frenette (2014) showed that there were substantial variations in cumulative earnings (over 20 years) within every broad field of study category examined (these categories were more or less similar to the ones used by Ferrer and Menendez). The instrument developed by Ferrer and Menendez also varied by the length of the program of study, which was necessary to provide sufficient variation in the instrument. However, the length of the program may be influenced by how long the normal length of the program is and how long a student actually takes to complete a program of a given length. Both of these factors may directly impact earnings, other than through the medium of delayed entry. The study accounted for the first of these two factors (normal completion time) by generating results separately by type of postsecondary credential, but the second factor (actual completion time) was not addressed.

rich set of observable characteristics, including academic performance, cognitive and non-cognitive ability, parental characteristics (presence, education, aspirations and education savings behaviour), peers, and high school fixed effects. While the data are mostly provided by a survey, which is prone to attrition (and attrition bias) if individuals are followed for a significant period of time, the long-term follow-up data used in the study (i.e., the earnings) are available from tax data, which capture virtually everyone who is actively involved in the Canadian labour market.[5]

This study will inform students and their parents on a very important career planning decision: whether to delay postsecondary studies or not. Its findings will also have broader societal implications, since taking a gap year may be associated with long-term productivity effects that could be signalled by earnings effects.

The next section describes the methodology used in the study, including the data and econometric methods used. This is followed by a presentation of the results. The study concludes with a summary of the findings and some thoughts on future research.

Methodology

The analysis is based on data from the YITS-A, which is linked to the T1FF. The target population of the YITS-A consisted of students born in 1984. A two-stage sampling approach was adopted, whereby a random sample of schools in the 10 provinces where target students were enrolled was taken in April or May 2000 in the first stage (when students were 15 or 16 years old). In the second stage, a random sample of target students in those schools was then selected. In 2000 (Cycle 1), the YITS-A consisted of a student questionnaire and a parent questionnaire. Students were then re-interviewed every two years for a total of six cycles.

In Cycle 1, students also completed the Programme for International Student Assessment (PISA), developed by the Organisation for Economic Co-operation and Development (OECD). The PISA involved a two-hour written reading test, which was the main focus of the overall assessment and was administered to all sampled students. Immediately after the reading test, about half of the students were randomly assigned to write a mathematics test, and the other half was assigned to write a science test. The PISA focused on the practical application of knowledge that students are expected to acquire in the classroom. Exam results were standardized to have an average of 500 and a standard deviation of 100 across OECD countries. A background survey was also administered to students and school administrators.

Data from the Cycle 3 youth questionnaire are used to identify gappers (i.e., those who took a gap year). At this point, youth were 19 or 20 years old, and were therefore eligible to enrol in a postsecondary program. Detailed questions about educational pathways and specific dates enable the calculation of the

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5. The structure of the data varies between the studies, and this has implications for their findings. In the study conducted by Ferrer and Menendez (2014), the survey follows one specific postsecondary graduation cohort (the class of 1995). As a result, earnings are measured relative to the year of graduation (two years later, in 1997). In this data framework, gappers will systematically have more work experience than non-gappers by 1997. In the studies conducted by Hango (2008), Crawford and Cribb (2012), and Holmlund et al. (2008), earnings are measured at a given age so that gappers and non-gappers will have had the same opportunity to acquire work experience when they are compared after the postsecondary period. Thus, gappers are expected to earn more than non-gappers in the study conducted by Ferrer and Menendez (2014) compared with the other studies (including the current one). The approach taken by Ferrer and Menendez (2014) is perhaps the preferred one for examining short-term earnings, since otherwise, gappers have considerably less experience after PSE than non-gappers. However, these differences would matter less in the long term, as more experience is acquired by both groups and because earnings tend to grow most rapidly in the earlier portion of one's career. In the current study, the focus is on cumulative earnings over a 15-year period. Thus, the question asked is, "Was taking a gap year beneficial or detrimental over this 15-year period?"

elapsed time between high school and postsecondary enrolment. In this study, a gap year is defined as a period of 12 to 15 months between the two. Students who enrolled more directly (i.e., within three months) serve as the comparison group.[6]

The labour market outcomes used in the study are derived from the T1FF, which has been linked to the YITS-A from 2001 to 2015.[7] Of primary interest, the tax data include labour market earnings, which consist of the sum of T4 wages and salaries, net self-employment income, and other employment income. The tax data also include deductions for union, professional or like dues (as a proxy for union membership), as well as for the value of registered pension plan or deferred profit-sharing plan contributions (as an indicator of having an employer-sponsored pension plan). From these three labour market outcomes—annual earnings, union membership and employer-sponsored pension plan—the following four long-term labour market outcomes are constructed[8]:

- cumulative labour market earnings (the sum of annual labour market earnings from 2001 to 2015, expressed in constant 2015 dollars)
- present value of cumulative labour market earnings (the sum of annual labour market earnings from 2001 to 2015, expressed in constant 2015 dollars and discounted at a 5% rate of return)[9]
- number of years of union membership (the number of years with positive deductions for union, professional or like dues from 2001 to 2015)
- number of years with an employer-sponsored pension plan (the number of years with positive registered pension plan or deferred profit-sharing plan contributions from 2001 to 2015).

Although the sample is restricted to postsecondary students (a potentially heterogeneous group), the decision to take a gap year may be determined in part by ability, which may be correlated with labour market outcomes independent of its role in determining educational attainment. Similar to that of Holmlund et al. (2008), the identification strategy adopted in this study consists of standard regressions augmented by a very rich set of covariates. In contrast to Holmlund et al. (2008), who relied on Swedish administrative data, this study uses survey data from the YITS-A. Specifically, the following covariates are constructed from Cycle 1 of the YITS-A, when high school students were 15 or 16 years old:

- academic performance (overall marks)
- cognitive ability (PISA reading score)
- non-cognitive ability (combined mastery and self-esteem score)[10]

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6. All outcomes are based on the 2001-to-2015 period, even though the earlier part of this period precedes the gap year in some instances. This is for two reasons: students in Quebec normally begin PSE the year that they turn 17 (i.e., 2001), and, as will be shown shortly, labour market outcomes are virtually identical in the early part of the period, before it was possible to have completed any postsecondary credential.
7. A newer version of the linked files that contains more recent tax data is expected in the near future. If possible, an updated version of some of the key findings in this study will be produced at that time.
8. A student who graduates from high school in June of a given year will have until September to enrol in a postsecondary program to be included as part of the comparison group. For the period between high school and PSE to qualify as a gap year, the student must first enrol in a postsecondary program between June and September of the year following their graduation. Results in this study were robust to a slightly wider time span (i.e., less than 4 months and 12 to 16 months, thus allowing for enrolment to begin in October).
9. Expressing cumulative earnings in present value terms is important since earnings differences among key groups may vary throughout the period. The present value essentially expresses the value of the cumulative earnings differences as a lump sum applied at the beginning of the period, which is then available to be invested in part or in whole (at a 5% real rate of return) or to spend immediately (rather than later). Of course, not all earnings are available to be invested or spent, as taxes must also be paid. However, the same is true for cumulative earnings. Although family-level after-tax income would provide a more accurate picture of disposable income, this would require broadening the scope of the current study, which is focused on individual labour market outcomes.
10. The non-cognitive ability measure is the arithmetic average of the mastery and self-esteem scores, both of which are derived from item response theory and are based on a variety of responses in the YITS student questionnaire. Mastery refers to the extent to which a respondent regards their chances as being under their control, while self-esteem refers to self-worth or self-acceptance.

- parental presence
- parental income
- parental education
- parental aspirations for their child's educational attainment
- parental education savings behaviour (contributed to a Registered Education Savings Plan)
- number of friends planning to further education after high school
- high school fixed effects.

Arguably, all of the above factors can impact labour market outcomes, either directly or indirectly (through educational choices). There is a rich Canadian literature on the role of the above factors in influencing postsecondary access (e.g., Frenette, 2007; Frenette, 2017), but it is less clear conceptually what role (if any) these factors play in determining labour market outcomes after conditioning on making it to university or college, as is necessarily the case when examining gap years.

The econometric models consist of regressing one of the outcome variables on the gap year indicator and the covariates listed above (described in more detail in Table 2 of the Results section of this study).[11] For the two earnings outcomes, ordinary least squares models are estimated, whereas negative binomial regressions are estimated for the count measures (number of years of union membership and employer-sponsored pension plan).

Taking a gap year consists of substituting one year of potential work prior to enrolling in PSE for one year of potential work after enrolling in PSE. In other words, taking a gap year involves an opportunity cost (the difference in earnings between the year before and the year after PSE). The opportunity cost may vary across different groups of students. In this study, results are estimated separately by sex and by postsecondary enrolment type (degree[12] or non-degree[13])—two dimensions across which the returns to schooling vary.

Therefore, there are four analytical groups of interest in this study, each categorized by whether or not they took a gap year. These are described below, along with the size of the analytical sample:

- men, non-degree postsecondary enrolment (266 gappers and 1,159 non-gappers)
- men, postsecondary degree enrolment (179 gappers and 1,499 non-gappers)
- women, non-degree postsecondary enrolment (258 gappers and 1,345 non-gappers)
- women, postsecondary degree enrolment (231 gappers and 2,592 non-gappers).

In all cases, pooled regression models based on the total 7,529 observations in the full analysis are estimated, along with interactions between the four analytical groups and the gap year indicator.

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11. As suggested by a standard Mincerian wage equation, another important factor in wage or earnings determination is labour market experience. This factor is purposely omitted from the econometric models in this study for two reasons. The first is a data limitation: it is only possible to derive an annual binary indicator of employment in the T1FF. Thus, an accurate measure of work experience is not feasible. Second, if taking a gap year has an impact on work experience, then taking differences in work experience into account in the models removes an important channel through which a gap year may influence earnings. The goal of this paper is to estimate the role of taking a gap year on the unconditional cumulative earnings and other labour market outcomes (union membership and pension plan coverage). All of the variables that appear as covariates in the models are measured at the age of 15 or 16, prior to the potential gap year. To borrow from the language of scientific experiments, none of the covariates in this study were measured "post-treatment."
12. Frenette (2019) reported that 4.3% of postsecondary bachelor's degrees were offered by community colleges.
13. This includes any non-degree postsecondary program, whether at a college or CEGEP, private business school or training institute, or university. However, the vast majority of non-degree enrolments were related to college or CEGEP certificate or diploma programs. While many people who enrol in registered apprenticeships work for some time before enrolling in a program, they comprised less than 0.5% of postsecondary enrolments in the sample used in this study (recent high school graduates). When registered apprenticeship enrolments were dropped from the sample, the results did not change in any material way.

Results

Overall, 12.5% of high school graduates who later enrolled in PSE took a gap year (between 12 and 15 months) before enrolling rather than enrolling within 3 months of high school graduation. The share who took a gap year was greater among men (14.4%) than among women (11.1%), as well as among those who eventually enrolled in a non-degree postsecondary program (17.5%) compared with those who eventually enrolled in a postsecondary degree program (9.1%).

Chart 1 shows annual earnings for men for each year from ages 17 to 31 for those who enrolled in a postsecondary degree program and those who enrolled in a non-degree postsecondary program. The results are shown separately for those who did not take a gap year (represented by the solid bars) and those who took a gap year (represented by the dotted lines). Regardless of enrolment type, the annual earnings of gappers and non-gappers were virtually identical through their early 20s. Around the age of 22, the earnings of gappers who enrolled in a non-degree postsecondary program began to outpace those of their counterparts who did not take a gap year—an advantage that fluctuated between $4,000 and $8,000 throughout the remainder of the study period (up to and including the age of 31). In contrast, gappers who eventually enrolled in a degree program began to earn less around the age of 22 than their counterparts who did not take a gap year. This earnings deficit experienced by gappers continued to grow more or less consistently throughout the study period, reaching $10,271 by the age of 31.

Chart 1
Annual earnings by age, postsecondary enrolment type and gap year status—Men

2015 constant dollars
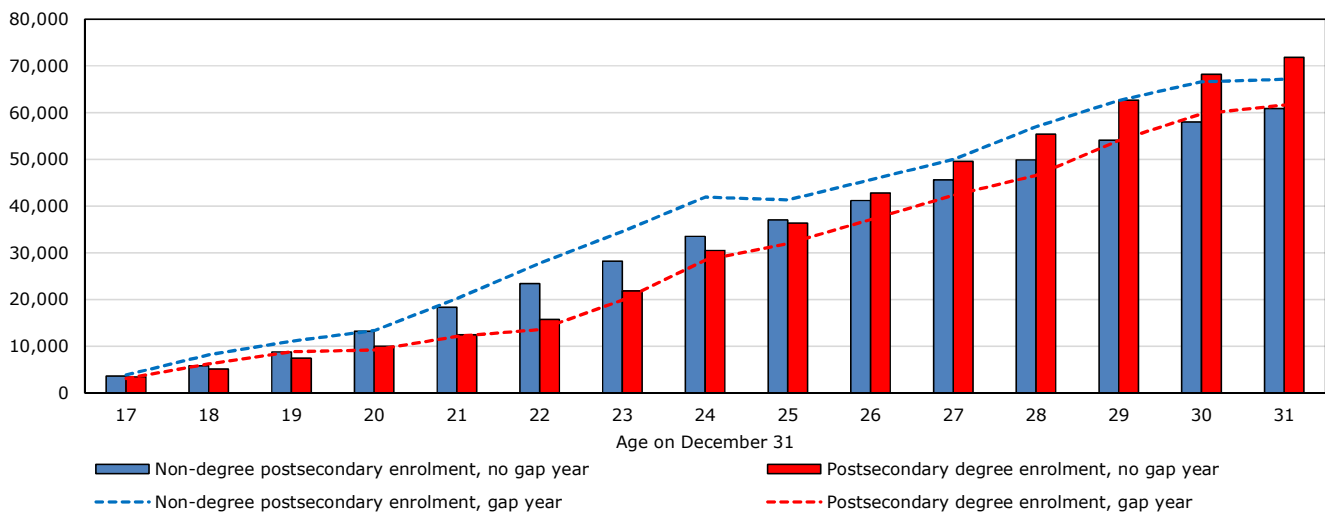
Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Among women, gappers who enrolled in a postsecondary degree program also earned considerably less than their counterparts who did not take a gap year (Chart 2). The difference emerged at around the age of 23 and grew more or less consistently thereafter, reaching $6,994 by age 31. Among women who enrolled in a non-degree postsecondary program, the earnings differences between gappers and non-gappers were much smaller and did not consistently favour one group over the other during the entire period.

Chart 2
Annual earnings by age, postsecondary enrolment type and gap year status—Women

2015 constant dollars

Age on December 31

■ Non-degree postsecondary enrolment, no gap year ■ Postsecondary degree enrolment, no gap year
----- Non-degree postsecondary enrolment, gap year ----- Postsecondary degree enrolment, gap year
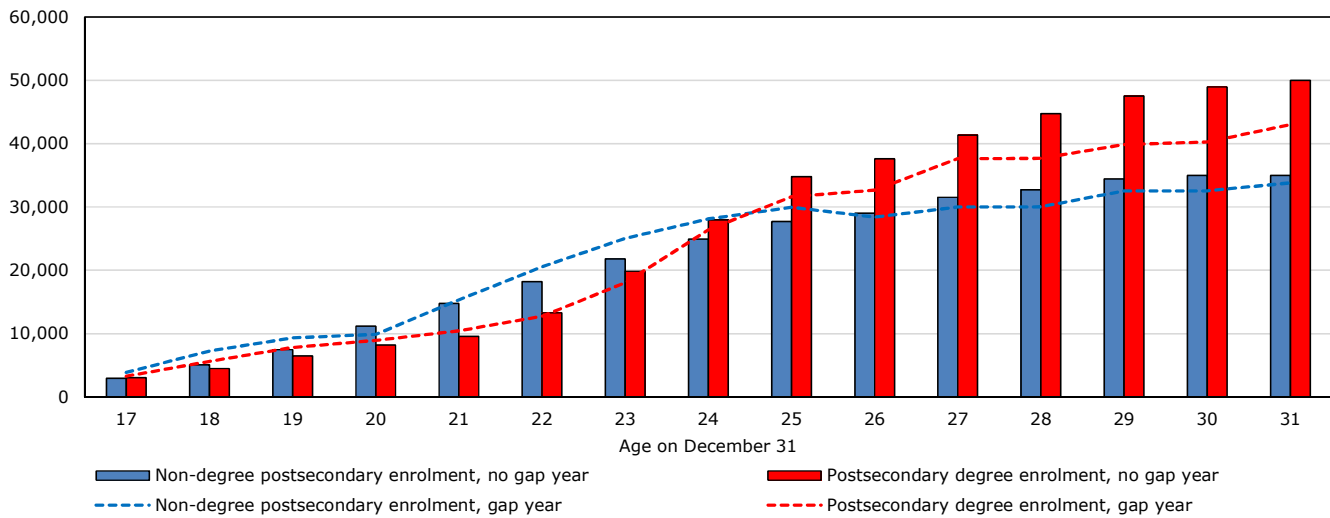
Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Table 1 summarizes cumulative labour market outcomes throughout the 15-year period by showing results for four outcomes: cumulative earnings, the present value of cumulative earnings (based on a 5% discount rate), the number of years of union membership and the number of years with an employer-sponsored pension plan.

The results clearly indicate that among men and women who enrolled in a postsecondary degree program, those who took a gap year registered lower cumulative earnings than those who did not take a gap year. Among men, this amounted to $58,873 (11.9%) less in cumulative earnings over the 15-year period, or $34,499 (11.2%) less in present value. For women, the difference in cumulative earnings was $42,023 (10.6%) less over the period, or $23,292 (9.3%) less in present value. Women who enrolled in a degree program and took a gap year also spent about half a year less time in a union and in a job with an employer-sponsored pension plan than their counterparts who did not take a gap year. The difference was about half as large for men who enrolled in a degree program.

Among men and women who enrolled in a non-degree postsecondary program, labour market outcomes were generally as good or better for those who took a gap year as they were for those who did not. For men, cumulative earnings were $69,638 (14.5%) higher, or $45,464 (14.7%) higher in present value. The cumulative earnings of gappers were only slightly higher than those of non-gappers among women, while differences in union membership and employer-sponsored pension plans were also quite small for men and women.

Although the four analytical samples used to generate the results above are relatively homogeneous, taking a gap year may be governed by a non-random selection process even within these tightly defined groups. In other words, factors other than sex and type of postsecondary enrolment may also influence the decision to take a gap year, and thus may confound the association between a gap year and long-term labour market outcomes.

Table 1

Cumulative labour market outcomes by sex, postsecondary enrolment type and gap year status

	Cumulative earnings	Present value of cumulative earnings	Number of years of union membership	Number of years with an employer-sponsored pension plan
	mean 2015 constant dollars		mean	
Men, non-degree postsecondary enrolment				
No gap year	481,699	307,338	4.0	3.8
Gap year	551,337	352,802	3.8	3.6
Men, postsecondary degree enrolment				
No gap year	493,549	306,780	3.7	3.7
Gap year	434,675	272,280	3.5	3.4
Women, non-degree postsecondary enrolment				
No gap year	331,871	216,038	4.2	3.8
Gap year	336,666	222,194	4.1	3.6
Women, postsecondary degree enrolment				
No gap year	397,994	250,363	4.9	4.3
Gap year	355,971	227,071	4.3	3.9

Notes: Cumulative labour market outcomes are measured from the age of 17 to 31. Cumulative earnings are expressed in 2015 constant dollars, and a 5% discount is used to estimate the present value of cumulative earnings.

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Descriptive statistics on a set of rich covariates collected at the age of 15 or 16 are shown for gappers and non-gappers for each of the four analytical groups in Table 2.[14] Independent of sex and postsecondary enrolment type, those who followed a linear educational pathway to PSE (i.e., no gap year) generally had better characteristics (from the point of view of long-term labour market outcomes) than those who took a gap year. For example, among women who enrolled in a postsecondary degree program, 26.4% of non-gappers had an overall mark of 90% or higher at the age of 15 or 16, compared with 16.0% of gappers. Among men who enrolled in a non-degree postsecondary program, 29.3% of those who did not take a gap year had a parent with a bachelor's degree or above, compared with 19.0% of their counterparts who took a gap year. Similar results hold for other important characteristics, such as reading, mastery and self-esteem scores; parental characteristics (presence, income, education, aspirations[15] and postsecondary savings behaviour); and peers (number of friends intending to further their education after high school). The results also suggest that gappers were more likely to reside in the western provinces and Newfoundland and Labrador, and were far less likely to reside in Quebec and Ontario. In the multivariate analysis, high school fixed effects will account for these provincial differences, as well as for differences in other school-specific factors.

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14. Although the main focus of this study is on the comparison of gappers and non-gappers, it is also informative to compare the characteristics of students who eventually enrolled in a postsecondary degree program with those of students who eventually enrolled in a non-degree postsecondary program. The reason is that postsecondary enrolment type is determined after the decision to take a gap year, and thus, targeting students by enrolment type for policy purposes or for individual decision making is not possible a priori. Nevertheless, it may be possible to indirectly target students by enrolment type based on known characteristics collected during high school. Independent of whether students took a gap year or not, it is clear from Table 2 that postsecondary degree enrollees possessed very different characteristics from those who enrolled in a non-degree postsecondary program (which is consistent with the literature on postsecondary access). For example, students who enrolled in a degree program, when compared with those of the same sex and gap year status who enrolled in a non-degree postsecondary program, had superior overall marks; had higher reading, mastery and self-esteem scores; and had higher levels of parental income and education.

15. So few parents did not expect their child to attend PSE that this category had to be combined with the non-degree postsecondary credential.

Table 2
Descriptive statistics of covariates at the age of 15 or 16 by sex, degree program enrolment and gap year status

	Men				Women			
	Non-degree postsecondary enrolment		Postsecondary degree enrolment		Non-degree postsecondary enrolment		Postsecondary degree enrolment	
	No gap year	Gap year	No gap year	Gap year	No gap year	Gap year	No gap year	Gap year
	percent							
Overall mark								
Less than 60%	3.9	6.1	0.8	0.5	3.3	6.4	0.5	0.0
60% to 69%	16.0	24.5	2.5	8.7	13.5	24.2	3.3	4.9
70% to 79%	41.8	47.4	22.8	26.0	37.1	37.6	18.3	29.4
80% to 89%	33.2	20.9	50.5	51.5	38.4	28.6	51.5	49.7
90% to 100%	5.1	1.2	23.4	13.4	7.7	3.1	26.4	16.0
Reading score								
Bottom quintile	22.4	30.5	8.3	11.1	17.9	22.6	5.1	8.8
Second quintile	23.1	27.0	15.7	16.2	20.6	23.6	13.8	15.3
Third quintile	20.2	24.3	20.7	21.8	19.5	21.1	19.2	25.4
Fourth quintile	20.1	10.6	23.3	24.6	22.4	19.5	26.5	26.3
Top quintile	14.2	7.5	31.9	26.3	19.5	13.1	35.4	24.3
Mastery and self-esteem score								
Bottom or second quintile	18.5	22.9	15.0	21.0	22.8	25.5	19.8	19.3
Third quintile	20.3	21.3	21.8	19.1	19.7	22.1	22.4	22.7
Fourth quintile	21.4	19.1	21.3	17.2	19.8	15.3	22.5	24.2
Top quintile	23.2	18.2	29.6	31.0	17.8	12.6	20.4	19.5
Parental presence								
One parent	8.5	11.2	7.0	8.9	12.5	13.6	9.0	9.3
Two parents, not all biological	7.1	7.8	5.2	4.5	8.2	8.5	6.2	7.9
Two biological parents	84.3	81.0	87.8	86.6	79.3	77.9	84.8	82.8
Equivalent parental income								
Bottom quintile	19.9	25.6	13.3	17.8	23.7	24.6	16.9	15.3
Second quintile	22.2	26.6	17.2	20.2	25.4	22.1	20.2	26.9
Third quintile	20.6	20.4	21.0	21.3	20.7	26.5	20.9	25.4
Fourth quintile	18.6	14.0	23.6	21.4	15.8	14.9	21.5	14.3
Top quintile	18.8	13.5	25.0	19.3	14.5	11.8	20.5	18.1
Highest level of parental education								
High school or less	61.2	64.0	45.1	49.3	67.2	69.6	49.2	51.0
Postsecondary certificate or diploma	50.5	50.6	50.3	52.0	46.8	52.0	50.6	52.8
Bachelor's degree	22.5	13.4	35.2	31.0	16.5	14.8	30.3	28.6
Graduate or professional degree	6.8	5.7	17.8	12.2	7.1	2.8	13.5	10.5
Parental aspirations for child's educational attainment								
No postsecondary degree	38.6	47.8	12.1	16.3	37.4	39.6	14.3	21.2
Postsecondary degree	61.4	52.2	87.9	83.7	62.6	60.4	85.7	78.8
Postsecondary education savings								
Child has a Registered Education Savings Plan	19.4	17.0	33.3	29.6	17.3	18.9	27.1	21.7
Number of friends planning to further their education after high school								
None or some	20.8	25.7	13.8	18.3	12.9	18.5	8.6	13.1
Most	49.9	53.1	51.8	52.2	49.2	53.5	47.9	52.3
All	29.3	21.2	34.4	29.5	37.9	28.0	43.5	34.6
Province of residence								
Newfoundland and Labrador	7.0	14.7	7.5	11.0	7.2	11.3	9.2	12.3
Prince Edward Island	3.7	6.8	8.0	5.8	2.7	5.8	8.4	8.0
Nova Scotia	8.4	6.5	15.0	9.1	8.5	4.2	14.4	6.5
New Brunswick	6.8	10.1	10.7	15.6	8.8	7.3	13.1	10.4
Quebec	37.8	15.2	5.9	1.1	39.5	11.7	7.0	0.9
Ontario	16.5	9.2	16.7	3.9	12.7	11.9	16.1	8.4
Manitoba	4.1	7.1	10.4	16.8	5.9	11.2	9.9	16.0
Saskatchewan	5.0	9.7	8.1	13.0	5.5	9.4	8.2	15.2
Alberta	5.0	8.0	7.1	9.2	4.1	11.3	6.1	8.6
British Columbia	5.6	12.7	10.5	14.4	5.2	15.7	7.6	13.7
	number							
Sample	1,159	266	1,499	179	1,345	258	2,592	231

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Differences in the covariates described in Table 2 were taken into account in a series of multivariate analyses that focus on cumulative earnings over the 15-year period. Importantly, if the differences in characteristics shown in Table 2 were to have an impact on the differences in labour market outcomes between gappers and non-gappers, this would largely be through direct channels (i.e., independent of their well-documented association with postsecondary access). It is also conceivable that characteristics that are known to be positively associated with postsecondary access (e.g., parental education) have a negative relationship with future earnings, conditional on having achieved postsecondary enrolment. This is because achieving postsecondary enrolment despite facing particular challenges (e.g., low educational attainment among the parents) may be a signal of unobserved characteristics that may be valued in the labour market (e.g., motivation, persistence, resilience).[16] For these reasons, and despite the large differences highlighted in Table 2, it is unclear a priori what effect adding covariates may have.

Table 3 shows results from two models. The first includes no covariates, thus corresponding to the bivariate analysis shown in Table 1.[17] The second model adjusts for differences in the covariates shown in Table 2 (except for province of residence, which is replaced by high school fixed effects) that existed between gappers and non-gappers for each of the four analytical groups. The results indicate that the unadjusted differences in labour market outcomes were largely preserved after accounting for the covariates. After accounting for differences in covariates, both men and women who enrolled in a postsecondary degree program and took a gap year earned less than their counterparts who did not take a gap year ($57,448, or 11.6%, less for men, and $49,788, or 12.5%, less for women). In contrast, taking a gap year was positively associated with earnings among men who enrolled in a non-degree postsecondary program ($70,416, or 14.6%, more). There was no significant association for women who took a gap year and enrolled in a non-degree postsecondary program.

Table 3
Association between taking a gap year and cumulative earnings from pooled ordinary least squares regressions

Sample	Model 1: No covariates		Model 2: Covariates added	
	coefficient	standard error	coefficient	standard error
Men				
Non-degree postsecondary enrolment	69,638 ***	20,956	70,416 ***	21,716
Postsecondary degree enrolment	-58,873 *	22,935	-57,448 *	24,956
Women				
Non-degree postsecondary enrolment	4,795	17,278	-14,201	19,224
Postsecondary degree enrolment	-42,023 *	17,427	-49,788 *	20,918

* significantly different from reference category (p < 0.05)

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

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

† significantly different from reference category (p < 0.10)

Notes: Cumulative earnings are measured from the age of 17 to 31 and are expressed in 2015 constant dollars. Covariates include variables indicating the overall mark, reading ability, mastery and self-esteem, parental presence, equivalent parental income, highest level of parental education, parental aspirations for child's educational attainment, postsecondary education savings, the number of friends planning to further their education after high school (as described in Table 2), and high school fixed effects.

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

16. The same argument can be made for reading proficiency. In fact, Gibson et al. (2019) found that, "…after accounting for various individual and background factors (e.g., parental education, parental income, overall marks at age 15 and other characteristics such as highest level of education and field of study), reading proficiency at age 15 was no longer associated with employment earnings after leaving school—for both men and women."

17. This is a property of ordinary least squares regression models (used in tables 3 and 4), but not of negative binomial regression models (used in tables 5 and 6). However, in the latter case, it is still possible to observe the marginal impact of adding covariates to the model by comparing results from models 1 and 2.

The results in Table 4, which focus on the present value of cumulative earnings, are more or less analogous to those in Table 3. Specifically, among those who enrolled in a postsecondary degree program, taking a gap year was associated with $34,815 (11.3%) less for men and $29,562 (11.8%) less for women in discounted cumulative earnings. Meanwhile, a gap year was associated with $44,125 (14.3%) more in discounted earnings for men who enrolled in a non-degree postsecondary program, but was not associated with discounted earnings for their female counterparts.

Why was taking a gap year negatively associated with cumulative earnings for degree enrollees, but either positively or not associated with earnings for non-degree postsecondary enrollees? The answer may lie in opportunity costs. Taking a gap year more or less involves substituting one year of earnings before postsecondary enrolment for one year of earnings after post-postsecondary enrolment. Such a trade-off may be costlier for those who enrolled in a degree program simply because these are associated with higher pay than other postsecondary programs (Frenette, 2019).

The other outcomes examined in this study were, for the most part, not strongly associated with taking a gap year (tables 5 and 6). The only statistically significant outcomes were registered for women who enrolled in a postsecondary degree program: those who took a gap year were part of a union for 0.684 fewer years than their counterparts who did not take a gap year, and gappers had an employer-sponsored pension plan for 0.751 fewer years than non-gappers.

Table 4

Association between taking a gap year and the present value of cumulative earnings from pooled ordinary least squares regressions

Sample	Model 1: No covariates		Model 2: Covariates added	
	coefficient	standard error	coefficient	standard error
Men				
Non-degree postsecondary enrolment	45,464 ***	13,015	44,125 ***	13,515
Postsecondary degree enrolment	-34,499 *	14,130	-34,815 *	15,357
Women				
Non-degree postsecondary enrolment	6,156	10,866	-7,636	12,088
Postsecondary degree enrolment	-23,292 *	10,864	-29,562 *	12,940

* significantly different from reference category (p < 0.05)

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

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

† significantly different from reference category (p < 0.10)

Notes: The present value of cumulative earnings is measured from the age of 17 to 31, expressed in 2015 constant dollars, and based on a 5% discount rate. Covariates include variables indicating the overall mark, reading ability, mastery and self-esteem, parental presence, equivalent parental income, highest level of parental education, parental aspirations for child's educational attainment, postsecondary education savings, the number of friends planning to further their education after high school (as described in Table 2), and high school fixed effects.

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Table 5

Association between taking a gap year and the number of years of union membership from pooled negative binomial regressions

Sample	Model 1: No covariates		Model 2: Covariates added	
	marginal effect	standard error	marginal effect	standard error
Men				
Non-degree postsecondary enrolment	-0.249	0.318	0.024	0.336
Postsecondary degree enrolment	-0.141	0.386	-0.073	0.435
Women				
Non-degree postsecondary enrolment	-0.060	0.356	0.334	0.396
Postsecondary degree enrolment	-0.488	0.332	-0.684 †	0.384

* significantly different from reference category (p < 0.05)

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

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

† significantly different from reference category (p < 0.10)

Notes: The number of years that union dues were paid is measured from the age of 17 to 31. Covariates include variables indicating the overall mark, reading ability, mastery and self-esteem, parental presence, equivalent parental income, highest level of parental education, parental aspirations for child's educational attainment, postsecondary education savings, the number of friends planning to further their education after high school (as described in Table 2), and high school fixed effects.

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Table 6

Association between taking a gap year and the number of years with an employer-sponsored pension plan from pooled negative binomial regressions

Sample	Model 1: No covariates		Model 2: Covariates added	
	marginal effect	standard error	marginal effect	standard error
Men				
Non-degree postsecondary enrolment	-0.204	0.286	-0.015	0.316
Postsecondary degree enrolment	-0.341	0.344	-0.124	0.411
Women				
Non-degree postsecondary enrolment	-0.261	0.337	0.070	0.376
Postsecondary degree enrolment	-0.359	0.308	-0.751 *	0.372

* significantly different from reference category (p < 0.05)

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

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

† significantly different from reference category (p < 0.10)

Notes: The number of years with an employer-sponsored pension plan is measured from the age of 17 to 31. Covariates include variables indicating the overall mark, reading ability, mastery and self-esteem, parental presence, equivalent parental income, highest level of parental education, parental aspirations for child's educational attainment, postsecondary education savings, the number of friends planning to further their education after high school (as described in Table 2), and high school fixed effects.

Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

The data available in the study end at the age of 31, so there is no way to know what happened next. However, it may be informative to estimate earnings differences between gappers and non-gappers annually, leading up to the end point of the data. Chart 3 shows the results of this exercise. Once again, pooled models across the entire analytical sample were estimated, but results are shown only for postsecondary degree enrollees (i.e., the group that experienced a negative association between taking a gap year and cumulative earnings).

Before the results shown in Chart 3 are addressed, it is important to distinguish between relative and absolute effects. In relative (or percentage terms) terms, the negative association with taking a gap year was more or less consistent across the years for both men and women who enrolled in a degree program. However, as annual earnings grew with age, the implications of taking a gap year became more evident over time once absolute dollar terms were examined, as they appear in Chart 3.

Indeed, the results in Chart 3 suggest a growing negative association over time in absolute terms. While there was no association until the age of 22, the negative earnings premium associated with taking a gap year (when expressed in absolute dollar terms) began to grow at that point. Men aged 22 years who had taken a gap year and subsequently enrolled in a degree program earned $2,854 less than their counterparts who enrolled in a degree program very shortly after high school. By the age of 31, the difference in annual earnings between these same two groups of men grew to $8,716. Similarly, the negative association between taking a gap year and annual earnings went from $1,920 at the age of 22 to $6,575 at the age of 31 for women who enrolled in a degree program.

Chart 3
Association between taking a gap year and annual earnings from pooled ordinary least squares regressions—postsecondary degree enrollees

2015 constant dollars
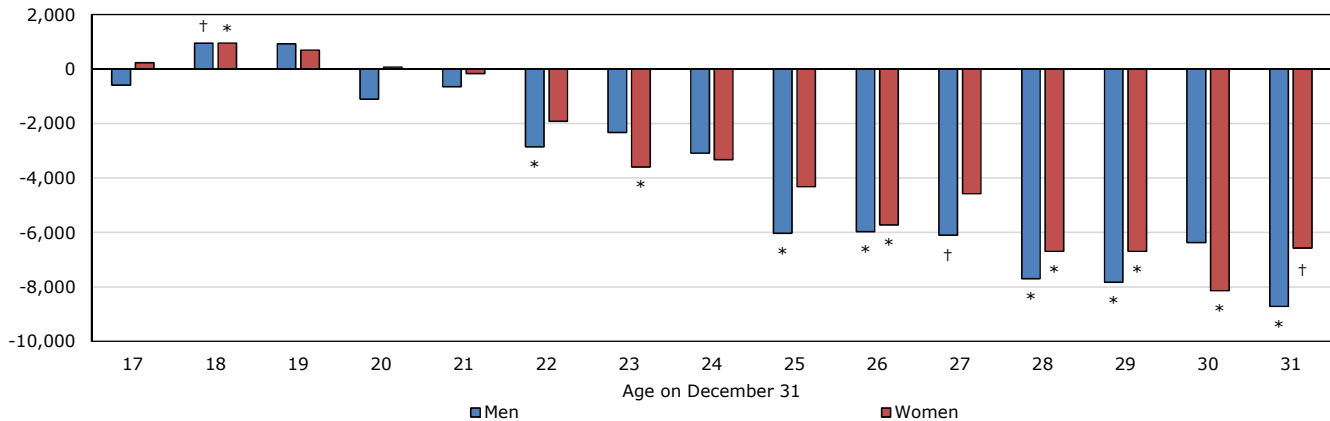
* significantly different from reference category (p < 0.05)
** significantly different from reference category (p < 0.01)
*** significantly different from reference category (p < 0.001)
† significantly different from reference category (p < 0.10)
Note: Covariates are the same as those used in the analysis behind Table 3.
Sources: Statistics Canada, Youth in Transition Survey, Cohort A, and T1 Family File.

Conclusion

The decision to take a gap year between high school and PSE is an important one in the long term. Students who take a gap year may face high opportunity costs since they often substitute one year of lower-paying, pre-PSE work for one year of higher-paying, post-PSE work. Nevertheless, they may acquire more focus and maturity during their time away from studies. This could help them make better educational choices, which could benefit them in the labour market. The purpose of this study was to investigate the long-term labour market implications associated with the decision to take a gap year.

The findings suggest a substantial negative association between taking a gap year and cumulative earnings among individuals who enrolled in a degree program shortly after high school. Specifically, men who took a gap year before enrolling in a degree program earned $57,448 (2015 constant dollars), or 11.6%, less from the ages of 17 to 31 than their counterparts who did not take a gap year. Similarly, women who took a gap year prior to enrolling in a postsecondary degree program earned $49,788 (12.5%) less over the same time span compared with their counterparts who did not take a gap year. Based on annual data, the negative association between taking a gap year and earnings grew more or less consistently in an absolute sense as individuals aged, at least until they were 31 years old (when the data end). In contrast, taking a gap year was positively associated with earnings among men who enrolled in a non-degree postsecondary program ($70,416, or 14.6%, more), while there was no association for their female counterparts. The study also found a small negative relationship between

taking a gap year and other cumulative job characteristics over the period (number of years of union membership and with an employer-sponsored pension plan) among women who enrolled in a postsecondary degree program.

Future research could further inform the issue by following individuals for a longer period of time, especially given how the annual earnings disadvantage of gappers continued to increase in absolute terms until the age of 31 in the current study. Another useful avenue for research in this area would be a more detailed look at the educational decisions and successes of gappers and non-gappers. Indeed, taking a gap year might bring more perspective into the decision-making processes of youth, or even foster more motivation upon their return from their time away from school. Finally, taking a gap year could affect the decision to enrol in PSE in the first place, as youth may re-evaluate their career objectives after taking a break from school. This may depend on how the gap year was spent (e.g., working, travelling, resting, socializing). Understanding the relationship between these activities and the decision to enrol in PSE could therefore be the subject of further investigation.

References

Crawford, C., & Cribb, J. (2012). *Gap-year takers: Uptake, trends and long-term outcomes*. Institute for Fiscal Studies, Centre for Analysis of Youth Transitions and United Kingdom Department for Education.

Ferrer, A., & Menendez, A. (2014). The puzzling effect of delaying schooling on Canadian wages. *Canadian Public Policy, 40*(3), 197–208.

Frenette, M. (2007). Why are youth from lower-income families less likely to attend university? Evidence from academic abilities, parental influences, and financial constraints (Analytical Studies Branch Research Paper Series, No. 295). Statistics Canada.

Frenette, M. (2017). Which families invest in Registered Education Savings Plans and does it matter for postsecondary enrolment? (Analytical Studies Branch Research Paper Series, No. 392). Statistics Canada.

Frenette, M. (2019). Obtaining a bachelor's degree from a community college: Earnings outlook and prospects for graduate studies (Analytical Studies Branch Research Paper Series, No. 428). Statistics Canada.

Gibson, L., Rodriguez, C., Ferguson, S.J., Zhao, J., & Hango, D. (2019). Does reading proficiency at age 15 affect employment earnings in young adulthood? *Insights on Canadian Society*. Statistics Canada.

Hango, D. (2008). Taking time off between high school and postsecondary education: Determinants and early labour market outcomes. *Education Matters 4*(5).

Hango, D. (2011). Length of time between high school graduation and enrolling in postsecondary education: Who delays and who does not? (Culture Tourism and the Centre for Education Statistics: Research Papers, No. 90). Statistics Canada.

Holmlund, B., Skans, O., & Liu, Q. (2008). Mind the gap? Estimating the effects of postponing higher education. *Oxford Economic Papers, 60*(4), 683–710.

Mehdi, T., & Morissette, R. (2021). Working from home in Canada: What have we learned so far? *Economic and Social Reports, 1*(10).

Ostrovsky, Y., & Frenette, M. (2014). *The cumulative earnings of postsecondary graduates over 20 years: Results by field of study* (Economic Insights, No. 40). Statistics Canada.