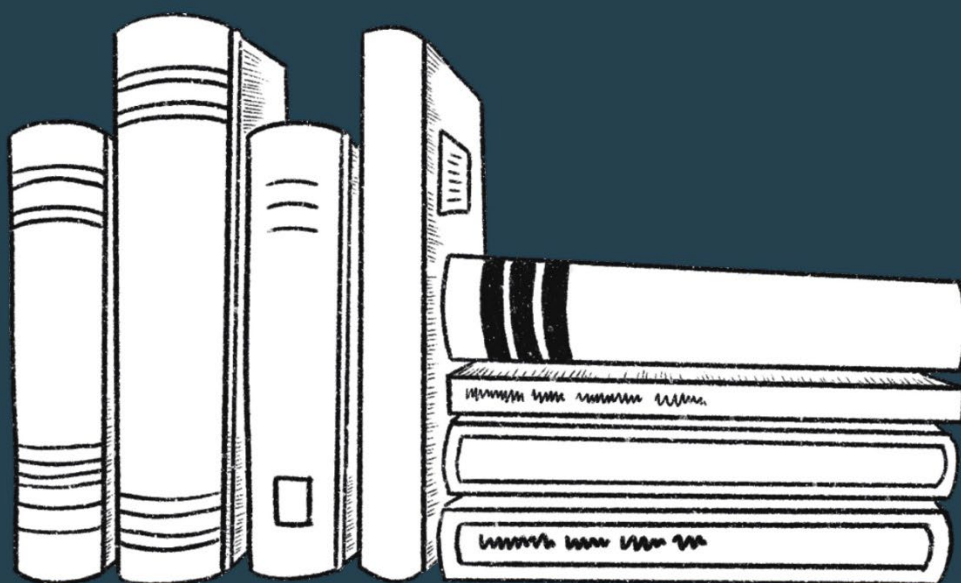


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Examining the Role of Sociodemographic Characteristics in Postsecondary Non-completion and Labour Market Outcomes

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Introduction and Literature Review

Research on access to postsecondary education (PSE) often focuses on students' points of entry to colleges and universities. Access rates vary by sociodemographic characteristics, with lower attendance for students with disabilities ([Chatoor, 2021](#); Finnie et al., 2011; Ford et al., 2019), students who identify as Indigenous (Layton, 2023) and students who identify as Black, West Asian or other racialized identities (Chatoor, 2021; James & Turner, 2017; Statistics Canada, 2023a). Research also shows higher attendance in PSE is linked to socioeconomic factors such as high family income and being from a two-parent family (Finnie et al., 2011; Ford et al., 2019). This research raises questions about how students from different sociodemographic and economic backgrounds differentially experience and complete PSE, and what happens once they leave.

A broader definition of PSE access addresses questions of how challenges or barriers affect entry as well as the journey through PSE and into the labour market. The integrity and success of Ontario's PSE system is linked not only to whether students have equitable access at the point of entry, but also to whether all students have the support they need to graduate and achieve success in the labour market. Are some student groups more likely than others to leave PSE before completing their credentials? How do those who do leave early fare in the labour market? And are these outcomes influenced by the same sociodemographic factors that affect access to entry?

Research examining differences in PSE completion rates and labour market outcomes by demographic characteristics illustrates many of the same patterns associated with PSE entry. Students with disabilities, as well as Indigenous, Black and West Asian students, are less likely to graduate from a four-year university, and those who do graduate have worse labour market outcomes than their peers with the same credentials (Chatoor, 2021; [Chatoor et al., 2022](#); Childs et al., 2017; Statistics Canada, 2023c; Walton et al., 2020). The literature on these topics, however, remains somewhat disconnected due to a lack of linkages between K-12, PSE and labour market data ([Gallagher-Mackay, 2017](#)). New tools and datasets available through Statistics Canada allow researchers to explore student access and success in more complete ways.

HEQCO partnered with the Social Research and Demonstration Corporation (SRDC)¹ to leverage Statistics Canada's Education and Labour Market Longitudinal Platform (ELMLP) and its various linkages to study non-completion and earnings outcomes by Indigenous or racial identity, disability status and household structure. Data linkage allows for a rich exploration of the sociodemographic and economic factors that influence access at different stages of an individual's pathway through PSE.

In November 2023, HEQCO released a report that examined connections between PSE non-completion and labour market outcomes ([Colyar et al., 2023](#)). This report expands on these findings and takes a multi-dimensional approach to access research — one that considers whether students, after arriving at PSE institutions, have equitable access to graduation and

¹ [SRDC](#) is an independent non-profit research organization that focuses on identifying policies and programs that improve the well-being of all Canadians.

labour market outcomes. Findings offer insights into the compounding access barriers that some students face as they navigate transitions through and out of PSE.

Research Questions and Methodology

This project focuses on how likely students from differing sociodemographic groups are to complete their PSE credentials, as well as how both completers and non-completers from these groups fare in the labour market. We explored the following:

- How do postsecondary non-completion rates vary by Indigenous or racial identity, disability status and household structure?
- How do earnings outcomes one year after non-completion vary by Indigenous or racial identity, disability status and household structure for both postsecondary completers and non-completers?

This investigation relied on SRDC's descriptive and inferential analyses of Statistics Canada's ELMLP. SRDC used the ELMLP to link four datasets: the Postsecondary Student Information System (PSIS), the Registered Apprenticeship Information System (RAIS), the T1 Family File (T1FF) and Canada Student Financial Assistance (CSFA) files.² Data preparation also involved linking these data to the 2016 Census. Three samples were created:

1. a sample of full-time students in Ontario who first enrolled in a diploma, certificate or undergraduate program at a publicly assisted college or university during the fall of 2011, 2012, 2013 or 2014;
2. a 2016 Census Ontario sample, which included people who belong to the full Ontario sample who also responded to the 2016 long-form census; and
3. a sample with students from the Ontario sample who received CSFA in their first year of study.

Outcome Variables

The analyses focused on three main outcome variables: PSE non-completion, economic activity in the year after leaving or completing PSE and annual earnings. The non-completion outcome variable measured non-completion six years after students first entered a PSE program.³ The economic activity outcome variable examined labour market entry after completing or leaving PSE.⁴ The earnings analysis included only those who did not return to school and filed taxes and reported earnings over \$0 for up to three years after completing or leaving a program. To measure earnings, four T1FF variables were summed: T4 employment income, non-negative self-employment income, other employment income, and "Indian" exempt income (i.e., non-taxable income that meets the criteria defined under section 87 of the *Indian Act*). For regressions, the earnings were logarithmically transformed and adjusted for inflation.

² During the timeframe of this study, the CSFA program was called the Canada Student Loan Program (CSLP).

³ The analysis tracked completion in any PSE or apprenticeship program. A student who started in a bachelor's program may have completed that program or a program (such as a college certificate or diploma) at another institution.

⁴ As a categorical indicator, the economic activity outcome variable measured those who: remained in or continued PSE; did not file taxes and therefore had no earnings information; filed taxes but reported zero earnings; or filed taxes and reported earnings.

Explanatory Variables

Analyses included a series of indicators that captured Indigenous or racial identity, disability status (including type) and household structure. Household structure, in this report, captures common-law status, single parenthood status and whether students were categorized as dependent or independent under CSFA. Disability status was measured using self-reported information collected in the 2016 Census. These measures capture which students (either always, often or sometimes) have an activity limitation in the following areas: seeing, hearing; physical; learning, remembering, concentrating; mental health; or other limitation(s) lasting six or more months.⁵

Descriptive analyses provided insight into completion as well as earnings by Indigenous or racial identity and household structure. Regression analyses were conducted to investigate student outcomes while controlling for age, gender, immigration status, receipt of federal student aid, cohort, sociodemographic characteristics and program type.⁶

Findings

Analysis using the ELMLP and its various linkages suggested that students from some sociodemographic backgrounds experienced compounding access limitations at each stage of their PSE journey. The average six-year non-completion rate across all full-time⁷ students was 29%; findings showed higher non-completion rates and worse earnings outcomes across several Indigenous and racialized groups, disabilities and household structures. In many cases, students from these groups were historically less likely to access PSE as well.

Black and First Nations students had higher non-completion rates and were among the lowest earners one year after leaving PSE.

Figure 1 shows variation in six-year non-completion rates by Indigenous or racial identity. Black (41%), West Asian (40%), First Nations (39%), Arab (33%) and Latin American (33%) students had the highest non-completion rates, while Chinese (21%) and white (26%) students had the lowest non-completion rates. These findings were significant in regression analyses.

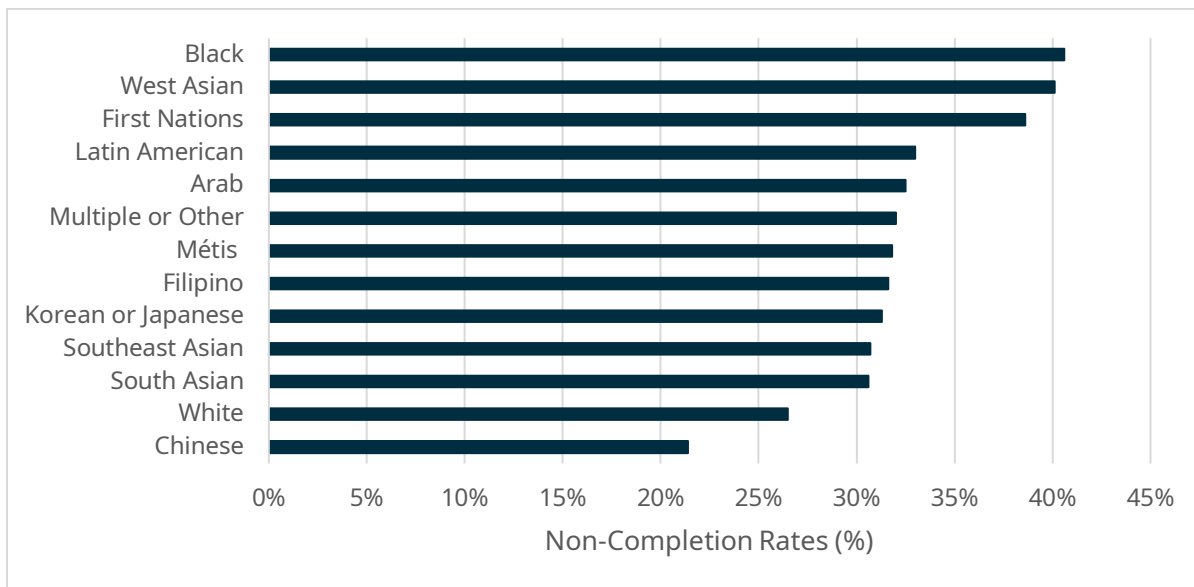
⁵ Activity limitations may not have been present when a student first entered PSE given the difference in time between the entry and 2016 Census year.

⁶ A linear probability model was used for the non-completion analysis to determine the extent to which each explanatory variable influenced non-completion. For the economic activity outcome variable, a multinomial logit model was used to determine the extent to which each explanatory variable influenced each outcome category (i.e., in school, no tax return, zero earnings or earner). For the earnings analysis, an ordinary least squares regression was used to determine the extent to which each explanatory variable influences the continuous outcome (i.e., inflation adjusted log earnings).

⁷ The samples included only full-time students. Separate analysis examined non-completion rates among students who studied part time in their first observed semester. Once the model controlled for other indicators, part-time students were 35 percentage points more likely than full-time students to not complete their credential within six years. Part-time status was the most important indicator associated with non-completion in the regression model.

Figure 1

Six-year Postsecondary Non-completion Rates by Indigenous or Racial Identity



Sources: PSIS, RAIS, 2016 Census

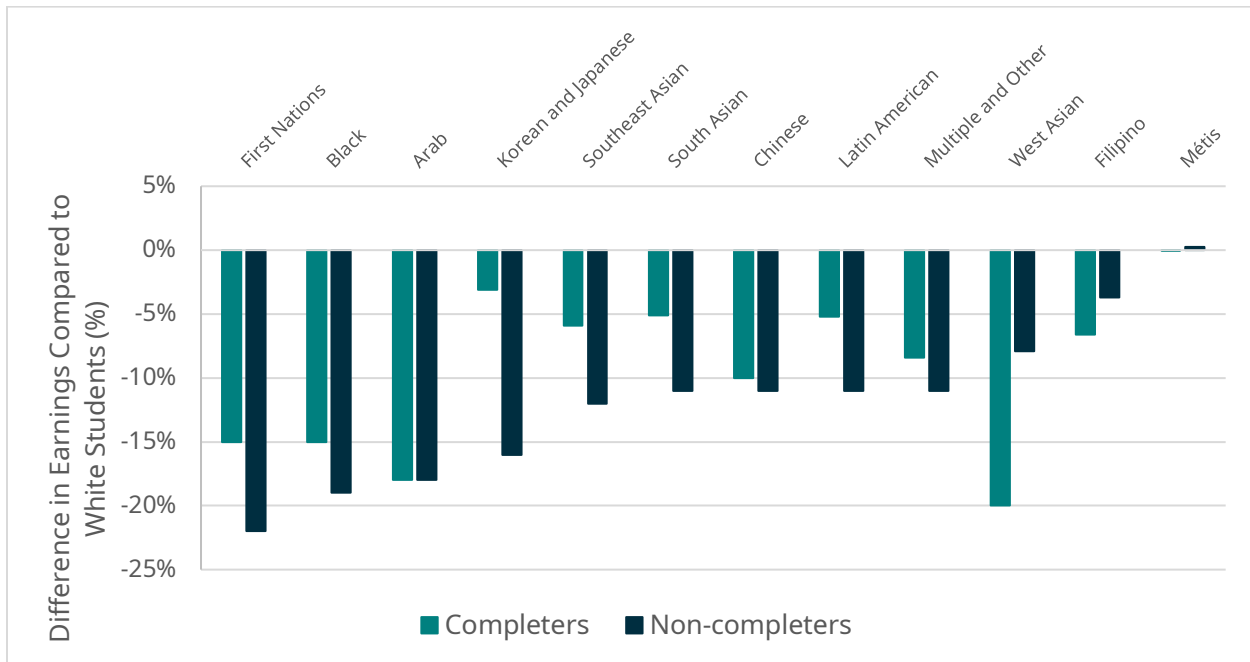
Note: This figure shows six-year non-completion rates (%) by Indigenous or racial identity.

Regression analyses confirmed that Black and First Nations males were significantly less likely to complete their credentials than white males (see Appendix Table 2). A similar trend was observed for West Asian, Black and First Nations females compared to white females.

Figure 2 shows differences in earnings between completers and non-completers by Indigenous or racial identity, relative to white students. In most cases, Indigenous or racialized groups with higher non-completion rates also had worse earnings outcomes compared to white students one year after leaving PSE. Most Indigenous or racialized students earned less than white students regardless of completion status.

Figure 2

Regression-adjusted Difference in Earnings Outcomes One Year After Non-completion by Indigenous or Racial Identity, Compared to White Students



Sources: PSIS, RAIS, 2016 Census, T1FF

Note: This figure shows regression-adjusted differences in earnings outcomes one year after leaving PSE, by Indigenous or racial identity and non-completion status, compared to white students.

Non-completers with the largest differences in earnings compared to white non-completers were First Nations (-22%), Black (-19%) and Arab (-18%). Indigenous or racialized completers also earned significantly less than white completers, with the lowest rates among West Asian (-20%), Arab (-18%), First Nations (-15%) and Black (-15%) students (see Appendix Table 3). These differences align with existing studies that show gaps in earnings by Indigenous or racial identity among PSE graduates (Qiu & Schellenberg, 2022; Statistics Canada, 2023b). Non-completion rates, in concert with earnings outcomes, demonstrate how students from some Indigenous or racialized groups experience compounding inequities throughout PSE and into the labour market.

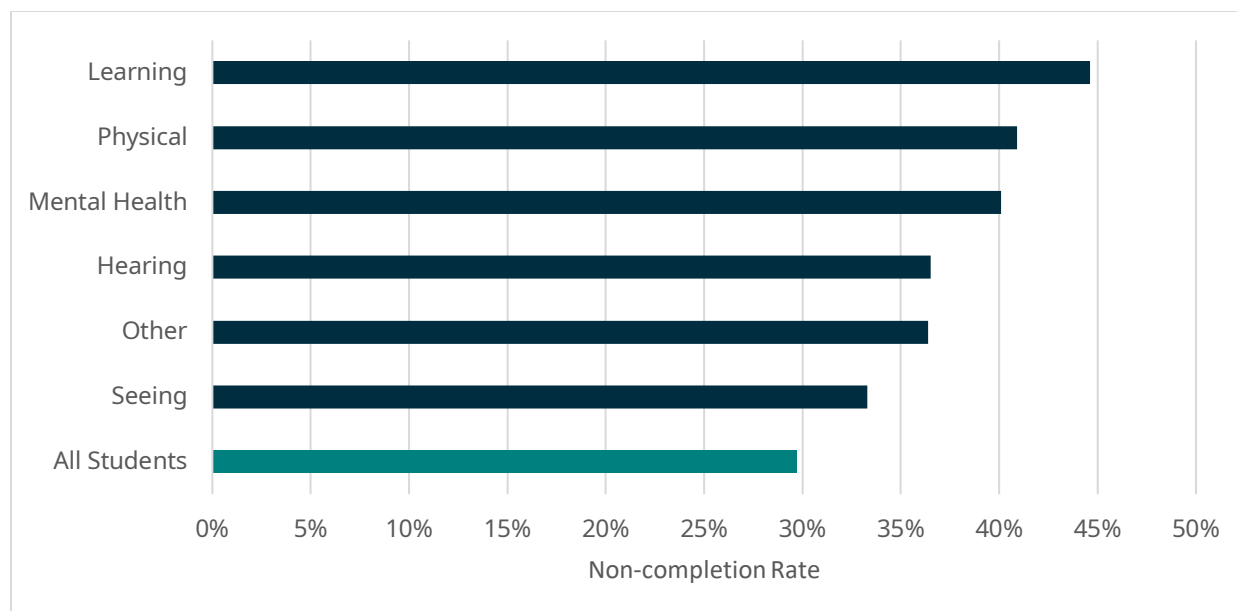
Across most Indigenous or racial identities, non-completers had worse earnings outcomes than completers from the same group. For example, Korean and Japanese non-completers earned 16% less than white non-completers, while completers from this group earned only 3% less than white completers. This did not hold true, however, for West Asian completers, who earned much less (-20% compared to white completers) versus West Asian non-completers (-8% compared to white non-completers). We cannot postulate, at this stage, why these patterns exist for specific racialized groups; further investigation would allow researchers to better understand how the unique circumstances of these communities affect their earnings outcomes.

Figure 3 shows that students with mental, physical or learning disabilities had high non-completion rates, while Figure 4 shows they had among the lowest earnings one year after

leaving PSE. Students with disabilities had higher six-year non-completion rates than the overall student population (which includes students with disabilities), which was 29%.

Figure 3

Six-year PSE Non-completion Rates by Disability Status and Type



Sources: PSIS, RAIS, 2016 Census

Note: This figure shows six-year non-completion rates (%) by disability status and type.

Non-completion rates varied by disability type: students with learning (45%), physical (41%) and mental health (40%) disabilities had the highest rates, while rates for students with hearing (37%) and seeing (33%) disabilities were slightly lower. These differences were significant in regression analyses, which revealed that men with mental health disabilities were particularly at risk of non-completion: they were 14% less likely to complete than women with mental health disabilities (See Appendix Table 1). Previous HEQCO research has shown that, relative to other disability types, students with hearing and seeing disabilities were more likely to access PSE and had more favourable labour market outcomes (Chatoor, 2021).

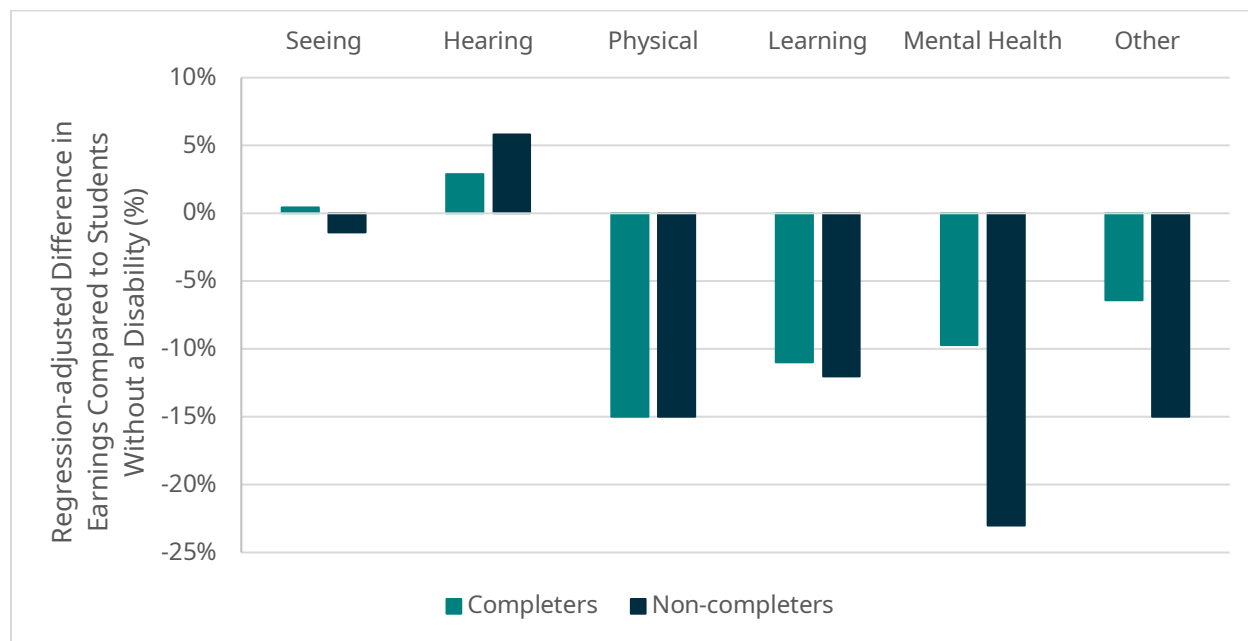
High non-completion rates among students with disabilities may be linked to barriers they face when seeking accommodations from their institutions. Students have increasingly presented with mental health disabilities since the mid-2010s, and institutional offices have struggled to meet rising demand for accommodations (Condra et al., 2015; De Costa et al., 2022; [Lanthier et al., 2023](#)). This is an evolving issue; recent data show that students with disabilities are accessing PSE in greater numbers, and they will need adequate accommodations to persist and complete their programs. Meeting this growing demand will place further strain on institutional staff, making accessibility an important priority for government and PSE institutions now and in the coming years.

Regression analyses, illustrated in Figure 4, showed that students with disabilities typically had lower earnings after non-completion, relative to non-completers without disabilities. This is

further evidence of compounding access challenges: in addition to having higher non-completion rates, students with mental health (-23%), physical (-15%) or learning (-12%) disabilities earned less after non-completion than their peers without disabilities (see Appendix Table 3).

Figure 4

Regression-adjusted Difference in Earnings for Students with Disabilities One Year After Non-completion, by Disability Type, Compared to Students Without a Disability



Sources: PSIS, RAIS, 2016 Census, T1FF

Note: This figure shows regression-adjusted differences in earnings one year after leaving PSE, by disability type and non-completion status, compared to students without disabilities.

These findings are consistent with literature showing less favorable labour market outcomes for students with disabilities — and especially for those with mental health and physical disabilities (Chatoor, 2021). Completers and non-completers with physical disabilities both earned 15% less than students without disabilities. The effects of non-completion on earnings outcomes were particularly profound for students with mental health disabilities. Compared to non-completers without disabilities, non-completers with mental health disabilities earned 23% less, while completers with mental health disabilities earned only 9% less.

Household structure had considerable impacts on likelihood of non-completion and earnings of CSFA recipients one year after leaving PSE.

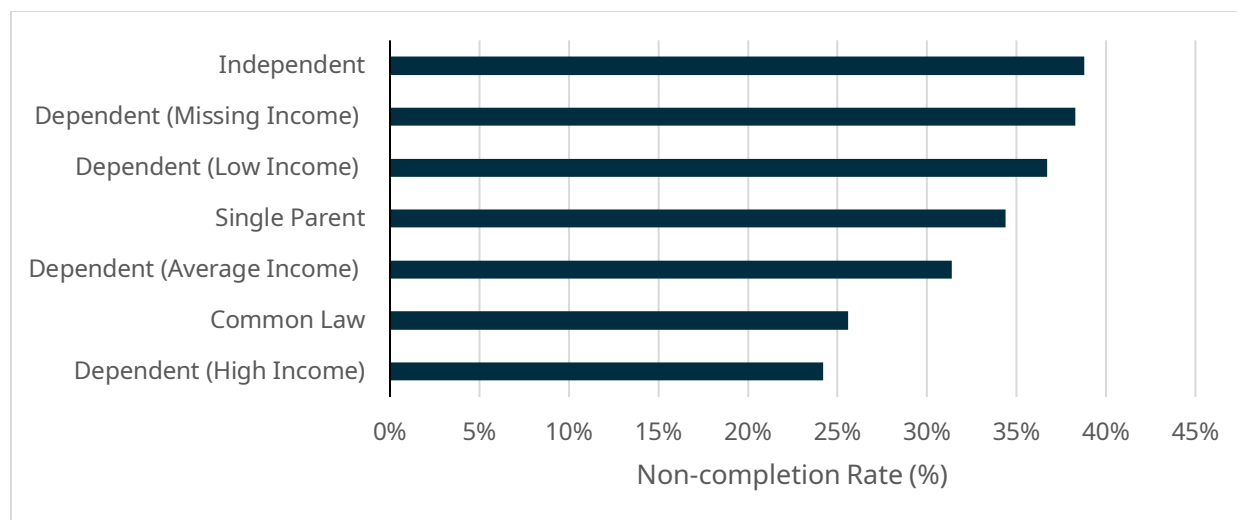
Figure 5 shows variation in non-completion rates by household structure: a term that includes whether students were dependent or independent, the parental income levels for dependent students, single parenthood status and common law status.⁸ These findings are restricted to

⁸ A 'dependent' is a student who: is not married or in a common-law relationship; is not separated, divorced or widowed; is not a sole-support parent; has been out of high school for less than four years before the start of their study period; and has not worked

students who received federal aid in their first year of study and are not representative of all incoming students.

Figure 5

Non-completion Rates by Household Structure



Sources: PSIS, RAIS, CSFA

Note: This figure shows six-year non-completion rates (%) by household structure, which includes whether students were dependent or independent, parental income levels for dependent students, single parent status and common law status. This analysis is restricted to students who received federal student aid in their first year of study.

Independent students (39%) and single parents (34%) had among the highest non-completion rates. Dependent students' non-completion rates were correlated with parental income: within this group, dependents with low (37%) or missing (38%) parental income (i.e., households that did report any income) had the highest non-completion rates, while dependents with average (31%) or high (24%) parental income had lower non-completion rates (see Appendix Table 2). These data are consistent with Van Bussel and Fecteau's (2022) finding that students in the highest parental income quartile persisted and graduated from postsecondary institutions at higher rates than students from the lowest parental income quartile. These data also highlight the key role parental income plays in whether students complete their credentials. Parental income is an important factor in social capital, which influences the types of resources (such as career and academic services) and opportunities (such as experiential learning and study abroad programs) that students can access as they navigate PSE (Lehmann, 2019).

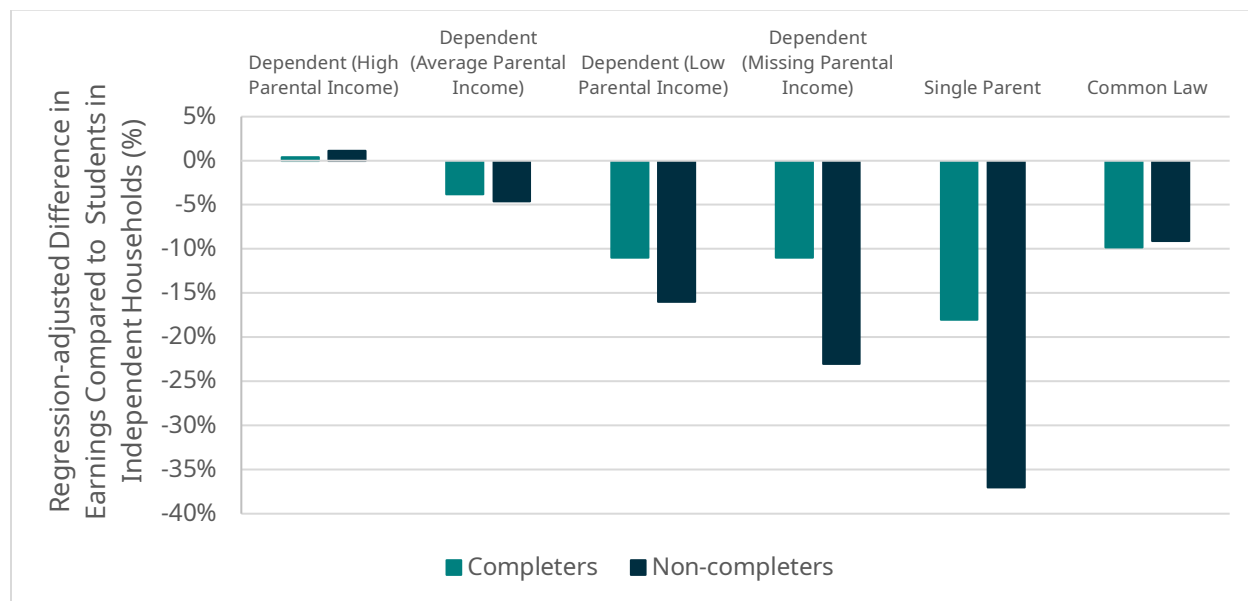
Like non-completion rates, earnings among dependent non-completers were closely tied to parental income. Figure 6 shows that students from missing or lower parental income households earn less after graduation than those from higher parental income households. This holds true for both completers and non-completers. PSE is often viewed as a tool that promotes social mobility (Creusere et al., 2019); however, students from low-income backgrounds continue to earn less one year after leaving PSE, regardless of whether they complete their

full time for at least 24 months in a row (Government of Ontario, 2023). Students who do not meet all of these criteria are considered independent.

credentials. This suggests that while completing a PSE credential may generally promote economic benefits, these benefits are not experienced equitably across different groups.

Figure 6

Regression-adjusted Differences in Earnings One Year After Leaving PSE by Household Structure and Non-Completion Status, Compared to Independent Students.



Sources: PSIS, RAIS, CSFA, T1FF

Note: This figure shows regression-adjusted differences in earnings one year after leaving PSE, by household structure and non-completion status, compared to independent students. This analysis is restricted to students who received federal student aid in their first year of study.

Being a single parent had a considerable effect on earnings, with non-completers in this category earning 37% less than independent non-completers. Non-completion affected these students more: single parents and dependents with missing parental income who did not complete their credentials earned considerably less than their completer counterparts (see Appendix Table 4).

Overall, these data on non-completion and earnings outcomes, combined with literature indicating that students from lower income backgrounds are less likely to attend PSE (Finnie et al., 2011; Frenette, 2017), show that students with some household structures experience unequal outcomes throughout PSE and into the workforce. There are several factors that may influence these observations, such as compounding social capital effects (e.g., being in both a low-income and single-parent household) and access to institutional resources (e.g., career services and experiential learning) for completers versus non-completers. Future research is required to understand the underlying causes of these differences.

Conclusion

The ELMLP offers excellent potential for improving our understanding of non-completion and other system-level issues in Ontario's PSE sector. HEQCO's [first report](#) using this dataset (in partnership with the SRDC) found that nearly one in four students did not complete PSE eight years after starting a credential. These findings raised questions about whether and how non-completion varied across student groups (Colyar et al., 2023).

Findings from this report illustrate that student characteristics such as Indigenous and racial identity, disability status and household structure had considerable effects on non-completion and subsequent labour market outcomes. Many of the same students who struggled to gain entry to PSE also experienced compounding access barriers through and out of PSE. They were less likely to graduate and less likely to see their investments result in positive labour market outcomes.

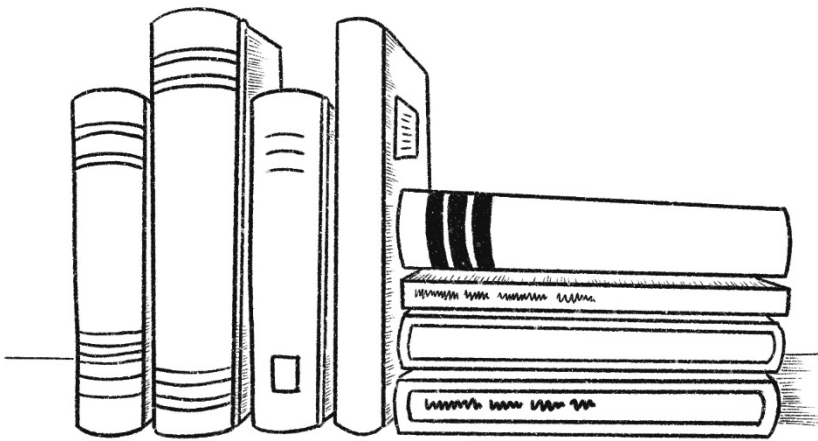
This report established the potential of leveraging the ELMLP to examine completion rates and earnings across multiple sociodemographic factors. Researchers can explore underlying causes for why some sociodemographic characteristics are linked to higher non-completion rates, or why a relationship exists between PSE access rates, non-completion and earnings. Qualitative research using an intersectional lens would allow for more detailed and nuanced analyses of how different identities intersect and affect completion and earnings outcomes. Our findings on students with disabilities, for example, reveal less favourable earnings outcomes for non-completers with mental health disabilities, but more research is needed to understand why. ELMLP data will also be an important tool for researchers to consider connections between early education experiences in the K-12 sector, PSE access and retention and labour market outcomes.

Our study presents an opportunity for stakeholders to reflect on how we think broadly about access. Government and PSE institutions invest significantly in ensuring all students have opportunities to attend PSE out of high school. These data show that institutions and government still have work to do to ensure all students have equitable opportunities to succeed in their studies, complete their credentials and excel in the labour market.

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Examining the Role of Sociodemographic Characteristics in Postsecondary Non- completion and Labour Market Outcomes

Appendix

Table 1

Regression results: Six-year non-completion outcomes controlling for census and PSIS indicators (Non-completion=1)

Census Indicators	All students	Males	Females
Indigenous or racial identity (white)			
First Nations	0.10*** (0.012)	0.11*** (0.018)	0.097*** (0.012)
Métis	0.030 (0.015)	0.038 (0.022)	0.025 (0.020)
South Asian (e.g., Pakistani, Sri Lankan)	0.052** (0.016)	0.055** (0.019)	0.049** (0.016)
Chinese	-0.031** (0.0093)	-0.032** (0.0097)	-0.031** (0.011)
Black	0.14*** (0.0090)	0.16*** (0.014)	0.13*** (0.0095)
Filipino	0.058*** (0.015)	0.054** (0.019)	0.061*** (0.014)
Latin American	0.043** (0.013)	0.073*** (0.015)	0.020 (0.018)
Arab	0.069*** (0.015)	0.100*** (0.021)	0.035* (0.014)
Southeast Asian (e.g., Vietnamese, Thai)	0.035 (0.019)	0.015 (0.021)	0.054* (0.021)
West Asian (e.g., Iranian, Afghan)	0.14*** (0.023)	0.14*** (0.026)	0.14*** (0.028)
Korean or Japanese	0.070** (0.024)	0.084** (0.031)	0.057* (0.023)
Multiple or other identity	0.042*** (0.0072)	0.041*** (0.0097)	0.043*** (0.0095)
Home language (English only)			
French	-0.016 (0.011)	-0.028 (0.015)	-0.0055 (0.013)
Other	-0.0011 (0.0055)	-0.0080 (0.0097)	0.0055 (0.0056)
Multiple	0.016** (0.0060)	0.016 (0.0095)	0.016* (0.0068)
Immigration generation (3 rd gen+)			
2 nd generation	0.030*** (0.0077)	0.036*** (0.0091)	0.025** (0.0081)
1 st generation	-0.0042 (0.0096)	-0.0014 (0.013)	-0.0079 (0.0088)

Census Indicators	All students	Males	Females
Activity limitation variables (none)			
Seeing	0.018** (0.0053)	0.012 (0.0087)	0.022** (0.0075)
Hearing	-0.014 (0.010)	-0.012 (0.018)	-0.018 (0.012)
Physical	0.036** (0.012)	0.031 (0.020)	0.038** (0.011)
Learning	0.084*** (0.0078)	0.087*** (0.012)	0.079*** (0.0098)
Mental health	0.11*** (0.0078)	0.14*** (0.0100)	0.098*** (0.0085)
Other	0.013 (0.0070)	0.0030 (0.012)	0.020* (0.0096)
PSIS indicators			
Age at PSE entry (age 18)			
Age 16–17	-0.024* (0.010)	-0.039** (0.012)	-0.013 (0.015)
Age 19	0.086*** (0.0081)	0.087*** (0.011)	0.083*** (0.0072)
Age 20–24	0.079*** (0.0090)	0.074*** (0.011)	0.083*** (0.0092)
Age 25–34	-0.0068 (0.013)	-0.037* (0.016)	0.016 (0.013)
Age 35–54	-0.033** (0.012)	-0.064** (0.018)	-0.017 (0.011)
Age 55+	0.020 (0.031)	0.023 (0.046)	0.018 (0.037)
Male/female (female)			
Male	0.12*** (0.0045)		
CSLP student aid (none)			
Accessed funding in first year	0.039*** (0.0039)	0.042*** (0.0058)	0.037*** (0.0042)
Entry cohort (2011)			
2012	-0.010 (0.0091)	-0.010 (0.0098)	-0.010 (0.010)
2013	-0.020 (0.014)	-0.014 (0.015)	-0.024 (0.015)
2014	-0.018 (0.016)	-0.010 (0.016)	-0.025 (0.017)
Entry program level (BA)			

Census Indicators	All students	Males	Females
Certificate program	0.046	0.039	0.055*
	(0.025)	(0.026)	(0.026)
Diploma program	0.070**	0.076**	0.069*
	(0.024)	(0.025)	(0.026)
Entry field of study (education)			
Arts	0.10**	0.12**	0.10**
	(0.030)	(0.044)	(0.030)
Humanities	0.13***	0.18***	0.11**
	(0.033)	(0.043)	(0.032)
Social Sciences	0.093**	0.14**	0.079**
	(0.028)	(0.043)	(0.027)
Business	0.062*	0.092*	0.054*
	(0.025)	(0.039)	(0.023)
Sciences	0.083**	0.11**	0.076**
	(0.027)	(0.042)	(0.026)
Math or Computer Science	0.17***	0.20***	0.18***
	(0.029)	(0.042)	(0.039)
Engineering	0.058	0.084	0.084**
	(0.030)	(0.043)	(0.027)
Agriculture or Resources	0.038	0.062	0.038
	(0.036)	(0.050)	(0.036)
Health	0.015	0.046	0.0032
	(0.028)	(0.046)	(0.025)
Service fields	0.069*	0.093*	0.069*
	(0.029)	(0.044)	(0.028)
Other or multiple fields	0.12***	0.18***	0.096***
	(0.026)	(0.047)	(0.022)
Intercept	0.046	0.12**	0.061*
	(0.025)	(0.041)	(0.023)
Weighted observations	517,000	239,000	278,000
	0.069	0.050	0.055
R²	0.069	0.050	0.055

Note: This table shows the weighted results of linear probability models measuring non-completion six years after starting a certificate, diploma or undergraduate program in Ontario among people who completed the 2016 long-form census. Column one shows the results for the entire sample, while columns two and three show the results for male- and female-only samples. The explanatory variables included in the model are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Cluster robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 2

Regression results: Six-year non-completion outcomes controlling for student aid and PSIS indicators (Non-completion=1)

Student aid indicators	Student aid indicators only	Student aid and PSIS indicators
Assessment group (independent)		
Dependent, high parental income	-0.14*** (0.021)	-0.056*** (0.0090)
Dependent, average parental income	-0.077*** (0.015)	-0.017** (0.0057)
Dependent, low parental income	-0.024 (0.014)	0.028*** (0.0073)
Dependent, missing parental income	-0.00036 (0.024)	0.035* (0.017)
Single parent	-0.027** (0.0093)	0.050*** (0.0090)
Common law	-0.12*** (0.015)	-0.054*** (0.011)
Received disability-related grant (no)		
Yes	0.075*** (0.0094)	0.050*** (0.0076)
Received other type of grant (no)		
Yes	0.034*** (0.0088)	0.033*** (0.0079)
Total aid amount (1st–10th decile)		
	-0.0071** (0.0025)	-0.0020 (0.0020)
PSIS indicators		
Age at PSE entry (age 18)		
Age 16–17		-0.20 (0.0099)
Age 19		0.092*** (0.0066)
Age 20–24		0.11*** (0.011)
Age 25–34		0.018 (0.015)
Age 35–54		-0.015 (0.017)
Age 55+		0.062 (0.037)
Male/female (female)		
Male		0.12***

Student aid indicators	Student aid indicators only	Student aid and PSIS indicators
		(0.0045)
Immigration status at entry (Canadian citizen)		
Landed immigrant or refugee		-0.021 (0.011)
Missing		-0.020 (0.026)
Entry cohort (2011)		
2012		-0.015 (0.0088)
2013		-0.027 (0.015)
2014		-0.022 (0.016)
Entry program level (BA)		
Certificate program		0.040 (0.024)
Diploma program		0.055* (0.023)
Entry field of study (Education)		
Arts		0.11*** (0.030)
Humanities		0.15*** (0.033)
Social Sciences		0.096** (0.029)
Business		0.067* (0.026)
Sciences		0.090** (0.028)
Math or Computer Science		0.16*** (0.029)
Engineering		0.071* (0.030)
Agriculture or Resources		0.022 (0.034)
Health		0.010 (0.030)
Service fields		0.079** (0.028)
Other or multiple fields		0.077** (0.024)

Student aid indicators	Student aid indicators only	Student aid and PSIS indicators
Intercept	0.40*** (0.027)	0.15*** (0.026)
Observations	251,860	251,860
R ²	0.017	0.057

Note: This table shows the results of linear probability models measuring non-completion six years after starting a certificate, diploma or undergraduate program in Ontario among people who received CSLP student aid in their first year. For the categorical explanatory variables, the reference group for each variable is in parentheses next to the bolded variable title. Cluster robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 3

Regression results: Log earnings one year after PSE controlling for completion, census and PSIS indicators

Completion indicators	All	Graduates	Non-completers
Completion status by year six (grad)			
Non-completer	-0.47*** (0.040)		
Time since start of PSE enrollment			
	0.093*** (0.0097)	0.073*** (0.012)	0.15*** (0.0072)
Completion*time Interaction			
	0.047*** (0.0075)		
Census indicators			
Indigenous or racial identity (white)			
First Nations	-0.17*** (0.034)	-0.15*** (0.039)	-0.22** (0.063)
Métis	-0.0072 (0.045)	-0.016 (0.043)	0.0024 (0.081)
South Asian (e.g., Pakistani, Sri Lankan)	-0.068*** (0.015)	-0.051** (0.018)	-0.11** (0.036)
Chinese	-0.11** (0.038)	-0.10* (0.038)	-0.11* (0.046)
Black	-0.17*** (0.017)	-0.15*** (0.020)	-0.19*** (0.034)
Filipino	-0.054* (0.026)	-0.066 (0.034)	-0.037 (0.034)
Latin American	-0.074* (0.030)	-0.052 (0.034)	-0.11* (0.047)
Arab	-0.18*** (0.042)	-0.18*** (0.044)	-0.18* (0.079)
Southeast Asian (e.g., Vietnamese, Thai)	-0.077* (0.031)	-0.059 (0.033)	-0.12 (0.061)

West Asian (e.g., Iranian, Afghan)	-0.15**	-0.20**	-0.079
	(0.047)	(0.061)	(0.099)
Korean or Japanese	-0.073	-0.031	-0.16
	(0.044)	(0.043)	(0.081)
Multiple or other identity	-0.095***	-0.084***	-0.11***
	(0.016)	(0.021)	(0.029)
Home language (English only)			
French	0.12***	0.13***	0.072
	(0.025)	(0.023)	(0.062)
Other	-0.064**	-0.070***	-0.040
	(0.022)	(0.020)	(0.045)
Multiple	-0.044**	-0.041**	-0.060
	(0.013)	(0.012)	(0.032)
Immigration generation (3 rd gen+)			
2 nd generation	-0.053***	-0.058***	-0.046
	(0.014)	(0.014)	(0.024)
1 st generation	-0.054**	-0.062**	-0.030
	(0.017)	(0.019)	(0.029)
Activity limitation dummy variables (none)			
Seeing	-0.0024	0.0041	-0.014
	(0.013)	(0.017)	(0.032)
Hearing	0.041	0.029	0.058
	(0.032)	(0.030)	(0.061)
Physical	-0.16***	-0.15***	-0.15*
	(0.024)	(0.033)	(0.061)
Learning	-0.12***	-0.11***	-0.12***
	(0.018)	(0.022)	(0.031)
Mental health	-0.15***	-0.097***	-0.23***
	(0.013)	(0.014)	(0.016)
Other	-0.093***	-0.064**	-0.15***
	(0.021)	(0.022)	(0.039)
PSIS indicators			
Age at PSE entry (age 18)			
Age 16–17	0.0088	0.014	-0.035
	(0.044)	(0.038)	(0.11)
Age 19	-0.045***	-0.063***	0.0063
	(0.012)	(0.013)	(0.019)
Age 20–24	-0.0049	-0.030	0.048
	(0.015)	(0.015)	(0.024)
Age 25–34	0.14***	0.095***	0.23***
	(0.028)	(0.020)	(0.061)
Age 35–54	0.17***	0.11***	0.34***
	(0.028)	(0.024)	(0.057)

Age 55+	-0.47*	-0.45*	-0.58
	(0.19)	(0.19)	(0.36)
Male/female (female)			
Male	0.076***	0.060***	0.13***
	(0.011)	(0.0084)	(0.027)
CSLP student aid (none)			
Accessed funding in first year	-0.044***	-0.031**	-0.082***
	(0.0087)	(0.0093)	(0.017)
Entry cohort (2011)			
2012	0.022	0.036*	-0.00090
	(0.013)	(0.013)	(0.022)
2013	0.040**	0.070***	-0.042
	(0.013)	(0.014)	(0.023)
2014	0.038*	0.066***	-0.031
	(0.015)	(0.018)	(0.024)
Entry program level (BA)			
Certificate program	-0.21***	-0.32***	-0.079
	(0.033)	(0.041)	(0.041)
Diploma program	-0.11***	-0.16***	-0.050
	(0.028)	(0.040)	(0.031)
Entry field of study (Engineering)			
Education	-0.31***	-0.34***	-0.28*
	(0.051)	(0.058)	(0.11)
Arts	-0.48***	-0.56***	-0.30***
	(0.040)	(0.045)	(0.047)
Humanities	-0.44***	-0.53***	-0.26***
	(0.035)	(0.034)	(0.032)
Social Sciences	-0.34***	-0.38***	-0.23***
	(0.030)	(0.034)	(0.031)
Business	-0.19***	-0.22***	-0.12***
	(0.019)	(0.023)	(0.033)
Sciences	-0.35***	-0.42***	-0.14**
	(0.038)	(0.041)	(0.046)
Math or Computer Science	-0.11*	-0.088	-0.13**
	(0.045)	(0.051)	(0.046)
Agriculture or Resources	-0.28***	-0.33***	-0.15
	(0.041)	(0.041)	(0.087)
Health	-0.12***	-0.14***	-0.097*
	(0.032)	(0.036)	(0.039)
Service fields	-0.22***	-0.31***	-0.042
	(0.023)	(0.027)	(0.024)
Other or multiple fields	-0.16**	-0.24***	0.030
	(0.049)	(0.044)	(0.098)

Intercept	10.2***	10.4***	9.59***
	(0.047)	(0.064)	(0.049)
Weighted observations	243,000	181,000	62,500
R²	0.14	0.11	0.12

Note: This table presents the weighted results of OLS models examining CIP adjusted log earnings (excluding those who earned \$0) one year after a student left or graduated from a PSE program. Each column represents a separate model: an entire 2016 census sample model (column 1); a graduate-only 2016 census sample model (column 2); and a non-completer 2016 census sample model (column 3). The majority of explanatory variables included in the model — other than the elapsed time since the start of PSE enrollment — are categorical and the reference group for each variable is in parentheses next to the bolded variable title. Cluster robust standard errors are in parentheses under each coefficient. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 4

Regression results: Ontario CSLP student aid sample regression results — log earnings one year after PSE controlling for completion, student aid and PSIS indicators

Completion indicators	All	Graduates	Non-completers
Completion status by year six (grad)			
Non-completer	-0.52***		
	(0.024)		
Time since start of PSE enrollment			
	0.094***	0.070***	0.16***
	(0.0094)	(0.011)	(0.0072)
Completion*time Interaction			
	0.050***		
	(0.0055)		
Student aid indicators			
Assessment group (independent)			
Dependent, high parental income	0.0043	0.0043	0.011
	(0.020)	(0.021)	(0.031)
Dependent, average parental income	-0.040*	-0.038*	-0.046
	(0.015)	(0.016)	(0.028)
Dependent, low parental income	-0.13***	-0.11***	-0.16***
	(0.015)	(0.016)	(0.024)
Dependent, missing parental income	-0.16***	-0.11***	-0.23***
	(0.018)	(0.025)	(0.036)
Single parent	-0.25***	-0.18***	-0.37***
	(0.018)	(0.021)	(0.050)
Common law	-0.10***	-0.098***	-0.091**
	(0.022)	(0.026)	(0.032)
Received disability-related grant (no)			
Yes	-0.22***	-0.20***	-0.26***
	(0.016)	(0.017)	(0.027)
Received other type of grant (no)			
	-0.049***	-0.048***	-0.041*
	(0.011)	(0.013)	(0.018)
Total aid amount (1st–10th decile)			

	0.00089	0.0029	-0.0050
	(0.0021)	(0.0021)	(0.0029)
PSIS indicators			
Age at PSE entry (age 18)			
Age 16-17	-0.092**	-0.051	-0.23***
	(0.033)	(0.034)	(0.059)
Age 19	-0.039***	-0.047***	-0.014
	(0.0094)	(0.012)	(0.011)
Age 20-24	-0.039**	-0.047**	-0.025
	(0.011)	(0.014)	(0.020)
Age 25-34	0.063***	0.033	0.11**
	(0.015)	(0.020)	(0.032)
Age 35-54	0.062*	0.0015	0.19***
	(0.023)	(0.026)	(0.049)
Age 55+	-0.60***	-0.60***	-0.62*
	(0.12)	(0.16)	(0.27)
Male/female (female)			
Male	0.076***	0.058***	0.12***
	(0.011)	(0.0092)	(0.021)
Immigration status at entry (Canadian citizen)			
Landed immigrant or refugee	-0.037*	-0.041*	-0.030
	(0.018)	(0.018)	(0.025)
Missing or unknown	0.066	0.053	0.082
	(0.041)	(0.073)	(0.057)
Entry cohort (2011)			
2012	0.024*	0.047***	-0.010
	(0.011)	(0.011)	(0.014)
2013	0.042***	0.074***	-0.031
	(0.011)	(0.012)	(0.021)
2014	0.057***	0.082***	0.0082
	(0.014)	(0.016)	(0.023)
Entry program level (BA)			
Certificate program	-0.23***	-0.36***	-0.045
	(0.035)	(0.044)	(0.030)
Diploma program	-0.078*	-0.15***	0.018
	(0.030)	(0.041)	(0.022)
Entry field of study (Engineering)			
Education	-0.28***	-0.32***	-0.17**
	(0.060)	(0.063)	(0.056)
Arts	-0.48***	-0.55***	-0.32***
	(0.039)	(0.044)	(0.031)
Humanities	-0.44***	-0.54***	-0.25***
	(0.039)	(0.041)	(0.029)

Social Sciences	-0.32 ^{***}	-0.37 ^{***}	-0.23 ^{***}
	(0.031)	(0.037)	(0.025)
Business	-0.19 ^{***}	-0.21 ^{***}	-0.15 ^{***}
	(0.018)	(0.020)	(0.025)
Sciences	-0.40 ^{***}	-0.48 ^{***}	-0.19 ^{***}
	(0.043)	(0.045)	(0.039)
Math or Computer Science	-0.11 ^{**}	-0.093 [*]	-0.12 ^{**}
	(0.035)	(0.042)	(0.037)
Agriculture or Resources	-0.25 ^{***}	-0.31 ^{***}	-0.11
	(0.045)	(0.052)	(0.058)
Health	-0.10 ^{**}	-0.12 ^{**}	-0.11 ^{**}
	(0.032)	(0.035)	(0.034)
Service fields	-0.23 ^{***}	-0.30 ^{***}	-0.11 ^{***}
	(0.025)	(0.027)	(0.026)
Other or multiple fields	-0.24 ^{***}	-0.29 ^{***}	-0.089
	(0.028)	(0.033)	(0.050)
Intercept	10.2 ^{***}	10.3 ^{***}	9.48 ^{***}
	(0.039)	(0.060)	(0.049)
Observations	116,410	83,550	32,860
R²	0.14	0.11	0.11

Note: This table presents the results of OLS models examining CIP-adjusted log earnings (excluding those who earned \$0) one year after a student left or graduated from a PSE program. For the categorical explanatory variables, the reference group for each variable is in parentheses next to the bolded variable title. Cluster robust standard errors are in parentheses under each coefficient.
* p < 0.05, ** p < 0.01, *** p < 0.001.