Examining the Postsecondary Enrolment of Low-Income Mature Students in Canada

Victoria Fritz, University of Guelph
Tricia van Rhijn, University of Guelph

Abstract: This exploratory study deepens current understandings of low-income mature students in Canadian postsecondary institutions, by clarifying who constitutes this population and through providing demographic characteristics that describe this population of study. Individual, family, and institutional characteristics of low-income mature students were examined using 2011 Survey of Labour and Income Dynamics data. Low-income mature students were predominantly male, studying full-time in university, and averaged 33.29 years of age. In addition, comparisons of gender and institutional differences indicated that female low-income mature students were older and had more children and larger household sizes. Low-income mature students in college were more likely to have children and had larger household sizes. Overall, 5% of all post-secondary students were found to be low-income mature students, suggesting that this is not an insignificant population. This study is the first to examine the enrolment patterns of Canadian low-income mature students and demonstrates that further study of this unique group is required.

Keywords: Mature Student, Low-Income Students, postsecondary Education, Higher Education, Nontraditional Students

Introduction

The importance of postsecondary education (PSE) is well documented in relation to employment success and future earnings (Bergman, Gross, Berry, & Shuck, 2014). Despite the benefits, access to—and subsequent enrolment in—postsecondary institutions is not equitable for many, including low-income, mature, and Indigenous students. The complex decision to enter postsecondary study includes several inhibitory factors that can manifest as barriers to access (i.e., obstacles that limit application to, acceptance in, or overall participation in postsecondary study). To ensure equitable access, a focus on underrepresented groups is needed. Researchers have demonstrated the importance of examining low-income students (e.g., Junor & Usher, 2004) and, with expanding student demographics, mature students (e.g., Kerr, 2011). Yet, little is known about low-income mature students, a vulnerable group that occupies multiple marginalized identities. It is clear that both low-income students and mature students face unique challenges in entering PSE. This study seeks to better understand low-income mature students as this group of students may experience two sets of barriers and challenges by virtue of being mature and low-income.

The decision to study at the postsecondary level is influenced by many factors. Despite the importance of higher education, there is a disconnect between targeted PSE completion and actual enrolment numbers. For example, in Ontario, the Government of Ontario had a 70% target for completion of postsecondary education (PSE) by 2020 (Ontario, 2015), yet studies suggest enrolment may actually be declining, particularly for traditional students via direct entry from high-school (Berger, 2008; Council of Ontario Universities, 2018). Educational institutions must look to underrepresented and non-traditional groups to fill enrolment gaps to address this decline by increasing access to PSE to these groups, such as low-income, first-generation (Social Research and Demonstration Corporation, 2009), and mature students (Kerr, 2011). Nevertheless, access to PSE continues to be inequitable (Dooley, Payne, & Robb, 2009; Junor & Usher, 2004; Mueller, 2008; Weingarten, Hicks, Jonker, Smith, & Arnold, 2015).

Student demographics continue to change as individuals return to formal schooling to reap the benefits of a higher education. These shifts signify that more students from diverse socioeconomic and cultural backgrounds, diverse life-situations, and with unique goals and motivations are attending PSE (Schuetze & Slowey, 2002), including mature students. In 2013, mature students (those 25 and older) represented 23.3% of all Canadian PSE students (Statistics Canada, 2013b), suggesting that mature students represent a significant minority population who likely have unique needs. Van Rhijn, Quosai and Lero (2011) demonstrate a significant growth in the number of female students attending postsecondary schooling. They also suggest that student parents are more likely to be female and are likely to have their own unique challenges in accessing postsecondary education (2011). It is clear that the diverse demographics on Canadian postsecondary campuses means that there are a number of unique factors to consider when researching Canadian students, including age, gender, income-level, and Indigenous status, etc.

While some investigation of the unique needs of mature student has been conducted (e.g., Davidson & Holbrook, 2014; Kerr, 2011; MacFadgen, 2007; van Rhijn, Bridge, Lero, & Fritz, 2016a), only a few studies investigate low-income mature students in particular (e.g., Campbell, 2005; Tones, Fraser, Elder, & White, 2009). Tones and colleagues (2009) identified that mature, low-income students (in Australia) are especially sensitive to factors related

to PSE access. Further, PSE attainment is how many low-income adults escape low-wage employment (Tones et al., 2009). Finally, Campbell (2005) demonstrated that low-income mature students (in the United States) were highly likely to be supporting children as single parents, subsequently adding stress and anxiety in addition to financial struggles. Campbell further suggested that these students are an important group that require further study in order to improve clarity around who this population is and demographic characteristics that define this population of study. In 2011, Indigenous people represented around 4% of the Canadian population (Statistics Canada, 2015). Yet only 48% of Indigenous peoples in Canada had some postsecondary schooling, compared to 65% of the general population (Statistics Canada, 2015), which could be caused by an inequity in access to PSE. Indigenous students are more likely to attend postsecondary schooling later in life (Richards, 2008). Additionally, they face the unique barriers constituted by a lack of cultural representation in PSE, an absence of support throughout the K-12 years of schooling, and a deficiency of available information regarding PSE (Popovic, 2013). It is clear that Indigenous students face additional barriers to entering PSE, as well as those experienced by mature students. An improved understanding of demographics could enhance PSE access for all low-income mature students, helping institutions to not only offset declining enrolment of traditional, direct-entry students, but also address the inequities within access to PSE.

Postsecondary institutions are largely dominated by the middle and upper class (Hoy, Christofides, & Cirello, 2001). Not surprisingly, class exclusion echoes throughout the literature with a general consensus that students who are economically disadvantaged (i.e., from low-income backgrounds) are disproportionately less likely to pursue PSE, as comparted to those from middle–upper class backgrounds (Belley, Frenette, & Lochner, 2014; Dooley et al., 2012; Frenette, 2004). Reasons for class exclusion include the reality that low-income students are more likely to be: misinformed about PSE costs (Gault, Reichlin, & Román, 2014), financially independent, perceive PSE as unaffordable, and less likely to have parental financial support (Gault et al., 2014; Junor & Usher, 2004). Furthermore, debt-aversion is a common inhibiting factor for low-income individuals as it prohibits one from deciding to pursue PSE (Junor & Usher, 2004). Children from low-income neighbourhoods are less likely to have positive peer and parental support concerning PSE (Frenette, 2004), in addition to disadvantages leading to grade-level underperformance in high school (Frempong, Ma, & Mensah, 2011; Mueller, 2008). Additionally, Gault et al. (2014) suggest that low-income students are more likely than their peers to attend PSE part-time due to greater time constraints. For instance, they are more likely to work for financial reasons. Overall, there is strong support demonstrating that growing up low-income has a strong impact on PSE access (e.g., Dooley et al., 2009; Frempong et al., 2011; Frenette, 2004; Junor & Usher, 2004; Mueller, 2008).

Another unique group of students in postsecondary institutions today is mature students. Although mature students often consider the benefits and potential costs of PSE, 'action catalysts' or life events often push mature students towards PSE (Compton, Cox, & Laanan, 2006; Swain & Hammond, 2011). These catalysts provide motivation to study (van Rhijn, Lero & Burke, 2016b). They may be employment-related (e.g., higher salary, promotion, career change; Davies & Williams, 2001), or personal (e.g., providing security for children, goal attainment, experiencing divorce or widowhood; Compton et al., 2006; van Rhijn et al., 2016b). Despite strong catalysts, the decision to enter PSE remains complex. As such, inhibitory factors for low-income students are mirrored for mature students.

In general, financial factors tend to be intensified for nontraditional students, such as mature students (Thomas, 2002). Mature students are more likely to be financially independent than traditional students and have less financial support from outside sources (Gault et al., 2014; Kerr, 2011). Further, mature students are often excluded from traditional means of financial support (e.g., student loans, bursaries; Kerr, 2011; Schuetze & Slowey, 2002). Mature students are more likely to be employed and experience more time constraints than traditional students (Gault et al., 2014), and can experience difficulty studying full-time and engaging in learning-related activities (e.g., enroling in courses, attending office hours, accessing on-campus support services, meeting with peers for group projects; Davidson & Holbrook, 2014; Schuetze & Slowey, 2002).

Finally, mature students are often caring for children or other family members, further complicating finances and inhibiting PSE enrolment. Family responsibilities require time and energy that may take priority over study (Kerr, 2011; Swain & Hammond, 2011; van Rhijn et al., 2016a). Limited financial support for and availability of on-campus childcare makes matters more difficult for those who have children (Schuetze & Slowey, 2002). Consequently, some mature students prioritize family obligations, delaying PSE to a "better" time or choosing part-time study (Compton et al., 2006). Mature students are also more likely to discontinue study (MacFadgen, 2007). Overall, it is clear that

low-income and mature students face unique challenges in their pursuit of PSE. It is likely that low-income mature students are faced with obstacles induced from their situation as being both mature and low-income.

The Current Study

As we have demonstrated, there is a significant gap in the literature related to low-income mature students. For this reason, the following exploratory study examines national-level, Canadian data to determine enrolment rates of low-income mature students and offer a clearer understanding of this group's unique characteristics. The intent is to provide clarity around who constitutes this population and their unique demographic characteristics that describe this population. In this study, the term *mature student* describes undergraduate students aged 25 years or older. Mature students may be studying on a part-time or full-time basis, may have attended or completed prior PSE, and may have been employed prior to entering study. The term *traditional student* describes undergraduate students aged less than 25 years who entered PSE no longer than one year following high-school graduation. Additionally, a traditional student may be studying on a part-time or full-time basis. The term *low-income* utilizes Statistics Canada's low-income cut-offs (LICOs). A LICO "is an income threshold below which a family will likely devote a larger share of its income to the necessities of food, shelter and clothing than an average family would." Calculated using the annual Consumer Price Index (Statistics Canada, 2013a), LICOs incorporate household demographics as well as community size (currently seven family and five community sizes; Statistics Canada, 2013a). The after-tax LICOs were used for this study because they represent the actual funds that are available for necessities (e.g., food, shelter) and additional expenses (e.g., education).

Research Objectives

In order to examine the enrolment of low-income mature students, the following three research objectives were investigated:

1. *To examine provincial differences in college and university enrolment percentages of low-income mature students.* Examination of enrolment trends provide a better understanding of inequity in access (Junor & Usher, 2004) and can help explain issues that are occurring (Dooley et al., 2013). Colleges and Universities are the dominant higher educational institutions in Canada where a student can receive a PSE. Both Colleges and Universities are publicly funded which is why they were included in this study. For-profit colleges and vocational schools were not included.
2. *To examine various individual, family, and institutional characteristics of low-income mature students.* Creating a profile of underrepresented groups helps to provide insight into their unique needs and characteristics and background information to help inform admission processes (Anisef et al., 2013).
3. *To compare low-income mature students using the individual, family, and institutional characteristics described in the second research objective by gender and institution type.* An examination of the literature regarding low-income traditional students suggests that individuals from a low-income background are typically underrepresented in higher education (e.g., Berger et al., 2009; Dooley et al., 2009; Frempong et al., 2011; Frenette, 2004; Junor & Usher, 2004; Mueller, 2008). It is very likely that this phenomenon will also hold true for mature students. Researchers have suggested that mature students are more likely to attend college due to the perception of lower up-front costs, shorter times to completion of study, and the perception of college programs being more hands-on than university programs (e.g., Compton et al., 2006). Similarly, it has been suggested that students from low-income backgrounds are also more likely to attend college (Finnie, Childs, & Wismer, 2011; Junor & Usher, 2004). This phenomenon is likely to hold true for low-income mature students given that they occupy both marginalized identities. Further gender is a significant factor in postsecondary enrolment, especially as it relates to student parents (van Rhijn, Smit Quosai & Lero, 2011). The dataset used in this study included the presence (number) of children that a mature low-income student has. For this reason, it was beneficial to assess the impacts of gender on enrolment. This was done in a manner similar to van Rhijn and colleagues (2011), by conducting a gender-based comparison of low-income mature students.

Methods

Data from the 2011 Survey of Labour and Income Dynamics (SLID; Statistics Canada, 2013b) were accessed through the Statistics Canada Research Data Centres Program. Student status was determined by attendance at a publicly-funded postsecondary institution (i.e., University, College, or CEGEP). Normalized weightings (i.e., standardized weightings; calculated by averaging the mean of the cross-sectional individual weight and dividing each raw weight by this mean) were applied prior to analyzing the data for research objective 3. Descriptive statistics, independent t-tests, and chi-square tests were calculated using SPSS to answer the research objectives. An alpha value of 0.05 was used. Only those individuals who had been registered in postsecondary programs during the reference year (2011) were included.

Results

For research objective 1, university and college enrolment were examined nationally and across the provinces in three sub-categories: mature students, low-income students, and low-income mature students. CEGEPs (Collège d'enseignement général et professionnel) were included for Quebec as they are publicly funded institutions and are considered to be schooling in between secondary and postsecondary levels (Federation des CEGEPs, 2019). Nationally, 41% of all postsecondary students were mature, 11.1% were low-income, and 5.2% were low-income and mature (Table 1). Provincially, Alberta had the highest percentage of each mature and low-income students, while British Columbia had the highest percentage of students who were low-income mature. Mature student enrolment was relatively consistent across provinces (from 39.1% in the Atlantic Provinces to 44.3% in Alberta) with wider variation in low-income student enrolment (from 5.2% in the Atlantic Provinces to 15.0% in Alberta) and low-income mature student enrolment (from 2.2% in the Atlantic Provinces to 7.8% in British Columbia.). The Atlantic Provinces had the lowest enrolment percentages for mature, low-income, and low-income mature students.

Table 1: Enrollment Breakdown by Province

Province	Postsecondary enrollment[a]		Mature enrollment[b]		Low-income enrollment[b]		Mature low-income enrollment[b]	
	n	Percent	*n*	Percent	*n*	Percent	*n*	Percent
Atlantic Provinces[c]	153,853	8.0	60,184	39.1	7,999	5.2	3,358	2.2
Quebec[d]	687,891	10.6	277,974	40.4	82,510	12.0	41,691	6.1
Ontario	1,266,123	11.7	502,420	39.7	119,689	9.5	53,741	4.2
Manitoba	96,393	10.2	41,653	43.2	10,484	10.9	5,962	6.2
Saskatchewan	71,008	9.0	30,196	42.5	8,616	12.1	2,990	4.2
Alberta	321,285	10.8	142,429	44.3	48,138	15.0	17,808	5.5
British Columbia	375,831	10.0	164,301	43.7	52,815	14.1	29,484	7.8
Total	2,972,381	10.7	1,219,157	41.0	330,251	11.1	155,034	5.2

[a]As a percentage of the total population
[b]As a percentage of the total post-secondary student population
[c]Includes New Brunswick, Nova Scotia, PEI, and Newfoundland
[d]Includes CEGEP

For research objective 2, descriptive statistics were used to examine the individual, family, and institutional characteristics of low-income mature students. Of all postsecondary students, 41% were mature, 11% low-income, and 5.2% low-income mature students (Table 2). A majority of the low-income mature students were male (55.2%) and between 25 and 29 years of age (48.3%). Further, 13.5% of the low-income mature students identified as Aboriginal, 58.5% were employed while in school, 49.7% were working full-time, and 50.3% were working part-time.

Table 2: Individual Characteristics of Low-Income Mature Students

Variable	Variable Subcategory	*n*	Percent	*M (SD)*
Age				33.29 (9.50)
Age (Range)	25 – 29	74,821	48.3	
	30 – 34	33,540	21.6	
	35 – 39	19,099	12.3	
	40 – 44	7,100	4.6	
	45 – 49	8,170	5.3	
	50+	12,305	7.8	
Gender	Male	85,608	55.2	
	Female	69,426	44.8	
Aboriginal Status	Yes	20,930	13.5	
	No	134,104	86.5	
Immigrated to Canada	Yes	37,803	24.4	
Age at Immigration				29.44 (9.08)
Age at Immigration (Range)	Under 30	17,805	47.1	
	30 – 39	15,728	41.6	
	40 – 49	4,270	11.3	
Employed	Yes	90,634	58.5	
Employment Status (of those employed)	Full-time	45,087	49.7	
	Part-time	45,547	50.3	
Amount owing on student loan?	Yes	52,128	33.6	
Amount owing on student loan[a]				$25,958.78 (26902.11)

[a]Amount currently owing on student loan at time of survey

The majority of low-income mature students (66.7%) were not partnered (i.e., single, never married, separated, divorced or widowed). Slightly more than one-third had children (36.8%), and the average household size was 2.4 (Table 3). For both maternal and paternal educations, parents were more likely to have a postsecondary degree/diploma than to have a high school diploma or less. The majority of the sample were between 10-50% below the LICO. For these low-income mature students, a majority were full-time (73.7%) and studying at a University (58.2%; Table 4).

Table 3: Family Characteristics of Low-Income Mature Students

Variable	Variable Subcategory	*n*	Percent	*M (SD)*
Household after-tax income	Annual income			9024.38 (5668.00)
Relationship Status	Partnered	51,600	33.3	
	Non-Partnered	103,434	66.7	
Household size (economic family)				2.4 (1.43)
Children/dependents	Yes	57,126	36.8	
	No	97,908	63.2	
Number of children/dependents				0.74 (1.21)
Age of Youngest person in Economic family				23.45 (13.38)
Age of Youngest person in Economic family (Range)	Under 1	7,884	5.1	
	1 – 3	10,013	6.5	
	4 – 6	6,764	4.4	
	7 – 9	9,377	6.0	
	10 – 15	9,519	6.1	
	16 – 24	6,819	4.4	
	25 and older	104,698	67.5	
Ratio of Family After-tax income to the LICO	More than 50% below LICO	61,448	39.6	
	Between 10-50% below LICO	73,033	47.1	
	No more than 10% below LICO	20,554	13.3	
Maternal Education (Range)	High school diploma or less	58,572	41.4	
	Postsecondary degree or diploma	82,900	58.6	
Paternal Education (Range)	High school diploma or less	52,515	38.4	
	Postsecondary degree or diploma	84,382	61.6	

Table 4: Institutional Characteristics of Low-Income Mature Students

Variable	Variable Subcategory	*n*	Percent
Type of Institution	University	90,223	58.2
	College	55,201	35.6
	CEGEP	9,610	6.2
Enrolment Status	Full-time	110,617	73.7
	Part-time	39,496	26.3

For research objective 3, low-income mature student enrolment was compared on the basis of gender and institution type. When compared by gender, maternal education, age, number of children, and household size were found to be statistically different between male and female students (Tables 5 & 6). Mothers of the male students were more likely to have a higher postsecondary qualification than mothers of the female students, and this was observed to have a moderately strong effect size ($\phi_{Cramer} = .29$). The average age of females (35.54) was statistically higher than males (31.47), as was the average number of children (1.24 vs. 0.35). Correspondingly, average household size was significantly larger for females than for males (2.74 vs. 2.11). Average age and household size were observed to have a small to medium effect size ($d = .43$ and .45, respectively) and number of children was observed to have a medium to large effect size ($d = .76$).

Table 5: Comparison of Categorical Characteristics by Gender

Variable	Variable Subcategory	Percent of total[a]		Statistics	
		Male	Female	χ^2	df
Aboriginal Status	Yes	6.7	6.7		
	No	48.5	44	0.23	1
Employment Status	Full-time	29.1	20.3		
	Part-time	35.4	15.2	1.05	1
Maternal Education	High School or below	16.3	25.2		
	Postsecondary degree/diploma	39.8	18.7	10.08**	1
Paternal Education	High School or below	21.7	16.7		
	Postsecondary degree/diploma	37.5	24.2	0.22	1
Partnered	Yes	17.8	15.6		
	No	37.8	28.9	0.14	1
Ratio to LICO	More than 50% below	22.4	17.2		
	10 – 50% below	24.6	22.4		
	Less than 10% below	8.2	5.2	0.50	2
Institution Type	University	37.0	25.2		
	College	17.3	20.5	2.25	1
Enrolment Status	Full-time	38.9	34.4		
	Part-time	16.0	10.7	0.49	1

* $p<0.05$, ** $p<0.01$

[a]As a percent of the total number of mature low-income students

Table 6: Comparison of Institutional Characteristics by Gender

Variable	Male		Female		Statistics[a]		
	M	*SD*	*M*	*SD*	95% CI	*t*	df
Age	31.47	7.77	35.54	10.99	-7.39 (lower) -0.74 (upper)	-2.43*	103.58
After-tax income	8978.49	5989.15	9,080.97	5,345.06	-2,057.32 1,852.37	-0.10	133
Age at immigration	30.22	7.22	28.68	11.00	-5.10 8.17	0.47	31
Amount owing on loan[b]	19,183.17	26,503.50	33,381.39	26,583.42	-30,099.96 1,703.51	-1.80	43
Number of children	0.35	0.80	1.24	1.45	-1.31 -0.47	-4.18**	83.77
Age youngest child in family	25.24	11.03	21.24	15.71	-0.74 8.75	1.68	103.14
Household size	2.11	1.27	2.74	1.55	-1.12 -0.16	-2.63**	133

* $p<0.05$, ** $p<0.01$

[a]Calculated using standardized weightings

[b]Amount owing on student loan at time of survey

When compared by institution type, significant differences were found for several characteristics. Maternal education was higher for those in university, with mothers more likely to have a higher postsecondary qualification than mothers of those in college (Table 7). The effect size was observed to be moderately strong ($\phi_{Cramer} = .27$). Those who were enrolled in college were more likely to have children, younger children, and larger household sizes than those in

university (Table 8). The effect sizes for number of children, age of children, and household were all observed to be medium (d = .57, .44, and .51, respectively).

Table 7: Comparison of Categorical Characteristics by Institution

		Percent of Total[a]		Statistics[b]	
Variable	Variable Subcategory	University	College	χ^2	df
Sex	Male	37.0	17.3		
	Female	25.2	20.5	2.25	1
Aboriginal Status	Yes	8.7	4.8		
	No	53.2	33.3	0.07	1
Employment Status	Full-time	28.4	18.9		
	Part-time	37.8	14.9	1.15	1
Maternal Education	High School or below	19.1	20.0		
	Postsecondary degree/diploma	46.1	14.8	8.69**	1
Paternal Education	High School or below	20.7	15.3		
	Postsecondary degree/diploma	45.0	18.9	1.90	1
Partnered	Yes	18.1	15.0		
	No	44.1	22.8	1.48	1
Ratio to LICO	More than 50% below	28.3	11.8		
	10 – 50% below	18.3	17.3		
	Less than 10% below	5.5	8.7	5.69	2
Enrolment Status	Full-time	45.5	26.0		
	Part-time	17.9	10.6	0.007	1

* p<0.05, **p<0.01
[a]As a percent of the total number of mature low-income students
[b]Calculated using standardized weightings

Table 8: Comparison of Interval Characteristics by Institution

Variable	University		College		Statistics[a]		
	M	*SD*	*M*	*SD*	95% CI	*t*	df
Age	32.14	8.34	34.11	10.27	-5.47 (lower) 1.51 (upper)	-1.13	84.32
After-tax income	8,285.10	5,963.86	10,214.85	5,495.93	-4,028.77 169.26	-1.82	125
Age at immigration	30.40	6.27	27.32	11.36	-3.83 9.99	0.91	28
Amount owing on loan	31,349.86	31,338.57	19,682.69	15,527.74	-3279.23 26,613.57	1.58	37.29
Number of children	.47	1.04	1.17	1.41	-1.18 -0.22	-2.92*	70.77
Age youngest child in family	25.24	12.78	19.50	13.14	1.06 10.42	2.43**	125
Household size	2.14	1.35	2.87	1.52	-1.24 -0.21	-2.78**	125

* p<0.05, **p<0.01
[a]Calculated using standardized weightings

Discussion

Utilizing national-level data, this project examined provincial enrolment differences and individual, family, and institutional characteristics of low-income mature students in postsecondary study, as well as compared their enrolment patterns based on institution type and gender. The purpose of this study was to address the gap in literature related to low-income mature students. The Atlantic Provinces (i.e., P.E.I, Nova Scotia, New Brunswick, and Newfoundland, collectively) yielded the lowest rates of mature, low-income, and low-income mature student enrolment (as a percentage of total postsecondary enrolment). The small number of institutions in the Atlantic Provinces may encourage low-income mature students to leave the province for PSE. Proximity to institutions impacts the decision to enroll at an institution, especially for mature students (van Rhijn et al., 2016b) and low-income students (Frenette, 2004). Despite having the highest overall percentage of postsecondary students, Ontario yielded the second lowest percentages for enrolment of mature, low-income, and low-income mature students. Affordability of education has been identified as a potential significant factor influencing postsecondary study in Ontario for mature, low-income and low-income mature students (Finnie, 2012), and postsecondary institutions are largely dominated by the middle-upper classes (Hoy et al., 2001). Low-income student enrolment in 2011 was just over 11% nationally, suggesting that this middle-upper class domination continues. Although not necessarily surprising, these findings significantly add to the growing evidence for inequity in PSE access. However, changes in postsecondary funding structures (e.g., a 10% reduction in tuition in Ontario; Ontario, 2019) may yield interesting changes low-income mature student enrolment.

Nationally, mature student enrolment was 41%, representing a larger PSE population than low-income students. The highest percentages of both low-income students and mature students were in Alberta. British Columbia had the highest percentage of low-income mature students, more than 2% above the national average. Richards (2008) suggests that Indigenous students are more likely to attend postsecondary schooling at a later stage in life. A higher population of Indigenous students may be why Alberta and British Columbia yielded percentages that are higher than the national average, for both mature and low-income mature students.

While the majority of low-income mature students were 25-34 years old, almost 8% were over 50, suggesting that it is important to examine this population as a heterogeneous group. Although more females attain a PSE than males, male low-income mature student enrolment was 11% higher than females in this study. This novel phenomenon could be explained by the non-linear path that mature PSE students often take (i.e., dropping out one semester and re-enrolling later), potentially changing the enrolment statistics from semester to semester (van Rhijn et al, 2015). It is also more likely for females to take time off to have a child or provide other caregiving duties, also potentially explaining this gender difference. Since this study represents a snapshot of the student population at a specific point in time, further longitudinal study of low-income mature students should be conducted to see if higher male enrolment holds true over time.

Around one-quarter of these low-income mature students were immigrants to Canada with more than half (52.9%) immigrating at 30 years of age or older. Immigrants who have already completed some postsecondary schooling prior to entering Canada often need to enroll in PSE to re-credential in the Canadian context (Grant, 2008). Given the later age of immigration, it is probable that these immigrant students account for a large proportion of those students who had previously completed a university degree. In addition, more than half (58.5%) of the students in this study were employed while attending PSE, supporting previous findings of mature students being more likely to be employed while studying to pay for school (e.g., Finnie et al, 2010; Gault et al, 2014).

Income and finances were examined as they are key considerations that influence the decision to return to school for low-income mature students. Financial factors tend to be intensified for nontraditional students (Thomas, 2002), supporting the small national percentage (5.2%) of mature low-income students found in PSE. With an average after-tax income of only $9024.38, low-income mature students are likely to feel significant financial pressures and question the affordability of PSE. Further, almost 40% of these students were more than 50% below the LICO and possibly qualify for higher student bursaries than their higher-income peers, therefore increasing the likelihood of enrollment. This phenomenon may also be explained by the way income is calculated; as after-tax income is derived from tax records which do not include scholarships/bursaries, it may be that actual incomes are slightly higher income than is showing in this study.

Low-income mature students in this study were more likely to be enrolled in university than college. More students enrolling in university than college is a continuing trend (Statistics Canada, 2016). Additionally, low-income (Gault et al, 2014) and mature students (Fragoso et al., 2013; MacFadgen, 2007) have been found to be more likely to study on a part-time basis. Yet most of these low-income mature students were studying full-time. This discrepancy may be because student bursaries/scholarships are seldom provided for part-time study, thus encouraging full-time enrolment.

The majority of students in this sample were not partnered. Significant life events such as divorce or separation can act as catalysts into schooling (Compton et al., 2006; Swain & Hammond, 2011; van Rhijn et al., 2016b), as can the birth of children. Although most of this sample were childless, for the 36.8% with children, their children may have motivated a return to school. Females were more likely than males to be older, have bigger households, and have more children. It makes sense that if females have more children, then they would also have bigger household sizes. It is possible that females are older due to time taken to have children and raise a family prior to returning to school; it is also possible that the children were catalysts for a return to school (van Rhijn et al., 2016b).

The link between parental education and an individual's decision to study at the postsecondary level has been established (e.g., Hoy et al., 2001; Mueller, 2008). This study yielded further evidence of this link, demonstrating that these students were more likely to have mothers and fathers with education at a postsecondary level. Maternal education was higher for those in university than for those in college and maternal education for males was higher than for females. Maternal education has been shown to be a significant factor in both childhood outcomes like health and well-being as well as in educational outcomes (Magnuson, 2007). It is not surprising that maternal education continues to be a significant factor in this study.

In the institutional analysis, students in college had more children and bigger household sizes than those in university. Mature and low-income students are more likely to attend college due to lower up-front costs and shorter completion times (Compton et al, 2006; Finnie et al., 2011); this is likely similar for low-income mature students. Children require resources such as time and money; thus, the lower up-front costs of college would be attractive, leaving more money for family responsibilities. Similarly, shorter completion times for college mean more time available to spend with children. Likewise, the age of youngest person in the family was statistically lower for those in college, suggesting that low-income mature students likely have younger children than those in university.

Limitations

As with all secondary data analysis, this study is limited by the available information. Additionally, coding choices for variables may have impacted the results. For example, there are likely more Indigenous students enroled in PSE than were identified as respondents who selected 'don't know' for the status question were coded as 'not Aboriginal'. There were no techniques used to correct for the possibility of false positives. Future research should consider using such techniques in order to limit the possibility of false discoveries. Given what we know about mature students' nontraditional paths in education, a longitudinal approach would be helpful to gain insight into the specific behaviours of low-income mature students. In order to further examine inequity in access, researchers may also wish to consider examining individuals from unrepresented groups who intended to complete PSE but either did not apply or were rejected upon applying. This research would provide valuable insight into how vulnerable populations compare to their more traditional counterparts.

Conclusion

Low-income mature students are a unique group of students. This exploratory study represents the first look at this unique group in Canada and contributes to the literature on low-income mature students. This study also provides insight into institutional and gender differences among low-income mature students. With numbers of traditional-age students declining (Berger, 2008), postsecondary institutions should consider recruitment and retention of nontraditional students to mitigate this decline. Low-income mature students should be considered in efforts to diversify postsecondary enrolment, as they are a unique and significant group.

This research provides a foundation for many important implications for both policy makers and institutions. Acknowledging the unique needs of this group of students and developing targeted supports will encourage these

students to attend PSE and succeed in their studies. First, the development of a consistent definition for 'mature', 'low-income', and 'low-income mature' students is required. A consistent definition would provide clarity in future research and allow national comparisons across institutions. Further, consistently collected, longitudinal and cross-sectional data are needed; however, they are not currently being collected nationally on a regular basis. This data could help researchers further explore inequity in PSE access. Both clear definitions and consistent data would strengthen the ability of researchers, policy makers, and institutional employees to understand unique groups of students and develop supports that will enhance their success. Finally, in light of changing demographics on Canadian campuses, increasing the diversity of PSE students to include typically nontraditional populations can address enrolment challenges and equity concerns. Given that this study only touched the surface of low-income mature students, it would be hopeful for future researchers to explore subgroups, such as International students and Indigenous students more deeply in order to better understand and support these groups of students. Given the changing demographics on campus, perhaps it is time for institutions, policy makers, and researchers to re-consider their perceptions of what a 'traditional' student is.

Acknowledgment

This article is based on a Master's Thesis project completed by the first author — Fritz, V. A. (2016). Low-income mature students in Canadian postsecondary institutions: Who they are and why they matter. Available from: http://hdl.handle.net/10214/9946

REFERENCES

Anisef, P., Brown, R., & Robson, K. (2013). *Non-traditional postsecondary education pathways of adult learners in the Toronto District School Board: evaluating the influence of individual and neighbourhood characteristics*. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/Non%20traditional%20pathways%20TDSB-ENG.pdf

Belley, P., Frenette, M., & Lochner, L. (2014). Postsecondary attendance by parental income in the U.S. and Canada: do financial aid policies explain the differences? *Canadian Journal of Economics, 47*(2), 664-696. https://doi.org/10.1111/caje.12088

Berger, J. (2008). *"Why access matters" revisited: a review of the latest research*. Montreal, QC: The Canada Millennium Scholarship Foundation.

Bergman, M., Gross, J. P. K., Berry, M., & Shuck, B. (2014). If life happened but a degree didn't: examining factors that impact adult student persistence. *The Journal of Continuing Higher Education, 62*(2), 90-101. https://doi.org/10.1080/07377363.2014.915445

Campbell, M. (2005). Low-income adult students: a special challenge. *The Hispanic Outlook in Higher Education, 15*(12), 22.

Compton, J. I., Cox, E., & Laanan, F. S. (2006). Adult learners in transition. *New Directions for Student Services, 114*, 73-80. https://doi.org/10.1002/ss.208

Council of Ontario Universities. (2018). *Application Statistics 2016.* Toronto, ON: Council of Ontario Universities.

Davidson, J. C., & Holbrook, W. T. (2014). Predicting persistence for first-time undergraduate adult students at four-year institutions using first-term academic behaviors and outcomes. *The Journal of Continuing Higher Education, 62*(2), 78-89. https://doi.org/10.1080/07377363.2014.915447

Davies, P., & Williams, J. (2001). For me or not for me? Fragility and risk in mature students' decision-making. *Higher Education Quarterly, 55*(2), 185-203. https://doi.org/10.1111/1468-2273.00182

Dooley, M. D., Payne, A. A., & Robb, A. L. (2009). *University participation and income differences: an analysis of applications by Ontario secondary school students*. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/University%20Participation%20and%20Income%20Differences2.pdf

Federation des CEGEPs. 2019. What is a CEGEP? Retrieved from: https://www.cegepsquebec.ca/en/cegeps/presentation/what-is-a-cegep/

Finnie, R. (2012). *Access to postsecondary education: the importance of culture*. Retrieved from http://hdl.handle.net/10393/33197

Finnie, R., Childs, S., & Wismer, A. (2011). *Access to postsecondary education: how Ontario compares*. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/AccessENG.pdf

Fragoso, A., Goncalves, T., Ribeiro, C. M., Monteiro, R., Quintas, H., Bago, J., Fonseca, SH. M. A. C., Santos, L. (2013). The transition of mature students to higher education: Challenging traditional concepts? *Studies in the Higher Education of Adults, 45*(1), 67-81.

Frempong, G., Ma, X., & Mensah, J. (2011). Access to postsecondary education: can schools compensate for socioeconomic disadvantage? *Higher Education, 63*(1), 19-32. https://doi.org/10.1007/s10734-011-9422-2

Frenette, M. (2004). Access to college and university: does distance to school matter? *Canadian Public Policy, 30*(4), 427-443. Retrieved from http://www.jstor.org/stable/3552523

Gault, B., Reichlin, L., & Román, S. (2014). *College affordability for low-income adults: improving returns on investment for families and society*. Retrieved from https://iwpr.org/publications/college-affordability-for-low-income-adults-improving-returns-on-investment-for-families-and-society/

Grant, P. R. (2008). The protest intentions of skilled immigrants with credentialing problems: A test of a model integrating relative deprivation theory with social identity theory. *British Journal of Social Psychology*, *47*(4), 687-705. https://doi.org/10.1348/014466607X269829

Hoy, M., Christofides, L. N., & Cirello, J. (2001). Family income and postsecondary education in Canada. *The Canadian Journal of Higher Education, 31*(1), 177-208. Retrieved from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/183382

Junor, S., & Usher, A. (2004). *The price of knowledge 2004. Access and student finance in Canada*. Montreal, QC: Canada Millennium Scholarship Foundation.

Kerr, A. (2011). *Adult learners in Ontario postsecondary institutions*. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/At-Issue-Adult-Learners-ENG.pdf

MacFadgen, L. (2007). *Mature students in the persistence puzzle: an exploration of the factors that contribute to mature students' health, learning, and retention in postsecondary education*. Retrieved from http://summit.sfu.ca/item/8453

Magnuson, K. (2007). Maternal education and children's academic achievement during middle childhood. *Developmental Psychology, 43*(6), 1497-1512. https://doi.org/10.1037/0012-1649.43.6.1497

Mueller, R. E. (2008). *Access and persistence of students from low-income backgrounds in Canadian post-secondary education: a review of the literature*. Retrieved from http://higheredstrategy.com/mesa/pdf/MESA_Mueller.pdf

Ontario (2019). *OSAP: Ontario Student Assistance Program*. Retrieved from: https://www.ontario.ca/page/osap-ontario-student-assistance-program?_ga=2.168663460.463202446.1559659032-1617703551.1559659032

Ontario (2015). *2015 Ontario Budget. Chapter I: Implementing the plan.* Retrieved from http://www.fin.gov.on.ca/en/budget/ontariobudgets/2015/ch1a.html#ch1a_5

Popovic, T. (2013). *First Nation, Métis, and Inuit students in Ontario's post-secondary education system*. College Student Alliance.

Richards, J. (2008). *Backgrounder: Closing the Aboriginal/non-Aboriginal education gaps*. Retrieved from https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Backgrounder_116.pdf

Schuetze, H. G., & Slowey, M. (2002). Participation and exclusion: a comparative analysis of non-traditional students and lifelong learners in higher education. *Higher Education, 44*, 309-327. Retrieved from http://www.jstor.org/stable/3447490

Social Research and Demonstration Corporation. (2009). *Report on the data-readiness of postsecondary access and retention programs for under-represented groups*. Montreal, QC: Canada Millennium Scholarship Foundation.

Statistics Canada. (2013a). Low income cut-offs. Retrieved from: http://www.statcan.gc.ca/pub/75f0002m/2012002/lico-sfr-eng.htm

Statistics Canada (2013b). Survey of labour and income dynamics (SLID). Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889&lang=fr&db=imdb&adm=8&dis=2

Statistics Canada. (2015). Aboriginal Peoples: Fact Sheet for Canada. Retrieved from: https://www150.statcan.gc.ca/n1/pub/89-656-x/89-656-x2015001-eng.htm

Statistics Canada. (2016). Postsecondary enrolments by institution type, registration status, province and sex. Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/educ71a-eng.htm

Swain, J., & Hammond, C. (2011). The motivations and outcomes of studying for part-time mature students in higher education. *International Journal of Lifelong Education, 30*(5), 591-612. https://doi.org/10.1080/02601370.2011.579736

Thomas, L. (2002). Student retention in higher education: the role of institutional habitus. *Journal of Education Policy, 17*(4), 423-442. https://doi.org/10.1080/02680930210140257

Tones, M., Fraser, J., Elder, R., & White, K. M. (2009). Supporting mature-aged students from a low socioeconomic background. *Higher Education, 58*(4), 505-529. https://doi.org/10.1007/s10734- 009-9208-y

van Rhijn, T., Bridge, K., Lero, D. S., & Fritz, V. (2016a). Unmet needs: Challenges to success from the perspectives of mature university students. *Canadian Journal for the Study of Adult Education, 29*(1), 29-47. Retrieved from https://cjsae.library.dal.ca/index.php/cjsae/article/view/4704

van Rhijn, T., Lero, D. S., & Burke, T. (2016b). Why go back to school? Investigating the motivations of student parents to pursue postsecondary education. *New Horizons for Adult Education and Human Resource Development, (28)*2, 14-26. https://doi.org/10.1002/nha3.20135

van Rhijn, T., Lero, D. S., Dawczyk, A., de Guzman, J., Pericak, S., Fritz, V., Closs, J. & Osborne, C. (2015). *Student pathways and supports: Investigating retention and attrition in mature university students*. Submitted to Ministry of Training, Colleges, and Universities. Available from http://hdl.handle.net/10214/8732

van Rhijn, T., Smit Quosai, T. & Lero, D. (2011). A profile of undergraduate student parents in Canada. *Canadian Journal of Higher Education, 43(*3), 59-80. Retrieved from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/59

Weingarten, H. P., Hicks, M., Jonker, L., Smith, C., & Arnold, H. (2015). *Canadian postsecondary performance: IMPACT 2015*. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/HEQCO_Canadian_Postsecondary_Performance_Impact2015.pdf

ABOUT THE AUTHORS

Victoria Fritz: Victoria is a Learning Specialist and PhD student, in Family Relations and Applied Nutrition, at the University of Guelph. Her current doctoral research focuses on students' experiences with academic failure. As a Registered Social Worker with the OCSWSSW Victoria strives to produce research that is both education-based and practice-focused. Her primary area of research interest is in Canadian Postsecondary education.

Tricia van Rhijn: Tricia van Rhijn is an associate professor in the Department of Family Relations and Applied Nutrition at the University of Guelph. Her research interests include early childhood education and care, family relations, work–life integration, and the experiences of non-traditional students in formal postsecondary education, in particular mature students and student parents.