

MESA L-SLIS RESEARCH BRIEF #6

# When Did You Decide?

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# When Did You Decide?

(Version 02-24-10)

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# Part I: Introduction

## Major Findings

The Longitudinal Survey of Low-Income Students (L-SLIS), created to measure the effects of the Canada Millennium Scholarship Foundation's Access Bursary, includes one relatively unique question: "When was it that you decided that you wanted to attend post-secondary education (PSE)?" In this brief we take advantage of this survey question as it applies to our sample of low income recipients of government aid. The major findings are:

1. Almost one half of students make their decision about whether to attend PSE before they reach grade nine.
2. The timing of students' decision differs across various individual and family characteristics.
3. Late deciders are much more likely than early deciders to leave PSE without graduating.
4. Early deciders are more likely than late deciders to have savings for PSE.
5. Early deciders spend comparatively less time in paid work and more time studying while in PSE.

Since a large proportion of students appear to have made their decision to attend PSE by the beginning of high school, programs with the aim of affecting PSE choices and outcomes should perhaps target students early. However, since our sample includes a specific group of low income students and does not include individuals who do not access PSE or higher income students, we cannot make definitive statements regarding when individuals who do not go on to PSE or other students make their PSE choices.

In any event, late deciders can be identified as a group that is vulnerable when it comes to leaving PSE without graduating. One explanation could be that late deciders are relatively less prepared for PSE once they arrive. The savings rates of late deciders exemplify at least one way in which late deciders are relatively less prepared for PSE. Alternatively, students who decide early may have other intrinsic differences that are driving the results of this report and for this reason one must be careful when imputing causality between any factors.

## Survey Data and Sample Selection

The L-SLIS is constructed from administrative data and from surveys (carried out during the early months of 2007, 2008 and 2009) of students who entered PSE in fall 2006. The sample used for this report includes only students who enter PSE for their first time (the target group of the Millennium Scholarship Foundation's Access Bursary), and is further reduced to single dependant students, as defined by provincial student aid systems. Only students with

parental incomes below the National Child Benefit (NCB) line have been included in this analysis in order to allow for consistent samples across provinces. Due to provincial differences in bursary programs, only students from Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Manitoba or British Columbia are included. Note that all respondents are recipients of government aid in their first year. For further sample details, see Appendix I.

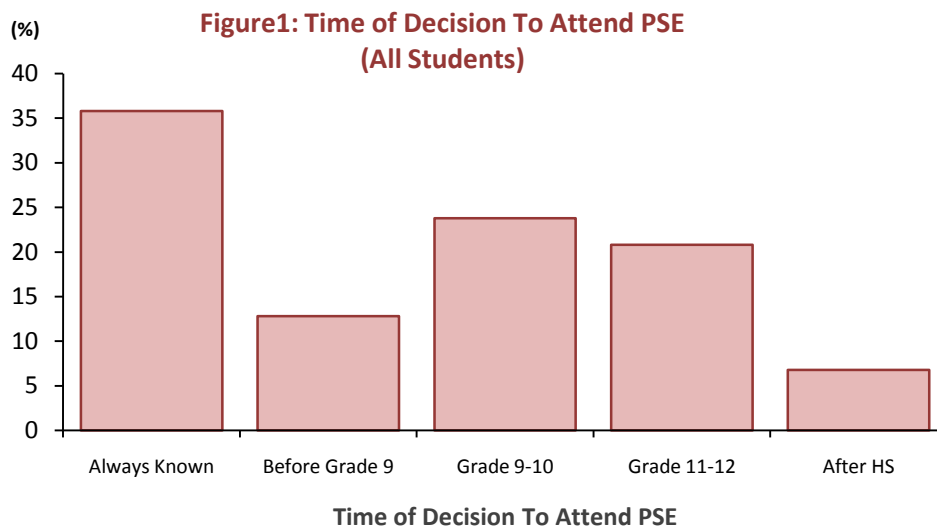
## **The Question of Interest: ‘When did you decide?’**

This research note focuses on the survey responses to one particularly interesting, and relatively unique question of the L-SLIS: “When was it that you decided that you wanted to attend PSE?” This question is asked in the first year of the survey. Respondents are asked to choose from seven categorical responses which we have reduced to five in order to simplify the analysis. These are:

- I have always known I was going to attend PSE (‘always known’),
- Before grade 9,
- Grade 9 or 10,
- Grade 11 or 12,
- After high school.

## **Section II: When Do Students Decide?**

Among the low income students represented by the L-SLIS data, the largest proportion (35.8 percent) of all students say that they have always known that they would attend PSE; another 12.8 percent say that they decided before grade nine (Table A1). The smallest proportion, 6.8 percent of students say that they decided after high school. The fact that almost 50 percent of students in this sample say they made their decision to attend PSE before they even reached high school may have important policy implications about when programs targeted on affecting PSE choices need to begin.



Source: Table A1.

It is evident that different types of students decide at different times (Table A1). For instance, females tend to make their decision earlier than males; about 40 percent of females say they have always known while only about 29 percent of males say they have always known. We also find that respondents from two parent families tend to decide somewhat earlier than respondents from other types of family structures. Also, urban students are more likely than rural students to say they have always known they would attend PSE.

Visible minority students tend to decide relatively earlier with the exception of Aboriginals (Table A1). Among all ethnic groups, Aboriginal respondents are the least likely to say they have always known they would attend PSE (25.3 percent). Respondents born outside of Canada decide earlier than respondents born in Canada. Among students born in Canada, visible minorities decide earlier than non-visible minorities. Among students born outside of Canada, non-visible minorities decide slightly earlier than visible minorities.

Higher levels of parental education are linked to earlier decisions to attend PSE (Table A1). About 49 percent of students with a parent who holds a graduate degree say that they have always known they would attend PSE. Among students whose highest level of parental education is high school, only 31 percent say they have always known. In this sample of low income students there appears to be very little relation between parental income and when respondents decide they would like to attend PSE.

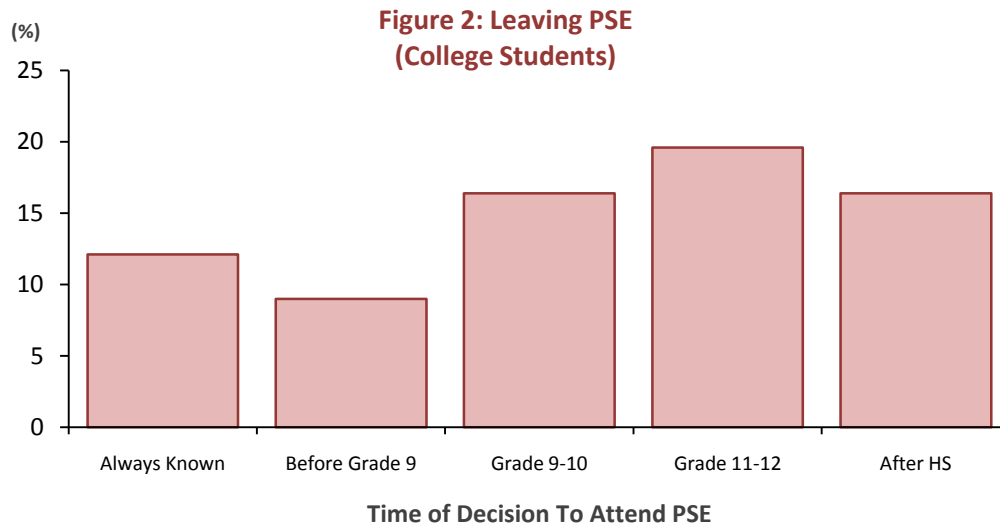
College students in the sample are much more likely to be late deciders compared to university students (Table A1). About 13 percent of college students decide after high school; only about 3 percent of university students decide that late. A full 40 percent of university students say that they have always known while only 28 percent of college students responded likewise.

## Section III: Does It Matter?

We find that the timing of students' decision to attend PSE has interesting correlations with certain PSE choices and outcomes. It is cautioned that early deciders and late deciders may have intrinsic differences that are driving these results. For this reason we cannot make any statements regarding causality.

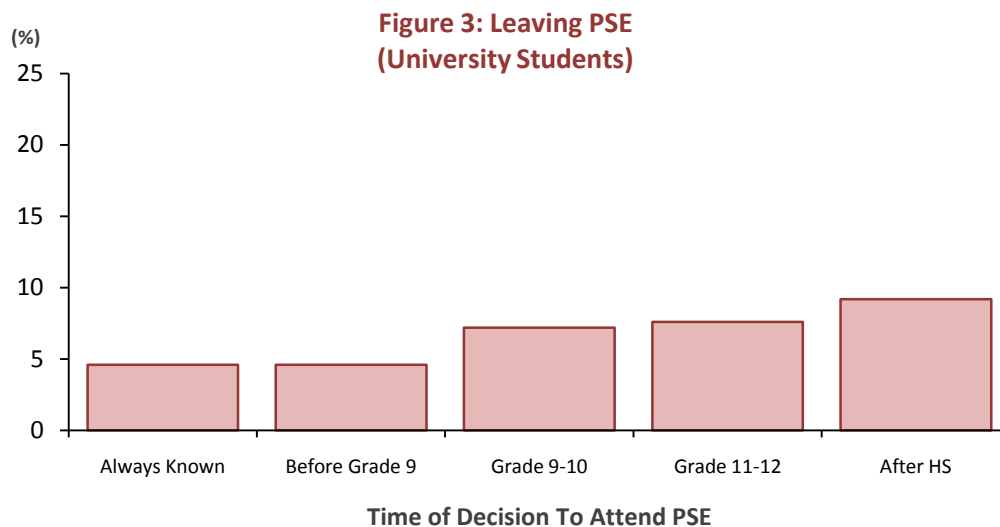
### Leaving PSE

Late decisions to attend PSE appear to be associated with relatively greater probabilities of leaving PSE in first or second year without graduating. College students who always knew and those who decided before grade nine leave at rates of 12 and 9 percent, respectively (Figure 2). Meanwhile, college students who decided during or after high school leave at rates around 17 percent.



Source: Table A2. Figure represents the percentage of students who leave PSE during first or second year without graduating.

Among university students, those who decided after high school have the greatest probability of leaving PSE in first or second year (9.2 percent leave). University students who decided during high school leave at a rate of about 7.4 percent. University students who decided before high school leave at an even lower rate, around 4.6 percent (Figure 3).



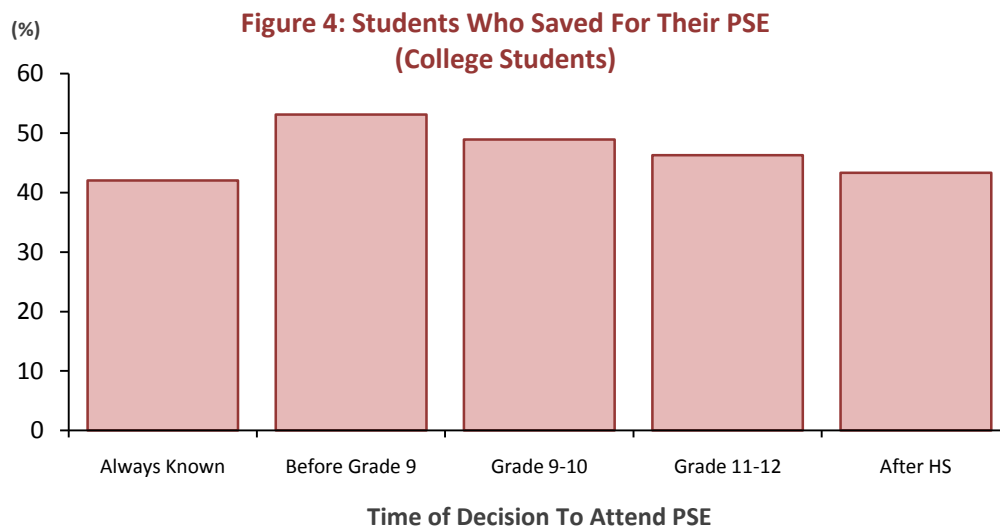
Source: Table A3. Figure represents the percentage of students who leave PSE during first or second year without graduating.

Regression analysis has also been used to measure the relationship between when students decide to attend PSE and their likelihood of leaving PSE. Table A4 shows the differences in leaving rates for students who decide at different times, with and without controlling for other factors (gender, province, community size, family structure, parental education, parental income and high school grades) that affect leaving rates and that may also be correlated with when students make their PSE decisions.

Our results show that among college students, the control variables do explain some of the differences across groups, but some significant gaps still remain even after taking the other influences into account (Table A4). For university students, overall leaving rates are much lower and therefore the groups' differences are smaller and less statistically significant, as are the effects of adding the controls.

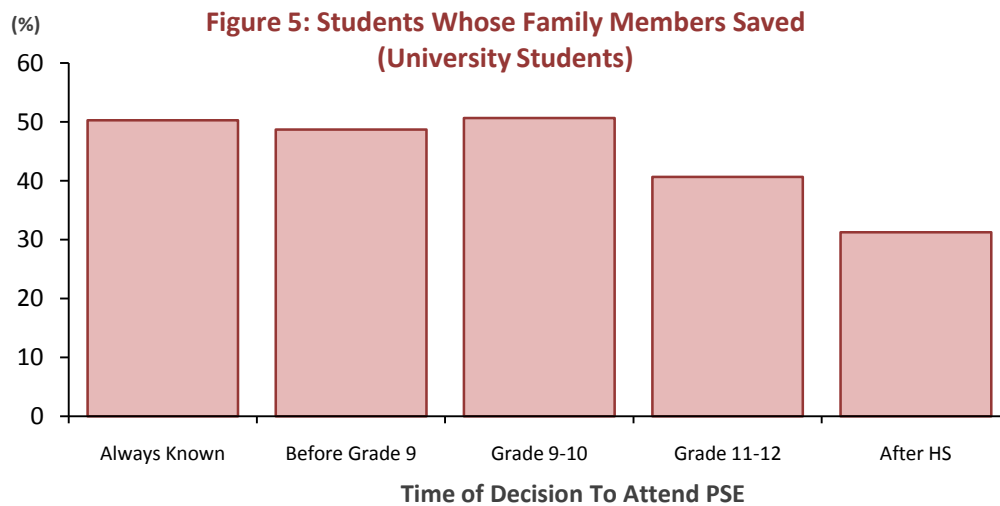
## Saving for PSE

Respondents are asked whether they or their family members saved for PSE. Of college students, those who always knew they would attend PSE are the least likely to have personally saved (Figure 4). College Students who say that they decided before grade nine are the most likely to have personally saved. Among college students who do not say that they always knew, later decisions are associated with a lower probability of personal saving. The same patterns are observed for university students but less pronounced (Table A3).



Source: Table A2.

Among university students, later decisions are associated with lower probabilities of family savings (Figure 5). Among college students, the timing of students' decision seems to have little relation to family savings, although, college students who decided after PSE are the least likely to have family savings (Table A2).

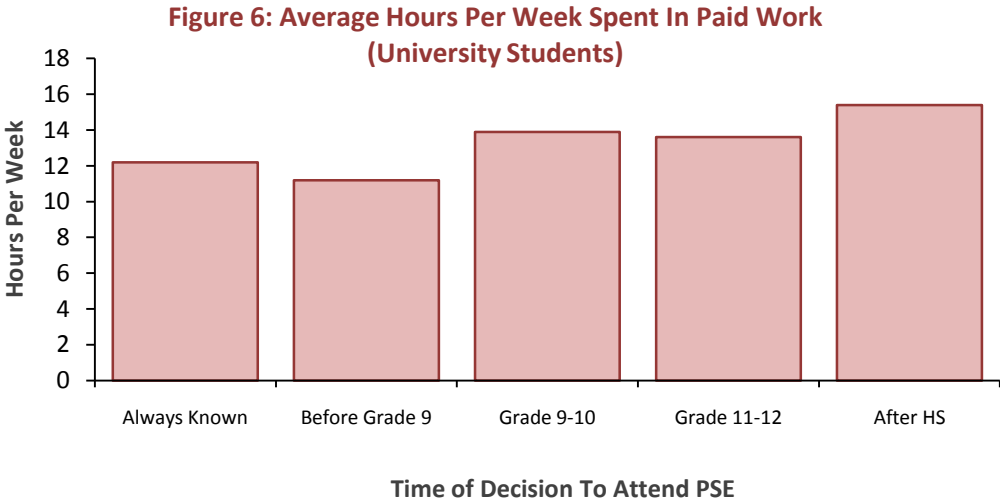


Source: Table A3.

## Time Use and Grades

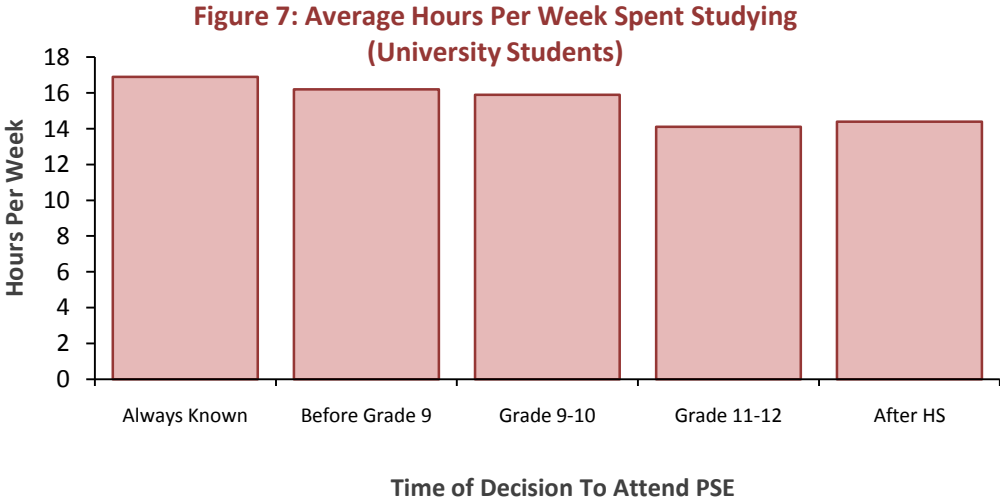
For college and university students there is no clear relationship between the time of decision and whether students have paid jobs while they are in school (Tables A2 and Table A3). Among students who do work during school, there is a negative relationship between early decisions and the amount of time spent in paid work. Among university students, respondents who decided before grade 9 work the least number of hours per week, on average (14.4

hours). University students who decided after high school work the most number of hours per week (15.8 hours). Figure 6 shows the average number of hours that working university students spend in paid work; a similar trend can be observed for college students (Table A2).



Source: Table A3.

It appears that early deciders spend more hours per week studying compared to late deciders (Figure 7). The same trend is less pronounced for college students (Table A2).



Source: Table A3.

There is no clear relationship between when students decide to attend PSE and grades in first year. Students who decided during high school have slightly lower grade averages compared to students who decided either before or after high school (Table A2 and Table A3).

## Section IV: Conclusion

Among the low income students represented in our sample, it has been found that many students decide early that they would like to attend PSE and that the timing of students' decision has interesting correlations with a number of PSE outcomes, in particular with leaving PSE. Future research should consider when students make their decisions about PSE and the consequences of that timing. Certainly, an interesting survey question for a more general sample which includes non-attendees would be, "when did you decide that you would or would not attend PSE?"

## Appendix I: Survey Data and Sample Selection

Conducted as part of the Measuring the Effectiveness of Student Aid (MESA) project, the L-SLIS represents a longitudinal survey of recipients of the Canada Millennium Scholarship Foundation (CMSF) Access Bursaries<sup>1</sup>. The L-SLIS consists of a sample of students who entered PSE for the first time in the fall of 2006. Surveys were conducted, by telephone, in the early winter months of 2007, and then again in 2008 and 2009. Survey data have been linked to government aid administrative data. It is important to note that the eligibility requirements for the CMSF Access Bursaries were determined provincially and vary from province to province. The L-SLIS therefore represents somewhat different populations in different provinces.

Restrictions have therefore been made to the L-SLIS in order to create a consistent national sample. Due to the unique nature of the programs in Quebec, Saskatchewan and Alberta, students from these provinces are not included in this analysis. Prince Edward Island is omitted due to the absence of any administrative data. The following restrictions have been made in order to provide a consistent sample across the remaining provinces, which include Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Manitoba and British Columbia:

1. The sample is restricted to only students who enter PSE for their first time and are single dependant students, as defined by student aid systems.
2. Only students with parental incomes below the National Child Benefit (NCB) line are included.

Only low income students who apply for and receive government aid are included in the L-SLIS, therefore this is not a sample of all low income students in Canada. The sample has 3981 observations (after also deleting those few students who did not provide information on when they decided that they would like to attend PSE). Roughly 69 percent of the students in the sample are from Ontario and roughly 14 percent are from British Columbia. The remaining four provinces together make up 17 percent of the sample and each have shares of around three to five percent. Due to small sample size, college students from Nova Scotia are not well represented in the data. Samples are weighted to take account of non-response and to scale up to the underlying populations of lower income students they represent. Also, for all figures except those concerning students' individual and family backgrounds, high school grades or leaving rates, the few students who leave PSE early in first year were dropped.

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<sup>1</sup> For some provinces, certain non-recipient low-income students are also included in the L-SLIS but they are not included in this analysis due to the income restriction placed on the sample (see below).

## Appendix II: Detailed Tables

**Table A1: When Do Students Decide? (All Students)**

	Before			After			WDYD <sup>2</sup> Index (All)	WDYD Index (Col.)	WDYD Index (Uni.)
	Always Known	Grade 9	Grades 9-10	Grades 11-12	High School	Total			
<b>All</b>	35.8	12.8	23.8	20.8	6.8	100	2.27	2.87	1.92
<b>Gender</b>									
Female	40.1	13.6	22.9	18.2	5.3	100	2.04	2.6	1.74
Male	29.3	11.7	25.1	24.8	9.2	100	2.62	3.23	2.22
<b>Family Structure</b>									
Two Parents	36.7	13.4	24.3	19.9	5.7	100	2.19	2.88	1.87
Mother Only	35.2	11.6	22.7	22.3	8.2	100	2.37	2.87	1.98
Other	30.5	13.2	24	21.4	10.8	100	2.54	2.73	2.3
<b>Province of Origin</b>									
Newfoundland and Labrador	30.8	11.9	26.5	24.4	6.5	100	2.51	2.54	2.17
Nova Scotia	36.7	16.5	26.6	17.4	2.8	100	2.04		1.92
New Brunswick	32.2	11.6	17.6	25.2	13.3	100	2.65	4.17	2.41
Ontario	36.5	12.1	26.4	19.8	5.3	100	2.19	2.86	1.81
Manitoba	39.7	8.9	20.6	20.4	10.4	100	2.33	3.46	2.09
British Columbia	34.9	17	16.7	22.3	9.1	100	2.34	2.65	1.99
<b>Size of Community Where High School Was Attended</b>									
Rural (pop. < 10 000)	32.2	12.3	23.7	23	8.8	100	2.48	3.1	2.03
Suburban (pop. = 10 000 to 100 000)	31.1	15.5	24.3	21.8	7.2	100	2.4	2.74	2.11
Urban (pop. > 100000)	40.7	11.9	24.1	18.1	5.2	100	2.04	2.64	1.77
<b>Ethnic Background</b>									
White	33.9	12.7	22.8	22.6	8	100	2.39	2.87	1.99
Aboriginal	25.3	20	22.5	26.4	5.8	100	2.58	4.01	1.73
Black	32.4	11.8	27.1	23.9	4.8	100	2.37	2.75	1.98
Latin American	41.6	4.5	22.8	22.5	8.6	100	2.32	2.82	1.94
Chinese	40.6	11.7	26.7	17	4	100	2	3.22	1.82
Other Asian	38.5	12.5	25.4	17.8	5.8	100	2.12	2.89	1.87
Arab	39.8	11.3	23.7	17.2	8	100	2.2	2.46	2.09
Other	34.7	16.5	21.6	20.4	6.7	100	2.25	2.76	1.87

<sup>2</sup> The original seven categorical responses were numbered, 0 to 6, in order to create a 'When did you decide?' (WDYD) index. The last three columns show a given group's mean WDYD index for all students, university students and college students, respectively. Smaller index numbers indicate earlier decisions.

Table A1: When Do Students Decide? (All Students) [continued]

	Before			Grades 11-12	After High School	Total	WDYD Index (All)	WDYD Index (Col.)	WDYD Index (Uni.)
	Always Known	Grade 9	Grades 9-10						
<b>Visible Minority/ Immigrant Status</b>									
Non-Visible Minority, Born in Canada	33.4	12.7	22.8	23	8.1	100	2.42	2.9	2.01
Visible Minority, Born in Canada	35.8	13.3	24.2	21	5.7	100	2.24	2.84	1.9
Non-Visible Minority, Immigrant	40.2	12.7	21.8	18.3	7	100	2.03	2.36	1.82
Visible Minority, Immigrant	38.8	12.5	25.4	17.7	5.6	100	2.1	2.84	1.86
<b>Highest Level of Parental Education</b>									
Less Than High School	31.8	12.3	23.7	26.5	5.7	100	2.47	2.71	2.27
High School Completed	31	13.4	25.3	23.6	6.7	100	2.44	3.06	2.07
Some PSE	40.1	13	21.5	19.6	5.8	100	2.1	2.63	1.84
College Completed	31.8	13.4	26.2	20.5	8.1	100	2.41	2.9	2.05
University-BA	42.9	12.9	22.3	15.2	6.7	100	1.96	2.82	1.58
University-Grad	48.8	12.6	20.5	13	5.1	100	1.72	2.53	1.58
<b>Parental Income</b>									
\$0 To \$5 000	36.7	17.3	17.3	21.7	7.1	100	2.2	2.57	1.94
\$5 000 To \$10 000	39.1	12.7	21.1	21	6.1	100	2.16	2.72	1.79
\$10 000 To \$20 000	36.8	11.9	22.9	21.3	7	100	2.27	2.87	1.9
\$20 000 To \$30 000	34.5	12.9	25.2	21.4	6.1	100	2.3	2.97	1.95
\$30 000 And Up	34.9	12.9	25.2	19.1	7.9	100	2.3	2.84	1.97
<b>Institution Type</b>									
College	27.9	9.7	21.4	28.4	12.6	100	2.87		
University	40.6	14.5	25	16.5	3.4	100	1.92		

Source: Longitudinal Survey of Low Income Students.

**Table A2: Leaving PSE, Time Use and Grades in PSE (College Students)**

	Always Known	Before Grade 9	Grades 9-10	Grades 11-12	After High School
<b>Percentage Who Leave PSE in First or Second Year Without Graduating</b>	12.1	9	16.4	19.6	16.4
<b>Saving (Percentage Which Responded 'Yes')</b>					
Prior To The End of Secondary School, Did You Save Money For Your Own Education?	42	53.1	48.9	46.3	43.3
Did Other Members of Your Family Save For Your Education?	33.8	34	35.7	35.5	31.8
<b>Percentage With Paid Jobs In First Year</b>	34.7	39.7	35.1	39.2	38.2
<b>Mean Hours Per Week in First Year</b>					
Paid Work <sup>‡</sup>	15.6	14.4	15.2	15.6	15.8
In Classes, Labs And Tutorials	23.1	23.8	22.4	22.8	24.4
Studying	13.1	14.5	12.5	11.6	12.2
Extracurricular Activities	4.2	4.4	3.7	4.3	4.3
Commuting To And From Class	6.1	5.9	5.8	5.5	5
<b>Overall Grade Average in First Year of PSE</b>					
Below 70%	14.3	10.1	15.3	18.8	18.3
70%s	50.9	52.8	53.5	44.5	44.8
80%s	29.4	30.8	25.3	32.4	31.5
90%s	5.4	6.3	5.9	4.3	5.4
Total	100	100	100	100	100
<b>Overall Grade Average in First Year of PSE (Means)</b>	77.5	78.3	77.1	77.1	77.3

Source: Longitudinal Survey of Low Income Students.

<sup>‡</sup> Only students who worked every week, on average, and reported employment income are included.

**Table A3: Leaving PSE, Time Use and Grades in PSE (University Students)**

	Always Known	Before Grade 9	Grades 9-10	Grades 11-12	After High School
<b>Percentage Who Leave PSE in First or Second Year Without Graduating*</b>	4.6	4.6	7.2	7.6	9.2
<b>Saving (Percentage Which Responded 'Yes')</b>					
Prior To The End Of Secondary School, Did You Save Money For Your Own Education?	47.4	50	45.6	45.3	42.8
Did Other Members Of Your Family Save For Your Education?	50.3	48.7	50.7	40.7	31.3
<b>Percentage With Paid Jobs In First Year</b>	31.6	33.5	28.9	34.6	28.6
<b>Mean Hours Per Week In First Year</b>					
Paid Work**	12.2	11.2	13.9	13.6	15.4
In Classes, Labs And Tutorials	19.9	19.4	19	18.1	18.7
Studying	16.9	16.2	15.9	14.1	14.4
Extracurricular Activities	4.5	5.1	4.3	4.6	4.6
Commuting To And From Class	6.6	7.3	6.5	6	5.4
<b>Overall Grade Average in First Year of PSE</b>					
Below 70%	19.2	17.8	19.9	29.1	25.3
70% <sup>s</sup>	50.7	56.2	55.5	49.6	44.1
80% <sup>s</sup>	26.2	22.5	21.4	18.5	21.4
90% <sup>s</sup>	3.9	3.6	3.2	2.8	9.2
Total	100	100	100	100	100
<b>Overall Grade Average in First Year of PSE (Means)</b>	76.3	76.1	75.6	74.1	76.1

Source: Longitudinal Survey of Low Income Students. \*Students are counted as leavers if they left PSE prior to their second interview, which took place in the winter of 2008, during their second year. \*\*Only students who worked every week, on average, and reported employment income are included.

**Table A4: Regression Results (College and University Students)**

	Before High School	During High School	After High School
<b>College</b>			
Percentage Who Leave PSE in First or Second Year	14.9	22.1	21.1
Percentage Point Difference	NA (Base line)	7.2	6.2
Regression Estimate of Percentage Point Difference, Without Controls	NA (Base line)	7.2**	6.2
Regression Estimate of Percentage Point Difference, With Controls	NA (Base line)	4.5**	2.6
<b>University</b>			
Percentage Who Leave PSE in First or Second Year	4.6	7.6	12.6
Percentage Point Difference	NA (Base line)	3	8
Regression Estimate of Percentage Point Difference, Without Controls	NA (Base line)	3.1**	8.1
Regression Estimate of Percentage Point Difference, With Controls	NA (Base line)	2.9**	6.9

Source: Longitudinal Survey of Low Income Students. Students are counted as leavers if they left PSE prior to their second interview, which took place in the winter of 2008, during their second year.

\*/\*\*/\*\* indicates statistical significance at the 10/5/1% level.

Control variables were used to account for gender, province, community size, family structure, parental education, parental income and high school grades.

Rural students were used as the base line group. The two other groups, consisting of suburban students and urban students, were entered in a logistic regression as dummy variables. Marginal effects report the differences between the dummy variable groups and the baseline group.