

MESA L-SLIS RESEARCH BRIEF #7

# Gender and Post-Secondary Education

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The authors would like to thank Alex Usher for his input regarding the content of these briefs, Senning Luk for his help with formatting, Ryan Dunn for his assistance in creating the final L-SLIS data set and Miriam Kramer for her management of the project. Thanks also go to Acumen/Academica group for their work on the survey. Arthur Sweetman, Keith Banting and Garnett Picot provided insightful suggestions regarding the structure of the documents and David Binder of Statistics Canada helped in creating the sample weights. Gratitude is extended to Anne Motte and Andrew Parkin of the CMSF for their input and support on this and other aspects of the MESA Project. Finally, the authors also wish to gratefully acknowledge the provision of office space and other support from the University of Ottawa, without which the analysis of the L-SLIS would not have been possible.

# Gender and Post-Secondary Education

(Version 11-18-10)

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Please cite as:

Finnie, Ross, Stephen Childs, Kelli Kordecki and Andrew Wismer. (2010). *Gender and Post-Secondary Education* (Version 11-18-10) A MESA Project L-SLIS Research Brief. Toronto, ON: Canadian Education Project.

# 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, offers a unique combination of information pertaining to students' preparations for, attitudes towards, and experiences in post-secondary education (PSE). This research brief uses the L-SLIS to compare male and female students.

For the low income students represented in the L-SLIS data, the major findings are:

1. For college students, males are more likely than females to leave PSE in first or second year without graduating; male and female university students leave at about the same rate.
2. Females enter PSE with slightly lower math grades but somewhat higher language grades and overall grade averages.
3. Females make their decision to attend PSE earlier than males but males are more likely to have savings for PSE.
4. Males are much more likely than females to be in architecture or engineering programs compared to females. Females are much more likely than males to be in arts programs.
5. Females are much more likely than males to have concerns regarding their debts.

The PSE experiences of males and females do not vary greatly, despite differences in their pre-PSE experiences. That said, there are some interesting differences to be found within the L-SLIS data. Males and females of this sample have many different individual and family characteristics that could be driving the results and for this reason one must be careful when imputing causality between any factors. Note that the findings of this brief apply specifically to the low income students represented by the L-SLIS and we cannot say if our findings hold for other low income students or for the student population in general.

## Survey Data and Sample Selection

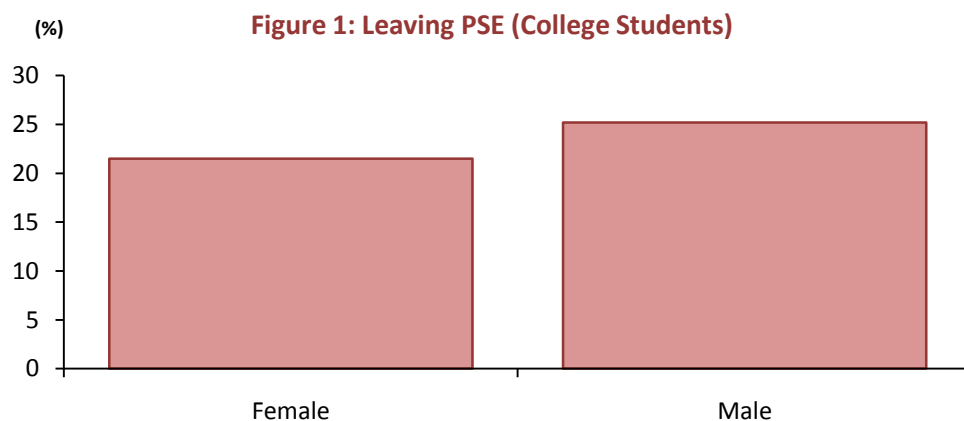
The L-SLIS is constructed from administrative data and from surveys (carried out during the early months of 2007, 2008 and 2009) of students who entered PSE in fall 2006. The sample used for this report includes only students who enter PSE for their first time (the target group of the Millennium Scholarship 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.

## Part II: The Analysis

### Leaving PSE

Among college students, 25.2 percent of males leave PSE in their first or second year without graduating, meanwhile only 21.5 percent of females leave (Figure 1). Among university students, both males and females leave PSE at a rate of about 6.7 percent (Table A2).



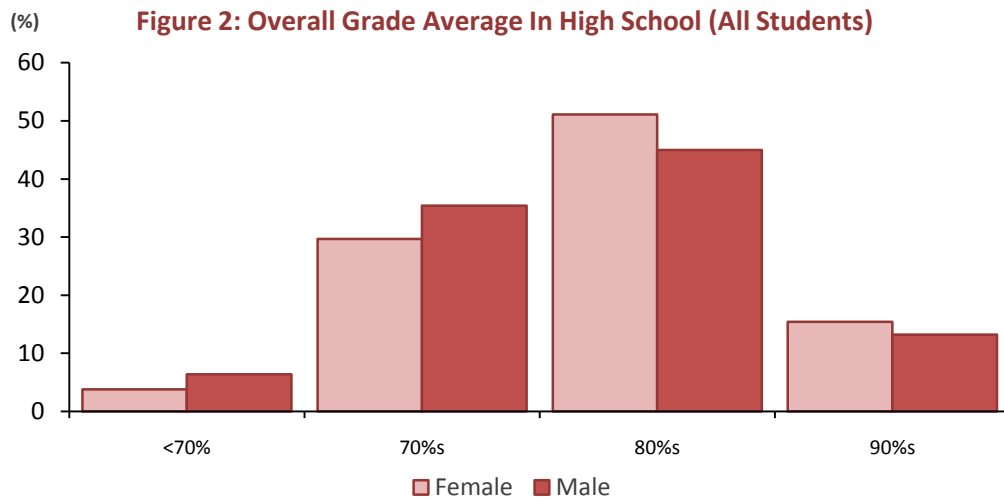
Source: Table A2. Figure represents the percentage of students who leave PSE during first or second year without graduating.

### High School Grades

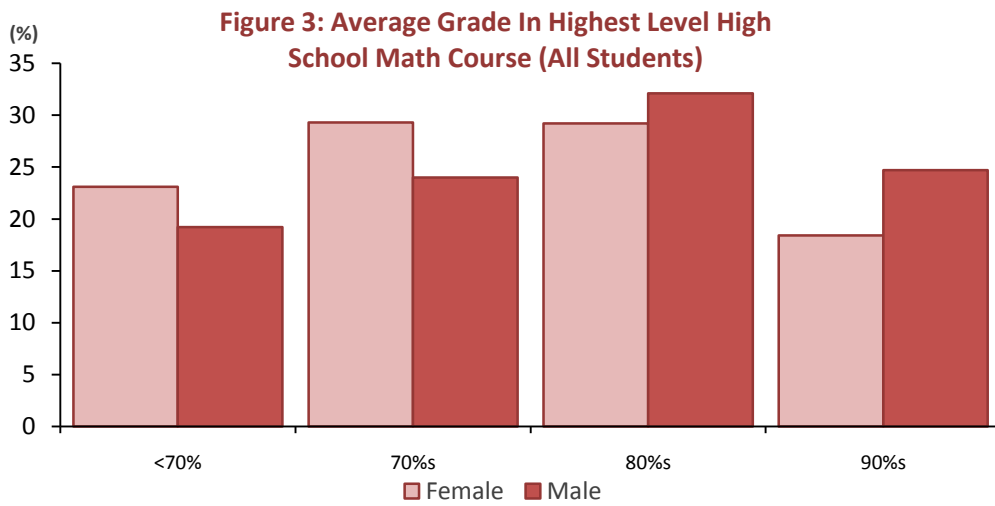
Females enter PSE with somewhat higher overall grade averages than males. Females report an overall grade average of 82.8 percent while males report an overall grade average of 81.5 percent (Table A1). Females are more likely than males to have overall high school grade averages in the eighties or nineties (Figure 2).

Males are somewhat more likely than females to have a grade in the eighties or nineties in their highest level high school math course (Figure 3). Females are more likely than males to have a grade in the eighties or nineties in their highest level high school language course (Figure 4).

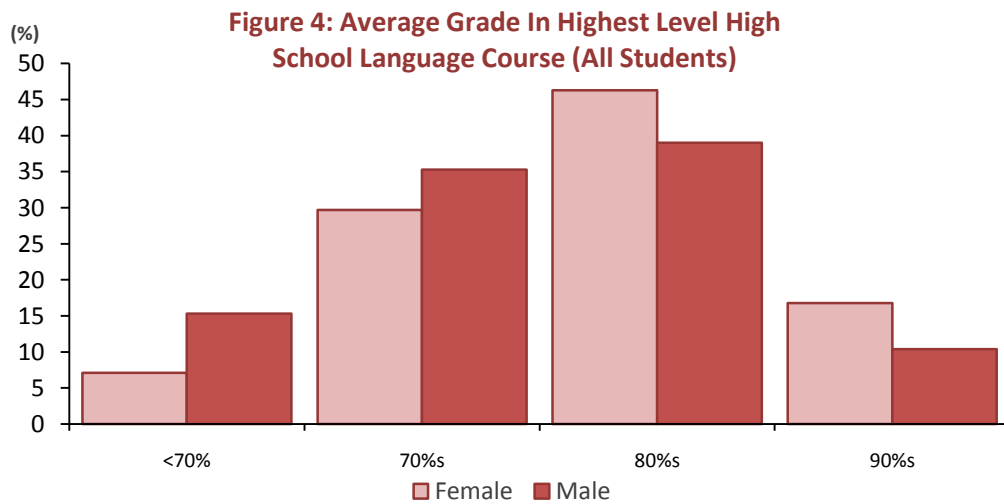
Overall grade averages in first year of PSE do not vary greatly between males and females (Table A2).



Source: Table A1.



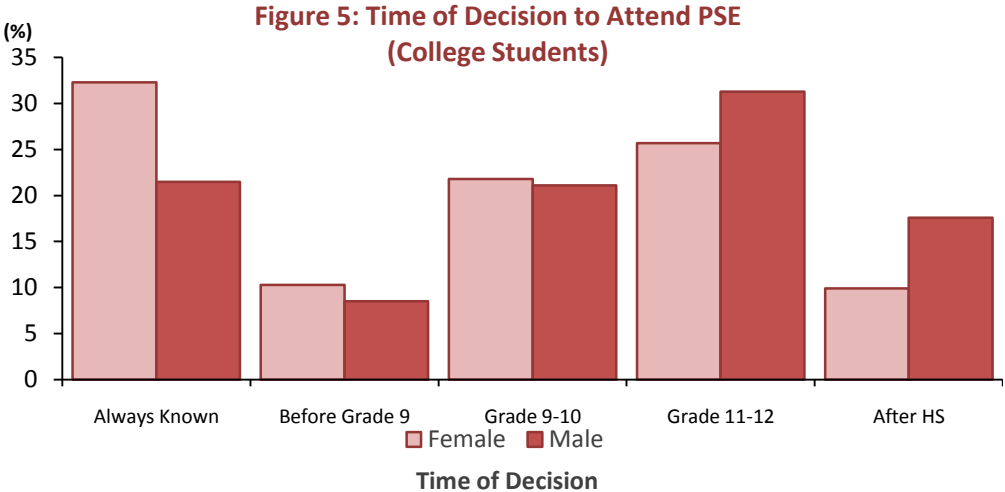
Source: Table A1.



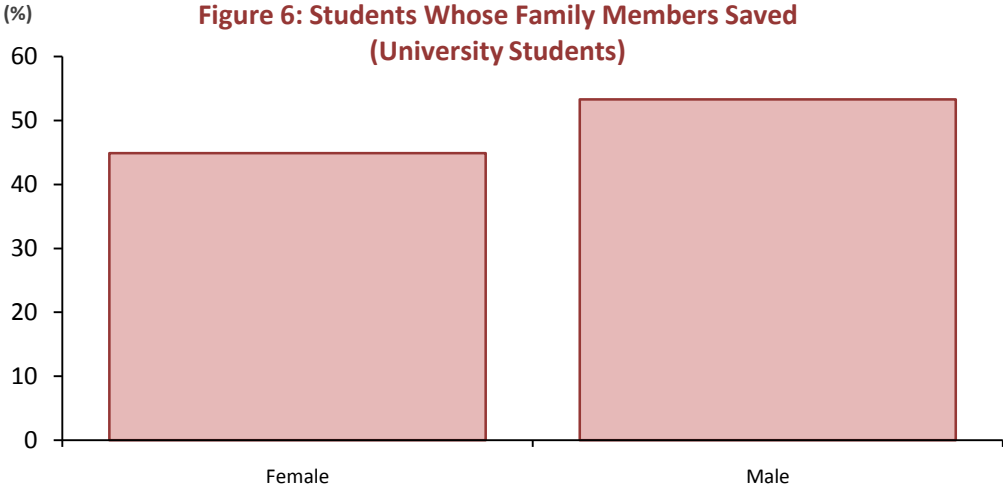
Source: Table A1.

# Preparation for PSE

Females appear to make their decision to attend PSE earlier than males (Figure 5). For college students, 32.3 percent of females report that they always knew that they would attend PSE and another 10.3 percent report that they decided before grade nine. Meanwhile, only 21.5 percent of college males say that they always knew they would attend PSE and 8.5 percent say that they decided before grade nine. The same trend is observed for university students but they are more likely than college students to make their decision relatively early (Table A1).



Source: Table A1.



Source: Table A1.

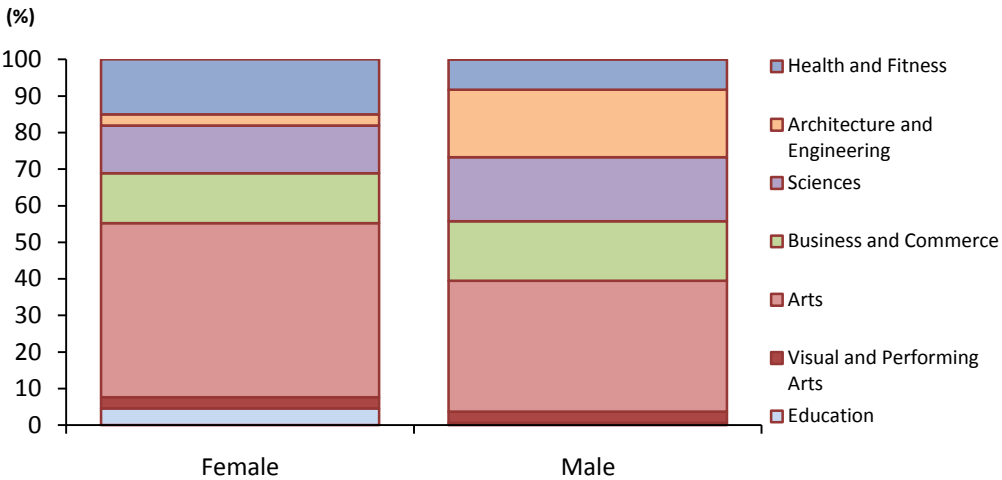
Interestingly, even though males appear to make their decision to attend PSE later than females, males are somewhat more likely to have savings when they enter PSE. For university students, 48.3 percent of males say that they personally saved for PSE while 46.0 percent of females respond similarly (Table A1). Furthermore, 53.3 percent of university males say that they have family members who saved while only 44.9 percent of females have family

members who saved (Figure 6). The same general trend is observed for college students as well (Table A1).

### Program Choices

Focusing on university students in first year, it is apparent from our data that males and females make different program choices when they enter PSE (Figure 7). Over 18 percent of university males in the survey report that they are enrolled in an architecture or engineering program while only about 3 percent of university females report the same program choice. Meanwhile, 47.7 percent of female respondents are enrolled in an arts program in first year while only 35.9 percent of males are in arts. Furthermore, males are more likely than females to be in sciences while females are more likely than males to be in a health and fitness course. University males are somewhat more likely than university females to be in a commerce program. The same program patterns hold for college students but college females are more likely to be in a commerce program than college males (Table A2).

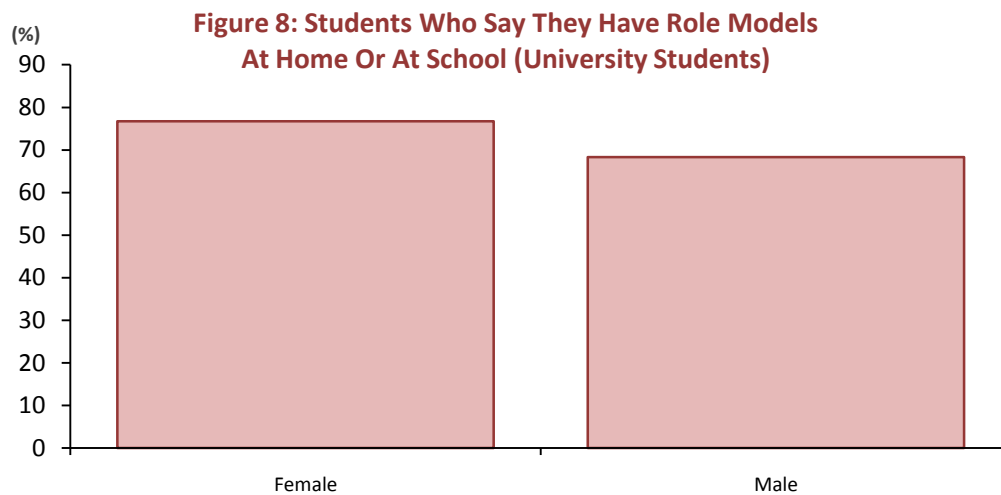
**Figure 7: PSE Program In First Year (University Students)**



Source: Table A2.

### Attitudes Towards PSE

Students are asked whether they agree with a number of statements regarding the value of PSE. From students’ responses it is not clear whether males or females have more positive attitudes towards PSE. Males and females agree in large proportions that PSE is worth going into debt for, that PSE is a good investment and that PSE leads to jobs that are more satisfying and prestigious (Table A3). Males and females are also equally as likely to agree that their parents would be very disappointed in them if they did not get PSE. Interestingly, females are somewhat more likely than males to agree that they have role models at home or at school (Figure 8).



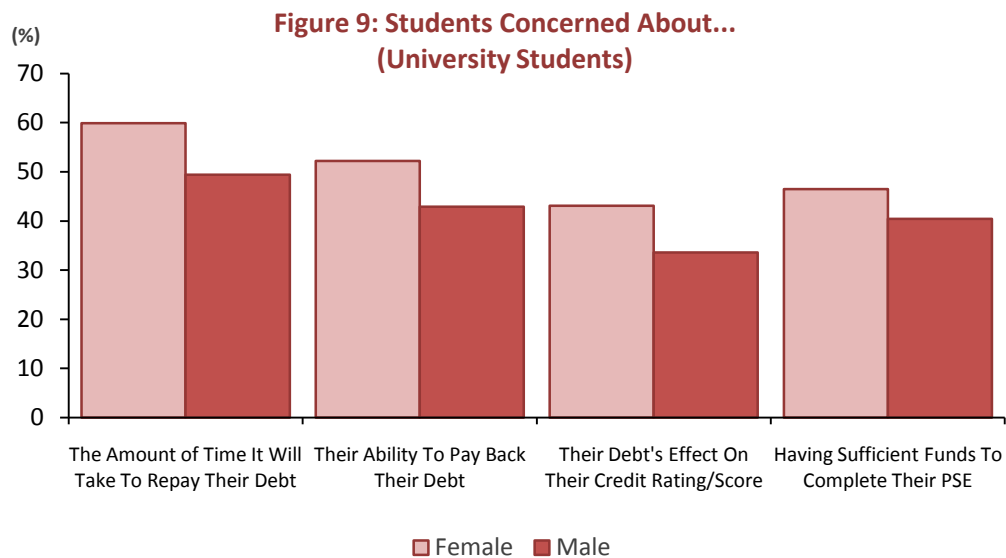
Source: Table A3.

## Working During School

In first year, 34.4 percent of university females have paid jobs while only 25.8 percent of males have paid jobs. Among college students as well, females are more likely than males to have paid jobs but only by about 3 percentage points. Among those students who do have paid jobs, there is little difference between males and females in terms of how many hours they work per week (Table A2).

## Concerns About Debt

In the third year of the survey, students are asked to answer questions regarding their concern about debt. Females are more likely than males to be concerned about: i) the time it will take to repay their debts, ii) their ability to pay their debts, iii) the effect of their debts on credit ratings, and iv) having sufficient funds to complete PSE (Figure 9). There is about a ten percentage point difference between the proportion of males and the proportion of females who are concerned about these aspects of their debt. Female students' concerns about their ability to pay off their debts could stem from their perceived future labour market outcomes (whether correct or not), attitudes to debt holding per se, or other factors. More research is required to say anything more certain regarding these findings.



Source: Table A4. Only third year students are included.

## Part III: Conclusion

Among the low income students represented in the L-SLIS data, males and females get different high school grades and show different patterns regarding their preparations for PSE, but their PSE experiences are considerably similar. Males and females spend about the same number of hours studying, and among those who work, males and females spend about the same number of hours working. Males and females have similar grade averages in first year of PSE. Also, males and females do not differ greatly with regards to their attitudes towards PSE.

Although their PSE experiences are for the most part similar, males and females are different when it comes to their PSE program choices, their likeliness of working while in school, and their concerns about debt. Also of importance, males are less likely than females to say that they have role models and, among college students, more likely than females to leave PSE in first or second year.

## 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 resulting sample has 4027 observations: 2416 female and 1611 male. Roughly 64 percent of the students in the sample are from Ontario and roughly 15 percent are from British Columbia. The remaining four provinces together make up 20 percent of the sample and each have shares of around 2.5 to 10 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.

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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: High School Grades and PSE Preparation (All, College and University)**

	Female			Male		
	All	College	University	All	College	University
<b>Overall Grade Average in High School</b>						
Below 70%	3.8	9.0	1.0	6.4	15.8	0.6
70% <sup>s</sup>	29.7	45.6	20.9	35.4	55.3	23.0
80% <sup>s</sup>	51.1	41.4	56.9	45.0	26.1	56.5
90% <sup>s</sup>	15.4	4.0	21.3	13.2	2.8	19.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Overall Grade Average in High School (Means)</b>						
	82.8	79.0	84.9	81.5	76.5	84.6
<b>Average Grade in Highest Level High School Math Course</b>						
Below 70%	23.1	28.8	19.8	19.3	28.9	12.5
70% <sup>s</sup>	29.3	35.0	26.1	24.1	32.4	19.6
80% <sup>s</sup>	29.3	25.6	32.0	31.9	27.5	34.4
90% <sup>s</sup>	18.4	10.6	22.1	24.7	11.2	33.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Grade Average in Highest Level High School Math Course (Means)</b>						
	78.9	76.2	80.3	80.8	76.4	83.7
<b>Average Grade in Highest Level High School Language Course</b>						
Below 70%	7.2	13.3	4.1	15.3	25.7	8.7
70% <sup>s</sup>	29.7	39.0	24.6	35.2	40.4	32.2
80% <sup>s</sup>	46.3	40.5	49.6	39.1	28.9	45.3
90% <sup>s</sup>	16.8	7.2	21.7	10.5	5.0	13.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Grade Average in Highest Level High School Language Course (Means)</b>						
	82.2	79.0	83.9	79.3	76.0	81.4
<b>Time of Decision To Attend PSE</b>						
Always Known	40.1	32.3	44.6	28.7	21.5	33.9
Before Grade 9	13.4	10.3	14.8	11.7	8.5	13.9
Grade 9-10	22.6	21.8	23.2	25.3	21.1	27.5
Grade 11-12	18.3	25.7	14.3	24.8	31.3	20.4
After High School	5.6	9.9	3.0	9.5	17.6	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Saving (Percentage Which Responded 'Yes')</b>						
Prior to the End of Secondary School, Did You Save Money For Your Own Education?	44.7	43.0	46.0	48.3	49.2	48.3
Did Other Members of Your Family Save For Your Education?	40.3	32.8	44.9	47.0	37.3	53.3

Source: Longitudinal Survey of Low Income Students.

**Table A2: PSE Experiences (All, College, and University Students)**

	Female			Male		
	All	College	University	All	College	University
<b>Percentage Who Leave PSE in First or Second Year Without Graduating*</b>	12.5	21.5	6.9	14.6	25.2	6.5
<b>Overall Grade Average in First Year of PSE (Means)</b>	76.4	77.5	75.5	75.9	76.2	75.6
<b>Percentage With Paid Jobs in First Year</b>	38.3	46.4	34.4	32.8	43.3	25.8
<b>Mean Hours per Week in First Year</b>						
Paid Work**	14.5	16.2	13.1	15.0	16.6	13.3
In Classes, Labs And Tutorials	20.0	22.5	18.4	21.7	23.7	20.5
Studying	14.8	13.1	15.8	14.5	11.6	16.3
Extracurricular Activities	4.2	3.7	4.3	4.9	4.8	5.0
Commuting To And From Class	6.1	5.8	6.4	6.1	5.5	6.7
<b>PSE Program In First Year</b>						
Education	3.2	0.7	4.6	0.4		0.6
Visual and Performing Arts	5.2	9.2	3.0	4.8	7.5	3.1
Arts	46.5	45	47.7	30.7	19.3	35.9
Business and Commerce	16.8	24.2	13.6	17.9	22.6	16.2
Sciences	9.8	3.6	13.0	16.0	11.3	17.5
Architecture and Engineering	3.0	3.0	3.1	22.8	33.5	18.5
Health and Fitness	15.5	14.3	15.0	7.4	5.7	8.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

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 A3: Attitudes Towards PSE (All, College and University Students)**

	Female			Male		
	All	College	University	All	College	University
<b>Percentage of Students Who Agree That:</b>						
Going Deep Into Debt to Get PSE is Still Worth it	89.7	89.2	89.6	86.7	85.9	87.2
The Time and Money Put Into a PSE is a Good Investment	93.4	93.8	93.1	92.2	93.1	91.5
People Who Have PSE Get Jobs that are More Satisfying	78.1	84.3	74.4	76.3	80.2	73.6
The Best Way to Get a Prestigious Job is Through PSE	80.6	82.3	79.0	76.0	77.9	74.5
Their Parents Would Be Very Disappointed in Them if They Didn't Get PSE	75.1	70.5	78.4	73.5	67.4	78.1
They Have Role Models at Home or at School	77.6	79.2	76.6	70.2	71.7	68.0

Source: Longitudinal Survey of Low Income Students.

**Table A4: Concerns About Debt (University Students)**

	Female	Male
<b>Percentage Concerned About:</b>		
The Amount of Time it Will Take to Pay Back Their Debt	59.9	49.4
Their Ability to Pay Back Their Debt	52.2	42.9
Their Debt's Effect on Their Credit Rating/Score	43.1	33.6
Having Sufficient Funds to Complete PSE	46.5	40.4

Source: Longitudinal Survey of Low Income Students. Only third year students are included.