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**High School Student Characteristics and Access to Post-secondary  
Education in Canada: Evidence from the YITS**

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**Abstract**

The decision to attend post-secondary education (PSE) following high school is complex and depends on a number of factors related to a high school graduate's background. Until now, the Canadian literature on this topic has been limited owing to data which were not up to the task of estimating this decision. This paper exploits the unprecedented rich information available in the Youth in Transition Survey, Sample A (YITS-A) to investigate issues related to access to PSE. The release of these data make it possible since the cohort was age 19 at the time of the third wave of survey in 2004 – the point of making decisions with respect to participation in PSE. We model PSE attendance at both the university and college/trade school levels separately for both males and females. We find that college attendance tends not to be as sensitive to family background as university attendance. Parental education is a large determinant of university attendance and is much more important than family income. We also find those students from urban areas, the Atlantic Provinces, as well as visible minorities and immigrants all tend to have significantly higher probabilities of attending university. By contrast, students from single parent families are no less likely to attend university than those from two-parent families.

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## High School Student Characteristics and Access to Post-secondary Education in Canada: Evidence from the YITS

### I. Introduction

There has recently been an increased interest in the attraction of students to post-secondary education (PSE) across Canada – and indeed all over the world. This is due to the perception – if not the fact – that countries will need an educated populace in order to compete with internationally in the burgeoning information economy. This competition comes from not only traditional competitors in the Western world, but also emerging economies such as China and India as these economies grow handsomely and move beyond the industrialization model of economic growth. This competition has caught the attention of Western policy makers who seem to be unsure if the relative position of their economies can be maintained in the face of this new competition. University administrators too are propelling this interest, understanding that the demographic changes in the Western world mean that there will be increased competition for both foreign and domestic students.

For economists, many of the problems regarding access are more pedestrian: the potential misallocation of resources since it is very costly to educate students, and these costs increase with the level of education (e.g., graduate school versus colleges). Given these high costs of schooling, it is important to economists that policy makers have useful information to ensure that young individuals who are qualified to attend PSE are able to do so and, once they are in PSE, that they remain there until graduation.<sup>1</sup>

Most of the research in the areas of access has focused on the financial aspects of PSE participation. The reason for this is likely because economists conduct much of this research, the fact that data on financial variables are readily available, and many of these variables (e.g., tuition, student loan amounts, etc.) can be changed through policy. Canadian studies on the impact of tuition hikes at post-secondary institutions have become very common in the past few years (Coelli, 2005; Neill, 2005; Johnson and Rahmad, 2005; are recent examples). Prior to the mid-1990s, tuition at Canadian PSE institutions was low as a percentage of the total cost of education. If low-income families could not afford to send their children to PSE, the well-developed and adequately funded student loans system would fill this financial void. With provincial government funding to institutions cut back in the 1990s – the result of a wider program of expenditure reductions – institutions were forced to make up for this reduction in revenue by increasing tuition (Finnie and Usher, 2005). This tuition increase led to concerns that individuals, especially those from low-income backgrounds, may be excluded from participating in PSE.

The importance of financial variables has also been perpetuated in the mainstream media, often encouraged by student interest groups whose mandate is to lobby federal and provincial governments for more favourable financial conditions for those attending PSE. Tuition increases are constant fodder for the media and student protests seem certain to be front-page news. To wit, a recent *Globe and Mail* opinion piece was entitled “The sacred cow of low tuition.” It ran on the same day as PSE students from across the country rallied against high tuition.

In what follows, we address the importance of some of these non-financial barriers. In particular, we focus on the background of young adults at the time when they are 15-years old to assess the importance of these factors on entering either college or university. Furthermore, while the *average* student may be relatively unaffected by the cost of PSE, students come from a wide variety of backgrounds – including various family incomes – and it is students from low-income families in particular that be limited in their access to PSE. Thus, we pay particular attention to

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<sup>1</sup> It is well known that sheepskin effects exist in PSE (Ferrer and Riddell, 2001, 2002), so that attendance without completion generally represents a misallocation of resources since the education was costly to provide and yet the individual does not benefit in terms of higher earnings without having obtained the parchment or sheepskin.

this group. The availability of the Youth in Transition Survey (YITS) allows an unprecedented look at the importance of many variables that could potentially determine the success or failure of students in accessing PSE in Canada.

What differentiates this research from previous Canadian research on this topic is that we are able to explicitly control for a variety of family background characteristics, most importantly parental income and education, in determining access to PSE. While the YITS has been used in previous research, it has not included the same variety of controls nor has it been used to model the choice between college and university.<sup>2</sup>

The paper is organized as follows. The following section contains a review of the pertinent literature. Section III discusses the data and the methodology employed. The results of the descriptive and multivariate analysis are the topic of Section IV. The final section concludes the paper and offers a few some suggestions for future work based on the major results of the empirical work.

## **II. Literature Review**

It will not be the purpose of this section to conduct a comprehensive review of the literature that addresses the factors related to PSE participation. This has recently been done elsewhere for the Canadian literature (De Broucker, 2005; Junor and Usher, 2004; Looker, 2001; Looker and Lowe, 2001; Mueller, 2007) as well as the US literature (Ehrenberg, 2004; Long 2005). In what follows, we briefly describe the evolution of our knowledge about access to PSE in Canada, and then outline how the subsequent work in this paper fits into this evolving literature.

A good share of the Canadian and international literature has addressed the impacts of financial variables on access to PSE amongst young people. The accumulated evidence, however, suggests that the demand for PSE is price inelastic (Junor and Usher, 2004), although tuition increases are likely to have a larger impact on individuals from low-income families (Coelli, 2005). Both Chrisophides, et al. (2001) and Corak, et al. (2003) include parental income in their models of PSE participation and find that tuition generally had little effect, but that parental income is important for university attendance, but not for PSE in general. Frenette (2005) and Drolet (2005) also find that PSE attendance gap between high- and low-income families is narrowed when colleges and universities are both considered, but that students from low-income family are less likely to attend either, but especially university. Frenette (2007) finds that the gap in university participation between students at the top and the bottom family income quartiles can almost entirely be explained by observable characteristics; only 12 per cent of the gap is related to financial constraints. The negligible significance of tuition in these studies is important for our purposes since we are unable to control for this influence in our data.

Many of these empirical studies also suffered from data problems; focusing on the financial aspects of PSE attendance since these were the data available. Furthermore, the data used were often cross-sectional, which presents a host of empirical problems. Rivard and Raymond (2004), for example, argue that many of the above studies may have biased estimates of participation. For example, students who are already in the education system may have less elastic price elasticity of demand and this will downward bias any estimate when all students are included in the analysis. Furthermore, it is often only students in PSE that are observed and the researcher either has to use complex data manipulation techniques to account for those not observed (a "science" with its own problems) or simply live with the problems inherent in the data. Furthermore, the lack of control variables can also result in biased coefficient estimates associated with those variables that are included. To overcome some of these problems, Rivard and Raymond (2004) utilize the YITS (Cohort B or YITS-B) to address the transition into PSE

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<sup>2</sup> For example, Finnie, Laporte and Laschelle (2004) do not use the family income variable since they try to match the YITS with the SLS (which does not contain this variable). Frenette (2007) does include a wide array of controls, including family income, but addresses only university attendance.

from high school. They too find that entrance into PSE is not particularly sensitive to either tuition or family income. More important factors are parental education and academic preparation, although they argue that increased returns to PSE as well as increased student loan amounts were also likely important in reducing the significance of income and tuition variables. The data these authors utilized make these conclusions possible: namely that the financial variables that were hitherto considered important, become much less so when the appropriate variables are included.

Finnie, Laporte, and Lascelles (2004) use the 1991 School Leavers Survey (SLS) and the 2000 YITS-B – both of which contain a variety of family background variables – to analyze the influences of these factors on PSE access. They find that participation rates in the 1990s increased most amongst students whose parents were highly educated, although that may be partially due to the fact that education is highly correlated with income. This may be particularly important in the 1990s since tuition increased rapidly in most jurisdictions throughout Canada. Addressing the indirect channels through which parental influences work is the purpose of the paper by Finnie, Lascelles and Sweetman (2005) which also uses the 1991 SLS as well as its follow-up in 1995. The authors use a block recursive regression technique where indirect variables of interest are added into a linear regression model which also includes direct effects of factors such as parental income, family type, etc. in order to ascertain both the direct and indirect effects of these background variables. They find that family background is related to PSE participation both directly and also indirectly through variables such as high school marks, attitudes towards education, etc. Furthermore, the direct effects are generally attenuated when the indirect effects are included, and are strongest for university attendance compared to other types of PSE participation.

This paper is closest in spirit to these last two papers. There are important differences mainly in the data utilized. Finnie, Laporte and Lascelles (2004) use two cross-sections of data (the 1991 School Leavers Survey (SLS) and the 2000 Youth in Transition Survey) while the Finnie, Lascelles and Sweetman piece used the 1991 SLS and its follow-up in 1995. The use of two cross-sections is important in giving researchers insights into changes over a period of time, but their use might cloud the dynamics of the PSE participation decision, since the same individuals are not followed over time. The SLS, by contrast, does follow the same individuals, but it does not offer the same wide variety of background variables contained in the YITS. The YITS has also been utilized by Raymond and Rivard (2004) to study the effects of tuition fees on PSE participation. Using only the 18-20 year-old cohort, they too find the importance of parental education is an important indicator of PSE participation. Tomkowicz and Bushnik (2003) look at the pathways taken by young people following graduation from high school and find that attending PSE right away, delaying entry into PSE, and not entering PSE at all are correlated with family background as well as high school academic variables.<sup>3</sup> These studies, however, only used the YITS-B sample, which surveys only 18-20 year olds, and does not contain as large a variety of early background variables compared to the YITS-A sample which interviews the same cohort of 15-year olds three times over a four-year period.<sup>4</sup>

What we have learned from recent studies is that the decision to attend (and to ultimately complete) PSE is a complex one and depends on a variety of financial and nonfinancial variables related to the student's family background. The existing work has also taught us that the inclusion of as many relevant variables as possible seems desirable since many control variables in earlier studies were highly correlated with excluded variables, thus biasing coefficient estimates and (perhaps) resulting in misguided policy recommendations. For example, recent Canadian studies generally show that the effect of tuition on the decision to attend PSE is practically nil once family income is taken into consideration, and family income itself is shown to be less important

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<sup>3</sup> Other recent studies that use the YITS, but do not model PSE participation include Bowlby and McMullen (2002) and Lambert, et al. (2004).

<sup>4</sup> In all three waves, students themselves are interviewed. In the first wave, parents and high school administrators are also interviewed and provide valuable background information about the students. These latter two surveys are a real strength of the YITS-A sample.

statistically and economically once parental education is included. Ironically, policy discussions still tend to focus on financial-related barriers to entry.

This is the point of departure for the current paper. We utilize the extensive background information contained in the YITS-A to address access to PSE in Canada. Specifically, we add to the existing literature by including a comprehensive set of background variables which are determined before entry into PSE to assess the impact of these variables on access to college and university.

### **III. Data and Methodology**

The Youth in Transition Survey – Sample A (YITS-A) initially interviewed 15-year olds, their parents, and their high school administrators in 2000. Two follow-up surveys of the young people only were conducted in 2002 and again in 2004. In this final wave of the survey, the young people were 19-years of age, a time when most people have either already entered PSE or the labour force.

We limit the sample to include only those in the nine of the ten provinces, Quebec being the exclusion. Because Quebec has a special system of PSE – *Collège d'enseignement général et professionnel* or CEGEP as it is commonly known – students in Quebec only attend secondary education up to the equivalent of grade 11, and then attend CEGEP to either prepare for a university degree (an additional two years) or to complete a technical program (usually an additional three years). Because of the structure of this system, those attending university in Quebec normally can complete their studies in three years, compared to four years outside of the province. We drop Quebec from our analysis since there is no way in these data to disaggregate the two streams, and this could potentially confound our analysis (i.e., university-bound students could be incorrectly classified as college students or vice versa). The differentiation of college- and university-bound students is key to the analysis that follows. Observations from the territories are also eliminated, owing to small sample sizes.

PSE participation is the first program that a student entered, rather than the highest level attended. This is owing to the fact that more information is available on the first program than on subsequent programs for each individual as well as the fact that we are concerned with the transition from high school to PSE in this research. Since individuals who have studied outside of Canada might have quite different backgrounds and experiences, we eliminate them from the sample. For the same reason, non-Canadian citizens and those with unknown immigration status are dropped. Finally, we drop those individuals for which there are missing data as well as those who are continuing in high school, since we obviously do not observe any transition into PSE for this latter group. A full accounting of the observations dropped from the sample is contained in Appendix Table A1. The final unweighted sample size consists of 16,163 observations: 7,852 males and 8,311 females.

### **IV. Results**

#### *A. Descriptive Analysis*

The summary statistics for both males and females are presented in Table 1. A few patterns are present from these data and are worthy of note. PSE participation is higher for females than for males – 69.2 per cent versus 55.9 per cent. This total differential can entirely be accounted for by the higher university participation rates of young women – 44.7 per cent compared to 30.9 per cent for males. College participation rates for the sexes are almost identical. The higher university participation rate for young women is well known in recent research, at least amongst researchers. Any other differences between the young males and females in our sample are not obvious from the data in this table.

Table 2 disaggregates the data from Table 1 into college (which includes trade school) and university. The general patterns are the same for both sexes. These results show that young people from urban areas much more likely to attend university. The Maritime Provinces and Ontario have the highest rates of PSE participation in the country, while Alberta has the lowest, followed by Saskatchewan. Much of Ontario's high overall participation rate is owing to the proportion of young people attending college rather than university, whereas for the Maritimes high university participation rates – the highest in the country – explain the high overall rates. Family background also appears to be an important determinant of PSE attendance. Young people from two parent families are much more likely to attend PSE than those from other types of families, almost entirely due to their higher university participation rates.<sup>5</sup>

Parental education is also important as PSE participation in general, and university participation in particular, increases sharply with parental education. Mirroring the parental education influence is parental income level: attendance at the university level tends to increase with parental income. Interestingly, minorities in Canada (whether they be visible minorities, immigrants, or linguistic minorities) all have higher overall PSE participation rates in general, usually the result of higher university participation rates.

To summarize, the results from our sample show that the Maritime Provinces and Ontario have the highest rates of PSE participation. In the former case, this is mainly due to high university participation rates whereas in the latter case it is due to higher-than-average college attendance. Females, urban residents, those from two-parent families, linguistic and racial minorities all have higher-than-average participation rates. Participation in PSE, especially university, tends to be increasing in the parental education and family income.

Of course, many of these preliminary results may change once we formally model and estimate the relationships summarized above. This is the topic of the next section.

### *B. Multivariate Estimation Results*

In this section we estimate a simple multinomial choice model where those individuals who have graduated from high school either attend college (including trade school), attend university, or do not attend either.<sup>6</sup> Changes in the independent variables will jointly affect the university and college decisions of individuals and the marginal effects are what are presented in what follows. For example, changes in the parental income variable should be interpreted as the incremental effect on the probability of college and university attendance by changing this variable from the omitted category. The results from the estimation are presented in Table 3 for both females and males. In columns 1 and 3, we estimate a model with all the demographic variables as well as parental income for males and females, respectively. In columns 2 and 4, both parental education and income are included.<sup>7</sup>

In general, the results in these tables are reflective of those already presented in the summary statistics, although there are some differences worthy of note. Both males and females from urban high schools are less likely to attend college than their rural counterparts, but more likely to attend university, bolstering support for the hypothesis that it is the location of universities and colleges that have an influence on who attends. In other words, urban students tend to be diverted away from colleges and into universities. This is consistent with the distance from PSE institutions hypothesis empirically supported by Frenette (2004).

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<sup>5</sup> This is an interesting result and will be addressed in future research complementary to the current work.

<sup>6</sup> We also estimated a logit model with attending PSE and not attending PSE as the options. The results are similar to those presented here.

<sup>7</sup> This specification of the model only includes parental education (the maximum of either the mother's or father's education) as well as family income (again the highest of the mother or the father in the two-parent family case). Alternative specifications of the model were done using the characteristics of both the mother and the father (e.g., education, immigration, status, etc.) for both two-parent and mother-only and father-only families. The results differ only slightly from those presented here and will be addressed more comprehensively in a companion paper.

Some of the general differences in participation rates between provinces continues to be observed while other have disappeared: Prince Edward Island and Nova Scotia have significantly higher university participation rates compared to Ontario, but so do all the provinces east of Alberta. The Atlantic Canada advantage at university is significant, both statistically and economically – figures from about 11 percentage points for males in Newfoundland and Labrador up to 20 percentage points for males from PEI in the full model specification (column 2). The positive values for Saskatchewan and Manitoba are more modest. All provinces have significantly lower college participation rates compared to Ontario, underlining the high college-participation rates in that province. Alberta and British Columbia are the only provinces that have participation rates that are lower than those of Ontario at both the college and university levels, although the latter results are only significant for females.

Family type no longer appears to be an important correlate of PSE attendance, whereas in the summary statistics both males and females from two-parent families showed higher rates of both university and college attendance compared to those who were not. Butlin (1999) arrives at a similar result. Visible minority status by itself is positive and significant throughout as is being a naturalized Canadian citizen, at least for university attendance. The interaction between of these two terms yields statistically unimportant coefficient values.

University attendance is increasing in parental income for both males and females regardless of the specification. However, once controls for parental education are also added to the model, the importance of income is diminished greatly, and becomes insignificantly different from zero in many cases. Thus, it seems to be parental education as well as parental income – which plays only a supporting role – that are important in determining university, but not college participation rates. To put the relative importance of these factors into perspective, an increase in parental income from the \$5,000- \$25,000 range to the \$50,000-\$75,000 range (the control group) would increase university participation by 10.2 percentage points for females. By comparison, having at least one parent with a BA degree would increase participation at university by 29.9 percentage points compared to the control group (high school graduates). The general result that parental education is a stronger predictor of university participation than parental income has also been found in the Canadian studies by Knighton and Mirza (2002), Drolet (2005), and Rahman, et al (2005).

## **V. Conclusions**

This research has addressed how the backgrounds of high school graduates are related to access to both college and university in Canada. We have modeled PSE access as a choice between college and university, as well as including a variety of student background variables that are of importance in determining PSE access. This combination is unique in the Canadian literature. There are several interesting results that can be derived from this work.

First, urban residents have a high probability of attending university, but a lower probability of attending college. Since most universities in Canada are in urban areas whereas colleges are more spread out geographically, this result makes sense. It also reflects what has been reported elsewhere in the literature.

Second, there is a wide divergence of access to university and college across the country. The Atlantic Provinces have the highest university participation rates while Ontario has the highest college rates. Alberta and British Columbia tend to have the lowest rates of either.

Third, individuals from mother- and father-only families do not have different probabilities of attending either college or university compared to their colleagues from two-parent families. This is an interesting result and one that will be explored in forthcoming research.

Fourth, immigrants and visible minorities have college participation rates that are similar to those of the Canadian-born and non-minorities. Both of these groups tend to have significantly higher university participation rates. Thus, PSE participation in general is higher for these two groups.

Fifth, higher levels of parental education tend to increase the probability that an individual will attend university, and reduce the probability that he or she will attend college. The former positive effect, however, is stronger than the latter negative effect, implying that there is a general increase in PSE participation and that students are diverted from college to university.

Sixth, family income has essentially no influence on college attendance. This is likely due, at least in part, to the fact that college tuition is generally lower than university tuition and hence accessibility for students from low-income families may not be at a disadvantage when accessing this type of PSE. Ultimately, a number of the students enrolled at the college level may transfer to universities, especially in provinces such as British Columbia and Alberta where the college and university systems tend to be well integrated, thus easing the transition for students. Further research on accessibility and the integration of college and universities would be most worthwhile, especially since it could mean increased access to university for students from low-income families.

Finally, the influence of family income on access to university is greatly reduced once parental education is included in the model. Still, money does seem to matter, as those from high-income families are still more likely to attend than those from middle- and lower-income families.

Although we may not have a strong idea of the mechanisms by which highly educated parents pass along characteristics to their children – ones which ultimately result in their children successfully entering university – it is clear from our results that family background is important, especially as measured by parental education. Furthermore, it is a much more fundamental indicator of PSE participation – at university in particular – than parental income. Through which channels parental education influences participation in PSE is an extraordinary fruitful and important avenue for future research.



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Table 1 - Descriptive Statistics, Males and Females

	Males		Females	
	%	S.E.	%	S.E.
<b>Number of observations</b>	7,852		8,311	
<b>PSE Participation</b>				
No PSE	44.1	[0.9]	30.8	[0.8]
Any PSE	55.9	[0.9]	69.2	[0.8]
Trade/College	25.0	[0.8]	24.5	[0.8]
University	30.9	[0.8]	44.7	[0.8]
<b>HS Region</b>				
Rural	23.5	[0.7]	24.2	[0.7]
Urban	76.5	[0.7]	75.8	[0.7]
<b>HS Province</b>				
Newfoundland and Labrador	2.6	[0.1]	2.8	[0.1]
Prince Edward Island	0.7	[0.0]	0.7	[0.0]
Nova Scotia	4.1	[0.2]	4.3	[0.2]
New Brunswick	3.2	[0.1]	3.7	[0.1]
Ontario	47.3	[0.9]	48.6	[0.9]
Manitoba	5.0	[0.2]	4.7	[0.2]
Saskatchewan	5.4	[0.2]	5.1	[0.2]
Alberta	14.4	[0.5]	13.1	[0.5]
British Columbia	17.4	[0.6]	17.0	[0.6]
<b>French minority outside QC</b>				
No	96.8	[0.2]	96.1	[0.2]
Yes	3.2	[0.2]	3.9	[0.2]
<b>Family Type</b>				
Two parents	85.6	[0.6]	82.7	[0.7]
Mother only	10.9	[0.6]	13.9	[0.6]
Father only	2.2	[0.3]	2.0	[0.2]
Other	1.4	[0.2]	1.5	[0.2]
<b>Visible Minority</b>				
Visible minority	13.7	[0.6]	14.7	[0.7]
Non-visible minority	86.3	[0.6]	85.3	[0.7]
<b>Immigrant Status</b>				
Canadian by birth	91.3	[0.5]	90.8	[0.6]
Canadian by immigration	8.7	[0.5]	9.2	[0.6]
<b>Visible Minority &amp; Canadian by immigration</b>				
No	95.4	[0.4]	94.9	[0.4]
Yes	4.6	[0.4]	5.1	[0.4]
<b>Parental/guardian's Education</b>				
Less than HS	6.8	[0.4]	7.8	[0.5]
HS completed	20.8	[0.7]	20.6	[0.7]
Some PSE	7.0	[0.4]	7.8	[0.5]
Trade/College	32.3	[0.8]	31.9	[0.8]
University-below BA degree	4.1	[0.4]	4.4	[0.3]
University-BA	19.5	[0.7]	17.6	[0.6]
University-Grad	9.4	[0.5]	9.8	[0.5]
Other/unknown	0.1	[0.1]	0.1	[0.1]
<b>Parental Income Level</b>				
Extremely low (\$0-\$5000)	1.2	[0.2]	1.3	[0.2]
\$5000 to \$25000	6.2	[0.4]	7.5	[0.4]
\$25000 to \$50000	23.3	[0.7]	24.6	[0.7]
\$50000 to \$75000	27.6	[0.8]	28.9	[0.8]
\$75000 to \$100000	25.6	[0.8]	22.5	[0.7]
\$100000 and up	16.2	[0.7]	15.2	[0.6]

Table 2 - College and University Participation Rates by Individual Characteristics, Males and Females

	Males				Females			
	College		University		College		University	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.
<b>Overall</b>	25.0	[0.8]	30.9	[0.8]	24.5	[0.8]	44.7	[0.8]
<b>HS Region</b>								
Rural	26.3	[1.4]	21.4	[1.1]	30.8	[1.4]	36.3	[1.4]
Urban	24.5	[0.9]	33.9	[1.0]	22.4	[0.9]	47.4	[1.0]
<b>HS Province</b>								
Newfoundland and Labrador	23.9	[1.7]	29.8	[2.0]	21.7	[1.6]	46.7	[2.0]
Prince Edward Island	18.7	[1.8]	43.3	[2.2]	15.1	[1.5]	58.0	[2.1]
Nova Scotia	19.3	[1.6]	47.1	[2.0]	15.8	[1.3]	59.4	[1.9]
New Brunswick	19.3	[1.5]	35.9	[1.8]	18.6	[1.3]	53.7	[1.7]
Ontario	31.3	[1.5]	30.5	[1.4]	28.8	[1.4]	47.1	[1.5]
Manitoba	11.6	[1.2]	33.4	[1.9]	16.7	[1.5]	47.4	[2.0]
Saskatchewan	16.4	[1.2]	29.8	[1.6]	18.2	[1.3]	41.1	[1.8]
Alberta	18.2	[1.3]	25.3	[1.5]	21.3	[1.5]	35.0	[1.7]
British Columbia	22.6	[1.5]	31.4	[1.6]	22.8	[1.4]	39.5	[1.7]
<b>French minority outside QC</b>								
No	24.7	[0.8]	31.1	[0.8]	24.2	[0.8]	44.7	[0.9]
Yes	33.0	[3.0]	27.6	[3.0]	30.2	[2.8]	45.9	[3.1]
<b>Family Type</b>								
Two parents	25.3	[0.8]	32.2	[0.8]	24.3	[0.8]	46.7	[0.9]
Mother only	22.7	[2.5]	24.0	[2.3]	26.4	[2.3]	37.1	[2.4]
Father only	26.3	[6.2]	23.6	[5.1]	23.2	[5.5]	34.6	[6.1]
Other	20.6	[6.7]	20.1	[6.6]	17.7	[5.0]	22.3	[5.4]
<b>Visible Minority</b>								
Visible minority	24.0	[2.2]	45.5	[2.5]	22.6	[2.1]	56.5	[2.5]
Non-visible minority	25.1	[0.8]	28.6	[0.8]	24.8	[0.8]	42.7	[0.9]
<b>Immigrant Status</b>								
Canadian by birth	25.1	[0.8]	29.7	[0.8]	24.9	[0.8]	43.2	[0.9]
Canadian by immigration	23.8	[2.9]	43.8	[3.2]	19.7	[2.7]	60.1	[3.2]
<b>Visible Minority &amp; Canadian by immigration</b>								
No	25.0	[0.8]	30.4	[0.8]	24.7	[0.8]	44.0	[0.9]
Yes	24.1	[4.3]	42.6	[4.5]	20.5	[4.0]	59.6	[4.5]
<b>Parental/guardian's Education</b>								
Less than HS	18.9	[2.8]	9.8	[2.0]	24.6	[2.7]	19.2	[2.3]
HS completed	27.3	[1.8]	16.9	[1.3]	28.8	[1.8]	31.1	[1.7]
Some PSE	26.7	[2.9]	22.1	[2.6]	32.8	[3.0]	35.5	[2.9]
Trade/College	28.8	[1.4]	24.2	[1.2]	27.4	[1.3]	38.0	[1.4]
University-below BA degree	27.7	[4.0]	34.5	[4.0]	19.4	[3.2]	63.9	[3.7]
University-BA	21.3	[1.7]	50.2	[2.0]	18.9	[1.6]	66.0	[1.9]
University-Grad	16.3	[2.2]	65.6	[2.7]	11.3	[1.9]	76.8	[2.4]
Other/unknown	-	-	-	-	-	-	-	-
<b>Parental Income Level</b>								
Extremely low (\$0-\$5000)	25.7	[7.7]	24.2	[6.6]	14.1	[4.5]	41.6	[8.9]
\$5000 to \$25000	23.6	[3.0]	21.3	[2.7]	23.1	[2.5]	31.8	[2.9]
\$25000 to \$50000	25.3	[1.6]	23.5	[1.4]	25.1	[1.5]	34.8	[1.5]
\$50000 to \$75000	24.3	[1.4]	26.8	[1.4]	26.3	[1.4]	43.6	[1.5]
\$75000 to \$100000	25.8	[1.6]	36.5	[1.7]	25.0	[1.7]	49.2	[1.8]
\$100000 and up	24.6	[2.0]	44.0	[2.2]	20.5	[1.8]	63.0	[2.1]

Table 3 - Multinomial Logit Estimates of Access to College and University, Males and Females

	Males				Females			
	(1)		(2)		(1)		(2)	
	College	University	College	University	College	University	College	University
<b>HS location - Urban (Rural)</b>	-0.0486*** [0.016]	0.102*** [0.019]	-0.0445*** [0.016]	0.0755*** [0.018]	-0.0944*** [0.016]	0.0686*** [0.019]	-0.0825*** [0.016]	0.0351* [0.018]
<b>HS Province (ON)</b>								
<b>Newfoundland and Labrador</b>	-0.111*** [0.023]	0.127*** [0.028]	-0.112*** [0.023]	0.109*** [0.026]	-0.130*** [0.022]	0.142*** [0.026]	-0.124*** [0.022]	0.137*** [0.025]
<b>Prince Edward Island</b>	-0.155*** [0.021]	0.238*** [0.029]	-0.150*** [0.022]	0.200*** [0.027]	-0.173*** [0.019]	0.216*** [0.025]	-0.163*** [0.019]	0.188*** [0.024]
<b>Nova Scotia</b>	-0.145*** [0.020]	0.242*** [0.026]	-0.137*** [0.021]	0.193*** [0.025]	-0.169*** [0.018]	0.219*** [0.023]	-0.158*** [0.019]	0.195*** [0.023]
<b>New Brunswick</b>	-0.165*** [0.020]	0.172*** [0.027]	-0.165*** [0.019]	0.157*** [0.025]	-0.163*** [0.019]	0.178*** [0.023]	-0.157*** [0.019]	0.160*** [0.023]
<b>Manitoba</b>	-0.215*** [0.016]	0.0898*** [0.029]	-0.211*** [0.016]	0.0768*** [0.027]	-0.148*** [0.019]	0.0784*** [0.025]	-0.147*** [0.019]	0.0780*** [0.023]
<b>Saskatchewan</b>	-0.170*** [0.018]	0.0825*** [0.025]	-0.174*** [0.018]	0.0673*** [0.023]	-0.139*** [0.019]	0.0437* [0.025]	-0.140*** [0.019]	0.0378 [0.023]
<b>Alberta</b>	-0.141*** [0.018]	-0.0244 [0.021]	-0.143*** [0.018]	-0.0269 [0.020]	-0.0909*** [0.020]	-0.0904*** [0.023]	-0.0957*** [0.019]	-0.0820*** [0.021]
<b>British Columbia</b>	-0.0868*** [0.020]	0.00949 [0.022]	-0.0882*** [0.020]	-0.00658 [0.020]	-0.0592*** [0.020]	-0.0569** [0.022]	-0.0616*** [0.020]	-0.0596*** [0.021]
<b>French minority outside QC (All Others)</b>	0.0574* [0.031]	-0.0135 [0.036]	0.0565* [0.030]	-0.0118 [0.032]	0.0464 [0.029]	0.0101 [0.032]	0.0520* [0.029]	0.0125 [0.031]
<b>Family Type (Two Parents)</b>								
<b>Mother only</b>	-0.0308 [0.024]	0.0107 [0.033]	-0.0289 [0.025]	-0.00589 [0.030]	0.0153 [0.024]	0.0216 [0.029]	0.0183 [0.024]	0.0124 [0.028]
<b>Father only</b>	0.00461 [0.053]	-0.0546 [0.061]	0.0219 [0.056]	-0.0719 [0.055]	-0.0116 [0.053]	-0.046 [0.066]	-0.0121 [0.052]	-0.0412 [0.060]
<b>Other</b>	-0.0394 [0.058]	-0.0843 [0.084]	-0.0299 [0.064]	-0.0365 [0.10]	-0.0305 [0.053]	-0.186*** [0.068]	-0.0368 [0.053]	-0.161** [0.063]
<b>Visible minority (All others)</b>	-0.0103 [0.027]	0.187*** [0.032]	-0.00529 [0.027]	0.174*** [0.030]	-0.000872 [0.027]	0.142*** [0.031]	0.0111 [0.027]	0.114*** [0.031]
<b>Canadian by immigration (by birth)</b>	-0.0259 [0.038]	0.150*** [0.046]	-0.0026 [0.040]	0.0516 [0.044]	-0.057 [0.035]	0.182*** [0.041]	-0.0297 [0.037]	0.111*** [0.041]
<b>Visible Minority &amp; Canadian by immigration (others)</b>	-0.0122 [0.055]	-0.112** [0.046]	-0.0188 [0.054]	-0.0682 [0.053]	0.000965 [0.063]	-0.0898 [0.062]	-0.00651 [0.062]	-0.0468 [0.062]
<b>Parental/guardian's Education (HS completed)</b>								
<b>Less than HS</b>			-0.0691** [0.029]	-0.0676** [0.027]			-0.0353 [0.029]	-0.118*** [0.032]
<b>Some PSE</b>			0.0119 [0.031]	0.0585* [0.033]			0.0409 [0.033]	0.0454 [0.035]
<b>Trade/College</b>			0.0212 [0.021]	0.0761*** [0.022]			-0.0103 [0.020]	0.0618** [0.024]
<b>University-below BA degree</b>			-0.00123 [0.039]	0.163*** [0.046]			-0.0811** [0.034]	0.302*** [0.040]
<b>University-BA</b>			-0.0488** [0.022]	0.312*** [0.030]			-0.0807*** [0.022]	0.299*** [0.027]
<b>University-Grad</b>			-0.0922*** [0.026]	0.451*** [0.035]			-0.143*** [0.025]	0.372*** [0.032]
<b>Other/unknown</b>			-	-			-	-
<b>Parental Income Level (\$50000 to \$75000)</b>								
<b>Extremely low (\$0-\$5000)</b>	0.015 [0.071]	-0.0209 [0.080]	0.0159 [0.071]	0.00268 [0.069]	-0.101** [0.046]	-0.0773 [0.097]	-0.0951** [0.047]	-0.087 [0.095]
<b>\$5000 to \$25000</b>	0.016 [0.033]	-0.108*** [0.034]	0.03 [0.035]	-0.0481 [0.037]	-0.0226 [0.029]	-0.191*** [0.036]	-0.0288 [0.029]	-0.102*** [0.038]
<b>\$25000 to \$50000</b>	0.0198 [0.020]	-0.0567*** [0.022]	0.0228 [0.020]	-0.0134 [0.021]	-0.000736 [0.019]	-0.124*** [0.023]	-0.00816 [0.020]	-0.0815*** [0.023]
<b>\$75000 to \$100000</b>	0.00145 [0.019]	0.110*** [0.025]	0.0167 [0.020]	0.0401* [0.023]	-0.0121 [0.020]	0.0659*** [0.024]	0.00336 [0.020]	0.0205 [0.023]
<b>\$100000 and up</b>	-0.0105 [0.022]	0.191*** [0.028]	0.0191 [0.023]	0.0601** [0.026]	-0.0526** [0.022]	0.198*** [0.025]	-0.0143 [0.023]	0.103*** [0.026]
<b>Observations</b>	7852	7852	7852	7852	8311	8311	8311	8311

Notes: Average marginal effects are shown. Omitted categories are in parenthesis. Standard errors are in brackets: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table A1: Sample Selection

	Males			Females		
	% of obs. in the starting sample	% of lost in each stage of exclusion	# of obs. left	% of obs. in the starting sample	% of lost in each stage of exclusion	# of obs. left
<b>Starting sample</b> (YITS-A participants over all 3 cycles)			10,226			10,521
<b>QC, Territories or Outside Canada</b>						
PS institution in QC	13.79			17.19		
Last year of high school in QC	23.36			22.53		
HS attended at cycle1 is in QC	23.56			22.70		
Ever resident in QC	23.74			22.99		
Ever resident, taken HS or PSE in QC	24.13			23.72		
PS institution in Territories or outside Canada	0.66			0.89		
Last year of high school in Territories or outside Canada	0.39			0.57		
Ever resident in Territories or outside Canada	0.24			0.52		
Any of the above	25.00	25.00	8,415	25.03	25.03	8,713
<b>HS continuer or status unknown</b>	6.54	6.05	7,961	4.01	3.39	8,458
<b>Non-Canadian citizen / immigrant status unknown</b>	0.75	0.70	7,931	0.99	0.93	8,422
<b>Missing values</b>						
Unknown visible minority status	0.34	0.32	7,909	0.40	0.51	8,395
PSE						
Unknown level of PSE program	0.49			0.93		
Unknown type of PSE institution	0.19			0.48		
Unknown PSE	0.64	0.69	7,852	1.15	1.03	8,311