

**Perception of Barriers to Education in a Group of 18 to 20-
Year-Olds: For Whom Does Money Matter?**

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Introduction

It has been well documented in the research literature that the perception of barriers to education can be a serious hindrance to young adults' educational success. Among many barriers, the most often cited barrier to education in the literature was lack of financial resources. Several Canadian studies investigating students' perception of financial barriers found that such a perception is a function of several factors associated with acquiring more education, for example, the direct costs of education (i.e., tuition fee), the opportunity costs (i.e., loss in pay due to time away from paid employment), and intangibles (i.e., debt aversion). Some groups of individuals were more likely to report financial barriers to education than other groups. For instance, more females than males tended to identify financial barriers. Students coming from families of lower income and whose parents were less educated tended to report more financial or other barriers to education than their peers from higher SES status families and families in which at least one parent pursued some form of post-secondary education (Butlin, 1999; Chaousis, 1989; Foley, 2001; Looker, 1994; Lowe et al., 1997; Luzzo & McWhirter, 2001; McWhirter, 1997). Marriage and caring for dependent children were also found to increase perception of financial barriers to education (Foley, 2001; Looker, 2001).

Several studies that investigated reasons why individuals who completed high school did not enrol in a post-secondary education (PSE) and why those who attended a post-secondary program did not complete it found that, among a combination of factors, availability of financial resources was one of the most important and cited more often than other reasons (Foley, 2001; Looker, 2001; Brunson et al., 2001). Interestingly, more individuals who never attended a post-secondary institution cited financial barriers as compared to those who attended such an institution but did not complete a post-secondary program (Foley, 2001). This may suggest that perception of financial barriers decreases once an individual becomes enrolled in a PSE program as compared to the perception of such barriers during the process of deciding to pursue or not PSE. Also, many individuals who never attended a PSE institution tended to perceive the overall cost of education in terms of time and money as too high relative to perceived potential benefits of post-secondary education (Brunson et al., 2001). However, once those individuals decided to pursue PSE and enrol into a PSE program, many of them seemed to be able to balance the costs of PSE against the potential benefits in employability and job quality (MPHEC, 1997).

Although there have been many studies investigating the perception of financial barriers to education, very limited research has been done on the effect of actual amounts of financial resources available to individuals on their perception of such barriers. Therefore, as a continuation of previous research and to present new perspectives on the issue of financial barriers to education, the purpose of this paper is to provide some insight into the issue of perception of such barriers as reported by 18 to 20-year-olds in Canada in a light of the certain sources and amounts of money available to them, and to investigate factors that are associated with the perception of such barriers. Since student loans, assistance from parents, academic awards, and earnings from summer and part-time jobs were found to be the main sources Canadian students rely on to finance their post-secondary education (Looker & Lowe, 2001; O'Heron 1997), the actual amount of money they receive from the combinations of these and other sources and its effect on financial barriers perception is the main focus of this study.

Insight into financial barriers to education may be of particular interest to a broad spectrum of educators including teachers, career counsellors, educational institution administrators, and educational policy makers because it helps to better understand one of the most relevant factors in 18 to 20-year-olds' lives that may prevent them from going in school as far as they would like to go. Understanding young peoples' beliefs and needs may in turn lead to understanding the factors that would help reduce students' perceptions of the financial barriers to education.

Research Questions

This study attempts to provide answers to the following research questions:

1. What percentage of high school graduates with no post-secondary experience and what percentage of those currently enrolled in a post-secondary program indicated financial barriers to more education?
2. Is there a difference in the distribution of the amounts of financial resources received by those respondents who perceive a financial barrier to education and those who do not?
3. To what degree does the amount of financial resources affect the odds of perceiving financial barriers to more education?
4. To what degree does the amount of financial resources affect the odds of perceiving financial barriers to more education while controlling for demographics, family related factors, and educational experience factors?

Study Participants

The data used in this study come from the Youth in Transition Survey (YITS) administered in January 2000 to a stratified sample of 22,378 18 to 20-year-olds in 10 Canadian provinces. This sample represented an estimated 1,220,235 Canadian youth of this age. The two sub-populations of interest were high school (HS) graduates with no post-secondary experience but whose educational aspirations included at least some PSE, and respondents who at the time of the interview were enrolled in some post-secondary institution, called in this paper PSE continuers. HS graduates who stated

What is YITS?

The Youth in Transition Survey (YITS) is a new Canadian longitudinal survey designed to examine the major transitions in young people's lives, particularly with respect to education, training and work. Survey results provide a deeper understanding of the nature and causes of challenges young people face as they manage these transitions. The survey will help support policy planning and decision making that addresses these problems.

YITS will examine key transitions in the lives of youth, such as the transition from high school to post-secondary education and from schooling to the labour market. The factors that determine high school completion are examined, as well as the effects of school experiences on educational and occupational outcomes, and the contribution of work experience programs, part-time jobs, and volunteer activities. To collect this information, current plans are to survey the same group of young people every two years, over a period of several years. The first survey cycle of YITS took place in early 2000 and the second cycle followed in 2002.

Two different age groups are participating in YITS, the 18- to 20-year-old cohort, and the 15-year-old cohort who also participated in the Programme for International Student Assessment (PISA). Results for the 18- to 20-year-old cohort can be found in *At a Crossroads: First results for the 18 to 20-year-old cohort of the Youth in Transition Survey* (81-591-XIE, free). Results for the 15-year-old cohort can be found in *Measuring up: the Performance of Canada's youth in reading, mathematics, and science – OECD PISA Study – First results for Canadians aged 15* (81-590-XIE, free). These reports are available through the Internet at www.statcan.ca.

that their educational aspirations ended with obtaining a high school diploma were excluded from the analyses.

These two groups of participants were selected for the following reasons: 1) to gain some insight into how perception of barriers may affect access to education in the long run in the group of high school graduates with no PSE, and 2) to better understand how perception of barriers may be related to PSE persistence in the group of PSE continuers.

Because YITS is a longitudinal survey in which the data on survey participants will be collected several times in the future, this study intends to provide the foundation for future research on access to PSE and PSE persistence in light of perception of barriers to education.

Other groups of respondents including HS continuers (enrolled in high school program during the time of the survey), HS leavers (dropped out of high school before graduation), PSE leavers (dropped out of PSE before graduation), and PSE graduates (non-continuers) were not considered in this study.

Methods

All analyses were conducted separately for the HS graduate and PSE continuer groups. The reason behind treating these two groups separately was partly provided by the literature that suggests that young people who never attended a PSE institution and those who were PSE students differ in their perception of financial barriers to education (Brunson et al., 2001; MPHEC, 1997). Following the literature, it is believed that the overall educational and life experience of HS graduates who did not yet start their PSE and PSE continuers who have been in a post-secondary environment is sufficiently different to affect their perception of barriers to education. Separating these two groups was also supported by the YITS design. Some of the survey questions of interest and related to the post-secondary educational experience were only asked to PSE continuers.

First, descriptive statistics and frequencies are used to show the distribution of perception of barriers to more education versus perception of no barriers, and distribution of types of barriers to education. Second, the distributions of perception of financial barriers versus no barriers to education by amounts of financial resources from different sources are presented and discussed.

Next, binary logistic regression (LR) analyses were conducted to assess how availability of certain financial resources affects the odds of perceiving a financial barrier versus no barriers to more education while controlling for demographics, family related factors, and education related factors. The regression analyses were run in blocks, simultaneously entering all variables of interest in each block. In block one, only the financial resource variables were tested to assess how the odds of perceiving financial barriers to more education were affected before accounting for other factors. In block two, the demographic variables were added and the effect of availability of financial resources on the perception of a financial barrier to education was assessed while controlling for demographic factors. Subsequently, family background variables and educational experience variables were added in blocks 3 and 4, respectively, and, again, the effect of having certain financial resources on the perception of a financial barrier to education was assessed while controlling for these additional factors. The list and description of all variables used in this study is provided in the Appendix A.

For each predictor variable, one category was chosen as a reference group against which all other categories were compared. The level of significance was set at $p \leq 0.05$. A bootstrap method with 1000 weights was used to calculate estimates of variance for each variable. The missing data in each of the logistic regression analysis were deleted listwise.

Results

The results of the analyses are presented in the order they were specified in the method section. The results for high school graduates are presented and discussed first, followed by the results for PSE continuers.

1. Perception of barriers to more education

Of the over 246,000 respondents who had graduated from high school by January 2000 but were not enrolled in any PSE program, approximately 52% indicated that they perceived some kind of barrier to more education. Of the approximately 514,000 PSE continuers, about 41% percent said ‘yes’ when asked if there was anything that prevented them from going in school as far as they would like to go.

Those respondents who indicated an overall barrier to education, were asked about specific barriers they perceived and were allowed to list up to three. Although the focus of this paper is respondents’ perception of financial barriers to education, for comparison purposes and because multiple responses were allowed, the distribution of perception of other barriers is also presented here (see Table 1).

Table 1. Percentage of respondents indicating specific barriers to more education by respondents’ education status

| Barrier type | Education status | |
|-----------------------------------|-------------------------------------|-------------------------------|
| | HS graduates, no PSE (N=128,571) | PSE continuers (N=209,496) |
| Financial situation | 73.2 | 69.2 |
| Marks too low | 13.4 | 10.7 |
| Not enough interest or motivation | 7.1 ^{**} | 12.8 |
| Wants to stay close to home | 1.4 ^{***} | 1.2 ^{***} |
| Education takes too long | 6.0 ^{***} | 9.1 |
| Wants to work | 4.1 ^{**} | 4.2 [*] |
| Caring for dependent children | 3.2 ^{**} | 1.7 ^{***} |
| Own health | 1.3 ^{***} | 0.8 ^{***} |
| Not sure what to do | 4.9 ^{**} | 2.0 ^{***} |
| Other barrier | 6.9 [*] | 8.5 [*] |

Of the approximately 129,000 HS graduates with no PSE who perceived some kind of barrier to education the majority (over 73%) indicated financial situation as a barrier. In a group of about 209,000 PSE continuers who said ‘yes’ to barriers to more education, approximately 69% perceived their financial situation as a barrier.

As indicated earlier, the respondents were allowed to list up to three barriers to education. Given that, some of the respondents who indicated a financial barrier to education also cited other barriers (see Table 2).

* Numbers marked with this symbol have a coefficient of variation between 16.6% and 25% and are less reliable than unmarked numbers.

** Numbers marked with this symbol have a coefficient of variation greater than 25% and less or equal to 33.3% and are very unreliable

*** Numbers marked with this symbol have a coefficient of variation greater than 33.3%.

Please note that these symbols appear in the text and several tables in this paper.

Table 2. Percentage of respondents who indicated single or multiple barriers to more education with a focus on financial barriers.

| Single or multiple barrier | Education status | |
|--|--------------------------------------|-------------------------------|
| | High school graduates (N=128,571) | PSE continuers (N=209,496) |
| Only financial situation | 58.2 | 54.7 |
| Financial situation and at least one other barrier | 15.0* | 14.5 |
| Other than financial barriers (single or multiple) | 26.8 | 30.8 |

As shown in Table 2, for both HS graduates and PSE continuers financial barriers to more education are most prevalent. More than half of respondents in the HS graduate or PSE continuer groups perceived finances as the only barrier which suggests that money matters when obtaining more education is considered.

2. Perception of financial barriers to more education by amounts of money received

This section presents the differences with respect to actual amounts of financial resources received from selected sources between the following groups: 1) respondents who do not perceive any barriers to more education, and 2) respondents who perceive their financial situation as the only barrier.

These two groups of interest were chosen for comparison in order to maintain data clarity. The first group included respondents who indicated no barriers to education and thus could be considered ‘not at risk’ of not pursuing PSE whether they had started their PSE yet or not. As such, this group can be considered to be an ‘ideal’ reference group.

The second group included respondents who indicated their financial situation as the only barrier to education and could be considered as being at risk of not going to or not completing PSE because of financial reasons. Given the fact that a financial situation was the only barrier for the majority (over 50%) of those who indicated some barrier to education, a better understanding of who those young people are would add to our understanding of what factors may be associated with such a perception.

Respondents who indicated financial and at least one other barrier to education were not considered for further analyses in this paper. Again, this decision was made to maintain data clarity. When asked to identify up to three potential barriers to education, respondents were not asked to rank them in order of importance. As such, when two or more barriers were indicated, it was not possible to say which one was the more prevalent and would put a respondent at a higher risk of not going to or not continuing their PSE. For example, some respondents identified ‘financial’ and at the same time ‘marks too low, not being able to get into program’ barriers, or ‘financial’ and ‘own health’ barriers. Given such combinations of responses it was not entirely clear how prevalent was the perception of a financial barrier (i.e., would respondents who had low marks or were not able to get into a program of their choice still pursue post-secondary education if the financial barrier was removed?).

Finally, the group of respondents who indicated barriers other than financial was not considered. This group consisted of individuals who indicated a variety of potential obstacles to education and as such considerable differences within this group offered too little stability for it to be used for comparison.

High school graduates’ perception of financial barriers to education

The differences between HS graduates with no PSE who perceive financial barriers versus those who perceived no barrier to more education was assessed using the sources and amounts of income in 1999.

Sources and amounts of income in 1999 and perception of financial barriers to education in the group of HS graduates

HS graduates' income in 1999 came from different sources. Over 90% of them received most of their income from salaries and wages (see Table 3). Interesting results were found when analyzing proportions of respondents who received some income from wages and salaries and who said 'yes' to financial barriers. It appears that the more money they earned the more they tended to perceive financial barrier to education. For example, of those respondents who perceived financial barriers to education only 4%^{***} did not have any income from jobs and over 40% earned more than \$10,000 in 1999. Of those who did not report any barriers to education close to 8%^{**} did not earn any money in 1999 and only about 34% earned over \$10,000.

Table 3. Percentage distribution of amount of income received from jobs in 1999 by perception of financial barriers in HS graduates.

| Income received from jobs | Barrier perception | | Total (N=192,548) |
|---------------------------|---------------------------------|------------------------------------|----------------------|
| | No barrier at all (117, 707) | Financial barrier (N=74,841) | |
| \$ 0 | 7.8 ^{**} | 4.0 ^{***} | 6.3 [*] |
| \$ 1 to 2878 | 13.9 | 12.3 [*] | 13.3 |
| \$ 2879 to 6035 | 20.2 | 16.0 | 18.6 |
| \$ 6036 to 10341 | 23.6 | 26.8 | 24.8 |
| \$ more than 10341 | 34.4 | 41.0 | 37.0 |

The second most important source of income was money received from parents or other people that did not need to be paid back (see Table 4). Despite the fact that the median of this income was relatively small (\$1,040) over 40% of respondents received such income. The income that respondents received from parents or other people tended to have some relation to their perception of financial barriers to education. Of the respondents who reported financial barriers to education over 60% did not receive any money from their families. In the group of respondents who said 'no' to barriers to education close to half received some income from this source.

Table 4. Percentage distribution of amount of income received from family or other people in 1999 by perception of financial barriers in HS graduates.

| Income received from family or other people | Barrier perception | | Total (N=192,548) |
|---|---------------------------------|------------------------------------|----------------------|
| | No barrier at all (117, 707) | Financial barrier (N=74,841) | |
| \$ 0 | 52.6 | 61.7 | 56.2 |
| \$ 1 to 500 | 25.5 | 20.9 | 23.7 |
| \$ 501 to 1040 | 7.2 [*] | 8.9 ^{**} | 7.9 |
| \$ 1041 to 3000 | 9.6 [*] | 5.2 ^{**} | 7.9 [*] |
| \$ more than 3000 | 5.0 ^{**} | 3.3 ^{***} | 4.3 [*] |

Other sources of income the HS graduates received were less significant. Approximately 14% of respondents received some income from government sources such as Goods and Service Tax Credit, Child Tax Benefit, Workers' Compensation or Canada or Quebec Pension Plan. A very small percentage of respondents received some money from Employment Insurance (EI) benefits, Social Assistance (SA) or welfare benefits, from non-government sources such as investments or child support, and from scholarships, grants, and bursaries. Likely due to the fact that small proportions of HS graduates received money from such sources and the amounts of

money received were quite small there was no pattern pointing to a relationship between the amount respondents received from these sources and their beliefs about financial barriers to education. Detailed descriptive statistics for these variables and N-counts for the two groups of comparison are presented in Table 1B, Appendix B

The combined sources of income in 1999 yielded the total income before taxes and deductions (see Table 5). Because the largest portion of the total income came from the jobs respondents held in 1999, the relationship between the amount of total income and perception of financial barriers to more education was similar to that of the income from jobs and perception of financial barriers. Again, interestingly, the higher the income the more respondents tended to say ‘yes’ to financial barriers. Of the respondents who perceived financial barriers approximately 20% had their income in the lowest bracket of \$0 to 4,744 and about 34% earned more than \$13,000. On the other hand, in a group of respondents who said ‘no’ to barriers to education approximately 27% earned less than \$4,744 and only about 28% had their earning in the highest bracket.

Table 5. Percentage distribution of amount of total income received in 1999 by perception of financial barriers in HS graduates.

| Total income in 1999 | Barrier perception | | Total (N=192,548) |
|----------------------|---------------------------------|------------------------------------|----------------------|
| | No barrier at all (117, 707) | Financial barrier (N=74,841) | |
| \$ 0 to 4744 | 26.9 | 19.6 | 24.0 |
| \$ 4745 to 8388 | 21.9 | 22.2 | 22.0 |
| \$ 8389 to 13036 | 23.0 | 24.3 | 23.5 |
| \$ more than 13036 | 28.2 | 34.0 | 30.5 |

It appears that the relationship between perception of barriers and the amounts of money available to HS graduates with no PSE depends more on the source of money than on the actual amount received. One would expect, that the more money people earn (money from jobs) the less financial barrier to education they would perceive. However, there may be several plausible explanations for the opposite relationship that was found here.

For example, the income in 1999 may not be the only financial resource available to HS graduates who are not in PSE. Availability of other funds to these respondents is not known. It is possible that if the total income in 1999 was considered together with other financial resources respondents had access to (i.e., indirect family support), the overall availability of financial resources would provide a different pattern with respect to the relationship between the amounts of money available and perception of financial barriers to education.

On the other hand, if the money comes from families (‘free money’), it seems to reduce the perception of financial barriers, despite the fact the amounts of ‘free money’ HS graduates received were relatively small as compared to the amounts of money earned.

PSE students’ perception of financial barriers to education

The differences between PSE continuers who perceived a financial barrier versus those who perceived no barrier to more education was assessed using the following sets of variables: sources and amounts of income in 1999 and sources and amounts of money to fund PSE.

Sources and amounts of income in 1999 and perception of financial barriers to education in the group of PSE continuers

Similarly to the HS graduates, the major source of income for PSE continuers was wages and salaries (see Table 6). Over 90% of PSE continuers reported having income from jobs. Interestingly, the amount of money they made appeared to have very little impact on their perception of financial barriers to education. For example, of the respondents who reported financial barriers to education about 19% earned less than \$2,878 and about the same proportion earned more than \$10,300. Similarly in a group who did not see any barriers to education, again about 19% earned less than \$2,878 and about 21% earned more than \$10,300.

Table 6. Percentage distribution of amount of income received from jobs in 1999 by perception of financial barriers in PSE continuers.

| Income received from jobs | Barrier perception | | Total (N=419,003) |
|---------------------------|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 | 8.4 | 5.6** | 7.7 |
| \$ 1 to 2878 | 18.5 | 19.2 | 18.7 |
| \$ 2879 to 6035 | 26.7 | 28.0 | 27.0 |
| \$ 6036 to 10341 | 25.3 | 28.0 | 26.1 |
| \$ more than 10341 | 21.1 | 19.2 | 20.6 |

The second significant source of income for PSE continuers was the money received from their families that did not need to be paid back (see Table 7). More than 60% of respondents received such income. The pattern of relationship between the receiving or not money from families and the perception of financial barrier to education was similar to that observed in the sub-population of HS graduates. Of those PSE continuers who did not see financial barriers to education a higher proportion received money from their families as compared to respondents who said ‘yes’ to financial barriers (66% versus 59%). Also, the amount of money they received seem to have a consistent relationship with people’s perception of financial barriers. Although the median amount received was relatively small, more respondents who did not perceive barriers to education received more money from their families as compared to their peers who perceived financial barriers. Given such patterns, it seems that any amount of ‘free’ money matters and the more ‘free’ money people received the less financial barriers to education they tended to perceive.

Table 7. Percentage distribution of amount of income received from families or other people in 1999 by perception of financial barriers in PSE continuers.

| Income received from family or other people | Barrier perception | | Total (N=419,003) |
|---|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 | 34.3 | 41.2 | 36.2 |
| \$ 1 to 500 | 13.4 | 16.8 | 14.4 |
| \$ 501 to 1040 | 11.3 | 11.1* | 11.3 |
| \$ 1041 to 3000 | 20.2 | 14.4 | 18.6 |
| \$ more than 3000 | 20.7 | 16.5 | 19.5 |

Close to 30% of PSE continuers received some money from grants and bursaries. Perhaps because the median amount of this income was fairly low (\$1,000), whether they received it or not and the amount received did not seem to be related to respondent perception of barriers to

education. Approximately 20% of respondents received some money from such government sources as Goods and Service Tax Credit, Child Tax Benefit, Workers' Compensation or Canada or Quebec Pension Plan. In addition, a very small percentage of respondents received some income from non-government sources like investments or child support, from Employment Insurance Benefits, and from Social Assistance Benefits. Likely due to the low proportion of respondents who received such income and relatively small amounts received, no relationship between the amounts received and perception of financial barriers to education was observed. The detailed descriptive results of these comparisons and the N-counts for the groups of comparison are presented in Table 2B in Appendix B.

There appears to be an association between the total income respondents had in 1999 and their perception of financial barriers to education. There was essentially no difference with respect to perception of financial barriers between respondents whose total income was less than \$4,744. However, as the income increased, the differences between the 'financial barrier' and 'no barrier' groups increased. As expected, a higher proportion of respondents whose total income was less than \$13,000 perceived financial barriers as compared to their peers whose yearly income was above this amount. Accordingly, the lower proportion of respondents with income above \$13,000 said 'yes' to financial barriers to education (see Table 8).

Table 8. Percentage distribution of amount of total income received in 1999 by perception of financial barriers in PSE continuers.

| Total income in 1999 | Barrier perception | | Total (N=419,003) |
|----------------------|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 to 4744 | 23.2 | 24.0 | 23.4 |
| \$ 4745 to 8388 | 25.3 | 29.0 | 26.3 |
| \$ 8389 to 13036 | 24.9 | 27.4 | 25.6 |
| \$ more than 13036 | 26.5 | 19.5 | 24.6 |

The pattern of relationships between the amounts of total income and perception of financial barriers to education for PSE continuers was quite different from that seen in the HS graduates group. While HS graduates seemed to perceive more barriers when their income was higher, the opposite is observed for PSE continuers. It is possible (and in alignment with previous research) that once the commitment and investment in PSE is made, education may become the priority. Therefore, the more money one has, the easier it is to fund PSE and the fewer financial barriers one perceives.

Sources and amounts of PSE funding and perception of financial barriers to education in the group of PSE continuers

This section examines the relationship between the amounts of money PSE continuers owed to different parties or received from selected sources to fund their post-secondary education and their perception of financial barriers.

Most of the money borrowed to finance PSE was on loan from government institutions. About 28% of PSE continuers got such a loan as compared to about 7% who owed money to banks or lines of credits and about 3% who got loans from their families. Being in debt seemed to be positively related to the perception of barriers. In the group who did not report any barriers to education about 77% did not have a student loan as compared to about 60% of students in the group who reported financial barriers. The amount owed on a student loan also appeared to be

related to the perception of financial barriers. Consistently, higher proportions of students who borrowed or owed more money reported more barriers to education. For example, in a group who reported financial barriers about 11% * borrowed more than \$8,000 as compared to the group who did not report barriers to education in which less than 5% * borrowed more than \$8,000 (see Table 9).

Table 9. Percentage distribution of amount of total amount owed to government by perception of financial barriers in PSE continuers.

| Total amount owed to government | Barrier perception | | Total (N=419,003) |
|---------------------------------|----------------------------------|----------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 | 76.9 | 59.8 | 72.3 |
| \$ 1 to 2605 | 7.0 | 10.1 | 7.8 |
| \$ 2606 to 5000 | 6.7 | 11.0 | 7.9 |
| \$ 5001 to 8000 | 5.0 | 8.7 | 6.0 |
| \$ more than 8000 | 4.3 | 10.5 | 6.0 |

Similar patterns were seen for respondents who owed money to banks or other financial institutions and those who owed to their families. However, perhaps because relatively few respondents had money on loan from these sources, the differences in perception of financial barriers to education in relation to the amount of money owed was very small. Descriptive statistics for those sources of PSE funding are presented in Table 3B in Appendix B.

When the total amount of money owed to different parties was considered, a clear pattern emerged (see Table 10). Not surprisingly, the more money one owed the more financial barriers one perceived. Overall, in a group of respondents who did not report any barriers to education, about 72% did not owe anything to government, banks, or their families, 10% owed less than \$3,000, about 6% * owed between \$3,000 and \$8,500 and only about 5% owed more than \$8,500. On the other hand, among respondents who reported financial barriers to more education only about 53% did not owe any money to anybody, 14% owed less than \$3,000, about 10% * owed from \$3,000 to \$8,500, and over 13% owed more than \$8,500 in forms of different loans.

Table 10. Percentage distribution of amount of total amount owed to different parties by perception of financial barriers in PSE continuers.

| Total amount owed to different parties | Barrier perception | | Total (N=419,003) |
|--|----------------------------------|----------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 | 72.2 | 52.5 | 66.8 |
| \$ 1 to 3000 | 10.0 | 14.1 | 11.1 |
| \$ 3001 to 5000 | 6.5 | 10.4 | 7.5 |
| \$ 5001 to 8500 | 6.3 | 9.8 | 7.2 |
| \$ more than 8500 | 5.1 | 13.2 | 7.3 |

A different pattern was observed when considering money received from scholarships, prizes, awards, grants or bursaries to fund the PSE. Approximately one-third of PSE continuers received some money in the form of scholarships, awards and prizes and about 15% of them received some money in the form of grants and bursaries. Detailed statistics for these variables are presented in Table 3B in Appendix B.

In a group of students who did not see any barriers to education a slightly higher proportion did not receive funding in the form of scholarships and prizes (68%) or grants and

bursaries (87%) as compared to the group of respondents who perceived financial barriers (65% and 82%, respectively). Among those respondents who got scholarships or prizes, the more they received the lower their perception of financial barriers was. On the other hand, surprisingly, among those who received grants and bursaries, it appeared that those who received more tended to perceive more financial barriers. However, because the amounts of money received from grants or bursaries were relatively small and not many respondents actually received such funding, these results should be interpreted with caution.

Overall, approximately 40% of PSE continuers received money from scholarships and prizes or grants and bursaries to fund their post-secondary education. Considering the combined sources, a slightly higher proportion of those who said ‘no’ to barriers did not receive any funding (62%) as compared to those who perceived financial barriers (57%). And of those who did get some money to fund their PSE, the differences between the proportions of students who perceived and did not perceive financial barriers were very small within each bracket of received funds (see Table 11).

Table 11. Percentage distribution of amount of total amount received from scholarships, prizes, and grants by perception of financial barriers in PSE continuers.

| Total amount received from scholarships, prizes, and grants | Barrier perception | | Total (N=419,003) |
|---|-------------------------------|-------------------------------|-------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| \$ 0 | 62.4 | 57.1 | 60.9 |
| \$ 1 to 500 | 7.9 | 11.1 ⁺ | 8.7 |
| \$ 501 to 1350 | 9.9 | 10.0 ⁺ | 9.9 |
| \$ 1351 to 2900 | 10.2 | 11.5 ⁺ | 10.6 |
| \$ more than 2900 | 9.7 | 10.2 ⁺ | 9.8 |

Taken together, it appears that those who did not owe or did not receive any money from the sources discussed above tended to perceive less financial barriers than their peers who either owed or received some money. One possible explanation of such results may be that those who did not owe would likely be finishing their post-secondary education debt-free and would not be facing an often stressful perspective of having to pay back. Those who did not receive any ‘free’ money may either not need it (because they have other sources of financing their PSE) or do not realize the impact of having such funds on their expenses associated with attending a post-secondary institution. On the other hand, those who received ‘free’ money might either be in greater financial need or perceived the amount they received as relatively small compared to the cost of post-secondary education and as a result might tend to see more financial barriers to education than their peers who did not get such funding.

3. The effect of financial resources on the odds of perceiving financial barriers versus no barrier to more education – results of multivariate logistic regression

The effect of the amount of financial resources on the odds of perceiving financial barriers versus no barrier to more education in the group of HS graduates with no PSE

The results of a logistic regression examining the effect of total income in 1999 received by high school graduates with no PSE experience on the odds of perceiving financial barriers versus no barrier to more education are presented in Table 12. Of all the income variables discussed in a previous section, the ‘Total income in 1999’ variable was the most appropriate to

use for this analysis because it represented combined income from all sources and had a sufficient number of respondents in each cell.

As the results in Table 12 suggest, the ‘Total income in 1999’ variable was not a strong predictor of perception of financial barriers to education. It appears that the odds of perceiving financial barriers for people whose total income was over \$4,745, over \$8,389, or even over \$13,036 were not significantly different from the odds of perceiving such barriers by respondents who earned less than \$4,744. This finding was true for each LR block. Adding and controlling for demographic variables, family background variables, and high school experience variables did not affect the relationship between the respondents’ total income and their perception of financial barriers to education. Detailed descriptive statistics for these additional variables are presented in Table 4B, Appendix B.

Table 12. Effect of financial resources on the odds of perceiving financial barriers to education for high school graduates. *Italic font indicates a reference group.*

| Variables in the model | Odds ratio | | | |
|---|-------------|-------------|-------------|-------------|
| | Block 1 | Block 2 | Block 3 | Block 4 |
| Total income in 1999 | | | | |
| <i>\$ 0 to 4744</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> |
| \$ 4745 to 8388 | 1.39 | 1.28 | 1.33 | 1.20 |
| \$ 8389 to 13036 | 1.45 | 1.23 | 1.26 | 1.08 |
| \$ more than 13036 | 1.65 | 1.35 | 1.37 | 1.16 |
| Demographics | | √ | √ | √ |
| Family background | | | √ | √ |
| High school experience | | | | √ |
| Model evaluation | | | | |
| R ² | 0.01 | 0.06 | 0.08 | 0.10 |
| % of cases classified correctly (overall) | 61.0% | 64.1% | 65.7% | 66.1% |
| % of cases who perceive financial barrier classified correctly | 0.0% | 23.6% | 31.0% | 32.8% |
| % of cases who do not perceive barriers to education classified correctly | 100.0% | 90.0% | 87.7% | 87.3% |

p ≤ 0.05

In addition, when only one predictor (‘Total income in 1999’) was considered, the model prediction was poor. Only 1% of variance in the dependent variable could be attributed to this variable. Also, despite the fact that overall classification of cases was fairly good (61%), essentially no respondents who perceived financial barriers were classified correctly. This indicates the weakness of the predictor variable and a strong possibility that there are many other unexplained factors underlying HS graduates’ perception of financial barriers to education.

It should be noted that when additional variables were added to the LR model in subsequent blocks, the total percentage of variance explained by all predictors and case classification improved at each stage of analyses. In block 4, approximately 10% of the variance in the dependent variable was explained by all predictors and approximately 33% of respondents perceiving financial barriers to education were classified correctly. This suggests that demographics (i.e., gender, age), family background (i.e., parent education), and high school experience (i.e., academic engagement, working while in HS) play some role in explaining perception of barriers.

Taken together, it does not appear that the income received mattered to HS graduates in terms of their perception of financial barriers. There may be several reasons for such an outcome. Some of them were briefly discussed in the earlier section. First of all, it needs to be remembered, that the income for HS graduates may only be one of many financial resources available to them. Unfortunately no information of other potential financial resources available to those respondents was collected during the survey (for example, YITS does not provide information on family savings, college trusts, or other family financial support). It is known however, that almost 90% of HS graduates with no PSE lived in a family home (with at least one parent) during December 1999. Having such living arrangements, it is reasonable to expect that those respondents had access to some family financial resources in addition to their own income. And these resources, if known, may be associated with perception of financial barriers.

In addition, even when other potential finances are not taken into consideration, there are other plausible explanations for these findings. First, the overall income of HS graduates in 1999 was not high. Given the cost of higher education and a median yearly income of \$8,388 it is not surprising that people who made about this amount of money or a little bit more were not that different in their perception of financial barriers to education from those who earned less money. Even respondents who were classified into the upper quartile of the yearly income (over \$13,036) did not see less financial barriers to education. On the contrary, the odds of perceiving financial barriers for those respondents were slightly higher (although non-significantly) than for their counterparts whose income was in the lowest bracket. It appears that different factors may intensify people's perception of barriers in spite of having a relatively high income: education may not be a priority at that time, there may be other financial obligations for which the money needs to be spent, or simply having an income over \$13,000 may reduce the amount of a student loan a respondent may qualify for. Other explanations are possible.

The effect of the amount of financial resources on the odds of perceiving financial barriers versus no barrier to more education in the group of PSE continuers

The results of a logistic regression examining the effect financial resources received by post-secondary students on the odds of perceiving financial barriers versus no barrier to more education are presented in Table 13. Three variables were selected to serve as main predictors of financial barriers: 'Total income in 1999', 'Total owed to different parties', and 'Total received from scholarships, prizes, awards, grants and bursaries'.

As explained in a previous section, the 'Total income in 1999' variable was a combination of variables measuring respondents' income from different sources, with the majority of income coming from jobs. The 'Total owed to different parties' variable is a combination of the money borrowed strictly to fund PSE and is owed to government, banks, lines of credits, and families. The 'Total received from scholarships, prizes, awards, grants, and bursaries' variable is a combination of the money received from scholarships, prizes and awards and the money from grants and bursaries. The three financial resources variables were analyzed together in each block of LR. This was appropriate because the correlations among those variables were low ($r < 0.2$).

As shown in Table 13, of the three financial resources variables, only the 'Total owed to different parties' variable was a significant predictor of perception of financial barriers to education. When only financial resources variables were analyzed (Block 1), the odds of perceiving financial barriers to education were approximately twice as high for respondents who owed up to \$8,500 in different loans as compared to their peers who did not owe any money. The

odds of saying ‘yes’ to financial barriers were about 3.5 times higher for PSE students who owed more than \$8,500 as compared to those who did not report having any debts.

When demographic variables were added (Block 2), the odds of perceiving financial barriers for respondents who owed different amounts of money slightly increased as compared to their ‘debt-free’ peers. The odds of perceiving financial barriers to education were more than twice as high for respondents who owed up to \$8,500 in different loans as compared to PSE students who did not owe anything. Also, the odds of perceiving financial barriers were almost 4 times as high for PSE students who owed more than \$8,500 as compared to students who did not owe money.

Table 13. Effect of financial resources on the odds of perceiving financial barrier to education for PSE continuers. *Italic font indicates a reference group.*

| Variables in the model | Odds ratio | | | |
|---|-------------|-------------|-------------|-------------|
| | Block 1 | Block 2 | Block 3 | Block 4 |
| Total income in 1999 | | | | |
| <i>\$ 0 to 4744</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> |
| \$ 4745 to 8388 | 1.20 | 1.14 | 1.18 | 1.12 |
| \$ 8389 to 13036 | 1.22 | 1.14 | 1.18 | 1.06 |
| \$ more than 13036 | 0.85 | 0.78 | 0.81 | 0.70 |
| Total owed to different parties | | | | |
| <i>\$ 0</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> |
| \$ 1 to 3000 | 1.88**** | 2.02**** | 1.85**** | 1.78**** |
| \$ 3001 to 5000 | 2.17**** | 2.38**** | 2.20**** | 2.02**** |
| \$ 5001 to 8500 | 2.02**** | 2.17**** | 1.96**** | 1.81 |
| \$ more than 8500 | 3.49**** | 3.99**** | 3.67**** | 3.52**** |
| Total received from scholarships, awards, grants, prizes, bursaries | | | | |
| <i>\$ 0</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> | <i>1.00</i> |
| \$ 1 to 500 | 1.41 | 1.41 | 1.42 | 1.45 |
| \$ 501 to 1350 | 0.99 | 0.97 | 0.96 | 1.00 |
| \$ 1351 to 2900 | 1.12 | 1.08 | 1.12 | 1.20 |
| \$ more than 2900 | 1.05 | 0.98 | 1.00 | 1.08 |
| Demographics | | √ | √ | √ |
| Family background | | | √ | √ |
| Post-secondary experience | | | | √ |
| Model evaluation | | | | |
| R ² | 0.06 | 0.09 | 0.10 | 0.11 |
| % of cases classified correctly (overall) | 73.1% | 73.4% | 73.8% | 74.0% |
| % of cases who perceive financial barrier classified correctly | 6.9% | 10.0% | 12.7% | 14.7% |
| % of respondents who do not perceive barriers classified correctly | 97.6% | 97.0% | 96.5% | 96.0% |

**** p ≤ 0.05

When controlling for family background variables (Block 3) and PSE experience variables (Block 4), students who owed money to different parties were still more likely to perceive financial barriers to education as compared to their peers who were not in debt. For

example, after controlling for demographics (i.e., gender, province of residence) and family background (i.e., parental education, number of siblings), the odds of seeing financial barriers were about twice as high for students who owed up to \$8,500 and more than 3.5 times higher for students who owed more than that amount as compared to their counterparts who did not owe money. A similar pattern was seen when the PSE experience variables (i.e., type of PSE institution attended, working while in PSE) were controlled for in Block 4. Detailed descriptive statistics for demographics, family background and PSE experience variables are presented in Table 5B in Appendix B.

The model prediction improved as more variables were added. When only one set of variables was considered (Block 1), the model prediction was fairly weak. Approximately 6% of variance in the dependent variable could be accounted for by the three financial variables. The overall classification of cases was good (73%). However, only about 7% of respondents who perceived financial barriers were classified correctly. This points towards a strong possibility that besides financial resources there are additional dynamics underlying PSE students' perception of financial barriers to education.

After adding demographics, family background, and PSE experience factors the model prediction improved gradually. When all sets of variables were considered, the total percentage of variance in the dependent variable explained by the independent variables increased to 11% and the correct classification of PSE students who perceived financial barriers to more education moved up to about 15% (with the overall correct classification of cases 74%).

To summarize these findings, it appears that only money that was owed significantly affected PSE students' perception of financial barriers to education. Owing money can pose a financial difficulty to young people so, not surprisingly, respondents who owed most saw more financial barriers to obtaining more education.

Whether or not the students got scholarships, awards, grants or bursaries did not seem to be associated with their perception of barriers. One explanation of such a finding may be the fact that the median amount received was only about \$1,300.

In addition, the total income in 1999 was not found to be significantly related to the perception of financial barriers to education. However, despite lack of significance, an interesting pattern could be observed. The odds of seeing financial barriers by respondents whose yearly income was between \$4,745 and 13,036 were slightly greater as compared to those whose income was less than \$4,745. The odds of perceiving financial barriers by respondents whose income was over \$13,036 were lower than those of their peers who received up to \$4,744. Respondents with higher income perceived less financial barriers to more education. Although a different trend was found for HS graduates, it may be that the PSE students have fewer non-educational financial obligations than their peers with no PSE experience. In such a situation, having income higher than \$13,000 may contribute to reduction of financial barriers perception. Other explanations are also possible.

Similarly to the HS graduate group, only a few sources of financial support of PSE students are known from the YITS data set. Having more information on availability of other financial resources available to them (i.e., family savings for education or indirect family support) would likely clarify the pattern of relationship between the availability of such resources and PSE students' perception of financial barriers.

Summary and Conclusion

In agreement with previous research (i.e., Foley, 2001; Brunson et al., 2001) this study found that HS graduates are slightly more likely to say 'yes' to financial barriers to more education than students who were already in post-secondary program (73% versus 69%). Although this difference is not statistically significant, this finding tends to confirm previous studies suggesting that the perception of such barriers may change once the education status and experience changes (MPHEC, 1997).

Also in alignment with previous studies (i.e., Looker, 2001) owing money to fund PSE by PSE students was related to their perception of barriers. The more owed the more likely were perceived financial barriers.

One might expect a negative relationship between respondents' income and their perception of financial barriers to education. Somewhat contrary to what was anticipated, the amounts of total income in 1999 did not significantly affect perception of financial barriers to education either in a group of HS graduates with no post-secondary experience or in a sub-population of PSE students. As discussed earlier, total income may only be one of the many financial resources available to respondents and as such it may not accurately reflect the relationship between the availability of financial resources and perception of financial barriers.

Moreover, one might expect a negative relationship between the total amounts of money PSE students received from scholarships, prizes, awards, grants, and bursaries and their perception of financial barriers. Again, because this resource might only be one of many sources of PSE funding and possibly due to the small sums of money received from these sources, such a relationship was not detected.

It should be noted that only effects of selected predictor variables on the odds of perceiving financial barriers to more education versus no barriers were examined in this study. Had different predictor variables measuring accessibility of financial resources been available, the results of the study might be different. More research and new data collection is needed to confirm the findings of this study. It is expected that the data from YITS cycle 2 collected in 2002 will allow investigation of the next steps in the lives of respondents who identified financial barriers to education in 2000 and shed more light on the degree to which perception of such barriers affected HS graduates' access to PSE and PSE students' persistence in pursuing more education.

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Appendix A - List of variables used in the study and recoding rationale

There are two types of variables that represent measures used in this study: variables that consist of direct response given to a specific question in the YITS questionnaire and variables that represent the combination of responses given to more than one question (known as *derived* variables). Both types are defined in this Appendix.

Financial resources variables

All financial resources variables were originally continuous. Because the data examination indicated that almost all of them contained extreme outliers causing heavily skewed distribution and because their units of analysis were small (\$1), in order to classify respondents into distinct groups, these variables were recoded into categorical variables. The recoding was conducted using quartiles with the following categories: 1= values up to and including 25th percentile, 2= values from 26th to 50th percentile, 3=values from 51st to 75th percentile, and 4=values above 75th percentile. In addition, respondents who did not receive any income of funding were coded 0.

Income received in 1999 from Employment Insurance benefits: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from Social Assistance or welfare benefits: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from other government sources, such as the Goods and Service Tax Credit, Child Tax Benefit, Workers' Compensation or Canada or Quebec Pension Plan: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from Non-Government sources including income from investment or child support: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from scholarships, grants and bursaries: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from parents or other people that did not have to be repaid (excludes loans): This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Income received in 1999 from wages and salaries (including commissions, tips and bonuses) and self-employment: This variable was derived using information on whether respondents had income from this particular source and the amount of income they received.

Total income from all sources before taxes and deductions: This variable was derived by combining components representing respondents' income in 1999. This variable has four categories. Because very few respondents reported not having any income, those respondents

(originally coded as 0) were combined with the group of respondents whose income was in the lowest bracket (coded as 1).

Total owed to the government for all student loan program: Respondents were asked what was the total amount of money they owed to the government as of December 31, 1999.

Total owed to banks or lines of credits: Respondents were asked what was the total amount of money they owed on that loans as of December 31, 1999.

Total owed to parents or families: Respondents were asked what was the total amount of money they owed to their families as of December 31, 1999.

Total received from scholarships, awards, and prizes: Respondents were asked what was the total amount of money they received from those sources as of December 31, 1999.

Total received from grants and bursaries: Respondents were asked what was the total amount of money they received from those sources as of December 31, 1999.

Total amount of money owed to student loans, bank loans, lines of credit, parents or family as of December 31, 1999, to fund post-secondary education: This variable was derived by combining components representing money owed.

Total amount of money received from scholarships, awards, prizes, grants, and bursaries as of December 31, 1999 to fund post-secondary education: This variable was derived by combining components representing money received.

Demographic variables

Gender: Respondents were asked to state their gender.

Age: Respondents were asked to state their age.

Province of residence: Respondents were asked their province of residence for their household.

Community type (urban/rural): This variables was derived using the household address information matched to 1996 Census geography. This variable should be interpreted with caution as the personal address given by respondents may not reflect where the respondent lived throughout the year. Also, because the urban/rural status was based on the Metropolitan Zone coding, the rural status may not necessary reflect living in an actual rural area. The urban area was defined as census metropolitan or census agglomeration area, or no Census Tract. The rural area was defined as the area with strong, moderate, weak, or no Metropolitan Influence Zone. Given such classification of urban/rural status it is entirely possible that some respondents who were classified as having a rural status but lived in a strong Metropolitan Influence Zone were more similar to the respondents who were classified as having urban status than to those who lived in a rural area.

Visible minority status: This variable was derived using the respondents' answers when asked their cultural or racial background.

Marital status: Respondents were asked if they were married, living common-law or living with a boyfriend or girlfriend.

Dependent children: Respondents were asked if they had any dependent children.

Family status: This variable was derived using responses regarding which parents and/or guardians lived in the family home with the respondent during most of high school.

Parents' highest level of education: This variable is based on the parent with the highest level of education.

Siblings: This variable was derived by combining the answers to the questions regarding the number of older, same age and younger siblings of the respondent.

Type of school: Respondents were asked whether their last high school was a private school.

Academic engagement scale: Academic engagement refers to a student's identification with and behavioural involvement in the academic aspects of school including their dealing with teachers, curriculum and school governance. This variable was derived using the respondents' levels of agreement with the following statements: I got along well with teachers; I did as little work as possible - I just wanted to get by; I paid attention to the teacher; I was interested in what I was learning in class; I completed my homework on time; I thought that many of the things we were learning in class were useless; and, school was often a waste of time. It also included the number of times per month the respondent reported skipping class without permission. IRT (Item Response Theory) was used to calculate a single continuous scale variable using the responses to all of the items. For this analysis, a categorical variable was then derived from this continuous variable. The category "very engaged" includes those responses that fell above plus one standard deviation from the mean; "not very engaged" includes those responses that fell below minus one standard deviation from the mean; and "engaged" includes the responses that fell within plus or minus one standard deviation from the mean.

Social engagement scale: Social engagement refers to a student's identification with and involvement in the social aspects of school life that include informal out-of-classroom activities associated with school such as students' relationships with peers and their extracurricular activities. This variable was derived using the respondents' levels of agreement with the following statements: I felt like an outsider at school or like I was left out of things at school; I was treated with as much respect as other students in my class; I had friends at school whom I could talk to about personal things; and, people at school were interested in what I had to say. IRT (Item Response Theory) was used to calculate a single continuous scale variable using the responses to all of the items. For this analysis, a categorical variable was then derived from this continuous variable. The category "very engaged" includes those responses that fell above plus one standard deviation from the mean; "not very engaged" includes those responses that fell below minus one standard deviation from the mean; and "engaged" includes the responses that fell within plus or minus one standard deviation from the mean.

Hours worked for pay during high school: This variable was derived using the respondents' reported weekly hours of work at a job for pay during their last year in high school.

Hours worked for pay while attending PSE institution: This variable was derived using the respondents' reported weekly hours of work at a job for pay during their first year of post-secondary school.

Number of PSE institutions attended: This variable was derived based on information on different institutions respondents attended.

Did respondent move to attend a PSE institution: Respondents were asked if and where they moved in order to attend the last PSE institution they were in before January 2000.

Type of PSE institution attended: Respondents were asked what type was the last PSE institution they attended before January 2000.

APPENDIX B - Descriptive Statistics

Table 1B. Percentage distribution of amounts of income in 1999 by perception of financial barrier versus no barrier to more education in a group of HS graduates.

| Income sources and amount | Barrier perception | | Total (N=192,548) |
|---|----------------------------------|------------------------------------|----------------------|
| | No barrier at all (N=117,707) | Financial barrier (N=74,841) | |
| | % | % | % |
| Income from Employment Insurance | | | |
| \$ 0 | 96.2 | 96.5 | 96.3 |
| \$ 1 to 400 | 1.1 ^{***} | 1.3 ^{***} | 1.2 ^{***} |
| \$ 401 to 1000 | 0.9 ^{***} | 0.9 ^{***} | 0.9 ^{***} |
| \$ 1001 to 2400 | 1.1 ^{***} | 0.9 ^{***} | 1.0 ^{***} |
| \$ more than 2401 | 0.6 ^{***} | 0.4 ^{***} | 0.6 ^{***} |
| Income from Social Assistance or welfare | | | |
| \$ 0 | 98.3 | 97.1 | 97.8 |
| \$ 1 to 800 | 0.4 ^{***} | 1.6 ^{***} | 0.9 ^{***} |
| \$ 801 to 1800 | 0.4 ^{***} | 0.6 ^{***} | 0.5 ^{***} |
| \$ 1801 to 4440 | 0.3 ^{***} | 0.3 ^{***} | 0.3 ^{***} |
| \$ more than 4440 | 0.5 ^{***} | 0.4 ^{***} | 0.5 ^{***} |
| Income from other government sources | | | |
| \$ 0 | 87.8 | 83.3 | 86.0 |
| \$ 1 to 120 | 2.9 ^{***} | 4.2 ^{***} | 3.4 ^{**} |
| \$ 121 to 200 | 3.4 ^{**} | 4.6 ^{**} | 3.8 ^{**} |
| \$ 201 to 364 | 2.8 ^{***} | 3.7 ^{***} | 3.2 ^{**} |
| \$ more than 364 | 3.1 ^{**} | 4.3 ^{***} | 3.6 ^{**} |
| Income from non-government sources | | | |
| \$ 0 | 95.4 | 94.2 | 95.0 |
| \$ 1 to 200 | 1.3 ^{***} | 1.9 ^{***} | 1.5 ^{***} |
| \$ 201 to 1000 | 1.2 ^{***} | 1.8 ^{***} | 1.4 ^{***} |
| \$ 1001 to 2400 | 1.1 ^{***} | 0.6 ^{***} | 0.9 ^{***} |
| \$ more than 2400 | 1.0 ^{***} | 1.4 ^{***} | 1.2 ^{***} |
| Income from scholarships, grants, bursaries | | | |
| \$ 0 | 94.6 | 94.3 | 94.4 |
| \$ 1 to 500 | 2.6 ^{***} | 2.6 ^{***} | 2.6 ^{**} |
| \$ 5001 to 1000 | 1.1 ^{***} | 1.5 ^{***} | 1.3 ^{***} |
| \$ 1001 to 2500 | 1.0 ^{***} | 1.0 ^{***} | 1.0 ^{***} |
| \$ more than 2500 | 0.8 ^{***} | 0.6 ^{***} | 0.7 ^{***} |

Table 2B. Percentage distribution of amounts of income in 1999 by perception of financial barrier versus no barrier to more education in a group of PSE continuers.

| Income sources and amount | Barrier perception | | Total (N=419,003) |
|--|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| | % | % | % |
| Income from Employment Insurance | | | |
| \$ 0 | 98.0 | 97.6 | 97.9 |
| \$ 1 to 400 | 0.8 ^{***} | 0.6 ^{***} | 0.7 ^{***} |
| \$ 401 to 1000 | 0.6 ^{***} | 0.6 ^{***} | 0.6 ^{***} |
| \$ 1001 to 2400 | 0.3 ^{***} | 0.5 ^{***} | 0.4 ^{***} |
| \$ more than 2401 | 0.3 ^{***} | 0.6 ^{***} | 0.4 ^{***} |
| Income from Social Assistance or welfare | | | |
| \$ 0 | 99.6 | 99.6 | 99.6 |
| \$ 1 to 800 | -- | -- | -- |
| \$ 801 to 1800 | 0.1 ^{***} | -- | 0.1 ^{***} |
| \$ 1801 to 4440 | 0.2 ^{***} | -- | 0.2 ^{***} |
| \$ more than 4440 | 0.1 ^{***} | 0.1 ^{***} | 0.1 ^{***} |
| Income from other government sources | | | |
| \$ 0 | 81.0 | 76.1 | 79.6 |
| \$ 1 to 120 | 5.5 [*] | 7.0 ^{**} | 5.9 |
| \$ 121 to 200 | 7.1 | 9.0 [*] | 7.6 |
| \$ 201 to 364 | 2.6 ^{**} | 4.0 ^{***} | 3.0 [*] |
| \$ more than 364 | 3.8 ^{**} | 3.8 ^{**} | 3.8 |
| Income from non-government sources | | | |
| \$ 0 | 93.5 | 94.6 | 93.8 |
| \$ 1 to 200 | 1.5 ^{**} | 1.8 ^{***} | 1.5 ^{**} |
| \$ 201 to 1000 | 2.4 ^{**} | 1.5 ^{***} | 2.2 ^{**} |
| \$ 1001 to 2400 | 0.7 ^{***} | 0.9 ^{***} | 0.8 ^{**} |
| \$ more than 2400 | 1.9 ^{***} | 1.2 ^{***} | 1.7 ^{**} |
| Income from scholarships, grants, bursaries | | | |
| \$ 0 | 73.2 | 71.9 | 72.8 |
| \$ 1 to 500 | 6.3 | 6.9 [*] | 6.4 |
| \$ 5001 to 1000 | 6.1 [*] | 6.7 [*] | 6.3 |
| \$ 1001 to 2500 | 8.1 | 8.2 [*] | 8.1 |
| \$ more than 2500 | 6.4 [*] | 6.3 ^{**} | 6.3 |

Table 3B. Percentage distribution of amounts of money available to fund PSE by perception of financial barrier versus no barrier to more education in a group of PSE continuers.

| Income sources and amount | Barrier perception | | Total (N=419,003) |
|---|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| | % | % | % |
| Total owed to banks and lines of credits | | | |
| \$ 0 | 94.3 | 90.3 | 93.2 |
| \$ 1 to 2050 | 1.8 ^{***} | 2.1 ^{***} | 1.9 ^{**} |
| \$ 2051 to 4000 | 1.5 ^{**} | 3.3 ^{**} | 2.0 [*] |
| \$ 4001 to 6000 | 1.2 ^{**} | 2.2 ^{***} | 1.5 [*] |
| \$ more than 6000 | 1.1 ^{**} | 2.1 | 1.4 ^{**} |
| Total owed to family | | | |
| \$ 0 | 97.6 | 96.0 | 97.2 |
| \$ 1 to 1000 | 0.6 ^{***} | 1.3 ^{***} | 0.8 ^{**} |
| \$ 1001 to 2000 | 0.8 ^{***} | 0.6 ^{***} | 0.7 ^{***} |
| \$ 2001 to 4000 | 0.5 ^{***} | 0.7 ^{***} | 0.6 ^{***} |
| \$ more than 4000 | 0.5 ^{***} | 1.4 ^{***} | 0.7 ^{***} |
| Total received from scholarships and prizes | | | |
| \$ 0 | 67.7 | 64.4 | 66.8 |
| \$ 1 to 500 | 7.2 | 9.5 [*] | 7.8 |
| \$ 501 to 1200 | 8.2 | 9.2 [*] | 8.5 |
| \$ 1201 to 4000 | 12.7 | 12.8 [*] | 12.7 |
| \$ more than 4000 | 4.3 [*] | 4.0 ^{**} | 4.2 |
| Total received from grants and bursaries | | | |
| \$ 0 | 86.6 | 82.1 | 85.4 |
| \$ 1 to 400 | 3.6 [*] | 4.6 ^{**} | 3.9 [*] |
| \$ 401 to 650 | 3.1 [*] | 3.5 ^{**} | 3.2 [*] |
| \$ 651 to 1300 | 3.4 [*] | 4.5 ^{**} | 3.7 [*] |
| \$ more than 1300 | 3.2 [*] | 5.4 ^{**} | 3.8 |

Table 4B. Percentage distribution of demographics, family background, and high school experience factors by perception of financial barrier versus no barrier to more education in a group of HS graduates.

| Other variables in the study | Barrier perception | | Total (N=192,548) |
|---|----------------------------------|------------------------------------|----------------------|
| | No barrier at all (N=117,707) | Financial barrier (N=74,841) | |
| | % | % | % |
| Demographic factors | | | |
| Gender | | | |
| Male | 58.5 | 47.0 | 54.1 |
| Female | 41.5 | 53.0 | 45.9 |
| Age | | | |
| 18-years-old | 51.6 | 40.0 | 47.1 |
| 19-years-old | 28.6 | 32.1 | 29.9 |
| 20-years-old | 19.8 | 27.9 | 23.0 |
| Province of residence* | | | |
| Newfoundland and Labrador | 70.9 | 29.1** | 100.0 |
| Prince Edward Island | 58.6* | 41.4** | 100.0 |
| Nova Scotia | 63.7 | 36.3** | 100.0 |
| New Brunswick | 66.9 | 33.1* | 100.0 |
| Quebec | 67.1 | 32.9* | 100.0 |
| Ontario | 62.1 | 37.9 | 100.0 |
| Manitoba | 60.2 | 39.8* | 100.0 |
| Saskatchewan | 58.3 | 41.7* | 100.0 |
| Alberta | 58.8 | 41.2 | 100.0 |
| British Columbia | 56.5 | 43.5 | 100.0 |
| Urban/ Rural Community | | | |
| Urban | 77.7 | 78.8 | 78.2 |
| Rural | 22.3 | 21.2 | 21.8 |
| Visible minority status | | | |
| Yes | 15.8* | 10.5** | 13.7 |
| No | 84.2 | 89.5 | 86.3 |
| Marital Status | | | |
| Yes –married, common law | 3.5** | 6.4** | 4.6* |
| No – single | 96.5 | 93.6 | 95.4 |
| Dependent children | | | |
| Yes | 1.5*** | 1.2*** | 1.4*** |
| No | 98.5 | 98.8 | 98.6 |
| Family background factors | | | |
| Family status | | | |
| Two parents | 83.8 | 75.3 | 80.5 |
| Single parent | 12.9 | 20.0 | 15.7 |
| Other family structure/lived in institution | 3.3*** | 4.7*** | 3.9** |
| Parent education | | | |
| Less than high school | 7.5* | 12.9* | 9.6 |
| High school | 33.9 | 36.1 | 34.7 |
| Some PSE below bachelor degree | 34.2 | 33.0 | 33.7 |
| University degree | 24.4 | 18.0 | 21.9 |

* the estimates for province are unique in this table. They represent the proportion of respondents who either perceive financial barriers or do not perceive any barriers to education in each province. Therefore the estimates add up to 100% within each province as opposed to 100% across all provinces.

Table 4B. Percentage distribution of demographics, family background, and high school experience factors by perception of financial barrier versus no barrier to more education in a group of HS graduates (*continued*).

| Other variables in the study | Barrier perception | | Total (N=192,548) |
|--|----------------------------------|------------------------------------|----------------------|
| | No barrier at all (N=117,707) | Financial barrier (N=74,841) | |
| | % | % | % |
| Family background factors | | | |
| Siblings | | | |
| No siblings | 5.5 | 5.9 | 5.6 |
| One sibling | 39.7 | 35.7 | 38.1 |
| Two siblings | 30.8 | 31.7 | 31.2 |
| Three or more siblings | 24.0 | 26.6 | 25.0 |
| Type of last high school | | | |
| Private | 6.0 | 5.5 | 5.8 |
| Public | 94.0 | 94.5 | 94.2 |
| High school experience | | | |
| Number of hours per week worked for pay in high school | | | |
| Did not work | 30.9 | 24.2 | 28.3 |
| 0 to 10 hours | 16.5 | 13.5 | 15.3 |
| 10 to 20 hours | 23.0 | 22.3 | 22.7 |
| 20 to 30 hours | 21.5 | 28.5 | 24.2 |
| More than 30 hours | 8.1 | 11.5 | 9.4 |
| High school academic engagement | | | |
| High engagement | 13.0 | 12.3 | 12.7 |
| Moderate engagement | 75.8 | 74.7 | 75.4 |
| Low engagement | 11.2 | 13.0 | 11.9 |
| High school social engagement | | | |
| High engagement | 12.2 | 11.1 | 11.8 |
| Moderate engagement | 78.0 | 71.9 | 75.6 |
| Low engagement | 9.8 | 17.0 | 12.6 |

Table 5B. Percentage distribution of demographics, family background, and PSE experience factors by perception of financial barrier versus no barrier to more education in a group of PSE continuers.

| Other variables in the study | Barrier perception | | Total (N=419,003) |
|---|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| | % | % | % |
| Demographic factors | | | |
| Gender | | | |
| Male | 46.4 | 38.7 | 44.3 |
| Female | 53.6 | 61.3 | 55.7 |
| Age | | | |
| 18-years-old | 22.6 | 20.6 | 22.1 |
| 19-years-old | 39.9 | 35.4 | 38.6 |
| 20-years-old | 37.5 | 44.1 | 39.3 |
| Province of residence* | | | |
| Newfoundland and Labrador | 76.6 | 23.4* | 100.0 |
| Prince Edward Island | 77.1 | 22.9** | 100.0 |
| Nova Scotia | 73.2 | 26.8* | 100.0 |
| New Brunswick | 77.8 | 22.2* | 100.0 |
| Quebec | 72.5 | 27.5 | 100.0 |
| Ontario | 73.6 | 26.4 | 100.0 |
| Manitoba | 73.0 | 27.0* | 100.0 |
| Saskatchewan | 72.3 | 27.7* | 100.0 |
| Alberta | 66.9 | 33.1 | 100.0 |
| British Columbia | 72.5 | 27.5 | 100.0 |
| Urban/ Rural Community | | | |
| Urban | 81.7 | 81.1 | 81.5 |
| Rural | 18.3 | 18.9 | 18.5 |
| Visible minority status | | | |
| Yes | 14.7 | 11.1* | 13.7 |
| No | 85.3 | 88.9 | 86.3 |
| Marital Status | | | |
| Yes – married, common law | 2.4** | 3.3** | 2.7* |
| No - single | 97.6 | 96.7 | 97.3 |
| Dependent children | | | |
| Yes | 0.4*** | 1.0*** | 0.6*** |
| No | 99.6 | 99.0 | 99.4 |
| Family background factors | | | |
| Family status | | | |
| Two parents | 85.6 | 76.5 | 83.1 |
| Single parent | 11.6 | 20.1 | 13.9 |
| Other family structure/lived in institution | 2.8 | 3.4** | 3.0 |
| Parent education | | | |
| Less than high school | 6.6 | 8.5* | 7.1 |
| High school | 21.4 | 23.5 | 22.0 |
| Some PSE below bachelor degree | 32.2 | 36.1 | 33.2 |
| University degree | 39.9 | 31.8 | 37.7 |

* the estimates for province are unique in this table. They represent the proportion of respondents who either perceive financial barriers or do not perceive any barriers to education in each province. Therefore the estimates add up to 100% within each province as opposed to 100% across all provinces.

Table 5B. Percentage distribution of demographics, family background, and PSE experience factors by perception of financial barrier versus no barrier to more education in a group of PSE continuers (*continued*).

| Other variables in the study | Barrier perception | | Total (N=419,003) |
|---|----------------------------------|-------------------------------------|----------------------|
| | No barrier at all (N=304,487) | Financial barrier (N=114,516) | |
| | % | % | % |
| Siblings | | | |
| No siblings | 7.6 | 6.3 | 7.3 |
| One sibling | 45.3 | 41.7 | 44.3 |
| Two siblings | 28.2 | 30.0 | 28.7 |
| Three or more siblings | 18.9 | 22.0 | 19.8 |
| Type of last high school | | | |
| Private | 11.9 | 10.0 | 11.4 |
| Public | 88.1 | 90.0 | 88.6 |
| | | | |
| Post-secondary education experience | | | |
| Number of hours per week worked for pay while in PSE | | | |
| Did not work | 50.6 | 47.6 | 49.8 |
| 0 to 10 hours | 10.8 | 10.6 | 10.7 |
| 10 to 20 hours | 20.1 | 21.3 | 20.4 |
| 20 to 30 hours | 15.2 | 14.8 | 15.0 |
| More than 30 hours | 3.4 | 5.8 | 4.0 |
| Number of PSE institutions attended | | | |
| One | 85.2 | 81.9 | 84.3 |
| More than one | 14.8 | 18.1 | 15.7 |
| Did respondent move to attend PSE institution? | | | |
| No or moved within the same city | 61.4 | 53.9 | 59.4 |
| Yes, moved out of the city | 38.6 | 46.1 | 40.6 |
| Type of PSE institution attended before January 2000 | | | |
| University or university college | 50.6 | 47.3 | 49.7 |
| Community college or CEGEP | 39.5 | 43.2 | 40.5 |
| Other PSE institution | 9.8 | 9.5 | 9.8 |