The Role of Non-Financial Barriers in the Access of First-Generation Students to Post-Secondary Education

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Abstract

The purpose of this paper is to determine why first-generation students (defined as those students whose parents' highest level of completed education is a high school diploma or less) are under-represented in Canada's post-secondary education (PSE) institutions. Using data from the Youth in Transition Survey (YITS), it will answer the following research questions:

1. Do family and social background, academic experiences in high school and overall educational motivations and aspirations serve as non-financial barriers that may subvert the participation of first-generation students in post-secondary education? If so, how?
2. What are the policy levers that may be accessed and the policy interventions and/or modifications that may be implemented in order to help first-generation students in overcoming these barriers?

What this paper illustrates is that first-generation students are more likely to be of low to modest economic means, to have parents who hold their children to lower educational expectations, to be academically low performing and to exhibit low overall aspirations and motivations for higher education. In this regard, as this paper will argue, it is not so much the first-generation status that can impede the academic trajectory so much as it is the factors associated with coming from a first-generation household that pose as non-financial barriers to PSE.

Introduction

In the 1960's, the provincial and federal governments of Canada made access to post-secondary education (PSE) a policy priority. Believing the right to pursue PSE should be afforded to all those with the desire and intellectual capability to do as such, policymakers undertook a variety of measures to increase the participation of groups that had formerly been excluded from Canada's higher education landscape.[1] Yet despite these efforts to equalize access to post-secondary education, certain groups within our society remain under-represented in our colleges and universities. First-generation students are one such group.

Defined as those students whose parents' highest level of completed education is a high school diploma, its equivalent or less, first-generation students are those who, if they attend PSE themselves, are the first in their families to do as such.[2] While the number of first-generation students enrolled in post-secondary education has increased over recent years, studies suggest they continue to access PSE at lower rates than those students whose parents obtained a tertiary-level education. The question for policy makers is *why.*

In this paper, I analyze the reasons for which first-generation students are under-represented in Canada's post-secondary education landscape by identifying some of the obstacles facing first-generation students on the path to higher education. More specifically, I focus on three sets of non-financial barriers – family and social background, academic experiences and motivations for PSE – seeking to determine what effect these three variables might have on the

[1] Diallo et al., *What Do We Know About the Pathways and Transitions of Canadian Students in Post-Secondary Education? Note I: Transitions Project* (Montreal, Que: Canada Millennium Scholarship Foundation, 2009), 12.

[2] National Centre for Education Statistics, "First-Generation Students: Undergraduates Whose parents Never Enrolled in Postsecondary Education," *Postsecondary Education Descriptive Analysis Reports,* June 1998, 7.

academic trajectory of students from families with no history of PSE. Using data from the Youth in Transition Survey (YITS), I attempt to answer the following research questions:

1. Do family and social background, academic experiences in high school and overall educational motivations and aspirations serve as non-financial barriers that may subvert the participation of first-generation students in post-secondary education? If so, how?
2. What are the policy levers that may be accessed and the policy interventions and/or modifications that may be implemented in order to help first-generation students in overcoming these barriers?

What I find is that factors related to family environment, experiences in high school and the lower motivation for higher education may indeed serve to subvert the participation of first-generation students in post-secondary education. In this regard, I argue that being a first-generation student may serve as a barrier to PSE; however, for reasons that extend beyond parental education. In other words, it is not so much first-generation status in and of itself that may serve as an obstacle in the pursuit of higher education; rather, it is the factors *associated* with growing up in a household with no history of PSE that defines the first-generation experience.

This paper is organized into five sections. I begin with an analysis of why access to post-secondary education matters, from issues related to labour market responsiveness to global economic competitiveness. I then turn to a broader discussion of the factors thought to affect a student's decision to pursue, delay or forego PSE – financial and non-financial barriers. In the third section, a literature review is presented, outlining the ways in which the aforementioned factors (family and social background, academic experience and motivations and aspirations for PSE) may hinder a first-generation student's academic pathway. The fourth section builds upon

the work of previous studies by using data from the Youth in Transition Survey to paint a quantitative portrait of first-generation students and to determine the extent to which the three selected barriers are present in the first-generation experience. The final section concludes with a summary of the main findings of this paper, potential areas for future research and policy prescriptions.

The contribution of this paper will be its identification of the non-financial barriers that may be driving the gap in post-secondary enrolment between first-generation students and their non-first-generation counterparts. The ultimate goal is to advance the thinking of policy-makers working towards the equalization of PSE so that someday all Canadians - including those with no family history of PSE – have the opportunity and the means to access and ultimately persist in higher education.

1. Why Access to Post-Secondary Education Matters

"Providing young Canadians from all backgrounds with the opportunity to pursue higher education is essential both to the country's continuing prosperity in the 21st century and to the moderation of inequities in our society…Future progress depends on increasing the participation rates of precisely those students who face the greatest barriers at a faster rate than in recent years. These students tend to come from low-income families, to have parents with little or no post-secondary experience, or to be Aboriginal."[3]

This paper seeks to analyze the gap between Canada's first-generation youth and their non-first generation counterparts in terms of enrolment in post-secondary education (PSE). More specifically, it provides a cursory glance at some of the non-financial barriers that may prevent a first-generation youth with the desire and ability to succeed in our post-secondary institutions from doing as such. However, before studying the determinants of PSE access for this particular subset of the population, it is necessary to understand why access to higher education matters.

In broad terms, access to PSE is about ensuring all those with the ability and desire to pursue higher education are able to do as such. It is a matter of *educational equality* or a high degree of equity in the distribution of learning outcomes. Access to education is not a new phenomenon. Indeed, equalizing access to higher education has been an issue of public policy concern ever since the second half of the twentieth century when various levels of government sought to provide all Canadians with an equal opportunity in terms of obtaining an education, particularly at the post-secondary level. In order to ensure broader access to education, policymakers introduced a variety of measures designed to increase the number of secondary and post-secondary graduates. Such measures included free and compulsory primary and secondary education and student financial assistance (SFA) for economically disadvantaged students.[4]

3 Berger et al., "Chapter I: Why Access Matters," in *The Price of Knowledge 2006-2007* (Montreal, Que: Canada Millennium Scholarship Foundation, 2007), 21.

4 Kamanzi et al., *The influence of social and cultural determinants on post-secondary pathways and transitions* (Montreal, Que: Canada Millennium Scholarship Foundation, 2009): 8.

And yet, while in recent years we have witnessed the increased involvement of many groups formerly under-represented in the higher education sector (such as women, francophones and certain ethnocultural groups), other subsets of the population continue to lag behind in terms of their educational attainment.[5] That is to say, "in spite of this massification stemming from the political and social mobilization movements in favour of education, educational inequality has persisted."[6] Kamanzi et al. describe this occurrence – the increased access of *some* but not *all* traditionally under-represented groups – as "differentiated" or "segregative democratization."[7] They suggest that while mandatory and free primary and secondary schooling has helped equalize access to lower-levels of education, many under-represented groups continue to obtain post-secondary credentials at considerably lower rates, while the proportion of youth who have traditionally been well represented in our colleges and universities continues to increase.[8]

Why is this a problem? After all, commentators of Canada's education system have long argued that not everyone should be getting a post-secondary degree. Our society, they suggest, needs people to fill jobs that do not necessarily require a college or university diploma, such as those in the manufacturing sectors of our economy.[9] Furthermore, they often contend, Canada's education policy architecture has done quite well in recent years. Internationally, Canadian secondary students rank amongst the best in the world when it comes to the OECD's Programme for International Student Assessment (PISA) scores, an international standarised assessment,

5 Kamanzi et al, *The influence,* 54.
6 Kamanzi et al., *The influence,* 8.
7 Kamanzi et al., *The influence,* 54.
8 Kamanzi et al., *The influence,* 8.
9 Hopkins, Mark, "CEA/EPRI/MESA Invited Panel on Post-Secondary Education" (presentation at the 45th annual conference of the Canadian Economics Association, Ottawa, ON, June 4, 2011).

measuring the competencies and skills of 15 year-old students in the areas of reading, mathematics, scientific literacy and, as of 2003, problem solving. [10]

These critics also note that Canada already boasts a high rate of PSE attainment when compared to other OECD countries. In 2007, 48% of Canadians between the ages of 25 and 64 had obtained a tertiary education (excluding those in the trades and registered apprenticeship programs), thereby placing Canada at the top of the OECD ranking list.[11] If Canada already does so well in terms of PSE attainment and the quality of secondary education afforded to our high school students, then why do we need more PSE?

At the most basic level, access to PSE is an important issue given our country's commitment to the principle of equal opportunity.[12] Inherent in our educational policies is a belief that every Canadian, whether distinguished by age, migrant status, socio-economic background, place of residence, disability status, etc. – should be able to obtain a high quality education and the skills and knowledge base necessary for gainful employment.[13] In this regard, equality of access to education is a means in which to provide a more level playing field for all to lead a high quality of life, socially, economically and professionally.

However, an unequal distribution of learning outcomes and the exclusion of certain groups from our higher education landscape is problematic for reasons that extend beyond the standards for equity to which we, as Canadians, prescribe. Consider the changing nature of work in Canada, as well as the rest of the developed world. Emerging economies, such as India and China, have increased competition in the global marketplace, forcing developed nations to shift

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[10] OECD Programme for International Student Assessment. "What PISA Is." Accessed June 3, 2011. http://www.pisa.oecd.org/pages/0,3417,en_32252351_32235731_1_1_1_1_1,00.html.

[11] Drummond et al., "Post-Secondary Education is a Smart Route to a Brighter Future for Canadians," *TD Economics Special Report* (May 17, 2010): 9.

[12] Diallo et al., *What do we know,* 4.

[13] Ibid.

the allocation of productive resources within their economies – from goods-producing sectors to service-producing sectors, and from low-productivity industries to ones of higher productivity with a greater emphasis on high value-added activities.[14]

Technology is also changing rapidly, particularly with regards to information and communication technologies (ICT's). These factors (among others) have rendered work increasingly "sophisticated."[15] As a result, the proportion of jobs relying on physical skills and repetitive tasks is decreasing, while the share of jobs requiring analytical and social intelligence skills is rising sharply.[16] In this knowledge-based and skills-biased economy, an ever-increasing share of jobs requires at least some form of post-secondary education (a phenomenon known as "revised expectations"). Indeed, jobs such as nursing, teaching, management and computing which formerly only required a high school diploma or small amount of technical training now require higher degrees of educational attainment and a formalized credential, while the number of jobs that do not require any PSE has drastically diminished.[17]

Given the increasing educational requirements of our labour force, the importance of equalized access to PSE becomes clear. The demands of the labour force are increasing, necessitating a higher share of workers with some form of tertiary education. And in some ways, despite its success in terms of overall PSE attainment, Canada is lagging. Though our college enrolment has been quite high, our competitors are catching up. Furthermore, the number of university-level graduates is surprisingly low, with Canada ranking only 11th amongst OECD countries in 2007.[18] As our labour force becomes increasingly skills-biased, Canada will require

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14 Drummond et al., "Post-Secondary Education," 11-12.

15 Drummond et al., "Post-Secondary Education," 3.

16 Task Force on Competitiveness, Productivity and Economic Progress, "Today's innovation, tomorrow's prosperity," *Ninth Annual Report* (November, 2010), 24.

17 Diallo et al., *What do we know,* 9.

18 Drummond et al., "Post-Secondary Education," 9.

not only more college graduates, but also an increasing proportion of university diplomas awarded. If Canada is to meet this demand, it will need to educate a larger share of students than its system is currently producing. Given that the "the highest rate of return always tend to be reaped by those who traditionally face inferior opportunities," many of these students should be targeted from groups who have traditionally been under-represented in Canada's PSE system.[19] As Berger et al. state, "future progress depends on increasing the participation rates of precisely those students who face the greatest barriers at a faster rate than in recent years."[20] In this regard, the access issue is of the utmost of importance if Canada wishes to maintain its high standard of living and to remain globally competitive.

It should be noted that increasing the access of under-represented groups in our PSE landscape is not only about market responsiveness and ensuring an adequate supply of highly and skilled labour; rather, it is also a matter of insulating Canadians against social exclusion and marginalization, while also reducing our reliance on social support and welfare mechanisms. In other words, pursuing post-secondary education is important for individual Canadians, as well as Canadian society as whole. Studies suggest that individuals who are better educated reap a high degree of economic and social returns. Not only do they benefit from a higher stream of earnings over the life course, they also experience more stable employment over the life course and a higher degree of personal and professional mobility.

By contrast, less educated persons are those who are amongst the hardest hit when the economy slows down, as it did following the global economic downturn of 2008. They are more likely to be unemployed and to experience longer bouts of unemployment.[21] Otherwise stated,

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[19] Drummond et al., "Post-Secondary Education," 3.
[20] Berger et al., "Chapter I: Why Access Matters," 21.
[21] Task Force on Competitiveness, "Today's innovation, tomorrow's prosperity,"24.

post-secondary education is, as TD Economics notes, a "smart route to a brighter future" for Canadians.[22]

In conclusion, access to post-secondary education matters for a variety of reasons (many of which, given the scope of this paper, have been omitted). As stated, the way in which we work has changed. A variety of factors, from global competition to advances in technology, have rendered work increasingly sophisticated. In this environment, Canada will need to produce an increasing number of post-secondary graduates. This will be necessary to meet the rising skill demands of the labour force, to increase our productivity, to compete in the global marketplace and, furthermore, in order to provide Canadians with the skills and competencies they will need to participate in the labour force and to insulate themselves against economic hardship. In other words, access matters in a big way. It is necessary for Canadian society as a whole, as well as for the individuals who make up our communities. How, then, do we increase access for the specific group in question – first-generation students? In order to identify the ways in which policy can help to increase the participation of this historically under-represented group, we must first understand the components of access, more specifically the factors that may limit participation in PSE. This is the topic of the next chapter.

[22] Drummond et al., "Post-Secondary Education," 1.

2. Financial & Non-Financial Barriers to Post-Secondary Education

"In the past, the policy focus has been on ensuring that those who wanted to go to PSE (and had the marks to do so) were able to afford it. Hence the concern with tuition fees, student financial aid and so on. The problem with this approach is that the empirical evidence increasingly shows that affordability is not the most important barrier to PSE. What matters most is that not enough youth people want to go - they need to get the idea of PSE in their heads, and early enough so they can prepare, and thus gain the qualifications to be admitted to a program of their choice and the skills required to succeed when they get there."[23]

In the previous section, the reasons for which access to education matters were outlined, covering a wide variety of factors, ranging from productivity concerns to labour market responsiveness and the ability of the Canadian economy to compete in the global marketplace. In this section, I will turn my attention to the factors that may inhibit student participation in post-secondary education by introducing two main categories of barriers thought to impact the access equation – *financial* and *non-financial barriers.* I will suggest that while financial barriers certainly matter, they are by no means the only determinant of whether a student will pursue, delay or forego higher education. In order to increase the access of groups that remain under-represented in Canada's post-secondary landscape (such as first-generation students), policy will need to address the latter category – the non-monetary obstacles, as well. However, prior to delving into the relative importance of one type of barrier over the other, let us first define each.

To begin, financial barriers refer to the monetary factors that may pose as challenges for students seeking to pursue higher education. There are two types with which Canada's learners may be faced. The first is a *perceptional* financial barrier in which a student believes "the expected private rate of return to PSE does not warrant the expected costs."[24] This may occur if a

[23] Finnie, Ross, "Post-secondary education is a matter of mindset, not just money," *The Globe and Mail,* April 27, 2011, accessed July 3, 2011, http://www.theglobeandmail.com/news/opinions/opinion/postsecondary-education-is-a-matter-of-mindset-not-just-money/article2001137/singlepage/.

[24] Drummond et al., "Post-Secondary Education," 23.

student over-estimates the cost of PSE, or under-estimates the benefits and overall return to an investment in further education.

On the other hand, financial barriers may also take the form of a *liquidity constraint*, which is defined as the "difference between students' total assessed need and the total assistance received – the sum of federal and provincial loans and government grants."[25] Put in simpler terms, this type of barrier occurs when student does not have (or does not believe he or she has) sufficient funds to finance their higher education.

Financial barriers – regardless of the type – can hamper a student's ability to attend college or university, particularly in today's economic environment in which the fiscal overhang of the 2008 financial crisis looms large. Furthermore, as Charron and Motte state, "the cost of post-secondary education is continuing to increase faster than the cost of living."[26] Under these circumstances, when money is already tight for many Canadian families, financing a post-secondary education can indeed be difficult.

Yet it is important to note that while money matters, a variety of policy instruments have been devised so as to attenuate the effect of financial barriers upon access to PSE. These include scholarship programs, such as the former Canada Millennium Scholarship Foundation, as well as financial instruments, including the Canada Education Savings Program (CESP), the Canada Student Loans Program (CSLP), as well as other programs offered through banks and learning institutions.

Moreover, these programs and their recent modifications have been shown to have a positive impact on the ability of Canadian families to finance higher education. Indeed, as Diallo

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[25] Drummond et al., "Post-Secondary Education," 24.

[26] Charron, Jocelyn and Anne Motte, "First-generation students, their families, and post-secondary education: Understanding the role of savings and parental support" (Literature review, Human Resources and Skills Development Canada, 2011), 5.

et al. note, citing various studies conducted by Statistics Canada, "even if tuition was an obstacle for certain social groups at the beginning of the 1990s, and for lower-income students in particular, its effect has lessened since the end of the 1990s, a decade in which financial aid programs for studies were modified in order to better target under-privileged groups."[27]

Furthermore, while financial constraints may indeed inhibit the pursuit of higher education, they are only one part of the access equation. In many ways, whether a student pursues, delays or foregoes a college or university degree is also determined by their ability to over-come a variety non-financial barriers. As Finnie et al. state, "there are also 'softer' barriers, such as an individual not being sufficiently prepared for PSE, not being well informed regarding the monetary benefits and costs of higher education, or simply not being able to see the broader worth of gong to university or college."[28]

In this regard, "barrier" may be a slight misnomer. To some, the term may denote an identifiable obstacle or challenge. In practice, however, a student may be completely unaware of a non-financial barrier they face. Indeed, barriers may take the form of a lack of preparation, interest or information. They may also take the form of preferences that preclude PSE (such as preferring to work and earn a living now, rather than amassing debt and delaying entry into the workforce). Barriers may even take the form of perceptional barriers, such as not perceiving of oneself as college or university material. And these barriers, often acting in concert with others, can indeed inhibit a student's academic trajectory. The implication is that even when offered a generous subsidy to assist with the financial cost of attending PSE, students may still decide to terminate their studies at the secondary level if the non-financial barriers are not addressed.

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[27] Diallo et al., *What do we know,* 19.

[28] Finnie, Ross and Sweetman, Arthur and Usher, Alex, "Introduction: A Framework for Thinking about Participation in Post-Secondary Education," in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada,* ed. Ross Finnie et al. (Kingston, ON: Queen's University School of Policy Studies, 2008), 5.

It should be noted that the aforementioned variables along with the myriad of others not discussed in this section are often highly interconnected, interacting with each other in a complex manner.[29] For example, whether or not a student has the motivation to continue their education may be related to the educational attainment of their parents. If the parents or guardians do not instill in their children an appreciation for the value (both social and economic) of learning, the children may be less likely to see the potential pay-off to investing time and resources in the PSE system and may thus express less of a desire to attend. By contrast, parents who themselves have attended PSE may share stories of their own PSE experiences, the enjoyment they garnered from meeting new people and pursuing intellectual interests, thereby cultivating in their children strong aspirations for PSE.

What is the implication of these non-financial barriers for policymakers? The general lesson to be learned is that while finances are certainly important, whether or not a student ultimately attends PSE is a function of a variety of other variables as well, including how the student perceives of him or herself, how motivated the individual is and how familiar they are with the demands as well as the rewards of higher education. In other words, access may certainly be impeded by liquidity constraints; however, it may also be affected by preparation, interest, information, preference, and perception barriers (among a multitude of others). Thus, the policy interventions that Canada undertakes in order to increase the participation of historically under-represented groups cannot simply occur through the capital markets (such as student loans, grants, targeted student aid, etc.). Indeed, policy remedies must extend beyond tuition policies and student financial assistance.[30]

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[29] Finnie, Sweetman, Usher, "Introduction," 11.
[30] Finnie, Sweetman, Usher, "Introduction," 11.

Traditionally, however, it has been the financial constraints that have received the greatest amount of public policy attention. There are two main reasons for this. As noted by the Higher Education Quality Council of Ontario (HECQO), "this set of barriers [financial] has been perhaps the most extensively studied, if only for the simply reason that it is the one most susceptible to quantitative manipulation."[31] Researchers can calculate the average cost of a college or university degree and discern for how many families financing this investment would be a challenge.

Furthermore, with specific regards to the federal government, policy interventions for financial barriers are easier or, at the very least, more straightforward with regards to policy design and implementation. If liquidity constraints appear to be a barrier, then the obvious policy solution is to provide more student financial assistance. Non-financial barriers, on the other hand, have proven elusive and difficult to address through the usual policy channels. For example, while a parent's income can be supplemented with readily accessible scholarships, loans and grants, compensating for the lack of social capital that certain parents with low levels of educational attainment impart on their children is slightly more complex.

Nonetheless, though addressing non-financial barriers may be more challenging, it is certainly not impossible. As Gosta Esping-Anderson once famously noted, "we cannot pass laws that force parents to read to their children, but we can compensate."[32] With specific regards to first-generation students, addressing non-financial barriers to access begins with an identification of the relevant policy levers. Otherwise stated, equalizing access to include students whose parents did not pursue additional studies after high school begins with identifying the precise

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31 The Educational Policy Institute, *Access, Persistence and Barriers in Postsecondary Education: A Literature Review and Outline of Future Research*, (Toronto: Higher Education Quality Council of Ontario, 2008), 8.

32 Finnie, "Post-Secondary Education is a matter of mindset."

barriers and their impact upon the academic pathway. Once the decisive variables have been identified, whether lack of academic preparation or decreased motivation for higher education, then policy makers can begin to equalize access. This is the purpose of the following sections – to examine the role of three types of non-financial barriers that may negatively impact a first-generation student's academic career as informed by a survey of the literature base and the Youth in Transition survey.

3. First-Generation Students & Non-Financial Barriers: A Literature Review

"In order to understand the success of FGSs, we must consider the many elements other than parental schooling that influence access and shape the educational experience."[33]

The purpose of this paper is to garner a better understanding of who Canada's first-generation students are and why they are under-represented in our post-secondary institutions. More specifically, this paper will examine the way in which three specific non-financial barriers may impede access to higher education so as to help inform future policy choices. Over the course of this section, I will begin to analyze the role of non-financial barriers by drawing upon the existing literature base. I will use previous studies so as to provide readers with an overview of what some of the decisive non-financial barriers may be and how they may manifest themselves for first-generation students faced with the decision of whether to pursue, delay or forego a post-secondary degree.

What this section also illustrates is that "the effect of parents' schooling is more complex than the difference between post-secondary educational experience and its absence."[34] In other words, being a first-generation student is about more than having parents whose highest degree of education is a secondary school diploma, its equivalent, or less. Rather, it is about the experience *associated* with growing up in a household with no history of PSE. It is about the impact of first-generation status on one's family and social environment, academic experience and motivations and aspirations for PSE. I will begin with an overview of the former – family and social background – illustrating how it may hinder the first-generation academic career.

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[33] Auclair et al., *Transitions Research Paper 2 – First-Generation Students: A Promising Concept?* (Montreal, Que: Canada Millennium Scholarship Foundation, 2008), iv.

[34] Auclair et al., *Transitions,* 28.

3.1 Family and Social Background

Studies suggest family and social background have a significant impact on a student's academic trajectory, including whether or not he or she pursues higher education. Indeed, using data from Cycle A of the Youth in Transition Survey (YITS), Finnie and Mueller find that having one parent with at least a bachelor's degree increases the likelihood of attending university by 17 percentage points for males and 14 percentage points for females when compared to those with at least one parent whose highest level of education is a high school diploma.[35] How might the low educational attainment of a first-generation student's family and friends impede their path to post-secondary education? The lack of experience in the PSE system within a student's familial and social network manifests itself in numerous ways.

McCarron et al. suggest parents with lower levels of educational attainment are less likely to impart the same degree of "*social*" and "*cultural capital*" to their children as parents with a history of PSE.[36] In other words, in the absence of a higher education background, first-generation families often transmit a different set of values and beliefs concerning PSE to their children, ones that may not always be in congruence with attending college or university.

For example, parents and guardians with a high school diploma or less may be unaware of the importance of post-secondary education and therefore less likely to encourage their children to study at the university or college level. They may not perceive of the full-range of social and economic benefits of tertiary education (such as the higher stream of earnings over the life course, greater professional mobility, the consumption value of intellectual stimulation, etc.)

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[35] Finnie, Ross and Mueller, Richard E., "The Backgrounds of Canadian Youth and Access to Post-Secondary Education: New Evidence from the Youth in Transition Survey" in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada,* ed. Finnie et al. (Kingston, ON: Queen's University School of Policy Studies, 2008), 93.

[36] McCarron, Graziella Pagliarulo and Inkelas, Karen Kurotsuchi, "The Gap between Educational Aspirations and Attainment for First-Generation College Students and the Role of Parental Involvement," *Journal of College Student Development* 47:5 (September/October, 2006), 535.

or the broader employment horizon available to those with a post-secondary credential, and may therefore be less inclined to promote the post-secondary pathway as a viable option to their children. Particularly in cases where the family is of low to modest economic means, the family of a first-generation student may expect the child to enter the labour force and help support the family after high school, rather than foregoing an income and studying for several years. [37] Thus, the environment in which the first-generation students are raised may inhibit access to PSE in that the values and traditions imparted upon the student do not always lead them down the path to higher education.

First-generation students may also face a barrier to PSE in that for many students pursuing further education represents a departure from the family traditions and norms with which they were raised. As Engel notes, "while students whose parents have a college education tend to experience 'college as a continuation' of their academic and social experiences in high school, going to college often constitutes a 'disjunction' in the lives of first-generation students and their families."[38] This may be problematic in numerous ways.

For one, first-generation students may feel isolated from their families and friends when leaving their home environment for the new environment of academia. They may feel they must "renegotiate relationships with family members and the community" and, as Auclair et al. note, "such negotiations are not always easy and do not always turn out well."[39] Indeed, while some first-generation families are supportive of the decision of their child to pursue a PSE credential, others may become critical of such choices. The decision to attend college or university may be perceived as unnecessarily separating the family or neglecting family responsibilities. For the

37 Engel, Jennifer, "Postsecondary Access and Success for First-Generation College Students," *American Academic* 3:1 (2007), 30.
38 Engel, "Postsecondary Access," 33.
39 Auclair et al., *Transitions,* 22.

first-generation student themselves, they may feel a degree of "incongruence"[40] between their roles within the family and within the classroom. They may find it hard to relate to their friends and family members and may well feel estranged or confused.[41]

Furthermore, studies suggest first-generation students who do commence studies at the tertiary level often report difficult transitions from home to campus, citing the two as "worlds apart."[42] First-generation students in high school may hear stories of the challenges faced by their older FGS counterparts and be deterred from attending themselves.

First-generation students may also be at a disadvantage when it comes to accessing the higher education sector given the "absence of role models within the student's circle" to provide guidance and prepare them for the challenges of higher education.[43] This lack of shared experience in the post-secondary sector may again manifest itself as a barrier in numerous ways.

For one, parents of first-generation students are less equipped to prepare their children for the demands of higher education. They are often unable to assist their students in selecting the "gateway" high school courses that are pre-requisites for post-secondary studies.[44]

Secondly, studies suggest first-generation parents may not have the necessary "college knowledge" to assist in their children in the transition from secondary to tertiary education. They may lack the familiarity with the "bureaucratic aspects of academic life," such as navigating the application process or selecting a program of study.[45] They have also been shown to be less

40 McCarron and Inkelas, "The Gap," 535.
41 Engel, "Postsecondary Access," 36.
42 Engel, "Postsecondary Access," 35.
43 Auclair et al., *Transitions,* 28.
44 Choy, Susan P., *Students Whose Parents Did Not Go To College* (Washington, DC: National Center for Education Statistics, 2001), 16.
45 Engel, "Postsecondary Access," 31.

likely to accompany their children on school visits and to help them select a school that is well suited to their needs and interests.[46]

Moreover, parents of FGS are not always able to access the resources that can help them to acquire the tools and knowledge to better support their child's academic career. Data suggest parents with lower levels of education also often fall into lower income brackets and occupational statuses. As a result, whether due to longer work hours or other challenges associated with a low socio-economic background, some parents may not be able to take advantage of events such as parent-teacher conferences or college information nights. As Engel notes, "the students and parents who are most in need of more college knowledge are the least likely to get it."[47] First-generation students may thus feel overwhelmed by the prospect of PSE. From academic preparations to admissions process, they are more likely to lack the familiarity and the necessary support their non-first-generation peers receive as a result of their parents' own level of educational background.

3.2 Academic Background

In addition to factors related to family and social background, the high school academic experiences of FGS may also have an impact on whether they pursue, delay or forego higher education. Finnie and Mueller found that a 10-percentage point increase in a student's overall high school grade average increases the chances that student will participate in university-level studies by 21 percentage points for males and 22 percentage points for females.[48] Other studies concur that academic performance at the secondary level plays a decisive role in the access to PSE equation. Once again, in this regard, first-generation students may be at a disadvantage.

46 Choy, *Students Whose Parents Did Not Go to College*, 16.
47 Engel, "Postsecondary Access," 32.
48 Finnie and Muller, "The Background of Canadian Youth," 94.

To begin, studies suggest first-generation students are not only less likely to take the prerequisite courses for college or university-level studies, but that they also earn lower overall grades in the subjects they pursue.[49] This has numerous implications for the access to PSE.

At the most basic level, as a result of lower grade point averages and not enrolling in "gateway" classes, first-generation students may find their eligibility for PSE or, at the very least, their choices between PSE institutions limited.[50] They may also believe they are academically inadequately prepared for the challenges of post-secondary studies, or be deterred by the prospect of having to take remedial courses in their first year.[51]

In addition to reducing their eligibility and diminishing their choices, lower overall grades may limit the ability of first-generation students to pursue certain high-skill fields, such as engineering, math or the hard sciences. Not always perceiving of the labour market applications of degrees in other subject-areas (such as the arts, humanities, languages), they may discredit the idea of PSE all together.[52]

Finally, due to the lower academic performance of first-generation students, it is likely they do not receive the same degree of support for PSE from their teachers and guidance counselors who instead encourage students who have excelled academically and shown great promise to consider the higher education route.[53] In effect, the literature suggests the previous academic experiences of FGS may not only leave them academically less equipped for higher education, but that it may also limit their access.

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[49] Auclair et al., *Transitions,* 17.
[50] Choy, *Students Whose Parents Did Not Go to College,* 11.
[51] Auclair et al., *Transitions,* 18.
[52] Auclair et al., *Transitions,* 23.
[53] Auclair et al., *Transitions,* 29.

3.3 Aspirations and Motivations for Post-Secondary Education

Regarding access to higher education, Auclair et al. make an important distinction. They suggest that parental involvement is a "condition, not a cause, of success" and that "the student needs to show autonomy and determination. No matter how ambitious the parents are, there will be no success unless the students are actively involved in it."[54] Otherwise stated, though parental achievement-supporting behaviours and, as the previous section suggested, high school grades are important in promoting the PSE pathway, a student will forego higher education if he/she does not have the desire to do so.[55] In this regard, first-generation students may once again face a barrier to PSE.

For one, studies suggest that first-generation students maintain lower aspirations and expectations regarding their own educational outcomes. There are numerous explanations for this. The Canada Council on Learning suggests "first-generation students are more likely to be skeptical of the benefits potentially conferred by a post-secondary education and are, therefore, less motivated to pursue post-secondary studies."[56] That is to say, they may not necessarily perceive of the importance of higher education or the many opportunities afforded to those who pursue a PSE credential, and thus may be less likely to aspire towards a degree.

Other authors suggest the lower aspirations for education are a function of self-limiting thoughts and behaviours. Jennifer Engel found that first-generation students with the same level of high school preparation and overall achievement had less confidence in their abilities to

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[54] Auclair et al., *Transitions,* 32.

[55] Christofides et al., "The Evolution of Aspirations for University Attendance" in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada*, ed. Finnie et al. (Kingston, ON: Queen's University School of Public Policy, 2008), 125.

[56] Canada Council on Learning, *Post-secondary education in Canada: Who is missing out?* (Canada Council on Learning, 2009), 5.

succeed in college when compared to their non-first-generation counterparts.[57] As a result, it may be the case that FGS are less motivated to pursue PSE because they simply do not perceive of themselves as "college material."[58]

Of course, it is useful to acknowledge that many of the aforementioned variables are highly interrelated and often mutually reinforcing. For example, the lower educational aspirations of first-generation students may be a product of the family and social background in which the student was raised.[59] And the decreased motivation for PSE may in certain instances contribute to the lower overall grades first-generation students have been shown to earn. In other words, first generation students may have lower aspirations for PSE because their families and they themselves do not always appreciate the need for and value of PSE. Believing they will not attend PSE, first-generation students may in turn be less inclined to apply themselves in the classroom or to take a more challenging course load. The myriad of factors that exert influence over the access to PSE equation may thus be quite complex in nature and highly intertwined.

That being said, no matter how complex the relationship between the potential barriers facing first-generation students, one aspect that stands out is that being a first-generation students is about more than simply the highest level of education obtained by one's parents. Davis, in his study of first-generation students, makes a useful distinction. He suggests, "first-generation status is not about the number of years a parent attended college or the number of academic units that parent accumulated. It is about being competent and comfortable navigating the higher-education landscape, about growing up in a home environment that promotes the college and university culture. This latter perspective is what non-first-generation students have when they

[57] Engel, "Postsecondary Access," 33.

[58] Tym et al., *First-Generation College Students: A Literature Review* (Texas Guaranteed Student Loan Corporation, 2004), 5.

[59] McCarron and Inkelas, "The Gap," 536.

begin their postsecondary education. In other words, the absence of the non-first-generation student experience is what first-generation student status is all about."[60] It is not so much first-generation status in and of itself that may serve as a barrier; rather, it is the factors *associated* with growing up in a household with no history of PSE that defines the first-generation experience.

In order to garner a better sense of this experience (and to eventually identify the policy channels that may help to increase the participation of first-generation students in PSE), I will now turn to the data so as to paint a quantitative portrait of first-generation students and to measure the effect of the aforementioned barriers.

[60] Davis, Jeff, "How Many First-Generation College Students Are There?" in *The First Generation Student Experience* (Sterling, VA: Stylus Publishing, 2010), 4.

4. First-Generation Students: A Quantitative Analysis

"While the data indicate that postsecondary enrollment is linked to parents' education, increasing access to postsecondary education for these students by changing their parents' education is not feasible. Therefore, examining parents' education in relation to students' behaviors and academic experiences as they plan and prepare for college during high school may produce insights into how the influence of parents' education might be reduced."[61]

In this section, I will elaborate on the findings of the literature review presented in the previous chapter. More specifically, I will conduct a quantitative analysis so as to garner a better idea of who Canada's first-generation students are and how they compare to their non-first-generation counterparts. Following the descriptive analysis of first-generation youth, I will examine the role the three non-financial barriers presented in the preceding chapter (family and social background, previous academic experience and PSE aspirations) play in the access to PSE equation. However, before presenting the findings of my study, I will provide a brief overview of the data source.

4.1 Introduction to the Data

Data for this paper were collected from Cohort A, Cycle 4 of the Youth in Transition Survey (YITS), a joint under-taking between Human Resources and Skills Development Canada (HRSDC), Statistics Canada and in consultation with the provincial and territorial ministries and departments of labour and education.[62] This survey was designed to meet various objectives. Among others, it sought to:

- "Examine key transitions in the lives of youth, such as the transition from high school to post-secondary schooling and the initial transition from schooling to the labour market;"

61 Choy, *Students Whose Parents Did Not Go to College,* 8.

62 Human Resources and Skills Development Canada, *YITS Project Overview* (Gatineau, Que: Applied Research Branch, 2000), ISBN: 0-662-29528-5, Cat. No./N° de cat. MP32-30/00-5E, iii.

- "Better understand the educational and labour market pathways and the factors influencing these pathways;"
- "Gain a better understanding of the determinants of post-secondary entry and post-secondary retention, including education financing;"
- "Better understand the role of educational and labour market aspirations and expectations in investment in further education and career choice," and
- "Explore the educational and occupational pathways of various sub-groups, particularly youth 'at risk.'"[63]

The survey began in 2000, collecting data retrospectively for the year 1999, and relevant information from previous years. Subsequent interviews were conducted every two years, capturing the activities for the reference periods 2000-2001 (Cycle 2), 2002-2003 (Cycle 3), 2004-2005 (Cycle 4), 2006-2007 (Cycle 5) and 2007-2008 (Cycle 6) (Appendix Table A.1.1). [64]

Information was exacted information from two target populations. The first (known as Cohort A) consisted of 29,867 individuals who were 15 years old on December 31, 1999. This age group was selected so as to garner a better understanding of adolescents in the secondary school system. More specifically, it was hoped that this age group would provide insight into the effects of family background, aspirations and previous schooling on educational outcomes. In order to obtain this information, Cycle A questionnaires for this cohort were developed for the target youth, as well as their parents and school administrators. By tracking this cohort over time,

63 Human Resources and Skills Development Canada, *YITS Project Overview,* 10.

64 Measuring the Effectiveness of Student Aid (MESA) Project, *Youth In Transition Survey (YITS) Interface* (Ottawa, ON: MESA Project), 1-2.

the survey also captured data regarding transitions from high school to post-secondary education and beyond.[65]

Cohort B, in turn, was comprised of 22,378 youth between the ages of 18 and 20 years on December 31, 1999. This cohort was studied with the aim of gathering more information about early experiences in post-secondary education, as well as transitions into the labour market.[66] Thus, while Cohort A permits for an in-depth analysis of factors related to *access* to education, Cohort B was designed to better understand issues pertaining to *persistence* in PSE.

This survey is ideally suited for the purposes of this paper. As previously mentioned, Cohort A provides a wealth of information regarding the types of non-financial barriers this study seeks to analyze, including the characteristics of a given youth's social circle, to the types of achievement-supporting behaviours exhibited in the home environment. Furthermore, because the YITS tracks students overtime, respondents could be categorized according to their enrollment status at the age of 21 (in PSE, in college/trade school or in university), while nonetheless including information about the students' earlier experiences in high school.

Finally, as Appendix Table A.1.1 suggests, the YITS is a not only a comprehensive survey, but a large survey with robust sample sizes, permitting an analysis of the target population across various indicators (gender, enrolment status, etc.).

The findings of the YITS analysis of first-generation students and their non-financial barriers are presented below.

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65 Motte et al., "The Youth in Transition Survey: Following Canadian Youth through Time" in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada,* ed. Finnie et al. (Kingston, ON: Queen's University School of Public Policy, 2008), 65-69.

66 Motte et al., "The Youth in Transition Survey," 70-72.

4.2 Descriptive Statistics of First-Generation Youth

Gender

As illustrated in Appendix Table A.2.1, the percentage of females was slightly higher than the percentage of males within the FGS cohort – 51% and 49% respectively. By contrast, 51% of youth in the non-FGS subset were male, compared to 49% female.[67]

When broken down by enrolment status (No PSE, College/Trade or University), the data suggest that at age 21, male first-generation students were less likely to pursue PSE than their female counterparts. Approximately 58% of first-generation students not enrolled in PSE during the 2004-2005 reference period were males, compared to only 42% of first-generation females. Of those first-generation students who pursued college or trade programs, more than half (about 52%) were female, while 48% were male. At the university level, the female advantage was even more pronounced. More than 64% of first-generation university students were female, compared to only 36% male.

A similar trend was noted in the non-FGS subset. Males were considerably less likely to have PSE at age 21 than their female counterparts (33% and 67% respectively). Nonetheless, of the non-FGSs who did pursue PSE, males were more likely to study at the college or trade level than females (55% and 45% respectively), while females were significantly more likely to pursue university-level programs (58% versus 42%).

Province

[67] References to the non-FGS subset will only be made when there is a useful distinction between FGS and non-FGS students. In instances where the non-FGS data is not described in detail, please refer to the appropriate appendix.

Appendix Table A.2.1 illustrates the distribution of youth across the ten provinces of Canada. The provinces with the highest concentration of first-generation students were Ontario (36%), Quebec (29%), followed by British Columbia (10%) and Alberta (10%). Given that these provinces are larger and more densely populated, it is not surprising to see that more of Canada's FGSs reside there.

Immigrant Status

As indicated by the data displayed in Table A.2.1, both first-generation and non-first-generation students most often identified themselves as being of non-immigrant backgrounds. That being said, first-generation students were slightly more likely to select this response than their non-first-generation peers (77% compared to 71%).

Focusing uniquely upon the first-generation subset, we see that the percentage of first-generation youth who were either first or second-generation immigrants increased when moving across the table from "no PSE" to "college/trade" and finally to "university." To illustrate, of those FGSs who had no PSE at the age of 21, only 15% were of first or second-generation immigrant descent. First and second-generation immigrant students did, however, comprise approximately 24% of college/trade students and 35% of university enrollees. By contrast, first-generation students who identified as non-immigrants represented a higher percentage of youth without any PSE experience by the age of 21 (84%) than the percentage of first-generation youth enrolled in college (77%) or university (65%) programs.

Visible Minority Status

According to Appendix Table A.2.1, the majority of both first-generation and non-first-generation students identified themselves as non-visible minorities at 89% and 87% respectively.

In the first-generation subset, only 5% of first-generation youth without any post-secondary experience belonged to a visible minority. Of those first-generation youth pursuing a college or trade degree, 12% were visible minorities and of those first-generation youth enrolled in university-level programs, more than 22% identified themselves as such. This suggests that first-generation visible minority students were more likely to be pursuing higher education by the age of 21 than to have terminated their studies at the post-secondary level. On the other hand, first-generation students who were not visible minorities represented a higher percentage of those without PSE (95%) than those first-generation students with college (88%) or university (78%) experience.

4.3 The Family and Social Background of First-Generation Youth

Parental Education

Appendix Table A.2.2 illustrates the proportion of FGS youth according to the highest level of education attained by their parent(s). The data suggest 71% of FGSs came from families where at least one parent graduated from high school. The remaining 29% of first-generation students hailed from families with no history of high school completion.

When broken down by enrolment status, the data suggest FGSs whose parents received a high school diploma represented a larger percentage of PSE students than children of high school leavers. To illustrate, of those FGSs who pursued college/trade-level programs, 74% had parents with a high school diploma, compared to 26% of FGSs with parents who had less than a high school degree as their highest level of education. This trend was even more pronounced for FGSs in university programs, with a percentage point gap of more than 64% in favour of students whose parents had completed the requirements for a secondary school-level education.

Family Income

Appendix Table A.2.2 depicts the distribution of students according to their family's annual income. The data suggest first-generation students were more likely than their non-first-generation peers to come from families of low to modest economic means. The highest percentage of first-generation youth (38%) came from families earning between $25,000 and $50,000 per year, while the largest concentration of non-first-generation youth (29%) was found in the $50,000 to $75,000 income bracket. Furthermore, more than 14% of first-generation students came from families earning between $5,000 and $25,000 per year, compared to the mere 5% of non-first-generation students belonging to the same group. By contrast, only 5% of first-generation students came from families earning more than $100,000 per year compared to the 19% of non-first-generation students earning an income of this magnitude.

Looking at FGS subset split by PSE enrolment status, we see that the largest concentration of FGSs with no PSE during the reference period (41%), of FGSs who were enrolled in college or the trades (37%) and of FGSs who were pursuing a university-level education (35%) belonged to the $25,000 to $50,000 income range. This is likely due to the fact the largest percentage of first-generation youth belonged to this income category.

Parental Expectations

During Cycle 1 of the YITS data collection phase, parents of survey respondents were asked questions pertaining to the educational expectations they held for their children, who were 15 years old at the time. The data are depicted in Appendix Table A.3.1. It illustrates parental expectations of youth at age 15 by PSE enrolment status at age 21. It provides some insight into the corollary relationship between parental expectations and educational attainment.

The first question asked of parents was "how important is it to you that your child graduates from high school?" The data suggest parents of first-generation students were almost

equally as likely to value a high school diploma as parents who had pursued PSE themselves. Approximately 96% of parents of first-generation students indicated it was "very important" their child receive a secondary school diploma, compared to 99% of parents of non-first-generation students, a marginal difference of only three percentage points. Within the FGS subset, when broken down by enrolment status, parents were more likely to place emphasis on their child's graduation from high school the higher the level of education their child pursued. For example, of students with no PSE, 95% had parents who reported a high school diploma as being "very important." This figure increased to 97% in the college cohort and nearly 98% in the university subset.

While little difference was noted between first-generation and non-first-generation students in terms of the importance placed by their parents on receiving a high school diploma, considerable variation was noted between the two subsets in terms of the value placed by parents on post-secondary education. Parents of YITS respondents were asked, "how important is it to you that your child gets more education after high school?". The majority of both first-generation and non-first-generation parents indicated it was "very important" their child pursue tertiary education. However, while 91% of parents who had themselves attained a PSE credential responded "very important," only 80% of first-generation parents gave the same response, a substantial difference of 11 percentage points. In other words, though the vast majority of FGS parents deemed PSE to be important, they did so to a lesser degree than non-FGS parents.

It is also interesting to note that when the FGS subset was broken down by enrolment status, parents of PSE enrollees were more likely to place high importance on tertiary education than parents of those students with no PSE. To illustrate, of those first-generation students without any PSE, 71% had parents who responded "very important" to the aforementioned

question. By contrast, 84% of first-generation students enrolled in college or trade-level programs and 91% of those partaking in university-level studies had parents who selected the "very important" response.

Parents of YITS respondents were also asked "what is the highest level of education that you hope your child will get." The data suggest parents of first-generation students were more likely to report "college/trade" than parents with PSE (35% and 23% respectively). By contrast, parents of first-generation students were less likely than parents of non-FGS to select "one university degree" (39% and 52% respectively) or "more than one university degree" (10% and 18%).

When the FGS population was divided by enrolment status, a similar relationship between parental expectations and student achievement was again noted. First-generation students with no PSE by the age of 21 were more likely to have parents who hoped their child would get a college/trade diploma than first-generation students who pursued college/trade or university. On the other hand, they were considerably less likely to have parents who hoped their children would attend university than their college or university-enrolled peers.

When asked to comment on how certain they were their child would actually obtain that level of education, FGS parents were less likely to be "very certain" than non-FGS parents (36% and 44% respectively). That being said, parents of first-generation students attending college or university were more likely to have reported being certain of their child's academic future than FGS who were not attending PSE by Cycle 4 of the YITS. Twenty-four percent of FGSs with no PSE had parents who had indicated they were "very certain" their child would meet their educational expectations, compared to 38% of FGSs in college/trade programs and 53% of FGSs following the university-path. It is, however, not possible to say whether parental confidence was

causing FGSs to pursue PSE or whether FGSs who showed promise of attending PSE at the age of 15 were in turn increasing the confidence their parents had in their academic future.

Finally, parents of YITS respondents commented on the reasons for which they hoped their child would obtain the level of education they desired. Parents of both FGSs and non-FGSs ordered their responses in a similar order, with "better opportunities for pay" and "valuable for personal growth and learning" occurring most often in both subsets. However, it is interesting to note that the degree to which parents selected various responses varied between first-generation and non-first-generation families. For example, parents of first-generation students selected job opportunities and a higher income stream with greater incidence than parents who had themselves received a PSE credential (61% and 51% respectively). However, parents of first-generation students were less likely to select the opportunities for personal growth and learning than their PSE-education counterparts (11% and 16% respectively). This suggests that first-generation families place more emphasis on earnings potential and less importance on the opportunities for learning than families with a history of PSE.

Parental Achievement-Supporting Behaviours

In addition to the questions regarding the aspirations and expectations parents held for their children in terms of educational attainment, parents of YITS respondents also indicated the degree to which they engaged in various activities associated with the child's schooling. These activities (which I will refer to as "achievement-supporting behaviours" given the positive effect they are thought to have on a student's performance in the classroom) are listed in Appendix Table A.3.2.

To begin, parents reported the frequency with which they (or their spouse/partner) talked with their child about their experiences at school. The data suggest parents of FGSs spoke with

their children on this topic less often than parents of non-FGSs. While 61% of non-first-generation students had parents who reported speaking with them about their school experiences only a weekly basis, only 50% of parents of FGS reported the same level of engagement. By contrast, parents of first-generation students were more likely than non-first-generation families to engage in school-related conversations with their children on a weekly (36% compared to 32%) or monthly (11% compared to 6%) basis.

That being said, when asked to specify how often they had spoken with their child about future education and career options, parents of first-generation students were equally as likely (and in certain instances more likely) to converse with their children, with percentage point differences between the subsets only minute in nature. For example, the vast majority of first-generation households indicated having a discussion about future education and career monthly (42%) or weekly (36%). In non-first-generation households a similar incidence occurred with parents selecting "monthly" 44% of the time and weekly at a rate of 37%. Interestingly, when examining the FGS cohort by enrolment status, there appeared to be little variation in terms of how often a parent spoke to their child about future education and career options and whether that child was enrolled in PSE by the age of 21.

In terms of how often parents reported speaking to their children about their school work, once again, we see few differences between the FGS and non-FGS cohorts, as well as within the FGS subset when split by PSE enrolment status. That being said, parents of FGSs were somewhat less likely than their non-FGS peers to speak to their children about their school on a daily basis (51% compared to 56%) and somewhat more likely than those with a PSE credential to engage in this type of conversation on a monthly basis (10% compared to 7%).

Finally, parents were asked to comment on how often they spent time simply speaking to their talking child (no matter the subject). Though the majority of parents within the FGS cohort reported speaking to their child on a daily basis (similar to the majority of non-FGS parents) the incidence with which they selected the "daily" response was somewhat lower; 78% for FGS parents, compared to 83% of non-FGS parents for a difference of five percentage points. Moreover, when broken down by enrolment status, the data suggested FGSs enrolled in university had the highest percentage of parents indicating they spoke to them on a daily basis (81%), followed by FGSs pursuing college/trade programs (78%), who were again followed by FGSs with no PSE (74%).

Social Background

During Cycle 1 of the YITS, the then 15 year-old respondents of Cycle A commented on the thoughts and behaviours of their closest friends, providing insight into the social environment of students. These results were compared to PSE enrolment status at age 21. The results are listed in Appendix Table A.3.3.

Students were asked to think of their closest friends, and report how many of them believed completing high school to be "very important." In the FGS subset, the majority of youth indicated "most of them" (42%). By contrast, in the non-FGS subpopulation, the largest percentage of youth indicated "all" of their friends believed graduating from high school to be important (47%). This suggests that on the whole, FGSs were less likely to be surrounded by peers who attached great importance to completing secondary studies.

That being said, the disparity between FGSs and non-FGSs appeared to diminish when the population was broken by enrolment status. Focusing on those youth who were attending university at the age of 21, 55% of both first-generation and non-first generation students

indicated all of their friends believed completing high school was very important. This is in contrast to those FGSs who had no PSE by the age of 21. Of these students, only 27% indicated "all" of their friends believed graduating from high school was important at age 15.

In addition to their views on graduating from high school, respondents were asked to indicate how many of their closest friends dropped out of high school without graduating. The data suggest that first-generation students were more likely to have a peer group including high school leavers than non-first-generation students. To illustrate nearly 27% of first-generation students said either "some" or "most" of their friends had terminated their secondary studies without receiving a credential, compared to only 16% of non-first-generation students.

When broken down by enrolment status, first-generation students with no PSE at age 21 were the most likely to have friends who dropped out of high school, with 39% having indicated "some" or "most" of their friends fit this description. On the other hand, first-generation university students were the least likely to have friends who did not receive a high school diploma; only 13% reported "some" or "most" of their friends did not matriculate.

Respondents were then asked to identify how many of their friends were planning on furthering their education or training after leaving high school. Similar to the pattern noted in previous questions, first-generation students reported "all of them" less often than their non-first-generation peers (23% compared to 34%). By contrast, they reported "some" or "most of them" more often than those students whose parents had obtained a high school diploma (73% compared to 64%). Variation within the first-generation subset was again to be found when the population was split by PSE enrolment status, with students in PSE reporting more of their friends had planned to go to PSE than those students who had no post-secondary experience by age 21.

Finally, students identified how many of their closest friends believed it was ok to work hard at school. Once more, first-generation students were more likely to select "some of them" than their non-first-generation peers (31% and 24% respectively), and less likely to choose "most of them" or "all of them."

4.4 The Academic Background of First-Generation Youth

High School Graduation

As depicted in Appendix Table A.4.1, by the age of 21 years, the majority of first-generation students (86%) had graduated from high school. While this number appears to be high, it is still represents a gap of nine percentage points between the 95% of non-first-generation students who had successfully completed their secondary-level studies. This suggests that by the age of 21 fewer first-generation students had graduated than their non-first-generation counterparts.

When analyzed by their high school status, it was revealed that of those who had not graduated by the age of 21, only 3% had had returned to high school to complete their degree (high school "continuers"). The majority (11%) of those first-generation students who had dropped out remained high school "leavers."

Overall high school grade

The YITS also offers insight into the performance of students in the classroom (Appendix Table A.4.1). Similar to the findings of other studies mentioned in the previous section (chapter 3), first-generation students on average had lower overall grades than those students whose parents had attended PSE. To illustrate, fewer first-generation students received an A (a grade between 80% and 100%) than non-first-generation students – 28% compared to 44%. First-generation students did, however, receive grades of 79% and below at higher rates. This is a

significant finding given that studies suggest students with secondary grades below 70% are less likely to pursue PSE than students who achieve grades above this threshold.[68] Furthermore, a study by Shaienks, Gluszynski and Bayard (2008) found that the odds of accessing and persisting in PSE are low for high school students with a grade average of between 60% and 69%, and high amongst those with grades over the 80% benchmark.[69]

It is not surprising to note that within the FGS subset, students with the highest grades were more likely to attend college or university than their lower-performing peers. Of those first-generation students enrolled in a college/trade-level program, 25% had an overall grade average between 80% and 100%. Of those FGSs in university, well over half (57%) had received the same grade. By contrast, of those students who were not pursuing tertiary studies at the age of 21, only 14% received grades within the A range.

It is also useful to point out that of those students enrolled in university, first-generation students still lagged behind their non-FGS peers in terms of high school grade attainment. Though 57% of first-generation university students performed within the 80% to 100% grade range in high school, 68% of non-first-generation university students achieved the same outcome. Thus, as the literature suggests, there may be evidence supporting the claim that first-generation students enter post-secondary courses (particularly at the university level) less academically prepared than those students whose family have a history of PSE.

High school math grade

Appendix Table A.4.1 also depicts the overall high school mathematics grade of students. Similar to the pattern noted above, first-generation students were once again outperformed by the non-first-generation subset, though to a lesser degree. Approximately 29% of first-generation

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[68] Educational Policy Institute, *Access, Persistence, Barriers,* 12.

[69] Kamanzi et al., *The influence,* 13

students and 36% of non-first-generation students scored between 80% and 100% in their math classes, a gap of only seven percentage points. This is considerably lower than the 16-percentage point gap between the proportion of first and non-first-generation learners receiving an A in terms of their overall grade.

Once again, first-generation students varied in terms of their overall high school math grade when analyzed by their PSE enrolment status at age 21. First-generation students enrolled in university were the most likely to be high performing in this subject area (with 41% scoring within the 80% to 100% range), compared to 26% of first-generation college students and 24% of first-generation students without any PSE experience. It is interesting to note that while 41% of first-generation university students received an A in high school math, they were outperformed by non-first-generation university students, 49% of whom had attained the same grade level.

High school language grade

Similar to the pattern noted when examining overall grades and high school math grades, first-generation students were also outperformed by their non-first-generation peers in the language arts. Though 30% of FGS received a grade between 80% and 100%, 45% of non-first-generation students obtained the same mark – a rather large gap of 15 percentage points.

That being said, the gap between FGSs and non-FGSs narrowed when examining those students enrolled in college and those pursuing a university degree, suggesting that some first-generation students, like their non-first-generation classmates, were high achieving. However, on the aggregate, as the previous sections have illustrated and the literature base has corroborated, first-generation students under-performed those students whose parents has pursued some form of a PSE credential.

Homework

In addition to their lower overall grades, as well as math and language arts grades, first-generation students spent less time completing homework per week than non-first-generation students. As illustrated in Appendix Table A.4.1, first-generation students were more likely to spend between zero and three hours on their homework and less likely to spend more than four hours when compared to their counterparts. This is significant given that Kamanzi et al. found time spent on homework to have a positive effect on the likelihood of attaining a PSE degree.[70]

It is worth noting, however, that the differences between first-generation and non-first generation students began to dissipate when comparing students with the same enrolment status. For example, first-generation students without any PSE by age 21 did not appear to have spent much less time on homework than non-first-generation students without any higher education. Similarly, first-generation college and university students reported spending about the same amount of time on homework during high school as their non-first-generation peers.

4.5 The Aspirations and Motivations for Post-Secondary Education of First-Generation Youth

During Cycle 4 of the YITS data collection phase, respondents were asked various questions seeking to capture their educational expectations and aspirations. These questions (displayed in Appendix Table A.5.1) can be used to gauge how far students both wanted and expected to go, as well as how much education they believe they would need in order to procure certain jobs.

Educational Aspirations

[70] Kamanzi et al., *The influence*, 30

The results suggest first-generations students had lower educational aspirations than their non-first-generation peers in terms of the highest level of education they hoped they would get (Appendix Table A.5.1). The largest percentage of first-generation students (33%) indicated the highest level of education they wanted was a college, CEGEP, trade or vocational diploma, followed by 24% indicating a preference for a Bachelor's degree and only 13% choosing a Master's degree. By contrast, the largest percentage of non-first-generation students wanted to obtain a Bachelor's degree (28%), followed by 24% hoping to receive their Master's and 22% wanting to pursue a college, CEGEP, trade or vocational program. This suggests first-generation students had lower educational aspirations overall.

Interestingly, however, when comparing FGSs and non-FGSs of the same PSE enrolment status, we see few differences. For example, first-generation and non-first-generation college students ranked their educational hopes in a similar order with 44% and 42% of first-generation and non-first-generation students respectively indicating their current program was the highest they hoped to achieve.

That being said, though marginal, the differences between first-generation and non-first-generation university students revealed interesting results. Approximately 35% of first-generation university students indicated they wanted to obtain their Master's, compared to 40% of non-first-generation university enrollees. This suggests that even when in university, first-generation students exhibited lower educational aspirations than those students whose parents had matriculated with a PSE credential.

Occupational Aspirations

The YITS data suggest first-generation students also differed from their non-first-generation peers in terms of the types of jobs they hoped to have by the age of 30. First-

generation students were more likely to indicate a preference for jobs in sales and service, as well as trades, transportation and equipment industries, while non-first-generation students were more likely to aspire to jobs in the health occupations, social sciences, education, and government.

First-generation students did differ in terms of their occupational preferences when divided according to their PSE enrolment status. The largest percentage of first-generation students with no PSE indicated a desire to work in trades, transportation and equipment industries (24%), compared to college/trade students where the largest percentage of students wanted to work in sales and service (16%). Focusing on first-generation university students, the largest percentage (37%) stated they wanted to work in the social sciences, education and government. Similar rankings were noted in the non-first-generation subset.

Confidence

In addition to indicating their future occupational preferences, YITS respondents also stated how certain they were that they would one day have a career in their desired field. Only marginal differences were noted between the two subsets. First-generation students were slightly more likely to be "very certain" they would achieve their goal, with a difference of one percentage point in favour of first-generation students. By contrast, non-first-generation students were more likely to report being "fairly certain," with 47% selecting this response compared to 44% of first-generation students. Differences were also minimal when each subset was analyzed in terms of their enrolment status.

How much education is needed?

Though only minor differences were noted between FGSs and non-FGSs in terms of confidence levels, more significant disparities were observed when both subsets were asked how

much education they believed they would need in order to perform a job in their preferred fields. The data suggest first-generation students were more likely to believe lower levels of educational attainment would be required for their jobs. More than 11% believed a high school diploma or its equivalent would be sufficient, compared to 7% of non-first-generation students, a difference of four percentage points. In terms of trade or vocational certificates, 17% of first-generation students indicated this was the type of education needed for their job, compared to 11% of non-first-generation students. More significantly, however, was the difference between first-generation and non-first-generation students in terms of whether or not they believed a university degree was required in order to complete their jobs, with considerably fewer first-generation students believing this was the required amount of education. While 37% of first-generation students believed a university degree would be needed for their preferred job, well over half of non-first-generation students (58%) said they believed a university degree was a prerequisite, a difference of 21 percentage points. This suggests that first-generation students were less likely to see the need for higher levels of tertiary education and more likely than their non-first-generation peers to believe a college degree or less would be required of them down the road. This may be because FGSs aspire to jobs requiring less education; however, it may also be indicative of lack of awareness of educational demands of the labour market on the part of first-generation learners.

In the following section, I will summarize the results and draw the relevant policy conclusions.

5. Conclusions, Policy Recommendations & Areas for Further Research

"It is through future research that scholars and practitioners can assess the experiences of first-generation students and work to serve and education this special population more comprehensively. First-generation students may face several academic and non-academic challenges on the way to achieving. However, it is to these students' credit that they dream of attaining an education and pioneering beyond the bounds known to their families."[71]

In the previous section, data from the Youth in Transition Survey were used to paint a quantitative portrait of first-generation students and to determine to what extent three non-financial barriers thought to inhibit access to post-secondary education (family and social background, academic experiences and educational aspirations) are present in the first-generation student experience. Interesting results were revealed, many of which corroborated the evidence presented in the literature review.

Taken as a whole, what the YITS-A data suggest is that being a first-generation student is about more than simply coming from a family with low levels of educational attainment. The FGS experience is also characterized by lower average incomes, lower overall grades in high school, and lower educational expectations and motivations. In this regard, it is not so much the first-generation status in and of itself that may serve as an obstacle in the pursuit of higher education; rather, it is the factors *associated* with growing up in a household with no history of PSE that defines the first-generation experience.

These findings are significant in that they provide possible insight into why first-generation students remain under-represented in Canada's post-secondary institutions. Moreover, the findings may inform a discussion of what can be done in order to facilitate the access of this

71 McCarron and Inkelas, "The Gap," 547.

particular of subset of learners to institutions of higher learning. Towards this end, there are certain interventions stakeholders (whether policymakers, parents, teachers or community organizations) could draw upon in order to meet the needs of this particular subset of learners. These are outlined below.

5.1 Policy Recommendations

Equalizing access to post-secondary education starts with providing outreach to first-generation students in the early stages of their schooling. As Davis suggests, most non-first-generation students become "intuitively oriented" towards higher education simply as a result of growing up in a household with a history of PSE.[72] First-generation students, on the other hand, lack this experience and, as section three has argued, do not always perceive of college or university as the logical next step in their lives. In providing outreach to students early on, however, stakeholders may engage students as they begin formulating their educational aspirations and provide the necessary encouragement and information first-generation students may not otherwise receive.

Outreach to students can take on various forms. For example, post-secondary students can play a pivotal role by serving as a role models to junior high and high school students, providing tutoring services or simply sharing stories of their own experiences.[73] This can assist in raising the overall grades of first-generation students, while also getting students excited about or, at the very least, thinking about pursuing education beyond the secondary level.

Educators and guidance counselors too can provide outreach by communicating the importance of higher education to students at various junctures throughout their schooling, as

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72 Davis, Jeff, "The Observable Behaviors of First-Generation College Students" in *The First Generation Student Experience* (Sterling, VA: Stylus Publishing, 2010), 33.

73 Drummond et al., "Post-Secondary Education," 22.

well as by providing transparent labour market information.[74] Making clear connections between post-secondary education and the job market may reinforce the importance and utility of a college or university credential, while also encouraging students to consider a path no one else in their family has pursued.

Of course, it is important to note that first-generation students are only one part of a larger unit (namely first-generation *families*) that must also receive targeted outreach. Towards this end, it will be necessary for interventions to target *parents* in addition to first-generation students. Once again, there are various initiatives that could be implemented. Engel notes that, "increased levels of parental involvement increase the likelihood that students will take a rigorous high school curriculum and the likelihood they will enroll in college, even after controlling for level of parental education."[75] Towards this end, educators can equip parents with knowledge to transmit to their children – information about things such as the importance of taking advanced coursework in high school, of maintaining high educational expectations, as well as how to navigate the higher education sector. Such interventions allow parents to become more active participants in their children's early education while also helping to familiarize them with the entrance requirements and admissions procedures for post-secondary education, critical information which parents can use in supporting their children.

In addition to educators, policymakers also have a role to play in first-generation family outreach. As previously mentioned, for many first-generation families, pursuing a college or university diploma is a new concept, one which carriers a great deal of uncertainty and many new challenges. However, policymakers can help families in facing the unknown by increasing awareness of the governmental student assistance programs and ensuring a high degree of

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[74] Ibid.

[75] Engel, "Postsecondary Access," 29

transparency in their various components. For example, policymakers associated with financial aid programs can help families to better understand the cost and benefits of post-secondary education. By demonstrating the ways in which a college or university program can be financed, policymakers help to not only address liquidity concerns, but may also get families thinking about PSE as a viable option.

However, in order for policymakers to better communicate with first-generation families, it may first be necessary to garner an even clearer picture of who these Canadians are and what they need so that messages about PSE may truly resonate. Towards this end, further research can be conducted that will allow policymakers to better understand first-generation families and the ways in which they can be supported. This research and other additional next steps are outlined below.

5.2 Areas for Further Research

In terms of further research, there is a significant need for more sophisticated statistical analyses, such as a multivariate regression. Though this study shows that first-generation status is *associated* with a number of factors that the literature suggest can hamper a student's educational career, in the absence of a regression, the direction of the causal arrow cannot be placed. In other words, though this study has illustrated that first-generation students and their parents have lower educational expectations, earn lower overall grades and are less likely to spend time on homework during high school, it cannot be said that these factors are *causing* or driving the first-generation/non-first-generation PSE enrolment gap. Indeed, a regression analysis could be useful in disentangling the often mutually reinforcing and interconnected factors and in determining which precise factors are most decisive in shaping a first-generation student's educational outcomes. If these variables are identified then policymakers will be better

equipped at devising interventions, policies or modifications that will help to narrow the PSE gap and meet the needs of this clientele.

In addition to a regression analysis, other next steps could include concluding an in-depth evaluation of the efficacy of existing interventions and supports for first-generation students. For example, the Westerview Partnership attempts to increase the participation of first-generation students in PSE by teaming with local colleges and universities to provide enrichment learning activities, tutoring and summer internships to youth in the kindergarten to grade 12 system so as to challenge first-generation students intellectually and encourage them to consider pursuing education beyond high school.[76]

In Manitoba and New Brunswick, the "Explore your Horizons" initiative engages high school students and their parents in an exploration of occupational and career choices, while also introducing high school students to post-secondary students who can to share stories of the challenges and opportunities of higher learning.

In the United States, in turn, promising practices include both the "Talent Search" and "Upward Bound" programs, which provide a variety of services, ranging from tutoring and counseling, to work-study programs that strive to increase awareness of and preparation for PSE amongst participating middle- and high-school students.[77] A thorough evaluation of these programs can help to generate a list of best practices that stakeholders may draw upon when providing support for first-generation students and their families.

To conclude, whether it is a policy intervention or further research, it will be important for stakeholders to bear in mind two important facts about first-generation students. The first is that the first-generation student experience is by no means homogenous. As the data has shown,

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[76] Canada Council on Learning, *Post-secondary education in Canada,* 6.
[77] Engel, "Postsecondary Access," 37.

there is a great deal of *diversity* amongst first-generation students. While some are low performing academically, other students excel. While some first-generation families are of modest economic means, others are not. The implication is that the needs of first-generation students may vary and there is no one single first-generation policy solution. Rather, effective interventions will need to address a wide range of barriers and mobilize the efforts of a variety of stakeholders all of whom must work in concert with each other so as to provide the best possible range of support.[78]

Finally, it is critical to bear in mind that first-generation students often belong to other subsets of the population that have traditionally been under-represented in our higher learning institutions, such as rural or remote learners, students with disabilities or Aboriginal students. Thus, stakeholders will need to remain cognizant of the fact that first-generation students may face multiple barriers and that policies designed to help one group of vulnerable students may also be of use to first-generation students.

With these caveats in mind, stakeholders may implement interventions and conduct research that will allow for evidence-based policy-making to effectively meet the needs of this subpopulation of learns so that someday all Canadians, including first-generation students, may access and persist in the higher education landscape.

[78] Canada Council on Learning, *Post-secondary education in Canada*, 6.

Bibliography

Auclair et al., *Transitions Research Paper 2 – First-Generation Students: A Promising Concept?* (Montreal, Que: Canada Millennium Scholarship Foundation, 2008).

Berger et al., "Chapter I: Why Access Matters," in *The Price of Knowledge 2006-2007* (Montreal, Que: Canada Millennium Scholarship Foundation, 2007).

Canada Council on Learning, *Post-secondary education in Canada: Who is missing out?* (Canada Council on Learning, 2009).

Charron, Jocelyn and Anne Motte, "First-generation students, their families, and post-secondary education: Understanding the role of savings and parental support" (Literature review, Human Resources and Skills Development Canada, 2011).

Choy, Susan P., *Students Whose Parents Did Not Go To College* (Washington, DC: National Center for Education Statistics, 2001).

Christofides et al., "The Evolution of Aspirations for University Attendance" in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada*, ed. Finnie et al. (Kingston, ON: Queen's University School of Public Policy, 2008), 109 - 134.

Davis, Jeff, "How Many First-Generation College Students Are There?" in *The First Generation Student Experience* (Sterling, VA: Stylus Publishing, 2010), 1 - 28.

Davis, Jeff, "The Observable Behaviors of First-Generation College Students" in *The First Generation Student Experience* (Sterling, VA: Stylus Publishing, 2010), 29 - 57.

Diallo et al., *What Do We Know About the Pathways and Transitions of Canadian Students in Post-Secondary Education? Note I: Transitions Project* (Montreal, Que: Canada Millennium Scholarship Foundation, 2009).

Drummond et al., "Post-Secondary Education is a Smart Route to a Brighter Future for Canadians," *TD Economics Special Report* (May 17, 2010).

The Educational Policy Institute, *Access, Persistence and Barriers in Postsecondary Education: A Literature Review and Outline of Future Research*, (Toronto: Higher Education Quality Council of Ontario, 2008).

Engel, Jennifer, "Postsecondary Access and Success for First-Generation College Students," *American Academic* 3:1 (2007), 25 - 48.

Finnie, Ross, "Post-secondary education is a matter of mindset, not just money," *The Globe and Mail,* April 27, 2011, accessed July 3, 2011, http://www.theglobeandmail.com/news/opinions/opinion/postsecondary-education-is-a-matter-of-mindset-not-just-money/article2001137/singlepage/.

Finnie, Ross and Mueller, Richard E., "The Backgrounds of Canadian Youth and Access to Post-Secondary Education: New Evidence from the Youth in Transition Survey" in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada,* ed. Finnie et al. (Kingston, ON: Queen's University School of Policy Studies, 2008), 79 - 107.

Finnie, Ross and Sweetman, Arthur and Usher, Alex, "Introduction: A Framework for Thinking about Participation in Post-Secondary Education," in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada*, ed. Ross Finnie et al. (Kingston, ON: Queen's University School of Policy Studies, 2008), 3-32.

Hopkins, Mark, "CEA/EPRI/MESA Invited Panel on Post-Secondary Education" (presentation at the 45th annual conference of the Canadian Economics Association, Ottawa, ON, June 4, 2011).

Human Resources and Skills Development Canada, *YITS Project Overview* (Gatineau, Que: Applied Research Branch, 2000), ISBN: 0-662-29528-5, Cat. No./N° de cat. MP32-30/00-5E.

Kamanzi et al., *The influence of social and cultural determinants on post-secondary pathways and transitions* (Montreal, Que: Canada Millennium Scholarship Foundation, 2009).

Measuring the Effectiveness of Student Aid (MESA) Project, *Youth In Transition Survey (YITS) Interface* (Ottawa, ON: MESA Project).

McCarron, Graziella Pagliarulo and Inkelas, Karen Kurotsuchi, "The Gap between Educational Aspirations and Attainment for First-Generation College Students and the Role of Parental Involvement," *Journal of College Student Development* 47:5 (September/October, 2006), 534 - 549.

Motte, Anne and Qiu, Hanqing and Zhang, Yan and Bussière, Patrick, "The Youth in Transition Survey: Following Canadian Youth through Time," in *Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada*, ed. Ross Finnie et al. (Kingston, ON: Queen's University School of Policy Studies, 2008), 63-75.

National Centre for Education Statistics, "First-Generation Students: Undergraduates Whose

Parents Never Enrolled in Postsecondary Education," *Postsecondary Education Descriptive Analysis Reports*, June 1998.

OECD Programme for International Student Assessment. "What PISA Is." Accessed June 3, 2011. http://www.pisa.oecd.org/pages/0,3417,en_32252351_32235731_1_1_1_1_1,00.html.

Task Force on Competitiveness, Productivity and Economic Progress, "Today's innovation, tomorrow's prosperity," *Ninth Annual Report* (November, 2010).

Tym et al., *First-Generation College Students: A Literature Review* (Texas Guaranteed Student Loan Corporation, 2004).

Glossary

Acronyms

FGS	First-generation student
HEQCO	Higher Education Quality Council of Ontario
HRSDC	Human Resources and Skills Development Canada
PISA	Programme for International Student Assessment
PSE	Post-secondary education
SFA	Student financial assistance
YITS	Youth in Transition Survey

Terms

First-generation student : A student whose parents' highest level of completed education is a high school diploma, its equivalent or less.

Financial barrier: Monetary factors that may obstruct a student's academic trajectory. There are two types – perceptional financial barriers and liquidity constraints.

Non-financial barrier: Non-monetary factors that may obstruct a student's academic trajectory. These may be known or unknown to the student and can include perceptional, informational, attitudinal, motivational and cultural barriers, among others.

Appendix 1 – Youth in Transition Survey

Table A.1.1 – Youth in Transition Survey (YITS) observations by cohort and cycle

		Cohort A		Cohort B	
	Reference period	Age of respondent	Observations	Age of respondent	Observations
Cycle 1	1999 and earlier	15 years	29,687	18 - 20 years	22,378
Cycle 2	2000 - 2001	17 years	26,880	20 - 22 years	18,779
Cycle 3	2002 - 2003	19 years	22,682	22 - 24 years	14,817
Cycle 4	2004 - 2005	21 years	18,843	24 - 26 years	12,435
Cycle 5	2006 - 2007	23 years	14,751	26 - 28 years	9,946
Cycle 6	2008 - 2009	25 years	11,011	x	x

x data not collected during this cycle for cohort B
Source: Author's adaptation of MESA Youth in Transition Survey Interface, 1.

Appendix 2 – Descriptive Statistics

Table A.2.1 – Descriptive statistics of Canadian youth, age 21, by first-generation and post-secondary enrolment status

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Gender								
Male	48.8	57.6	47.5	35.5	50.9	67.0	55.2	42.1
Female	51.2	42.4	52.5	64.5	49.1	33.0	44.8	57.9
Province								
Newfoundland and Labrador	2.0	1.9	2.0	2.3	2.0	1.9	1.8	2.1
Prince Edward Island	0.5	0.4	0.4	0.6	0.6	0.5	0.3	0.7
Nova Scotia	2.7	2.7	1.8	3.9	3.4	3.0	2.4	4.3
New Brunswick	2.7	2.9	2.4	3.0	2.6	2.6	1.8	3.2
Quebec	29.2	34.3	30.2	19.4	20.5	22.7	26.4	15.9
Ontario	35.7	28.1	42.5	38.6	38.0	25.4	40.5	41.7
Manitoba	3.9	4.7	2.5	4.5	3.6	4.6	2.1	4.0
Saskatchewan	3.9	4.0	2.9	4.7	3.9	5.5	2.8	3.9
Alberta	9.6	11.7	7.3	9.1	10.9	15.1	9.8	9.9
British Columbia	9.9	9.3	7.9	13.9	14.5	18.7	12.1	14.2
Immigrant Status								
Non-immigrant	76.8	84.3	76.5	65.0	70.5	81.1	74.3	64.0
First generation	6.4	4.5	6.0	10.5	9.6	4.8	8.5	12.1
Second generation	16.7	11.2	17.5	24.4	19.9	14.1	17.2	24.0
Visible Minority Status								
Visible minority	11.5	5.3	11.9	22.3	13.2	6.2	10.8	17.5
Non-visible minority	88.5	94.7	88.1	77.7	86.8	93.8	89.2	82.5

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 4

Table A.2.2 – Family characteristics of Canadian youth, age 21, by first-generation and post-secondary enrolment status

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Parental Education								
Less than high school	28.7	37.4	25.8	17.8	0.0	0.0	0.0	0.0
High school	71.3	62.6	74.2	82.2	0.0	0.0	0.0	0.0
Some PSE	0.0	0.0	0.0	0.0	9.4	13.3	11.8	6.4
Trade/College	0.0	0.0	0.0	0.0	44.5	62.1	53.0	32.2
University below BA	0.0	0.0	0.0	0.0	6.8	5.3	6.8	7.3
University (BA)	0.0	0.0	0.0	0.0	26.1	15.3	22.0	32.8
University above BA	0.0	0.0	0.0	0.0	13.1	4.0	6.4	21.4
Family Income								
$5,000 - $25,000	14.2	17.3	12.1	11.9	4.7	6.4	4.9	3.9
$25,000 - $50,000	38.1	41.1	37.2	35.1	20.3	26.4	22.5	16.1
$50,000 - $75,000	27.7	24.6	29.2	30.3	29.3	34.3	31.1	26.4
$75,000 - $100,000	14.5	13.1	15.8	15.5	26.4	22.4	25.2	29.0
$100,000 and above	5.4	3.9	5.8	7.1	19.3	10.5	16.3	24.7

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 4

Appendix 3 – Family & Social Background

Table A.3.1 - Parental expectations of Canadian youth at age 15 by first-generation and post-secondary enrolment status at age 21

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
How important is it to you that your child graduates from high school?								
Not at all important	x	x	x	0.0	x	0.0	x	x
Slightly important	x	x	0.0	0.0	x	x	x	x
Fairly important	3.3	4.4	x	2.3	1.4	x	1.3	0.7
Very important	96.3	94.7	97.1	97.7	98.6	96.8	98.6	99.2
How important is it to you that your child gets more education after high school?								
Not at all important	0.9	1.4	0.6	x	0.2	0.5	x	0.1
Slightly important	3.6	5.9	2.7	x	1.0	2.8	x	0.2
Fairly important	15.3	21.8	12.7	7.9	8.2	15.2	10.0	4.4
Very important	80.2	70.9	84.0	90.6	90.5	81.5	88.8	95.4
What is the highest level of education that you hope your child will get?								
Less than high school	x	x	0.0	0.0	x	x	x	0.0
High school diploma	x	14.9	4.6	1.0	x	x	x	0.2
College/trade	34.7	43.5	36.5	16.2	22.6	47.4	31.9	6.8
Any post-secondary education	8.0	7.4	9.8	6.9	6.8	8.3	8.2	5.4
One university degree	38.8	26.9	39.6	57.5	51.7	33.8	49.4	60.3
More than one university degree	10.4	x	9.4	18.3	18.1	7.6	10.0	27.4

(Continued on next page)

(Table A.3.1 continued)

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
How certain are you that your child will get that far?*								
Very certain	35.5	23.7	37.9	52.5	44.1	25.3	36.4	56.6
Fairly certain	46.6	48.5	48.2	40.7	44.7	51.3	50.4	38.6
Fairly uncertain	14.6	23.5	10.4	5.3	9.2	18.8	11.4	3.6
Very uncertain	2.1	3.1	2.0	0.6	1.2	3.6	0.9	0.5
Don't know	1.0	1.1	1.1	0.6	0.7	0.9	x	0.5
What is the main reason you hope your child will get this level of education?*								
Better job opportunities or pay	60.5	62.6	59.2	59.2	51.4	57.3	55.6	46.5
Valuable for personal growth and learning	10.7	9.9	11.6	11.0	15.5	13.3	13.6	17.5
Child's choice	9.2	8.5	10.1	8.4	8.9	10.2	9.0	8.3
Best choice in terms of financial costs	0.8	0.9	0.8	0.8	0.7	0.7	x	0.6
Best match with child's ability	7.3	6.9	6.1	9.9	11.1	8.3	8.4	13.8
Other	10.0	10.0	10.8	8.8	11.0	8.8	11.1	11.8
Don't know	x	0.4	x	x	x	x	x	0.1

* total does not add up to 100% due to the omission of the "refused" and "not stated" responses

x data suppressed to meet the confidentiality requirements of the *Statistics Act*

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 1 and 4

Table A.3.2 – Achievement-supporting behaviours of parents of Canadian youth at age 15 by first-generation and post-secondary enrolment status at age 21

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
This school year, how often have you or your partner talked with your child about...								
Experiences at school?*								
Not this year	1.1	1.1	1.0	x	0.3	0.3	x	0.4
Less than once a month	2.2	1.7	3.0	2.0	1.0	1.7	0.9	0.7
Monthly	10.6	11.3	11.1	9.0	5.8	7.9	6.5	4.6
Weekly	36.4	39.5	35.0	33.5	32.1	35.8	34.4	29.3
Daily	49.6	46.4	49.7	54.3	60.7	54.1	58.0	64.8
Don't know	x	0.0	x	x	0.0	x	x	x
Future education/career?*								
Not this year	1.5	x	1.7	x	0.6	0.7	0.5	0.6
Less than once a month	9.8	8.5	10.6	10.5	8.6	8.9	8.9	8.2
Monthly	41.9	43.4	41.5	40.1	44.4	41.4	44.6	45.5
Weekly	35.5	35.0	35.5	36.4	37.3	38.1	37.6	36.9
Daily	11.1	11.1	10.6	11.9	8.9	10.5	8.2	8.6
Don't know	x	x	x	x	x	x	x	x
Their school work?*								
Not this year	1.1	x	0.9	1.6	0.5	0.4	0.4	0.6
Less than once a month	2.7	2.7	2.7	2.8	1.5	2.0	1.4	1.3
Monthly	10.0	11.5	10.0	7.9	6.8	7.8	6.6	6.5
Weekly	34.9	35.0	33.7	36.3	35.4	35.7	37.5	34.0
Daily	51.3	49.9	52.5	51.2	55.7	54.0	54.0	57.3
Don't know	x	x	x	x	0.1	x	x	0.1

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(Table A.3.2 continued)

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
This school year, how often have you or your partner spent time just talking with your child?*								
Not this year	x	x	x	x	x	0.0	x	x
Less than once a month	0.7	0.8	0.9	x	0.3	0.5	0.3	0.3
Monthly	2.2	3.2	1.7	1.2	1.5	2.3	1.7	1.2
Weekly	18.7	20.5	18.4	16.9	14.4	17.0	16.2	12.0
Daily	77.7	74.4	78.4	81.4	83.4	79.9	81.5	86.1
Don't know	0.4	0.5	x	0.3	0.1	x	0.2	0.1

* total does not add up to 100% due to the omission of the "refused" and "not stated" responses

x data suppressed to meet the confidentiality requirements of the *Statistics Act*

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 1 and 4

Table A.3.3 – Peer behaviours of Canadian youth, age 15, by first-generation and post-secondary enrolment status at age 21

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Think about your closest friends. How many of these friends...								
Think completing high school is very important?								
None of them	1.8	3.6	0.9	0.2	1.4	2.9	1.4	0.6
Some of them	18.2	24.8	15.9	9.9	11.5	20.6	12.7	7.1
Most of them	42.1	44.2	44.2	35.1	40.1	42.3	44.4	36.9
All of them	37.9	27.4	39.0	54.8	47.0	34.2	41.4	55.4
Dropped out of high school without graduating?								
None of them	72.5	59.9	78.0	86.7	83.5	70.9	80.4	90.4
Some of them	24.1	34.5	19.9	12.0	14.8	24.8	17.6	9.1
Most of them	2.5	4.1	1.6	0.7	1.2	3.5	1.4	0.3
All of them	0.9	1.6	0.5	0.6	0.4	0.8	0.6	0.2
Are planning to further their education or training after leaving high school?								
None of them	3.8	6.0	3.3	1.0	1.9	3.9	2.1	1.1
Some of them	24.8	34.0	21.3	14.1	15.8	28.9	17.9	9.3
Most of them	48.0	45.1	51.2	47.5	48.6	46.6	49.6	48.8
All of them	23.4	14.8	24.2	37.4	33.6	20.5	30.4	40.8
Think it's ok to work hard at school?								
None of them	4.6	7.2	3.7	1.2	2.8	5.5	3.6	1.3
Some of them	30.6	36.4	30.2	21.4	23.6	32.5	27.5	17.7
Most of them	47.1	44.0	47.8	51.2	50.0	47.7	49.2	51.5
All of them	17.7	12.4	18.2	26.1	23.5	14.3	19.6	29.5

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 1 and 4

Appendix 4 – Academic Experiences in High School

Table A.4.1 - Overall academic performance in high school of Canadian youth by first-generation and post-secondary enrolment status

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Graduated high school								
Yes	85.7	66.2	98.1	x	95.0	77.8	98.8	99.7
No	14.3	33.8	1.9	x	5.0	22.2	1.2	0.3
High school status								
Graduate	85.3	66.1	98.1	x	94.6	77.7	98.5	99.6
Continuer	2.9	x	x	0.0	0.9	x	x	0.0
Leaver	11.3	26.8	1.6	x	4.0	17.5	1.2	0.3
Not stated	0.5	x	x	0.0	0.4	x	x	0.1
Overall high school grade								
90% to 100%	3.6	2.0	1.9	8.9	8.6	1.7	2.3	15.4
80% to 89%	24.2	11.6	23.0	47.7	35.2	12.1	23.0	52.3
70% to 79%	43.7	40.0	52.7	36.0	38.9	43.7	52.2	28.4
60% to 69%	23.5	36.6	19.8	6.7	14.1	32.3	19.2	3.7
55% to 59%	2.9	5.3	2.0	x	2.2	7.2	2.3	0.1
50% to 54%	1.2	2.8	x	x	0.5	1.4	x	x
Less than 50%	0.8	1.7	x	0.0	0.4	1.6	x	x

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(Table A.4.1 continued)

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
High school math grade								
90% to 100%	6.4	5.2	4.0	12.3	11.2	4.3	5.3	17.9
80% to 89%	22.5	18.6	22.3	29.1	24.0	15.4	17.6	31.4
70% to 79%	32.3	31.8	33.3	31.7	30.8	31.5	35.5	27.4
60% to 69%	27.2	29.8	29.9	19.2	24.1	32.0	30.8	16.8
55% to 59%	6.5	8.9	5.6	4.0	5.2	8.7	5.6	3.6
50% to 54%	4.0	3.9	4.3	x	4.1	6.9	4.7	2.6
Less than 50%	1.1	1.9	0.6	x	0.5	1.1	0.5	0.2
High school language grade								
90% to 100%	5.5	2.7	4.2	12.0	10.5	4.1	4.3	17.1
80% to 89%	24.4	13.6	24.2	43.7	34.7	15.5	27.7	46.7
70% to 79%	37.3	36.0	42.7	31.5	32.7	34.3	38.9	28.1
60% to 69%	26.3	37.9	23.5	10.8	18.0	36.4	23.9	7.0
55% to 59%	3.8	5.9	3.1	1.4	2.5	5.8	3.0	0.7
50% to 54%	2.1	2.9	x	x	1.4	2.9	2.0	0.4
Less than 50%	0.5	1.1	x	x	0.2	0.9	0.2	0.0
Hours spent on homework each week								
No time	8.4	13.5	6.3	2.5	4.4	9.6	5.2	1.7
Less than one hour	23.5	30.2	22.7	12.4	16.7	29.2	19.6	9.8
1 - 3 hours	40.9	39.6	44.3	38.4	39.5	40.3	43.3	37.1
4 - 7 hours	20.2	12.7	21.1	32.0	26.8	16.1	23.7	32.8
8 - 14 hours	4.5	1.9	3.3	10.9	9.1	3.2	5.5	13.9
15 or more hours	1.3	0.2	1.0	3.5	2.6	1.0	1.7	3.8
Not stated	1.3	1.9	1.2	0.4	0.8	0.6	1.0	0.9

x data suppressed to meet the confidentiality requirements of the *Statistics Act*

Source: Youth in Transition Survey (YITS), Cohort A, Cycle 1 and 4

Appendix 5 – Academic Motivations & Aspirations

Table A.5.1 – Academic and career expectations of Canadian youth, age 21, by first-generation and post-secondary enrolment status

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
What is the highest level of education you would like to get?								
Less than a high school diploma	0.7	1.7	x	0.0	0.3	1.4	x	0.0
High school diploma	11.7	26.5	2.5	0.3	3.7	16.2	1.7	0.2
Some post-secondary	0.6	1.0	x	0.6	0.7	2.2	0.6	0.2
Private business school or commercial school	1.8	1.7	2.7	0.7	1.2	1.4	2.1	0.4
Collge, CEGEP, trade or vocation	33.2	39.9	44.3	5.5	21.9	38.0	41.5	3.4
University bachelor's degree	23.6	12.2	30.0	33.3	28.0	19.1	32.2	29.0
University first professional (ex. Medicine, law)	2.0	0.9	1.6	4.5	4.1	0.9	1.9	6.7
University Master's degree	13.3	4.3	9.0	35.0	23.6	4.8	9.7	39.6
PhD	6.0	2.6	3.6	15.2	10.2	3.0	3.4	17.1
Other	0.5	0.3	0.6	0.4	0.5	0.4	x	0.3
Undecided	6.6	8.9	5.2	4.5	5.9	12.6	6.0	3.1
What kind of job or occupation would you be interested in having when you are about 30 years old?								
Management	8.0	8.4	9.3	5.3	8.0	8.9	10.1	6.5
Business, finance, administration	8.0	7.2	8.5	8.3	5.9	3.6	6.5	6.2
Natural and applied sciences	8.4	7.0	9.2	9.3	9.9	6.5	11.0	10.4
Health occupations	10.3	7.7	11.2	13.0	12.4	6.8	10.1	15.9
Social science, education, government	16.2	7.4	12.1	36.6	20.3	7.3	10.1	31.2
Art, culture, sport and leisure	7.2	7.4	7.0	6.9	9.6	8.3	11.7	8.8
Sales and service	13.7	16.0	15.8	7.2	10.1	15.7	14.9	5.1
Trades, transportation and equipment	13.3	24.3	10.1	x	8.1	24.1	10.5	1.1
Primary industry occupations	2.3	3.0	2.7	0.8	1.0	3.0	0.8	0.5
Processing, manufacturing, utilities	1.6	2.6	1.7	x	1.0	2.8	1.2	0.2
Unclassified	10.9	9.1	12.3	11.8	13.5	12.9	13.0	14.1

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(Table A.5.1 continued)

	First-Generation				Non-First-Generation			
	All	No PSE	College/Trade	University	All	No PSE	College/Trade	University
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
How certain are you that you will eventually have this career or work?								
Very certain	42.2	40.6	46.5	38.5	40.8	45.5	44.5	36.9
Fairly certain	44.4	44.5	41.6	48.0	47.1	42.0	45.7	49.5
Fairly uncertain	10.5	11.4	9.0	11.8	10.2	9.2	8.0	12.0
Very uncertain	2.9	3.6	2.8	1.8	2.0	3.2	1.8	1.6
How much education do you think is needed for this type of work?								
Less than a high school diploma								
Yes	6.3	14.0	2.0	1.2	3.0	8.5	2.6	1.2
No	93.7	86.0	98.0	98.8	97.0	91.5	97.4	98.8
High school diploma or equivalent								
Yes	11.4	20.9	7.5	2.4	7.0	19.8	7.0	2.7
No	88.6	79.1	92.5	97.6	93.0	80.2	93.0	97.3
Trade/vocational certificate or apprenticeship								
Yes	16.5	24.0	17.6	3.6	11.0	25.4	16.2	2.8
No	83.5	76.0	82.4	96.4	89.0	74.6	83.8	97.2
College or CEGEP								
Yes	33.2	29.8	49.9	13.0	25.3	31.6	47.7	9.3
No	66.8	70.2	50.1	87.0	74.7	68.4	52.3	90.7
University degree								
Yes	36.6	14.5	28.7	82.8	57.5	18.2	31.4	87.4
No	63.4	85.5	71.3	17.2	42.5	81.8	68.6	12.6

x data suppressed to meet the confidentiality requirements of the *Statistics Act*
Source: Youth in Transition Survey (YITS), Cohort A, Cycle 4