# Access to Post-Secondary Education in Canada Among the Children of Canadian Immigrants

Ross Finnie
Richard E. Mueller

MESA2009-1

**MESA**MEASURING THE EFFECTIVENESS OF STUDENT AID

**Canadian Education Project | Queen's University School of Policy Studies | Canada Millennium Scholarship Foundation**
**Educational Policy Institute | Higher Education Strategy Associates**

Toronto, Ontario, Canada - September 2009 www.mesa-project.org

## The MESA Project

The Measuring the Effectiveness of Student Aid Project, or the MESA Project, is a four year research effort being conducted by the Canadian Education Project and the School for Policy Studies at Queen's University on behalf of the Canada Millennium Scholarship Foundation. It has been designed to answer the following four questions:

- After graduating from high school, teenagers coming from low-income backgrounds face a choice as to attend college or university, or not. For those who did attend, how do they compare to those who did not?
- Does providing more funding in a student's first few years of further education attract more low-income students to post-secondary education?
- Does providing more funding in a student's first few years of further education make it more likely for low-income students to stay in and graduate?
- Are low-income students different across Canada?

This paper is part of a series of research papers solicited from some of the leading Canadian researchers in the field of post-secondary education; the researchers were asked to write about issues of access and persistence in post-secondary education in Canada. The requirements for the papers were that the researchers use one of several currently-existing Statistics Canada databases or another source of Canadian data. Each of the papers commissioned during this project is available for downloading from the MESA Project website at www.mesa-project.org.

The findings and conclusions expressed in this paper are those of the authors and do not necessarily represent those of the MESA Project or its partners.

## The Partners

The **Education Policy Institute** is an international, non-profit think tank dedicated to the study of educational opportunity. Our mission is to provide high-level research and analysis to support policymakers and practitioners and expand educational opportunity to all students. EPI handles overall project management and co-ordination, data privacy & cleaning, and integration of the final results at the end of the project. www.educationalpolicy.org

The **Canadian Education Project** provides research and evaluation expertise in experimental, quantitative, qualitative and mixed methods research approaches. The company has experience working with a broad range of stakeholders including governments (at the federal and provincial levels), secondary and post-secondary educational institutions, elementary and secondary school boards, student groups, non-profit and non-governmental organizations and other stakeholders in the education and public policy arena in Canada and internationally. While much of our work to date deals with students and youth at the post-secondary level, we are increasingly engaging in research at the elementary and secondary levels as well as looking at student mobility through lifelong learning and transitions between K-12 and post-secondary education. www.canedproject.ca

The **School of Policy Studies at Queen's University** (*www.queensu.ca/sps*) is a leading centre for advanced education, research, debate and interaction with the non-academic world in the fields of public administration and industrial relations. Continuing the long-standing commitment of Queen's University to excellence in these areas, they are training the next generation of leaders for life in a global age. Their master's programs link theory with practice to provide students with fundamental knowledge of the economic, political, social and technological changes that are transforming the way we live and the way we work. Students enhance their communication and research skills, and gain new skills in management, policy analysis, economics and quantitative methods. Their graduates are well prepared to contribute to policy-making, human resource management and industrial relations in a variety of public, private and nonprofit organizations. The School for Policy Studies manages the Research Review Committee for the MESA Project, which is responsible for funding contributory research projects that highlight important policy areas of interest.

The **Canada Millennium Scholarship Foundation** is a private, independent organization created by an act of Parliament in 1998. It encourages Canadian students to strive for excellence and pursue their post-secondary studies. The Foundation distributes $325 million in the form of bursaries and scholarships each year throughout Canada. Its objectives are to improve access to post-secondary education for all Canadians, especially those facing economic or social barriers; to encourage a high level of student achievement and engagement in Canadian society; and to build a national alliance of organizations and individuals around a shared post-secondary agenda. The Foundation is funding the MESA Project overall, and has negotiated access to its student administrative lists with each of the provinces on the project's behalf.

*www.millenniumscholarships.ca*

**Abstract**

This paper exploits the extremely rich Youth in Transition Survey (YITS) data to investigate access to post-secondary education (PSE) among the children of immigrants in Canada. The YITS respondents considered to be the children of immigrants in this paper include: i) those who came to this country as immigrants themselves but arrived early enough to complete their primary schooling and take advantage of PSE opportunities in Canada and ii) those who were born in Canada to parents who were immigrants. The results show that these first and second generation immigrants are, overall, considerably more likely to attend PSE than non-immigrant youth, that these differences are driven principally by higher university participation rates rather than by college attendance, and that the patterns vary a great deal by source country. The immigrant differences are partly explained by certain demographic characteristics (e.g., province of residence and living in a city), by immigrants' parents' relatively high education levels, and by other observable factors such as parental aspirations regarding their children's education. However, substantial differences remain even after controlling for these and other factors.

Ross Finnie is a professor at the University of Ottawa (rfinnie@uottawa.ca)

Richard E. Mueller is a professor at the University of Lethbridge (richard.mueller@statcan.gc.ca)

Please cite as:

Finnie, R. and R.E. Mueller (2009). *Access to Post-Secondary Education in Canada Among the Children of Canadian Immigrants. MESA Project Research Paper 2009-1*. Toronto, ON: Canadian Education Project. (www.mesa-project.org/research.php)

## Table of Contents



## Acknowledgements

The authors are grateful for support from Statistics Canada, where both are Visiting Fellows; for the financial support for this project provided by the Canada Millennium Scholarship Foundation through the MESA project; and for the excellent research assistance provided by Yan Zhang and Stephen Childs of MESA. Marc Frenette, Feng Hou, and participants at the October 2008 MESA workshop in Montreal have provided comments that have significantly improved this paper.

## Introduction

There exists a long line of research on the economic assimilation of immigrants in Canada. One particular focus of this work has involved the perplexing issue of why recent cohorts of immigrants – in many cases admitted to Canada at least partly on the basis of their stock of human capital (i.e., their educational attainment) – have been doing poorly relative to both their Canadian-born counterparts and previous cohorts of immigrants (for example, Abbott and Beach, 1993; Aydemir, Chen, and Corak, 2008; Aydemir and Skuterud, 2005; Baker and Benjamin, 1994; Bloom, Grenier, and Gunderson, 1995; Frenette and Morissette, 2005; Grant, 1999; Li, 2001; Meng, 1987; McDonald and Worswick, 1987, 1998; and Picot, 2008).

Another more recent, and much more limited, line of research has set its sights further down the road in looking at immigrants' economic adjustment in terms of the educational outcomes of immigrants' children. The importance of this issue stems in part from an understanding that one of the most critical determinants of success in the Canadian labour market is an individual's level of schooling, especially their participation in post-secondary education; this understanding implies that the educational attainment of immigrants' children is likely to be an important indicator of their ensuing economic wellbeing.

Interest in this topic has been driven, in part, by a general and abiding interest in immigrant outcomes due to the sheer numbers of immigrants admitted by Canada and, in turn, their importance to Canada's demographic, economic, and social future. But this interest has also been driven, at least in part, by recent developments in Europe, where the children of at least some immigrant groups in some countries have not appeared to be integrating into the mainstream either economically or socially, with the most extreme alienation taking the form of ghettoised communities, riots, religious extremism and even outright terrorism. More specifically, studies have found that recent second generation immigrant educational outcomes have not been as favourable as might have been hoped (e.g., Österberg, 2000; Nielsen, Rosholm, Smith, and Husted, 2001; and Van Ours and Veenman 2002, 2003).

Important Canadian studies on the outcomes of the children of immigrants have included: Hansen and Kucera, 2004; Bonikowska, 2007; Hum and Simpson, 2007; Aydemir and Sweetman, 2008; and Aydemir, Chen, and Corak, 2008. The general finding of this research has been that in Canada – unlike in Europe – second generation newcomers (i.e., the children of immigrants) have been outperforming "non-immigrant" (i.e., third or higher generation Canadians) young people (as well as their immigrant parents) in terms of education levels and/or earnings. Altogether, this body of evidence suggests that the offspring of immigrants have, on average, been obtaining more schooling than other Canadians (post-secondary education in particular) and are therefore likely to enjoy relatively high earnings levels in the labour market (see below).

What else does the immigrant literature tell us about immigrants and post-secondary education? It informs us that first and second generation Canadians form a very size-

able proportion of the Canadian population – about 35% of those aged 16-65 years (Aydemir, Chen, and Corak, 2009); that there are higher rates of return to post-secondary education for immigrants when their schooling is obtained in Canada than when it is gained elsewhere (Hum and Simpson, 1999; McBride and Sweetman, 2003; Alboim, Finnie and Meng, 2005); that there are significant differences in the rates of return to schooling gained in the source country by immigrants' region of origin (Ferrer and Riddell, 2008); that there are important differences in schooling and labour market outcomes among those who enter Canada at different ages (Schaafsma and Sweetman, 2001); and that there is a positive intergenerational transfer of education (de Broucker and Lavallée, 1998) and a slow convergence of education levels to those of the Canadian-born (Sweetman and Dicks, 1999).

The contribution of this paper is to present new empirical evidence on one particular aspect of this set of issues: access to post-secondary education (PSE) on the part of "first generation" and "second generation" immigrants – i.e., those who were born out of the country and who arrived as immigrants themselves (the first generation), as well as those born in Canada but whose parents were immigrants to the country (the second generation).

In fact, this first group has been termed the "1.5 generation" of immigrants by some researchers (e.g., Aydemir and Sweetman, 2008), indicating that, although they were indeed immigrants who moved to this country themselves, they arrived early enough to enter the Canadian educational system, and – of particular importance in the present case – to take advantage of PSE opportunities in Canada rather than in their country of origin. This factor separates them from other first generation immigrants (the "1.0 generation") who arrived in this country when they were older and after their schooling was complete. Educational attainment and labour market outcomes have diverged significantly for these groups, and the Canadian nature of the educational opportunities of the 1.5 generation has clearly been key to these differences.

The paper addresses the following questions: Does access to PSE differ, overall, for first and second generation immigrants (i.e., the children of immigrants) as compared with "non-immigrant" Canadians (or third or higher generation immigrants)? How do these differences vary by country of origin or by different combinations of the mother's and the father's immigration status, including cases where one parent is an immigrant and the other is not? What are the underlying factors that appear to be driving these patterns?

First, the more purely exogenous factors often included in access models – such as the family's place of residence (e.g., urban-rural, province), parental education and family income – were considered. However, the present analysis also took into account some more unique measures found in the data set employed, including high school grades, test scores, a set of "scale" variables representing the young respondents' attachment to and experiences in high school, their parents' aspirations with respect to their children's future PSE attainment, and others. In this way, a detailed picture of the comparative PSE at-

tainment of immigrant youth, as well as some of the underlying dynamics driving these differences, was painted.

This paper is organised in the following manner. The next section discusses the relevant literature, followed by a section on the methodology and the data. The following section discusses the results of the empirical analysis. The concluding section summarizes the main results and discusses some of the principal policy implications of these findings.

## The Literature

While the literature on Canadian immigrants' economic adjustment (labour market and related) is vast, the body of research on the educational experiences of first and second generation immigrants is much more limited. Hum and Simpson (2007) recently used the Survey of Labour and Income Dynamics (SLID) to find that second generation immigrants tended to have higher educational attainment than non-immigrant Canadians, and that this attainment was largely passed from generation to generation, since the parents of these immigrants also tended to be relatively highly educated. Findings regarding higher educational attainment were, however, dependent on the specific definition of second generation immigrant employed, in that those with one immigrant parent had about half a year of additional education compared with non-immigrants, while those with two immigrant parents had about one additional year. Second generation immigrants were also much more likely to hold a university degree compared with non-immigrant Canadians. Hansen and Kucera (2004) also used the SLID and also found that second generation immigrants tended to have more education, on average, than their non-immigrant counterparts. Both of these studies confirmed the results reported in earlier work by Sweetman and Dicks (1999), who found a positive and significant correlation in educational attainment across immigrant generations.

Aydemir, Chen, and Corak (2008) used different data – the 2001 Census, as well as earlier census data – to construct "probable" (imputed) parental characteristics (rather than actual characteristics) and came to comparable conclusions regarding the educational attainment of first and second generation immigrants. Aydemir and Sweetman (2008) used these same data and, after controlling for ethnicity, came to essentially the same conclusions. Finally, Bonikowska (2007) used the Ethnic Diversity Survey – which contained a wide variety of ethnic categories but was limited in the number of educational background variables included – to show that second generation immigrants tended to attain higher levels of education compared with non-immigrants, even after controlling for parental education and ethnicity.

In sum, these studies, using a variety Canadian data sources and methodologies, have found that second generation immigrants tend to have higher levels of educational attainment than both non-immigrants and first generation immigrants (i.e., those who themselves came to Canada). Furthermore, although the effects of parental education, as well as ethnicity, have been important drivers of these outcomes, they do not explain the entire gap.

The fact that second generation immigrants have been more educated than non-immigrant Canadians is, in the end, perhaps not very surprising, given that: i) research on post-secondary access in Canada shows that the most important determinant of an individual's educational attainment is their parents' education levels and ii) immigrants tend to be better educated than non-immigrant Canadians, at least partly due to Canada's immigrant selection rules, which favour education. Therefore, as long as educational attainment is at least as heritable for immigrants as non-immigrants, the children of immigrants should be expected to have higher educational attainment than non-immigrant Canadians.

In fact, even as the labour market outcomes of new immigrant arrivals appear to be declining, immigrant educational attainment appears to be increasing. According to recently released data from the labour force survey (Zietsma, 2007), immigrants arriving in the five years leading up to 2006 were more likely to have a bachelor's degree or higher compared with those who had arrived in the previous five years. Furthermore, both immigrant cohorts were much more likely to hold bachelor's or advanced degrees compared with their Canadian-born counterparts.

Insofar as the intergenerational transfer of education remains strong, this trend bodes well for the education (as well as the earnings) of future second generation immigrants. In the words of Hum and Simpson (2007:1985), this type of intergenerational transfer may constitute "an important legacy of immigration." But this educational heritability is not, *ex ante*, guaranteed, and other factors also matter (e.g., family income), so the analysis of immigrants' children's educational attainment remains an interesting – as well as important – topic of study.

In the context of this body of literature, the contribution of this paper is to compare the PSE attainment of first and second generation (children of) immigrants to the PSE attainment of non-immigrants and to link these educational outcomes to an unprecedentedly rich set of background variables.

## Methodology and Data

### The Econometric Model

A standard empirical model was used in estimating access to PSE, where access to college or university was taken to be a function of different sets of influences including, first, only the immigrant indicators. This approach allowed for a starting point using the raw differences in PSE access by group – which corresponded very closely to what was observed in the simple descriptive data. The principal demographic and family background variables (parental education and so on) typically included in such models were then added. Finally, the more comprehensive set of regressors representing the other influences captured in the YITS-A (i.e., high school grades, PISA reading scores, high school engagement, etc.) was added.

More specifically, the model may be expressed as follows:

$$Y = X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + \mu$$

where Y represents the access measures of interest (i.e., no PSE, college, university), the $X_i$ are the vectors of covariates that influence Y, the $\beta_i$ are the coefficients associated with each set of X, and $\mu$ is a stochastic error term.

The vector $X_1$ thus consists of the immigrant identifiers, which come in two forms. In the first, the youth were classified solely by their broad immigrant status: first generation immigrant (or rather, the "1.5 generation" – given their relatively early arrival in the country), second generation immigrant, or non-immigrant. This specification allowed the overall record of an immigrant youth's PSE experiences to be captured. In the second specification, the region of birth of the respondent (for first generation immigrants) or the region of birth of the individual's parents (for second generation immigrants) were substituted for the broader measures. This allowed for the different PSE experiences of immigrants from different countries to be examined.

The vector $X_2$ was then added to the model as a second block; this vector included conventional demographic and family background variables such as family income, parental education and family type, as well as urban-rural residence, province, and minority language indicators. These variables were added to each of the two models corresponding to the two different sets of immigrant identifiers described above (aggregate and detailed), yielding the differences in PSE access rates by immigrant group after controlling for the additional regressors. The observed change in the immigrant identifiers from the first model (immigrant identifiers only) to the second (adding the additional controls) showed how much of the overall or raw gaps was related to these factors, including the key parental education variable.

The final vector of regressors, $X_3$, contained the variables pertaining to the individual's academic preparation, high school experiences, and other attitudinal variables referred to above, including the PISA reading score, high school grades (overall averages, as well as grades attained in math, science and English or French), academic and social engagement, parental discipline habits, and others. Again, the gaps remaining after these variables were added were observed; in addition, the changes from the second model to the third highlighted the degree to which the observed gaps were related to these factors.[1]

## The YITS Data, Samples Used, and Definition of Access to PSE

The data used in the analysis were taken from the Youth in Transition Survey – Reading or A Cohort (generally known as YITS-A). The YITS-A data set was ideal for this application, as it involved following all young people born in 1984 through their high school years and beyond.

1 As with any choice model of this type, there existed the potential problem of endogeneity. For example, students who aspired to attend university would tend to work harder in high school to attain the grades necessary for admission, so grades would be endogenous and the associated coefficient estimates would be biased. One approach to dealing with this bias would be to use an instrumental variable estimator. In the absence of credible instruments, however, we simply acknowledged this potential bias and sought to reduce it by including a wide variety of control variables, as discussed below.

The YITS-A currently consists of four cycles of data (corresponding to the interviews that were conducted). Furthermore, the first cycle of data included interviews not only with the respondents, but also with their parents and high school officials, in addition to containing the young respondents' PISA (an international standardised test in which Canada participated) reading scores. Follow-up surveys were carried out with respondents (but not parents or school officials) in 2002, 2004 and 2006, when the respondents were 21 years old – an age by which the great majority of young people have made their PSE decisions.[2]

The dependent variables used in this study represented the "highest" level of PSE in which the individual had participated up to the cycle four interview – college or university (with university arbitrarily classified as being the "higher" of the two). The respondents' access to these levels of PSE was compared with the "baseline" outcome of no PSE.

Standard conventions were followed in defining a first generation immigrant as one who was born outside of Canada but who subsequently moved to the country and became a citizen or landed immigrant, in this case by the time of the first survey (i.e., when the respondent was 15 years old). A second generation immigrant was defined as one who was born in Canada but who had at least one parent who was born outside of Canada. All other individuals were treated as "non-immigrants" (i.e., third generation immigrants and higher).

The YITS data also allowed for the identification of the particular country of birth of the respondent and their parents. Countries of origin were combined into nine groups: the "Anglosphere" (all Western English-speaking countries); the Americas (excluding the USA); Africa; China; East and Southeast Asia (including India and Pakistan); Other Asia (including Japan and South Korea); Western and North Europe; Southern and Eastern Europe; and Others. Appendix 1 contains a full listing of the countries included in these categories. These groupings were determined partly by geographical proximity, partly by preliminary analysis of PSE outcomes whereby similar countries were grouped together, and partly by the sample sizes available.

Non-Canadian citizens, those with unknown immigration status, those who were still continuing in high school at cycle four, and those with missing values on the variables used in the models were deleted from the samples. The sample used in the first parts of the analysis contained 16,825 observations, or 96.8 percent of the initial total, including 8,216 males and 8,609 females. The sample size was then reduced somewhat due to missing values on some of the variables included in the different models, as shown in the tables of results. A full accounting of the observations dropped from the sample at various stages of the estimation process is contained in Appendix 2.

It should be noted that the analysis had a very specific cohort interpretation – those 15-year-olds included in the YITS-A data set. The results were not, therefore, directly

2 Other data (including the older YITS-B cohort) show that access rates change only slightly after this age.

comparable to other studies that have used census (mostly) and other data to look at broader groups of immigrants and non-immigrants. In particular, the "1.5 generation immigrants" in this study represented individuals who were born in 1984 and came to Canada with their families and became landed immigrants or citizens at some point prior to 2000. The "second generation immigrants" in this study also included individuals born in that same year (1984) to at least one immigrant parent, but who were themselves born in Canada. Finally, the "non-immigrant" population in this study included individuals of the same age (born in 1984) who had no immigrant parents.[3]

The present analysis used the standard definition of "access" employed in the literature: whether a person was at some point enrolled in (or had "touched") PSE, regardless of whether they completed their studies. By comparison, "persistence" is typically defined as the subsequent process of moving from one year to another through PSE on to graduation – this term represents another distinct topic, which in the present case was deemed not as well suited to the YITS-A data set, given that the samples employed captured individuals at a maximum age of 21, when persistence is still very much an ongoing process.[4] "Educational attainment" represents yet another concept, typically used to refer to final levels of schooling, that – for similar reasons – was not the subject of this analysis.

The present analysis looked at both college and university attendance (the former being defined to include the relatively small number of individuals who had enrolled in trade school). To do so, the multinomial logit approach previously used in Finnie and Mueller (2007, 2008a,b) – which treats the particular level of PSE as a jointly determined process, along with the decision regarding whether or not to participate in PSE – was employed.[5] This approach also yielded, after the appropriate transformations into probability space were made, easily interpretable estimates that provided a full perspective of the effects of the explanatory variables on access to college, access to university, and the net effects on the two PSE outcomes relative to non-attendance.

## The YITS in Comparison to Other Data Sets

The YITS-A data set has a number of important strengths relative to other data sets that have been used in previous studies. To date, three such data sets (described briefly below) have been employed.

The Census (Aydemir and Sweetman, 2008; Aydemir, Chen and Corak, 2008) is rich in terms of sample size and identification of the country of origin of individuals and (in the case of the 2001 data) their parents, as

3 All individuals included in the YITS must have passed other basic inclusion criteria, including having been enrolled in a Canadian high school at age 15. These general conditions and the specific sample inclusion criteria used in our analysis are described further below.

4 The companion YITS-B database is better suited to studying persistence, and has been used to do so in a number of recent papers (e.g., Finnie and Qiu, 2008a,b), but the YITS-B data are not as good for looking at immigrant outcomes as the YITS-A data, since the immigrant sample size numbers are not as large and the information available is not generally as rich as in the YITS-A.

5 We believe that this model represents both the conceptually and econometrically correct treatment (which various tests have further verified). We have, for example, tested our model against an ordered logit, and found the multinomial logit is indeed appropriate.

well as education and income information for the respondent. However, details on parental income, parental education, parental country of birth (before the 2001 data), and other background variables, including the wealth of data relating to individuals' high school experiences included in the YITS-A, are lacking in Census data.

Other studies have used the Ethnic Diversity Survey (Bonicowska, 2007; Aydemir, Chen and Corak, 2008), which contains detailed information on the educational attainment of parents but no information on their earnings or other detailed background variables. The small sample sizes from many countries of origin also limit the analysis that can be done.

Hansen and Kucera (2004) and Hum and Simpson (2007) used the Survey of Labour and Income Dynamics; however, these data also suffered from rather small immigrant sample sizes and lacked the detailed background information on individuals' high school and related experiences.

The YITS-A data set therefore has a unique set of strengths for analysing the educational experiences of immigrant youth and comparing their experiences with those of non-immigrant youth. The one potentially important shortcoming of this data set is its attrition rates. If only those records for which the parental survey was completed in cycle one were to be included (thus taking the sample from 29,687 observations to 26,063 observations), the percentage of observations remaining at each of the subsequent three cycles would therefore comprise response rates (i.e., completed surveys) of 93.6 percent, 85.3 percent, and 83.5 percent, respectively. Although these response rates are quite good for a longitudinal survey, especially one involving youth (who are an inherently mobile group), nonetheless, by the end of the four cycles, the response rates were reduced to 66.7 percent of the original survey sample size. The sample weights developed for the data set (which vary by cycle) were designed to help reduce attrition effects; in addition, tests performed to compare access patterns for the third and fourth cycles (across which there was attrition) showed that results were very similar in the two cases, suggesting that attrition, at that point at least, was not a major factor.

## Empirical Results

### Descriptive Statistics

The means for the variables included in the analysis and the associated PSE participation rates are shown in Table 1[6] The observed patterns were consistent with other findings in the literature. PSE participation rates were much higher for females than for males (81.2 percent versus 68.8 percent); this difference could be attributed almost entirely to the higher university participation rates of young women – 49.9 percent, as compared with 34.3 percent for males. University participation rates were higher among urban residents, with rural residents having higher rates of college attendance but lower PSE participation rates overall. University participation rates were the highest in the Mari-

6 In the main results, we combined male and female observations because of the limited numbers of males and females from various source regions and because the patterns tended to be similar for males and females. Results by sex are shown in Appendix 4.

times and the lowest in Alberta. Children from two-parent families had higher overall PSE rates and were especially ahead in terms of university attendance, as compared with those who had only one parent present. Parental education was strongly related to PSE attendance, especially at the university level. Parental income also showed a positive relationship to PSE attendance, although it was weaker than that for parental education.

The data on immigrants were the main focus of this study. Both first and second generation immigrants had higher overall PSE participation rates than non-immigrants, with higher university participation rates driving this difference: non-immigrant Canadians had a 37.7 percent rate of university participation, as compared with university participation rates of 57.0 and 54.3 percent for first and second generation immigrants, respectively. In contrast, non-immigrant Canadians were more likely to go to college than immigrants, their participation rates being about five percentage points higher. In short, immigrant children were: i) more likely than non-immigrant Canadians to participate in PSE and ii) more likely than non-immigrant Canadians to attend university, rather than college, when they did participate in PSE.

In terms of region of origin, a number of interesting patterns emerged. The overall PSE participation rates of those born in Africa, China, and Other Asia (i.e., first generation immigrants) exceeded 90 percent, the highest rates in these data, with these differences being driven mostly by their higher university attendance rates. Students from China comprised the greatest outlier, with a full 88.3 percent going to university, another 10.3 percent going to college, and just 1.4 percent not accessing PSE at any level. Students from the Americas (excluding the USA) had the lowest overall PSE participation rate (62.1 percent) – not only among the immigrant groups, but also when compared with the non-immigrant population; these students comprised the only immigrant group with lower PSE participation rates than the non-immigrant population. Those from the Anglosphere and those from Western or Northern Europe had overall participation rates in the 70 percent range, roughly comparable to those born to Canadian-born parents in Canada.

A number of sets of results were produced for second generation immigrants, reflecting: their mother's origin (regardless of the father's status); their father's origin (regardless of the mother's status); the region where the parents were from when both were of the same origin; and cases where both parents were immigrants from different regions (i.e., of mixed origin). The results were generally quite similar across the different ways of looking at immigration status, and also followed the same general pattern for first generation immigrants; that is, those with one or both parents from China, Africa or Other Asia had the highest overall participation rates and those from the Americas had the lowest overall participation rates, with the others falling between these two extremes.

Table 2 gives the breakdown by the regions of origin of the immigrant groups: the respondent's own region (in the case of first generation immigrants) and the region of origin of one or both parents (in the case of

second generation immigrants). The figures should not be surprising to those who study Canadian immigration policy. The first generation immigrants were likely to have been born in Africa, China or other parts of Asia. The second generation immigrants were more likely to have one or both parents from Europe or the Anglosphere. These numbers are reflective of general changes in Canadian immigration flows.

## Multivariate Results

### *Differences by aggregate immigrant groups*

Table 3 presents the results obtained with the multinomial logit model using the aggregate immigrant indicators (i.e., first generation immigrant, second generation immigrant, and non-immigrant). The different columns represent the results obtained with different blocks of regressors included in the model. In each case, the average marginal effects associated with each of the explanatory variables, as generated by the appropriate transformations of the regression coefficients, are shown.[7] Since most of the quantitatively larger outcomes were related to access to university, the majority of comments in this section are likewise concentrated on that outcome, although the results for college access are also presented for comparison purposes.

The first column of Table 3 shows the results for the model that included only the immigrant indicators and reflects the overall raw differences previously shown in the descriptive statistics presented above – namely, that both first and second generation immigrants were more likely to attend PSE, especially university, compared with those born in Canada to Canadian parents. The results indicated that first generation immigrants were 19.3 percentage points more likely to attend university compared with non-immigrant Canadians, with those from the second generation displaying a 16.6 percentage point advantage. Given the 42.1 percent mean university participation rate observed in the sample, these results represent large differences.

The second column adds the set of basic controls representing urban versus rural residence, province, linguistic minority, and family type to the model. None of the observed effects was surprising, but more relevant to the focus of this paper was that – perhaps surprisingly – adding them reduced the marginal effects of the immigrant indicators only modestly. First and second generation immigrants remained about 16 and 13 percentage points (respectively) more likely to attend university than non-immigrant Canadians, with only about 17 percent of the overall (raw) gap on the part of first generation immigrants and 22 percent of the raw gap for second generation immigrants being explained by these basic control variables (i.e., the respective proportional declines in the estimated immigrant effects between the first and second model). Their higher rates of living in cities and coming from two-parent families were most important in this regard.

Column three adds parental income to the equation. The income effects were – in the absence of the parental education measures – quite strong; taking income into ac-

7 These should be interpreted as the estimated effect of each variable on the PSE outcome in question, taking into account how the variable affected the other outcomes and holding the other factors captured by the variables included in the model constant.

count raised the university coefficient of first generation immigrants by several percentage points, with the same effect, although less so, in the case of second generation immigrants. This was an interesting, although not surprising, result. It is well known that recently arrived immigrants (and hence the parents of the first generation immigrants included in our samples) tend to have lower incomes than the Canadian-born. Since income generally has a positive effect on PSE attendance, taking immigrant families' low incomes into account boosted the "pure" immigrant effect – i.e., they were *especially* more likely to attend given their low incomes. This effect was weaker for second generation immigrants, because their families had been in the country longer and were therefore no longer at a general income disadvantage.

The final column adds the level of education of the highest educated parent to the model. The estimated parental education effects were strong and, in fact, reduced the income effects substantially, thus showing once again the greater influence of parental education, as well as that income effects can be substantially biased upward if parental education is not included in the analysis (Finnie and Mueller, 2007, 2008a,b). The inclusion of the parental education variables also reduced the first generation immigrant effect to 13.7 percentage points and the second generation immigrant effect to 11.4 percentage points. The higher immigrant PSE participation rates could therefore be partially ascribed to their parents' having relatively high education levels, which tended to drive their PSE participation rates upwards; however, the strong university attendance effects (in particular) remained, even after parental education was added, suggesting that there were differences – and effects – beyond those associated with parental education.

### *The detailed immigrant groups*

In Table 4, the aggregate immigrant indicators were replaced with the detailed region of origin indicators for the immigrants themselves (in the case of first generation immigrants) or the region of origin of the respondent's parents (in the case of second generation immigrants). The different columns of this table represent the same model progression as that using the aggregate indicators described above. The first column in Table 4 again shows only the immigrant origin variables, essentially capturing the raw, unadjusted differences in PSE participation rates of each of the immigrant groups, as compared with the non-immigrant population. The model has been augmented in a stepwise fashion with the basic demographic controls, the family income controls, and the parental education controls in columns 2 to 4, respectively.

Reflecting the descriptive data seen earlier, the results in the first column point to large differences by country of origin in rates of access to PSE, seen here in a regression format. Immigrants of Chinese, Other Asian, and African origin were most likely to attend university, in particular, in some cases substantially so, regardless of which generation (first or second). First, but not second, generation Southern-Eastern Europeans and second generation Other East and South-east Asians were also considerably more likely to attend university. In contrast, the only group with significantly lower-than-non-immigrant university participation rates was the group

of first generation immigrants from the Americas (excluding the United States). The other effects were positive, but not statistically different from zero.

One other interesting pattern emerged: Those respondents with a Canadian mother and an immigrant father (regardless of his specific region of origin) had a 19-percentage point higher university access rate than did non-immigrant Canadians; however, the difference dropped to 13 percentage points in cases when there was an immigrant mother and a non-immigrant father. Those with two immigrant parents from different regions were about 22 percentage points more likely to access university than were non-immigrants.

Working across the models, the immigrant group effects were generally reduced as the other regressors were added, but to different degrees. Among the first generation immigrant groups, the negative effect on university attendance for those from the Americas (excluding the United States) declined by a little over one-third in the final column, meaning that the greatest part of their overall lower rates could still not be explained by the basic demographic characteristics, income levels, or parental education levels of their families of origin, but were rather attributable to some other unmeasured factor(s).

Only a small portion of the significantly higher university participation rate of immigrants from China could be explained by the different sets of regressors, as the estimated effect fell from 51 percentage points in column 1 to 47 points in column 4. The Other Asia effect, however, fell even more, especially in proportional terms, from 31 to 20 percentage points, mainly due to the basic demographic controls and parental education variables (while the income effect worked in the opposite direction here). The Southern-Eastern Europe effect went from a marginally significant 15 percentage points to a non-significant 5 percentage points across the models, attributable to these same variables (demographic characteristics and parental education). Similarly, the Africa effect went from a marginally significant 27 to a non-significant 20-percentage point difference.

Among the second generation immigrant groups, roughly similar patterns were evident, but with some different nuances. The strongly positive China effect was again only slightly reduced as the other regressors were added (from a 44 percentage point difference in university participation rates to a 40 percentage point difference), but they were joined in this general regard by the African group (reduced from 45 to 36 percentage points). The Other Asia effect was also reduced from 30 to 25 percentage points.

The effect of having a Canadian mother and an immigrant father fell from 19 percentage points in the first column to 11 percentage points when the full set of controls was added. For the Canadian father and immigrant mother combination, the decline was from 13 percentage points to a non-significant 4 percentage points. Second generation immigrants with two immigrant parents from different regions dropped from a 22 percentage point higher university access rate to a 11 percentage point higher rate of access.

The conclusions so far can be summarised as follows: i) there were significant overall differences in PSE participation rates between first and second generation immigrants and non-immigrant Canadian youth; ii) these differences varied a great deal by source country; and iii) in some cases, a significant amount of the observed gap could be explained by parental education levels and the basic demographic controls included in the models, although the influence of family income tended to work against immigrants. However, substantial differences remained, especially for certain groups.

*Adding the grade and scale variables*

The grade and "scale" variables available in the data were then added to the models. The YITS-A data set contains an extended series of academic performance and other (related) background variables. These variables were taken (or derived) from the questionnaires administered to the students, their parents, and their high school administrators during the initial cycle of the YITS-A in 2000, and therefore correspond to the respondents at 15 years of age. The full details of these variables are explained more fully in Appendix 3; however, a brief explanation of each follows here.

The grade variables are largely self-explanatory. The PISA reading score is the score obtained on the standardised international reading test administered to all those included in the YITS. The scale variables are related to various aspects of high school and related life experiences, constructed from the series of underlying related variables into the index variables shown in the tables.

Three measures come under the heading of "high school engagement". The first of these, "academic identification", refers to getting along with teachers, having an interest in the subject matter, and related behaviours and attitudes. "Academic participation" is an aggregate of working diligently both inside and outside of school, including hours spent on homework, meeting assignment deadlines, not skipping classes, etc. Finally, "social engagement" is a gauge of social involvement at school, such as having friends, a feeling of belonging to the social aspects of school, etc.

The next set of variables represents "self-perception" and also contains three specific measures. First, "self-esteem" refers to an individual's appraisal of his/her own sense of worth. Next, "self-efficacy" reflects the student's responses to questions related to his/her competence and confidence in performing school work. Finally, "self-mastery" is an appraisal of the individual's sense of broader control over his/her life.

The third category of scale measure consists of a single variable – "social support" – that measures the availability of assistance from friends and family.

Finally, "parental behaviour" represents the fourth set of scale measures and consists of three separate measures. "Monitoring behaviour" reflects the parents' awareness of what their child is doing and with whom s/he is friends. Second, "nurturance behaviour" refers to effective parenting practices such as involvement and positive reinforcement. Thirdly, "inconsistent discipline" addresses

how parents address their child's inappropriate behaviour.

As alluded to above, it was recognised that at least some of these scale and grade variables were potentially endogenous to decisions regarding participation in PSE (e.g., those students who want to go to university presumably attempt to get the grades required to be admitted), but in other cases this was deemed less likely to be the case (e.g., some of the parental behaviour variables). However, the basic approach here involved observing, once again, how much further the observed gaps could be narrowed by including these variables, thus indicating that the observed differences were "related to" or "worked through" the variables in question. Next, how much of the gap remained after the inclusion of different sets of variables was observed to investigate what effects remained *on top of* the controls added. Was it, for example, higher grades and academic participation (i.e., hard work) during high school that *allowed* the Chinese immigrants to participate in university at such high rates, or would the effects still be strong, even after controlling for parental education, family income, the high school variables, and so on? And, in the latter case, what might be driving any remaining differences?

Tables 5 and 6 show the full sets of results for the models that included the grade and scale variables. The variables "behaved" as expected and consistently with other cases where they have been employed (e.g., Finnie and Mueller 2007, 2008a,b). Here, they were included mainly as controls, with the primary focus remaining on the immigrant effects.

Table 5 shows the results for the models that included the aggregate immigrant indicators as well as the full set of control variables. For comparison, the first column repeats the results for the model with the basic controls, including parental education and family income, and is therefore identical to the final column in Table 3. The second column shows high school grades added to the basic model; the third column shows the addition of the scale variables (plus the PISA reading score); and the final column shows the addition of both the grade and scale variables. The results for males and females are presented separately in Tables A4a and A4b in Appendix 4 in terms of the key findings.

The results showed some interesting patterns as the additional variables were added. The university coefficient on the female indicator dropped by almost two-thirds from the first model specification to the final specification. This was mainly the result of the better high school grades earned by young women, but was also associated with other factors such as their academic participation (i.e., going to class, handing in assignments on time, etc.). The importance of parental education was also diminished greatly once the grade and scale variables were added to the model. For example, the first model shows that an individual with a parent holding a graduate degree was almost 40 percentage points more likely to attend university; in the model including both grades and scales, this figure was halved. Therefore, much of the observed parental education effect appears to have been related to these other "intermediate" outcomes or was otherwise correlated with the newly added regressors.

As for the immigrant effects, first generation immigrants showed differences in university attendance that were 13.7 percentage points higher than non-immigrants in the first model and 11 percentage points higher in the last model, while second generation immigrants had university attendance rates in the 9 to 11 percentage point range above the non-immigrant group across the four models shown. Adding these additional explanatory variables did not, therefore, reduce the immigrant effects by all that much; otherwise put, the immigrant effects were not related to these factors.

That said, a small dip in the differences for both immigrant groups was observed when grades (only) were added, suggesting that some of the immigrant differences in participation were, in fact, related to these variables – i.e., they tended to do well in high school, and those who do well in high school tend to go on to PSE, university in particular. The scale variables (including the PISA reading score), in contrast, went slightly in the other direction for first generation immigrants; that is, the differences increased a bit, suggesting that these factors tended to work *against* immigrant participation in PSE. Overall, however, the two sets of additional effects changed the immigration effects only moderately.

Table 6 shows a repetition of this exercise using the more detailed immigrant indicators; these finer cuts appear to let the grade and scale effects bite a little harder. Among first generation immigrants, for example, the three groups that showed significantly different university participation rates in the first column – the model with the controls that were previously added – showed smaller effects when the grade variables were added. In particular, the results showed smaller negative effects for the Americas and smaller positive effects for China and Other Asia. That the other effects (i.e., for the other regions) – and their changes as the variables were added – were relatively small and were not very precisely estimated precluded many conclusions from being drawn from them. The bottom line that emerged was that, among differences seen in first generation immigrants, a small portion appears to be attributable to their high school performance, in that their greater university participation rates were at least partly due to the fact that they earned higher grades in high school.

Somewhat greater effects were observed for second generation immigrants: reduced effects for Africa, China, Other East and South-East Asia, and Other Asia immigrants, to varying degrees, as the additional blocks of variables (grades in particular) were added. In relative terms, these changes were greatest for immigrants from the Other Asia group, whose effect declined from 25.3 percentage points to a non-significant 14.2 percentage points.

### *The role of parental aspirations*

In an attempt to further explain the gap between first and second generation immigrant and non-immigrant young people, a series of variables was introduced to capture parental aspirations regarding the education of their children. This was done in order to test the hypothesis that immigrant youth might have higher university attendance

rates as the result of higher parental aspirations.

In the YITS, all parents were asked the following questions: (i) "How important is it that (your child) graduates from high school?"; (ii) "How important is it to you that (your child) gets more education after high school?"; and (iii) "What's the highest level of education you hope (your child) will get?". The results of adding these variables sequentially to the two models (i.e., the aggregated immigrant indicators and the detailed regions of origin for each generation) are presented in Tables 7 and 8. To facilitate comparisons, the results in column one of these tables correspond to those found with the earlier basic model (the last column one in Tables 3 and 4 – which are the same as the first models in Tables 5 and 6).[8]

Neither the importance parents attached to their child's finishing high school nor their general hopes for their child to go on to PSE (either model) appeared to be related to their child's actual PSE attendance, probably because almost all parents considered these achievements to be highly important. By contrast, the highest level of PSE that a parent wished for their child to attain was significant: the higher the parental aspirations, the more likely the child was to attend university. Notably, if parents hoped for their child to attend trade school or college, their child was more likely to attend college (including trade school).[9]

Given the lack of explanatory power of the parents' educational aspirations (i.e., their desire for their child to complete high school and to participate in PSE in general) described above, it was not surprising that adding these variables did little to change the immigrant effects on access to PSE, regardless of immigrant generation (Table 7) or specific immigrant region of origin (Table 8). The inclusion of the specific level of PSE that parents hoped for their child to achieve did, however, have an impact that corresponded to the general significance of these variables in the models. The first generation immigrant effect was reduced from 13.7 percentage points with the basic model specification to 5.5 percentage points with all the parental aspiration variables added, while the second generation immigrant effect went from 11.3 percentage points to 6.8 percentage points.

By region of origin, and starting with the first generation immigrants, those from the Americas (excluding the USA) were about 13.9 percentage points less likely to attend university compared with non-immigrants after all the parental aspiration variables were added – an effect that was stronger (and significant) in comparison to the case when aspirations were not included. One interpretation of this finding is that the lower than average PSE access rates of this group cannot be attributed to their parents' not attaching importance to PSE; in fact, this group underperformed relative to those aspirations. The only other remaining significant difference at this point was for the Chinese

8 The results in column 1 of Tables 7 and 8 are slightly different than the corresponding estimates in Tables 5 and 6 owing to a few observations' being dropped due to missing responses to the questions on parental aspirations.

9 We recognised the potential endogeneity of these variables, and presented the results in the spirit of a further descriptive element of the analysis.

immigrants, although the effect was diminished from a 47.2 percentage point difference to a 37.4 percentage point difference with the addition of the parental aspirations variables, meaning that some of this gap was indeed related to parental aspirations. The previously significant effect for the Other East and South-east Asian immigrant group was also diminished, in this case to the point where it was no longer significant. Among second generation immigrants, most of the effects were diminished with the addition of the parental aspiration variables, with some remaining significant (e.g., Canadian mother and immigrant father, Africans, Chinese, Other East and South-east Asians, Others/ Unknown), while others became smaller and no longer significant (e.g., different origins, Other Asians).

To summarize, parental aspirations were an important correlate of a child's access to PSE, but the desired level of PSE completion on the part of the parents had, by far, the most important influence. Therefore, immigrant parents' higher aspirations for their children in this regard can help to explain some of the observed access gaps.

### *The Oaxaca Decomposition Approach*

The Blinder-Oaxaca decomposition approach offers an alternative way to look at these differences (Blinder, 1973; Oaxaca, 1973). This approach involves running separate models for each group, thus allowing the coefficients to vary between the groups, and then evaluating the proportion of the overall gap explained by differences in the explanatory variables and by differences in the coefficients (i.e., a two-way decomposition). The main difference between this method and the approach adopted so far involves letting the coefficients vary between groups: up until this point, the coefficients were forced to be the same across groups and the remaining differences to be picked up by the immigrant indicator variables were imposed. The two approaches also vary in the manner in which the different influences are presented.

Formally, the difference in the probability of PSE attendance between either the first or second generation and the non-immigrant group is:

$$\overline{p_i} - \overline{p_c} = \sum b_i(\overline{X_i} - \overline{X_c}) + \sum (b_i - b_c)\overline{X_c} \quad (1)$$

where $\overline{p_j}$ is the mean university attendance rate of group *j*, $b_j$ is a vector of estimated coefficients for group *i*, $\overline{X_j}$ is a vector of average characteristics of youth in group *j*, and *j = c,* where *i* denotes the non-immigrant group and either the first or second generation immigrant groups.

The first term on the right hand side of equation (1) shows the component of the attendance rate differential due to differences between the groups in the means of the observable factors (i.e., the variables included in the models). The second term shows the component of the differential due to differences in how the different factors (variables) affect the outcome (i.e., differences in the coefficients). The latter is usually referred to as the unexplained or residual component – as opposed to what can be explained by the observed differences in "endowments". The explained and unexplained differences together make up the entire observed difference between any two groups. The $b_j$ are obtained from the models, esti-

mated separately for each group (presented in Appendix 5 in Tables A5a and A5b), and the $\overline{X_j}$ from the (weighted) mean characteristics of each group (reported in Appendix 6).[10]

The limitation of this approach in the present context is that the sample sizes required to efficiently estimate separate models for each detailed immigration group were lacking. Therefore, this procedure was only followed for the aggregate immigrant indicators. Only differences in university attendance were investigated, since – as was shown previously – the larger influences of the included variables were on university, not college, attendance.

The results are shown in Table 9a (for the simpler model) and in Table 9b (for the model including the scale, grade, and parental aspiration variables). In each case, the non-immigrant group was compared with the first and second generation immigrant groups (i.e., two pair-wise comparisons are presented). At the top of the table the raw (i.e., observed) probabilities of attending university are shown. These were 0.38 and 0.57, respectively, in the case of the first generation and non-immigrant groups, for example, which amount to a university access gap of 0.19. The difference between the second generation immigrant and non-immigrant groups was 0.16.

The decompositions based on the simpler model (Table 9a) show that parental education had a mixed effect for the first generation immigrants: the positive .072 in the "explained" column reflects the higher levels of education attained, on average, by the parents of immigrants; this difference "explains" 7.2 percent of the overall gap. On the other hand, the -.065 in the "unexplained" column reflects the finding that that having parents with more education had a smaller effect on access to university for immigrants than it did for non-immigrants. The two effects largely offset each other, indicating that parental education had a relatively small overall role to play in explaining the access gap between first generation immigrants and non-immigrants. In short, the parents of first generation immigrants did have higher levels of education, but these immigrants' higher rates of access to university were obtained more or less regardless of their parents' level of education.

For second generation immigrants, the explained education effect was smaller than that observed for the first generation immigrants, meaning that the parents of second generation immigrants did not have as much education, on average, as the more recent set of immigrants (i.e., the first generation group). However, there was almost no offsetting unexplained effect observed, meaning that parental education did, in fact, play a role in the overall gap between second gen-

10 We used a linear probability specification because the Blinder-Oaxaca decomposition of our (non-linear) multinomial logit was not possible with the software at our disposal at Statistics Canada, where the data used in this project are housed. Comparisons of linear and non-linear specifications where possible (without the decompositions), however, yielded similar results, so we have confidence the results presented here would be replicated using our multinomial logit specification. We eliminated urban status from these linear probability models due to multicollinearity between urban status and the constant term in the first and second-generation estimates (since almost all immigrants reside in urban areas). Note that only summary statistics for the expanded model (in Table 9b) are included in Appendix 6.

eration immigrants and the non-immigrant group.

The small negative explained effect associated with parental income in the first generation decomposition is owing to their lower average family incomes compared with the first generation. The residual (or unexplained component) works in the opposite direction as the parental education effect in this regard. For the second generation group, family incomes were a bit higher (see the positive explained effect), but there was an offsetting unexplained effect. None of these effects was particularly large, however, with each accounting for no more than around one percentage point of the relevant gaps. None of the other factors was deemed to be of much import.

The constant term was, in fact, the most variable by far for both the first and second generation decompositions, reflecting, as was expressed previously, that even after controlling for a variety of correlates, on average, first and second generation immigrants had a substantially higher probability of attending university than non-immigrants.

The decompositions based on the model that included the grade, scale and parental aspiration variables are presented in Table 9b.[11] Adding additional variables naturally increased the explained component of the decompositions in both cases. To varying degrees, immigrant children had higher levels of parental education, higher levels of academic engagement and high school grades, and stronger parental aspirations for their attaining specific (higher) levels of PSE. First generation immigrants had slightly lower PISA reading scores (likely the result of many immigrants' not having French or English as their first language); however, this finding was reversed for the second generation immigrant group. The parental education and family income effects were generally smaller here, since these influences operate through some of the other variables now included in the models (i.e., grades, academic engagement, and parental aspirations for university attendance).

The unexplained effects are a bit curious, though, at least at face value, and the authors do not attach too much importance to them. In the two decompositions, the effects were strong on a range of variables: parent's education, grades, parental aspirations, and the constants. The problem was that these effects were not well-estimated for the immigrant groups due to their limited sample sizes, the correlation of many of these variables, and the limited variation in their distributions. The authors leave this as an exercise that could, in principle, be useful, but which does not work out well in practice for the reasons outlined above. The decompositions with the simpler model remain more valid, though, because these problems are less present.

## Conclusions and Policy Implications

Using the Canadian YITS-A data set and a series of multinomial logit models, this study found that there exist large differences in PSE access rates between first and second gen-

11 Note that the raw probabilities in Tables 9a and 9b are different. This is because of the smaller sample size used in the second decompositions because of missing observations on the additional variables.

eration immigrants and non-immigrant Canadian youth that favour the immigrant groups. Furthermore, these differences were driven by the higher university participation rates of the children of immigrants, while differences at the college level were small or simply offset the higher university rates. Interestingly, these differences varied a great deal by source country, with the Chinese, other Asian, and African groups doing most favourably, whereas those from the Americas (a group that in the present analysis excluded those from the USA) comprised the only immigrant group that fared worse than the non-immigrant (i.e., those whose parents were born in Canada) population in terms of PSE access.

A significant portion of the observed gaps was explained by the basic demographic controls included in the models (principally family type and place of residence, including province and the urban-rural indicator) and parental education levels, which tended to be high among the children of immigrants. On the other hand, the lower-than-average income levels of the first generation immigrant families tended to work against them to some degree, with income effects being generally low. High school grades, scores on the international PISA reading test and other measures of high school performance, "engagement", and related attributes explained another portion of the gap. Still, despite the inclusion of the large number of controls made possible with the YITS data set, substantial differences remained between the children of Canadian-born individuals and the children of their immigrant counterparts, especially those from the regions indicated above. The authors conjecture that these differences reflect cultural factors, including a strong pro-PSE ethos. In a phrase, "they just go."

These results carry a number of implications for our understanding of the immigrant experience in Canada. First, these findings suggest that it is probably important to consider the *children* of immigrants in any full analysis of the economic integration of immigrants. As Hum and Simpson (2007:1985) noted, the educational attainment of the children of immigrants in Canada represents "an important legacy of immigration that should not be ignored."

A corollary of this first implication is that the children of immigrants are likely to enjoy economic success themselves, since PSE is the best predictor of later economic outcomes. This is perhaps especially important in a context where there has been a deterioration in the economic outcomes of immigrants, as indicated by their earnings levels, poverty rates, and other measures since the early 1990s, especially since around 2000 – both at point of arrival and in terms of their catch-up rate after arriving in the country. As long as the children of immigrants continue to flock to PSE, their economic fortunes may be relatively rosy – and the authors' longer-run perspective of the integration of immigrants suggesting that this outcome be taken into account may continue to have this important adjustment.

That said, it remains to be seen if the conjectured successful labour force outcomes of the PSE-educated children of immigrants are indeed forthcoming. In this regard, only the future can tell.[12]

Another interesting observation that could be made based on the present analysis is that the Canadian record appears to differ from the situation in Europe, where, at least by some measures, the children of immigrants appear to be facing substantial difficulties. This research cannot, however, explain the reasons for these apparent differences. Does the explanation lie in the manner in which immigrants are received in Canada, which has a long history of immigration, even as the "face" of Canadian immigration has of late shifted away from the traditional European and "Anglosophere" sources and towards Asia, Africa, and the Middle East? Or does the answer lie more in the qualities of the immigrants that Canada attracts and permits to enter, with the latter component perhaps relating to Canada's "points" system, which favours those with more education, those with language skills, more youthful applicants, and those with relatives already in Canada (among other criteria). Again, the present research cannot answer these questions.

Another implication of the present findings is that with the relatively large populations of immigrants permitted to enter Canada – in the order of around one percent of the population each year – the high PSE participation rates of their children may put increasing strains on the Canadian university system, especially campuses located in the cities where most of these new immigrants reside (Toronto, Vancouver, and Montreal in particular). Either capacity will have to be expanded or we risk seeing a "crowding out" of non-immigrant youth by more recent citizens, which could cause undesirable tensions. To the authors, recognising such a possibility and taking appropriate action would seem to represent a better strategy than ignoring the issue, perhaps on the grounds that it is too delicate, or that it is simply unpalatable to consider the possibilities of such a "backlash".

According to Citizenship and Immigration Canada (2007), almost 101,000 of the 138,257 permanent residents admitted as economic immigrants in 2006 originated in Africa, the Middle East, and the Asia-Pacific region. Whatever the outcomes of these individuals, this research suggests that the children of these immigrants will tend to go on to relatively high levels of PSE. With PSE being the driving force of the nation's economy, as well as the key to individual economic success, this is an important dynamic to consider when thinking about the fortunes of immigrants and their impact on the country.

12 We emphasize that our analysis focused on the *children* of immigrants – including not only second generation immigrants, but those first generation immigrants who themselves finished their high school and faced their PSE opportunities in Canada. We thus excluded those who came to Canada at a later age, and who would not have had this same set of schooling experiences and opportunities.

## References

Abbott, M. and C.M. Beach. 1993. "Immigrant Earnings Differentials and Birth-Year Effects for Men in Canada: Post-1972," Canadian Journal of Economics 25, 505-524.

Alboim, N., R. Finnie, and R. Meng. 2005. "The Discounting of Immigrants' Skills in Canada: Evidence and Policy Recommendations," Montreal: Institute for Research on Public Policy, Choix/Choices 11.

Aydemir, A., W.H. Chen, and M. Corak. 2008. "Intergeneration Education Mobility among the Children of Canadian Immigrants," Analytical Studies Branch Research Paper Series, no. 316, Catalogue no. F0019M. Ottawa: Statistics Canada.

Aydemir, A., W.H. Chen, and M. Corak. 2009 (forthcoming). "Intergeneration Earnings Mobility among the Children of Canadian Immigrants," Review of Economics and Statistics.

Aydemir, A. and M. Skuterud. 2005. "Explaining the Deteriorating Entry Earnings of Canada's Immigrant Cohorts," Canadian Journal of Economics 38, 641-71.

Aydemir, A. and A. Sweetman. 2008. "First and Second Generation Immigration Educational Attainment and Labor Market Outcomes: A Comparison on the United States and Canada," Research in Labor Economics 27, 215-70.

Baker, M. and D. Benjamin. 1994. "The Performance of Immigrants in the Canadian Labor Market," Journal of Labor Economics 12, 369-405.

Blinder, A.S. 1973. "Wage Discrimination: Reduced Form and Structural Estimates," Journal of Human Resources 8, 436-55.

Bloom, D.E., G. Grenier, and M. Gunderson. 1995. "The Changing Labor Market Position of Canadian Immigrants," Canadian Journal of Economics 28, 987-1005.

Bonikowska, A. 2007. "Explaining the Education Gap between the Children of Immigrants and the Native Born: Allocation of Human Capital Investments in Immigrant Families," mimeo.

Citizenship and Immigration Canada. 2007. Facts and Figures: Immigration Overview, Permanent and Temporary Residents, 2006. Ottawa: Minister of Public Works and Government Services Canada.

de Broucker, P. and L. Lavallée. 1998. "Intergenerational Aspects of Education and Literacy Skills Acquisition," in Miles Corak (ed.), Labour Markets, Social Institutions, and the Future of Canada's Children. Ottawa: Statistics Canada, Catalogue No. 89-553.

Ferrer, A. and W.C. Riddell. 2008. "Education, Credentials, and Immigrant Earnings," Canadian Journal of Economics 41, 188-216.

Finnie, R. and R.E. Mueller. 2007. "High School Student Characteristics and Access to Post-Secondary Education in Canada: Evidence from the YITS," mimeo (August).

Finnie, R. and R.E. Mueller. 2008a. The Effects of Family Income, Parental Education and Other Background Factors on Access to Post-Secondary Education in Canada: Evidence from the YITS. A MESA Project Research Paper. Toronto, ON: Educational Policy Institute.

Finnie, R. and R.E. Mueller. 2008b. "Family Background and Access to Post-Secondary Education in Canada: The Role of Money, Culture, Schooling and Other Characteristics," in Finnie, R., R. Mueller, A. Sweetman and A. Usher (Eds.), Who Goes, Who Stays, What Matters: Access to and Remaining in Post-Secondary Education in Canada, McGill-Queen's University Press, 79-107.

Finnie. R. and H.T. Qiu. 2008a. The Patterns of Persistence in Post-Secondary Education in Canada: Evidence from the YITS-B Data set. A MESA Project Research Paper. Toronto, ON: Educational Policy Institute.

Finnie, R. and H.T. Qiu. 2008b. "Is the Glass (or Classroom) Half-Empty or Nearly Full? New Evidence on Persistence in Post-Secondary Education in Canada," in Finnie, R., R. Mueller, A. Sweetman and A. Usher (Eds.), Who Goes, Who Stays, What Matters: Access to and Remaining in Post-Secondary Education in Canada, McGill-Queen's University Press, 179-207.

Frenette, M. and R. Morissette. 2005. "Will They Ever Converge? Earnings of Immigrant and Canadian-born Workings over the Last Two Decades," International Migration Review 39, 228-58.

Grant, M.L. 1999. "Evidence of New Immigrant Assimilation in Canada," Canadian Journal of Economics 32, 930-955.

Hansen, J. and M. Kucera. 2004. "The Educational Attainment of Second Generation Immigrants in Canada: Evidence from SLID," mimeo.

Hum, D. and W. Simpson. 1999. "Wage Opportunities for Visible Minorities in Canada," Canadian Public Policy 25, 379-94.

Hum, D. and W. Simpson. 2007. "The Legacy of Immigration: Labour Market Performance and Education in the Second Generation," Applied Economics 39, 1985-2009.

Li, Peter S. 2001. "The Market Worth of Immigrants' Educational Credentials," Canadian Public Policy 27, 23-38.

McBride, S. and A. Sweetman. 2003. "Immigrant and Non-immigrant Earnings by Post-secondary Field of Study," in Canadian Immigration Policy for the 21st Century. Ed. Beach, Charles M., Alan G. Green, and Jeffrey G. Reitz. Montreal and Kingston: McGill-Queen's University Press, 413-62.

McDonald, J. T. and C. Worswick. 1997. "Unemployment Incidence of Immigrant Men in Canada," Canadian Public Policy 23, 353-373.

McDonald, J.T. and C. Worswick. 1998. "The Earnings of Immigrant Men and in Canada: Job Tenure, Cohort, and Macroeconomic Conditions," Industrial and Labour Relations Review 51, 465-482.

Meng, R. 1987. "The Earnings of Canadian Immigrant and Native-Born Males," Applied Economics 19, 1107-1119.

Nielsen, H.S., M. Rosholm, N. Smith and L. Husted. 2001. "Intergenerational Transmissions and the School-to-Work Transition of 2nd Generation Immigrants," IZA Discussion Paper Series, no. 296.

Oaxaca, R. 1973. "Male-Female Wage Differentials in Urban Labor Markets," International Economic Review 14, 693-709.

Österberg, T. 2000. "Economic Perspectives on Immigrants and Intergenerational Transmissions," Ekonomiska Studier 102, Göteborg University, Sweden.

Picot, G. 2008. "Immigrant Economic and Social Outcomes in Canada: Research and Data Development at Statistics Canada," Analytical Studies Branch Research Paper Series, no. 319, Catalogue no. F0019M. Ottawa: Statistics Canada.

Schaafsma, J. and A. Sweetman. 2001. "Immigrant Earnings: Age at Immigration Matters," Canadian Journal of Economics 34, 1066-99.

Sweetman, A. and G. Dicks. 1999. "Education and Ethnicity in Canada: An Intergenerational Perspective," Journal of Human Resources 34, 668-96,

Van Ours, J. and J. Veenman. 2002. "From Parent to Child; Early Labor Market Experiences of Second-Generation Immigrants in the Netherlands. IZA Discussion Paper Series, no. 649.

Van Ours, J. and J. Veenman. 2003. "The Educational Attainment of Second-Generation Immigrants in the Netherlands," Journal of Population Economics 16, 739 -753.

Zietsma, D. 2007. "The Canadian Immigrant Labour Market in 2006: First Results from Canada's Labour Force Survey," Statistics Canada Catalogue No. 71-606-XIE2007001.

## Tables and Figures

**Table 1.** Descriptive statistics

| Variable | Mean | Participation Rate | | |
|---|---|---|---|---|
| | | No PSE % | Trade or College % | University % |
| **Total** | | 25.0 | 32.9 | 42.1 |
| **Male** | 0.498 | 18.8 | 31.3 | 49.9 |
| **Female** | | 31.2 | 34.5 | 34.3 |
| **HS location - Urban (Rural)** | | | | |
| Rura | | 32.4 | 35.4 | 32.2 |
| Urban | 0.769 | 22.8 | 32.2 | 45.0 |
| **HS Province** | | | | |
| Newfoundland and Labrador | 0.020 | 25.1 | 30.2 | 44.7 |
| Prince Edward Island | 0.005 | 22.0 | 21.3 | 56.7 |
| Nova Scotia | 0.033 | 22.7 | 22.6 | 54.8 |
| New Brunswick | 0.027 | 26.4 | 24.1 | 49.6 |
| Quebec | 0.226 | 29.3 | 40.0 | 30.7 |
| Ontario | 0.375 | 17.8 | 36.3 | 45.9 |
| Manitoba | 0.037 | 32.2 | 19.9 | 48.0 |
| Saskatchewan | 0.039 | 32.0 | 23.6 | 44.4 |
| Alberta | 0.106 | 33.0 | 28.0 | 39.0 |
| British Columbia | 0.132 | 28.2 | 26.8 | 45.0 |
| **Linguistic Minority** | | | | |
| French outside QC | 0.028 | 21.9 | 34.8 | 43.3 |
| English in QC | 0.020 | 17.2 | 40.4 | 42.4 |
| **Family Type** | | | | |
| Two parents | 0.828 | 23.7 | 32.4 | 43.9 |
| Mother only | 0.131 | 30.8 | 34.5 | 34.7 |
| Father only | 0.026 | 30.4 | 39.9 | 29.6 |
| Other | 0.014 | 38.4 | 33.4 | 28.2 |
| **Parent's Education** | | | | |
| Less than HS | 0.085 | 51.7 | 33.0 | 15.3 |
| Some PSE | 0.214 | 33.9 | 38.1 | 28.0 |
| HS completed | 0.067 | 27.5 | 38.7 | 33.8 |
| Trade/College | 0.311 | 26.4 | 37.6 | 36.0 |
| University-below BA degree | 0.047 | 15.2 | 31.6 | 53.2 |
| University-BA | 0.183 | 11.2 | 26.4 | 62.5 |
| University-Grad | 0.093 | 5.9 | 14.5 | 79.6 |
| Other/unknown | 0.001 | 35.4 | 38.2 | 26.5 |
| **Family Income Level** | | | | |
| Extremely low ($0-$5,000) | 0.013 | 24.8 | 34.6 | 40.6 |
| $5,000 to $25,000 | 0.073 | 38.0 | 32.0 | 30.1 |
| $25,000 to $50,000 | 0.253 | 32.6 | 35.4 | 32.1 |
| $50,000 to $75,000 | 0.283 | 25.7 | 34.9 | 39.5 |
| $75,000 to $100,000 | 0.227 | 20.0 | 31.3 | 48.6 |
| $100,000 and up | 0.151 | 12.4 | 27.8 | 59.8 |
| ***Aggregate Immigrant Indicator Variables*** | | | | |
| Non-Immigrant | 0.716 | 28.1 | 34.2 | 37.7 |
| 1st Generation | 0.081 | 13.8 | 29.3 | 57.0 |
| 2nd Generation | 0.180 | 16.2 | 29.5 | 54.3 |
| Generation unknown | 0.024 | 37.2 | 33.3 | 29.5 |

Table 1 continued (Detailed Immigrant Indicator Variables)

| | | Participation Rate | | |
|---|---|---|---|---|
| **Variable** | **Mean** | **No PSE %** | **Trade or College %** | **University %** |
| ***1st Generation** (Origin of the student)* | | | | |
| Americas (except USA) | 0.010 | 37.9 | 39.3 | 22.8 |
| Africa | 0.005 | 6.7 | 28.7 | 64.6 |
| China | 0.014 | 1.4 | 10.3 | 88.3 |
| Other East & South-east Asia | 0.011 | 12.6 | 46.1 | 41.3 |
| Other Asia | 0.018 | 6.6 | 24.7 | 68.7 |
| Western or Northern Europe | 0.003 | 22.9 | 30.5 | 46.6 |
| Southern or Eastern Europe | 0.012 | 12.1 | 35.0 | 53.0 |
| Anglosphere | 0.007 | 28.5 | 23.9 | 47.6 |
| Others/Unknown | 0.001 | 13.2 | 45.1 | 41.8 |
| ***2nd Generation*** | | | | |
| ***Origin of the mother*** | | | | |
| Mother is Canadian by birth | 0.045 | 14.9 | 28.5 | 56.6 |
| Americas (except USA) | 0.021 | 19.4 | 39.2 | 41.5 |
| Africa | 0.005 | 2.4 | 15.8 | 81.8 |
| China | 0.010 | 5.2 | 13.6 | 81.3 |
| Other East & South-east Asia | 0.011 | 11.8 | 28.7 | 59.5 |
| Other Asia | 0.014 | 5.5 | 28.5 | 66.0 |
| Western or Northern Europe | 0.012 | 16.5 | 29.3 | 54.3 |
| Southern or Eastern Europe | 0.028 | 21.9 | 31.2 | 46.9 |
| Anglosphere | 0.030 | 22.5 | 31.2 | 46.3 |
| Others/Unknown/No Mother | 0.004 | 19.5 | 27.0 | 53.5 |
| ***Origin of the father*** | | | | |
| Father is Canadian by birth | 0.031 | 19.9 | 29.0 | 51.2 |
| Americas (except USA) | 0.013 | 18.4 | 39.4 | 42.2 |
| Africa | 0.006 | 6.0 | 15.5 | 78.5 |
| China | 0.010 | 5.8 | 15.0 | 79.1 |
| Other East & South-east Asia | 0.009 | 13.9 | 27.0 | 59.1 |
| Other Asia | 0.014 | 4.0 | 28.7 | 67.3 |
| Western or Northern Europe | 0.014 | 13.4 | 27.5 | 59.2 |
| Southern or Eastern Europe | 0.032 | 19.8 | 30.1 | 50.1 |
| Anglosphere | 0.027 | 21.8 | 30.4 | 47.9 |
| Others/Unknown/No Father | 0.022 | 16.1 | 35.6 | 48.3 |
| ***Mixture of the parent(s)' origin*** | | | | |
| Canadian mother; immigrant father | 0.045 | 14.9 | 28.3 | 56.9 |
| Canadian father; immigrant mother | 0.031 | 19.8 | 29.2 | 51.0 |
| Both Parents immigrants, but different origin | 0.012 | 23.8 | 16.8 | 59.5 |
| Both Parents immigrants of same origin | 0.067 | 14.1 | 31.0 | 54.9 |
| Other/ Unknown/ Single parent | 0.025 | 16.2 | 33.7 | 50.1 |
| ***Both Parents immigrants of same origin*** | | | | |
| Americas (except USA) | 0.009 | 19.6 | 44.7 | 35.7 |
| Africa | 0.003 | 1.8 | 15.8 | 82.4 |
| China | 0.008 | 5.3 | 13.2 | 81.5 |
| Other East & South-east Asia | 0.008 | 12.1 | 30.5 | 57.4 |
| Other Asia | 0.011 | 4.0 | 28.3 | 67.6 |
| Western or Northern Europe | 0.002 | 6.8 | 36.3 | 56.9 |
| Southern or Eastern Europe | 0.018 | 23.8 | 33.0 | 43.2 |
| Anglosphere | 0.007 | 17.9 | 40.4 | 41.7 |

**Table 2.** Immigration origin

| Origin | Proportion % |
|---|---|
| **Aggregate** | |
| Non-Immigrant | 71.6 |
| 1st Generation | 8.1 |
| 2nd Generation | 18.0 |
| Generation unknown | 2.4 |
| **Detailed** | |
| ***1st Generation*** *(Origin of the student)* | |
| Americas (except USA) | 12.9 |
| Africa | 6.8 |
| China | 17.2 |
| Other East & South-east Asia | 13.6 |
| Other Asia | 22.6 |
| Western or Northern Europe | 3.6 |
| Southern or Eastern Europe | 14.9 |
| Anglosphere | 8.3 |
| ***2nd Generation*** | |
| ***Origin of the mother*** | |
| Mother is Canadian by birth | 25.9 |
| Americas (except USA) | 11.8 |
| Africa | 2.8 |
| China | 5.6 |
| Other East & South-east Asia | 6.0 |
| Other Asia | 8.0 |
| Western or Northern Europe | 6.7 |
| Southern or Eastern Europe | 15.9 |
| Anglosphere | 17.3 |
| ***Origin of the father*** | |
| Father is Canadian by birth | 19.9 |
| Americas (except USA) | 8.6 |
| Africa | 3.9 |
| China | 6.6 |
| Other East & South-east Asia | 6.0 |
| Other Asia | 9.1 |
| Western or Northern Europe | 8.8 |
| Southern or Eastern Europe | 20.2 |
| Anglosphere | 17.0 |

| Origin | Proportion % |
|---|---|
| *2nd Generation (cont'd)* | |
| ***Mixture of the parent(s)' origin*** | |
| Canadian mother; immigrant father | 25.0 |
| Canadian father; immigrant mother | 17.3 |
| Both Parents immigrants, but different origin | 6.4 |
| Other/ Unknown/ Single parent | 13.9 |
| Both Parents immigrants of same origin | 37.3 |
| ***Both Parents immigrants of same origin*** | |
| Americas (except USA) | 14.0 |
| Africa | 5.0 |
| China | 12.3 |
| Other East & South-east Asia | 11.9 |
| Other Asia | 17.0 |
| Western or Northern Europe | 3.3 |
| Southern or Eastern Europe | 26.5 |
| Anglosphere | 10.0 |

**Table 3.** Access models, aggregate immigrant indicators

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Female (Male)** | -0.029*** | 0.162*** | -0.030*** | 0.167*** | -0.029*** | 0.167*** | -0.029*** | 0.162*** |
| | [0.010] | [0.011] | [0.010] | [0.011] | [0.010] | [0.010] | [0.010] | [0.011] |
| **HS location -** Urban (Rural) | -0.051*** | 0.123*** | -0.045*** | 0.090*** | -0.034*** | 0.057*** | -0.051*** | 0.123*** |
| | [0.012] | [0.012] | [0.012] | [0.013] | [0.012] | [0.012] | [0.012] | [0.012] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | -0.103*** | 0.083*** | -0.119*** | 0.142*** | -0.113*** | 0.126*** | -0.103*** | 0.083*** |
| | [0.019] | [0.021] | [0.019] | [0.020] | [0.019] | [0.020] | [0.019] | [0.021] |
| Prince Edward Island | -0.178*** | 0.174*** | -0.194*** | 0.226*** | -0.179*** | 0.189*** | -0.178*** | 0.174*** |
| | [0.018] | [0.020] | [0.017] | [0.019] | [0.017] | [0.019] | [0.018] | [0.020] |
| Nova Scotia | -0.165*** | 0.155*** | -0.177*** | 0.197*** | -0.162*** | 0.157*** | -0.165*** | 0.155*** |
| | [0.017] | [0.019] | [0.016] | [0.018] | [0.017] | [0.018] | [0.017] | [0.019] |
| New Brunswick | -0.162*** | 0.119*** | -0.175*** | 0.166*** | -0.168*** | 0.145*** | -0.162*** | 0.119*** |
| | [0.017] | [0.019] | [0.016] | [0.018] | [0.016] | [0.018] | [0.017] | [0.019] |
| Quebec | 0.024 | -0.115*** | 0.013 | -0.076*** | 0.017 | -0.073*** | 0.024 | -0.115*** |
| | [0.017] | [0.016] | [0.017] | [0.017] | [0.017] | [0.016] | [0.017] | [0.016] |
| Manitoba | -0.182*** | 0.069*** | -0.189*** | 0.097*** | -0.185*** | 0.092*** | -0.182*** | 0.069*** |
| | [0.016] | [0.019] | [0.016] | [0.019] | [0.016] | [0.018] | [0.016] | [0.019] |
| Saskatchewan | -0.155*** | 0.063*** | -0.165*** | 0.105*** | -0.162*** | 0.088*** | -0.155*** | 0.063*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.018] |
| Alberta | -0.096*** | -0.030* | -0.096*** | -0.029* | -0.099*** | -0.024 | -0.096*** | -0.030* |
| | [0.017] | [0.018] | [0.017] | [0.017] | [0.016] | [0.016] | [0.017] | [0.018] |
| British Columbia | -0.094*** | -0.008 | -0.100*** | 0.011 | -0.098*** | -0.002 | -0.094*** | -0.008 |
| | [0.017] | [0.018] | [0.017] | [0.018] | [0.017] | [0.017] | [0.017] | [0.018] |
| **Linguistic Minority (Speaks Provincial Language)** | | | | | | | | |
| French outside QC | 0.027 | -0.005 | 0.027 | 0.002 | 0.029 | 0.004 | 0.027 | -0.005 |
| | [0.024] | [0.026] | [0.024] | [0.026] | [0.023] | [0.026] | [0.024] | [0.026] |
| English in QC | 0.005 | 0.104*** | 0.016 | 0.075** | 0.035 | 0.035 | 0.005 | 0.104*** |
| | [0.027] | [0.033] | [0.027] | [0.032] | [0.026] | [0.031] | [0.027] | [0.033] |
| **Family Type** (Two Parents) | | | | | | | | |
| Mother only | 0.014 | -0.100*** | -0.004 | 0.016 | 0.005 | -0.004 | 0.014 | -0.100*** |
| | [0.016] | [0.017] | [0.017] | [0.019] | [0.017] | [0.019] | [0.016] | [0.017] |
| Father only | 0.054 | -0.113*** | 0.046 | -0.051 | 0.063* | -0.060* | 0.054 | -0.113*** |
| | [0.035] | [0.035] | [0.035] | [0.037] | [0.035] | [0.034] | [0.035] | [0.035] |
| Other | 0.022 | -0.110* | 0.017 | -0.050 | -0.005 | 0.011 | 0.022 | -0.110* |
| | [0.058] | [0.060] | [0.057] | [0.063] | [0.053] | [0.067] | [0.058] | [0.060] |

Table 3 continued

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parent's Education (HS completed)** | | | | | | | | |
| Less than HS | | | | | | | -0.008 | -0.135*** |
| | | | | | | | [0.021] | [0.022] |
| Some PSE | | | | | | | 0.015 | 0.033 |
| | | | | | | | [0.021] | [0.023] |
| Trade/College | | | | | | | -0.002 | 0.067*** |
| | | | | | | | [0.013] | [0.014] |
| University-below BA degree | | | | | | | -0.070*** | 0.205*** |
| | | | | | | | [0.023] | [0.026] |
| University-BA | | | | | | | -0.096*** | 0.279*** |
| | | | | | | | [0.016] | [0.017] |
| University-Grad | | | | | | | -0.187*** | 0.399*** |
| | | | | | | | [0.018] | [0.019] |
| Other/unknown | | | | | | | 0.012 | -0.033 |
| | | | | | | | [0.165] | [0.154] |
| **Family Income Level ($50,000 to $75,000)** | | | | | | | | |
| Extremely low ($0-$5,000) | | | | | 0.005 | -0.026 | 0.008 | -0.015 |
| | | | | | [0.051] | [0.054] | [0.052] | [0.055] |
| $5,000 to $25,000 | | | | | -0.017 | -0.139*** | -0.023 | -0.040* |
| | | | | | [0.022] | [0.022] | [0.022] | [0.023] |
| $25,000 to $50,000 | | | | | 0.012 | -0.094*** | 0.002 | -0.040*** |
| | | | | | [0.014] | [0.014] | [0.014] | [0.014] |
| $75,000 to $100,000 | | | | | -0.035** | 0.093*** | -0.013 | 0.033** |
| | | | | | [0.015] | [0.016] | [0.014] | [0.015] |
| $100,000 and up | | | | | -0.065*** | 0.199*** | -0.008 | 0.078*** |
| | | | | | [0.017] | [0.018] | [0.017] | [0.019] |
| **Immigrant Generation (Non-Immigrant)** | | | | | | | | |
| 1st Generation | -0.049* | 0.193*** | -0.036 | 0.161*** | -0.058** | 0.218*** | -0.013 | 0.137*** |
| | [0.026] | [0.028] | [0.024] | [0.026] | [0.024] | [0.026] | [0.025] | [0.028] |
| 2nd Generation | -0.047*** | 0.166*** | -0.034** | 0.129*** | -0.037** | 0.140*** | -0.025 | 0.114*** |
| | [0.016] | [0.017] | [0.015] | [0.017] | [0.015] | [0.017] | [0.015] | [0.016] |
| Generation unknown | -0.009 | -0.082*** | 0.002 | -0.058 | 0.000 | -0.027 | 0.018 | -0.063 |
| | [0.036] | [0.033] | [0.041] | [0.045] | [0.041] | [0.045] | [0.042] | [0.045] |
| **Observations** | 16825 | | 16825 | | 16825 | | 16825 | |

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

**Table 4.** Access models, detailed immigrant indicators

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Female (Male)** | | | -0.028*** | 0.160*** | -0.029*** | 0.165*** | -0.030*** | 0.166*** |
| | | | [0.010] | [0.011] | [0.010] | [0.011] | [0.010] | [0.010] |
| **HS location -** Urban (Rural) | | | -0.050*** | 0.118*** | -0.042*** | 0.082*** | -0.031*** | 0.050*** |
| | | | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | | | -0.100*** | 0.076*** | -0.118*** | 0.138*** | -0.111*** | 0.122*** |
| | | | [0.019] | [0.021] | [0.019] | [0.020] | [0.019] | [0.020] |
| Prince Edward Island | | | -0.175*** | 0.167*** | -0.192*** | 0.222*** | -0.178*** | 0.185*** |
| | | | [0.018] | [0.020] | [0.017] | [0.019] | [0.017] | [0.019] |
| Nova Scotia | | | -0.162*** | 0.148*** | -0.176*** | 0.193*** | -0.161*** | 0.153*** |
| | | | [0.017] | [0.019] | [0.017] | [0.018] | [0.017] | [0.018] |
| New Brunswick | | | -0.160*** | 0.113*** | -0.174*** | 0.163*** | -0.167*** | 0.142*** |
| | | | [0.017] | [0.019] | [0.016] | [0.018] | [0.016] | [0.018] |
| Quebec | | | 0.025 | -0.117*** | 0.012 | -0.076*** | 0.015 | -0.072*** |
| | | | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] |
| Manitoba | | | -0.183*** | 0.070*** | -0.190*** | 0.098*** | -0.185*** | 0.091*** |
| | | | [0.016] | [0.019] | [0.016] | [0.019] | [0.016] | [0.018] |
| Saskatchewan | | | -0.151*** | 0.055*** | -0.163*** | 0.100*** | -0.161*** | 0.083*** |
| | | | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.018] |
| Alberta | | | -0.093*** | -0.038** | -0.094*** | -0.035** | -0.098*** | -0.029* |
| | | | [0.017] | [0.017] | [0.017] | [0.017] | [0.016] | [0.016] |
| British Columbia | | | -0.083*** | -0.035** | -0.088*** | -0.016 | -0.085*** | -0.031* |
| | | | [0.017] | [0.018] | [0.017] | [0.018] | [0.017] | [0.017] |
| **Linguistic Minority** (Speaks Provincial Language) | | | | | | | | |
| French outside QC | | | 0.030 | -0.009 | 0.029 | -0.001 | 0.031 | 0.001 |
| | | | [0.023] | [0.026] | [0.023] | [0.026] | [0.023] | [0.026] |
| English in QC | | | 0.008 | 0.102*** | 0.019 | 0.074** | 0.039 | 0.034 |
| | | | [0.028] | [0.032] | [0.027] | [0.032] | [0.026] | [0.030] |
| **Family Type** (Two Parents) | | | | | | | | |
| Mother only | | | 0.010 | -0.098*** | -0.011 | 0.028 | -0.002 | 0.006 |
| | | | [0.017] | [0.017] | [0.017] | [0.019] | [0.017] | [0.019] |
| Father only | | | 0.053 | -0.108*** | 0.043 | -0.043 | 0.060* | -0.054 |
| | | | [0.035] | [0.036] | [0.035] | [0.037] | [0.035] | [0.035] |
| Other | | | 0.025 | -0.133** | 0.020 | -0.070 | -0.003 | -0.009 |
| | | | [0.058] | [0.058] | [0.057] | [0.062] | [0.054] | [0.068] |

Table 4 continued

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parent's Education (HS completed)** | | | | | | | | |
| Less than HS | | | | | | | -0.007 | -0.138*** |
| | | | | | | | [0.021] | [0.022] |
| Some PSE | | | | | | | 0.011 | 0.045** |
| | | | | | | | [0.021] | [0.023] |
| Trade/College | | | | | | | -0.005 | 0.074*** |
| | | | | | | | [0.013] | [0.014] |
| University-below BA degree | | | | | | | -0.070*** | 0.207*** |
| | | | | | | | [0.023] | [0.025] |
| University-BA | | | | | | | -0.101*** | 0.284*** |
| | | | | | | | [0.015] | [0.017] |
| University-Grad | | | | | | | -0.188*** | 0.400*** |
| | | | | | | | [0.018] | [0.019] |
| Other/unknown | | | | | | | 0.014 | -0.048 |
| | | | | | | | [0.165] | [0.162] |
| **Family Income Level ($50,000 to $75,000)** | | | | | | | | |
| Extremely low ($0-$5,000) | | | | | 0.015 | -0.044 | 0.018 | -0.032 |
| | | | | | [0.052] | [0.054] | [0.053] | [0.055] |
| $5,000- $25,000 | | | | | -0.011 | -0.156*** | -0.016 | -0.053** |
| | | | | | [0.022] | [0.022] | [0.022] | [0.023] |
| $25,000 to $50,000 | | | | | 0.015 | -0.103*** | 0.005 | -0.048*** |
| | | | | | [0.014] | [0.014] | [0.014] | [0.014] |
| $75,000 to $100,000 | | | | | -0.035** | 0.092*** | -0.012 | 0.034** |
| | | | | | [0.014] | [0.016] | [0.014] | [0.015] |
| $100,000+up | | | | | -0.067*** | 0.203*** | -0.010 | 0.083*** |
| | | | | | [0.017] | [0.018] | [0.017] | [0.019] |

Table 4 continued

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Generation and Origin** (Non-Immigrant) | | | | | | | | |
| ***1st Generation*** *(Origin of the student)* | | | | | | | | |
| Americas (except USA) | 0.052 | -0.149*** | 0.032 | -0.148*** | 0.031 | -0.0819** | 0.030 | -0.0900** |
| | [0.070] | [0.051] | [0.061] | [0.055] | [0.063] | [0.066] | [0.061] | [0.063] |
| Africa | -0.054 | 0.269* | -0.041 | 0.236* | -0.068 | 0.280** | -0.020 | 0.196 |
| | [0.125] | [0.152] | [0.110] | [0.136] | [0.105] | [0.128] | [0.104] | [0.137] |
| China | -0.238*** | 0.506*** | -0.191*** | 0.459*** | -0.215*** | 0.488*** | -0.204*** | 0.472*** |
| | [0.065] | [0.066] | [0.061] | [0.062] | [0.049] | [0.049] | [0.053] | [0.055] |
| Other East & South-east Asia | 0.119* | 0.036 | 0.117* | 0.035 | 0.072 | 0.115 | 0.135** | 0.006 |
| | [0.064] | [0.078] | [0.061] | [0.074] | [0.058] | [0.078] | [0.065] | [0.076] |
| Other Asia | -0.094 | 0.309*** | -0.072 | 0.259*** | -0.106* | 0.322*** | -0.022 | 0.197** |
| | [0.071] | [0.078] | [0.064] | [0.070] | [0.058] | [0.066] | [0.065] | [0.083] |
| Western or Northern Europe | -0.037 | 0.089 | -0.031 | 0.091 | -0.035 | 0.117 | 0.002 | 0.066 |
| | [0.110] | [0.104] | [0.096] | [0.085] | [0.094] | [0.079] | [0.101] | [0.079] |
| Southern or Eastern Europe | 0.008 | 0.152* | 0.015 | 0.121* | 0.009 | 0.148** | 0.060 | 0.053 |
| | [0.062] | [0.080] | [0.059] | [0.070] | [0.058] | [0.073] | [0.056] | [0.070] |
| Anglosphere | -0.103 | 0.099 | -0.087 | 0.073 | -0.094 | 0.107 | -0.079 | 0.044 |
| | [0.073] | [0.081] | [0.067] | [0.075] | [0.065] | [0.076] | [0.064] | [0.070] |
| Others/Unknown | 0.109 | 0.040 | 0.134 | -0.046 | 0.124 | -0.015 | 0.140 | -0.021 |
| | [0.197] | [0.240] | [0.189] | [0.214] | [0.187] | [0.207] | [0.152] | [0.197] |
| ***2nd Generation Mixture of the parent(s)' origin*** | | | | | | | | |
| Canadian mother; immigrant father | -0.059** | 0.192*** | -0.042 | 0.149*** | -0.041 | 0.144*** | -0.027 | 0.112*** |
| | [0.030] | [0.031] | [0.027] | [0.029] | [0.027] | [0.030] | [0.027] | [0.028] |
| Canadian father; immigrant mother | -0.049 | 0.133*** | -0.037 | 0.097*** | -0.032 | 0.084** | -0.020 | 0.041 |
| | [0.033] | [0.035] | [0.031] | [0.034] | [0.031] | [0.034] | [0.031] | [0.031] |
| Both Parents immigrants, but different origin | -0.174*** | 0.218*** | -0.149*** | 0.151*** | -0.148*** | 0.165*** | -0.134*** | 0.106** |
| | [0.044] | [0.054] | [0.041] | [0.051] | [0.041] | [0.049] | [0.044] | [0.048] |
| Other/ Unknown/ Single parent | -0.059** | 0.192*** | -0.042 | 0.149*** | -0.041 | 0.144*** | -0.027 | 0.112*** |
| | [0.030] | [0.031] | [0.027] | [0.029] | [0.027] | [0.030] | [0.027] | [0.028] |

Table 4 continued

| | Immigrant Variables Only | | Basic Controls | | Family Income | | Parental Education | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| ***Both Parents immigrants of same origin*** | | | | | | | | |
| Americas (except USA) | 0.105 | -0.020 | | 0.085 | -0.065 | | 0.084 | -0.049 |
| | [0.069] | [0.073] | | [0.065] | [0.065] | | [0.065] | [0.066] |
| Africa | -0.184 | 0.447*** | | -0.141 | 0.398*** | | -0.140 | 0.397*** |
| | [0.123] | [0.134] | | [0.111] | [0.125] | | [0.108] | [0.123] |
| China | -0.209*** | 0.438*** | | -0.161** | 0.383*** | | -0.170*** | 0.403*** |
| | [0.071] | [0.073] | | [0.069] | [0.072] | | [0.065] | [0.068] |
| Other East & South-east Asia | -0.037 | 0.196*** | | -0.003 | 0.150** | | -0.025 | 0.197*** |
| | [0.069] | [0.067] | | [0.062] | [0.061] | | [0.059] | [0.060] |
| Other Asia | -0.058 | 0.299*** | | -0.029 | 0.264*** | | -0.059 | 0.303*** |
| | [0.072] | [0.098] | | [0.064] | [0.089] | | [0.061] | [0.083] |
| Western or Northern Europe | 0.022 | 0.192 | | 0.032 | 0.172 | | 0.019 | 0.190 |
| | [0.128] | [0.141] | | [0.113] | [0.123] | | [0.107] | [0.120] |
| Southern or Eastern Europe | -0.012 | 0.055 | | -0.020 | -0.004 | | -0.032 | 0.044 |
| | [0.050] | [0.052] | | [0.046] | [0.048] | | [0.045] | [0.049] |
| Anglosphere | 0.062 | 0.040 | | 0.069 | -0.008 | | 0.071 | -0.027 |
| | [0.073] | [0.076] | | [0.068] | [0.070] | | [0.068] | [0.069] |
| 2nd Generation | -0.005 | 0.124*** | | -0.019 | 0.146*** | | -0.023 | 0.153*** |
| | [0.043] | [0.047] | | [0.041] | [0.045] | | [0.040] | [0.046] |
| ***Generation unknown*** | -0.009 | -0.082** | | 0.000 | -0.042 | | -0.003 | -0.009 |
| | [0.036] | [0.033] | | [0.042] | [0.045] | | [0.041] | [0.045] |
| **Observations** | 16825 | | 16825 | | 16825 | | 16825 | |

**Notes:** Average marginal effects are shown. Omitted categories are in parentheses. Standard errors are in brackets.

**Table 5.** Access models, aggregate immigrant indicators with grade and scale variables

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Female (Male)** | -0.029*** | 0.167*** | -0.010 | 0.080*** | -0.027** | 0.103*** | -0.011 | 0.064*** |
| | [0.010] | [0.010] | [0.010] | [0.010] | [0.011] | [0.011] | [0.011] | [0.011] |
| **HS location - Urban (Rural)** | -0.034*** | 0.057*** | -0.032*** | 0.067*** | -0.025** | 0.041*** | -0.028** | 0.054*** |
| | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | -0.113*** | 0.126*** | -0.120*** | 0.139*** | -0.120*** | 0.129*** | -0.118*** | 0.130*** |
| | [0.019] | [0.020] | [0.018] | [0.020] | [0.018] | [0.021] | [0.018] | [0.020] |
| Prince Edward Island | -0.179*** | 0.189*** | -0.144*** | 0.115*** | -0.195*** | 0.221*** | -0.166*** | 0.164*** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.016] | [0.018] | [0.016] | [0.018] |
| Nova Scotia | -0.162*** | 0.157*** | -0.129*** | 0.105*** | -0.179*** | 0.195*** | -0.146*** | 0.142*** |
| | [0.017] | [0.018] | [0.016] | [0.018] | [0.015] | [0.017] | [0.016] | [0.017] |
| New Brunswick | -0.168*** | 0.145*** | -0.126*** | 0.094*** | -0.174*** | 0.191*** | -0.144*** | 0.135*** |
| | [0.016] | [0.018] | [0.016] | [0.017] | [0.015] | [0.018] | [0.016] | [0.017] |
| Quebec | 0.0167 | -0.073*** | 0.035* | -0.099*** | 0.0223 | -0.075*** | 0.0267 | -0.088*** |
| | [0.017] | [0.016] | [0.018] | [0.017] | [0.018] | [0.017] | [0.019] | [0.017] |
| Manitoba | -0.185*** | 0.092*** | -0.163*** | 0.064*** | -0.185*** | 0.111*** | -0.168*** | 0.084*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] | [0.016] | [0.017] |
| Saskatchewan | -0.162*** | 0.088*** | -0.131*** | 0.040** | -0.167*** | 0.111*** | -0.141*** | 0.069*** |
| | [0.016] | [0.018] | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] |
| Alberta | -0.099*** | -0.0237 | -0.118*** | 0.043*** | -0.082*** | -0.056*** | -0.105*** | 0.004 |
| | [0.016] | [0.016] | [0.016] | [0.016] | [0.017] | [0.016] | [0.016] | [0.016] |
| British Columbia | -0.098*** | -0.0022 | -0.088*** | -0.0109 | -0.093*** | -0.0035 | -0.086*** | -0.011 |
| | [0.017] | [0.017] | [0.016] | [0.017] | [0.017] | [0.017] | [0.016] | [0.017] |
| **Linguistic Minority** (Speaks Provincial Language) | | | | | | | | |
| French outside QC | -0.029*** | 0.167*** | -0.010 | 0.080*** | -0.027** | 0.103*** | -0.011 | 0.0601 |
| | [0.023] | [0.026] | [0.021] | [0.021] | [0.021] | [0.026] | [0.021] | [0.022] |
| English in QC | 0.035 | 0.0345 | 0.025 | 0.060** | 0.034 | 0.058* | 0.0291 | 0.057* |
| | [0.026] | [0.031] | [0.024] | [0.029] | [0.025] | [0.033] | [0.024] | [0.030] |
| **Family Type** (Two Parents) | | | | | | | | |
| Mother only | 0.005 | -0.004 | -0.007 | -0.002 | -0.005 | -0.004 | -0.006 | 0.005 |
| | [0.017] | [0.019] | [0.017] | [0.017] | [0.017] | [0.018] | [0.017] | [0.017] |
| Father only | 0.063* | -0.060* | 0.009 | -0.005 | 0.014 | -0.034 | 0.000 | 0.063* |
| | [0.035] | [0.034] | [0.033] | [0.032] | [0.032] | [0.032] | [0.032] | [0.035] |
| Other | -0.005 | 0.011 | -0.032 | 0.027 | -0.042 | 0.044 | -0.038 | -0.005 |
| | [0.053] | [0.067] | [0.050] | [0.055] | [0.049] | [0.059] | [0.048] | [0.053] |

Table 5 continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parent's Education** (HS completed) | | | | | | | | |
| Less than HS | -0.008 | -0.135*** | -0.003 | -0.074*** | 0.012 | -0.086*** | 0.008 | -0.068*** |
| | [0.021] | [0.022] | [0.021] | [0.022] | [0.023] | [0.023] | [0.022] | [0.022] |
| Some PSE | 0.015 | 0.033 | 0.017 | 0.0074 | 0.030 | -0.0128 | 0.022 | -0.0047 |
| | [0.021] | [0.023] | [0.021] | [0.022] | [0.022] | [0.022] | [0.021] | [0.021] |
| Trade/College | -0.002 | 0.067*** | 0.007 | 0.034** | 0.015 | 0.0207 | 0.014 | 0.0186 |
| | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] |
| University-below BA degree | -0.070*** | 0.205*** | -0.055** | 0.140*** | -0.040* | 0.114*** | -0.039* | 0.106*** |
| | [0.023] | [0.026] | [0.022] | [0.024] | [0.024] | [0.026] | [0.023] | [0.025] |
| University-BA | -0.096*** | 0.279*** | -0.049*** | 0.157*** | -0.041** | 0.144*** | -0.031** | 0.121*** |
| | [0.016] | [0.017] | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| University-Grad | -0.187*** | 0.399*** | -0.120*** | 0.244*** | -0.125*** | 0.238*** | -0.106*** | 0.204*** |
| | [0.018] | [0.019] | [0.020] | [0.022] | [0.022] | [0.023] | [0.021] | [0.023] |
| Other/unknown | 0.012 | -0.033 | -0.036 | 0.040 | -0.121 | 0.094 | -0.135 | 0.122 |
| | [0.165] | [0.154] | [0.130] | [0.102] | [0.098] | [0.099] | [0.089] | [0.086] |
| **Family Income Level** ($50- $75k) | | | | | | | | |
| Extremely low ($0-$5,000) | 0.008 | -0.015 | -0.022 | 0.031 | -0.056 | 0.078 | -0.044 | 0.059 |
| | [0.052] | [0.055] | [0.047] | [0.061] | [0.047] | [0.056] | [0.047] | [0.060] |
| $5,000 to $25,000 | -0.023 | -0.040 | -0.027 | 0.000 | -0.032 | 0.005 | -0.034 | 0.013 |
| | [0.022] | [0.023] | [0.023] | [0.024] | [0.023] | [0.024] | [0.022] | [0.023] |
| $25,000 to $50,000 | 0.002 | -0.040*** | -0.009 | -0.007 | -0.010 | -0.006 | -0.013 | 0.003 |
| | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] |
| $75,000 to $100,000 | -0.013 | 0.033** | -0.028** | 0.046*** | -0.020 | 0.037** | -0.024* | 0.043*** |
| | [0.014] | [0.015] | [0.014] | [0.014] | [0.014] | [0.015] | [0.014] | [0.014] |
| $100,000 and up | -0.008 | 0.078*** | -0.018 | 0.075*** | -0.015 | 0.063*** | -0.014 | 0.064*** |
| | [0.017] | [0.019] | [0.016] | [0.018] | [0.017] | [0.019] | [0.016] | [0.018] |
| **Immigrant Generation (Non-Immigrant)** | | | | | | | | |
| 1st Generation | -0.013 | 0.137*** | -0.009 | 0.099*** | -0.024 | 0.1314* | -0.016 | 0.111*** |
| | [0.025] | [0.028] | [0.023] | [0.026] | [0.024] | [0.030] | [0.024] | [0.028] |
| 2nd Generation | -0.025 | 0.114*** | -0.029** | 0.100*** | -0.029** | 0.103*** | -0.027* | 0.093*** |
| | [0.015] | [0.016] | [0.014] | [0.015] | [0.015] | [0.016] | [0.014] | [0.015] |
| Generation unknown | 0.018 | -0.063 | 0.000 | -0.0046 | 0.019 | -0.0321 | 0.002 | -0.0073 |
| | [0.042] | [0.045] | [0.044] | [0.044] | [0.043] | [0.045] | [0.043] | [0.042] |
| **High School Grades** | | | | | | | | |
| Overall grade | -0.004*** | 0.015*** | | | -0.003*** | 0.011*** | -0.004*** | 0.015*** |
| | [0.001] | [0.001] | | | [0.001] | [0.001] | [0.001] | [0.001] |
| Math grade | -0.001*** | 0.001* | | | -0.001** | 0.001 | -0.001*** | 0.001* |
| | [0.001] | [0.001] | | | [0.001] | [0.001] | [0.001] | [0.001] |
| Main language grade | -0.002*** | 0.005*** | | | -0.002*** | 0.004*** | -0.002*** | 0.005*** |
| | [0.001] | [0.001] | | | [0.001] | [0.001] | [0.001] | [0.001] |
| Science grade | -0.002*** | 0.007*** | | | -0.002*** | 0.004*** | -0.002*** | 0.007*** |
| | [0.000] | [0.000] | | | [0.000] | [0.001] | [0.000] | [0.000] |

Table 5 continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **High School Engagement** | | | | | | | | |
| Academic identification | | | 0.007 | 0.003 | 0.007 | 0.001 | | |
| | | | [0.007] | [0.007] | [0.006] | [0.006] | | |
| Academic participation | | | -0.026*** | 0.109*** | -0.020*** | 0.076*** | | |
| | | | [0.006] | [0.006] | [0.006] | [0.006] | | |
| Social engagement | | | -0.003 | 0.010* | -0.005 | 0.013** | | |
| | | | [0.006] | [0.006] | [0.006] | [0.006] | | |
| **Self -perception** | | | | | | | | |
| Self-esteem | | | 0.003 | 0.014* | 0.005 | 0.003 | | |
| | | | [0.007] | [0.008] | [0.007] | [0.007] | | |
| Self-efficacy | | | -0.024*** | 0.052*** | -0.010* | 0.012* | | |
| | | | [0.006] | [0.006] | [0.006] | [0.006] | | |
| Self-mastery | | | -0.003 | 0.012 | -0.005 | 0.017** | | |
| | | | [0.007] | [0.007] | [0.007] | [0.007] | | |
| **Social Support** | | | 0.0064* | -0.035*** | 0.006 | -0.028*** | | |
| | | | [0.006] | [0.007] | [0.006] | [0.006] | | |
| **Parental Behaviour** | | | | | | | | |
| Monitoring behaviour | | | -0.005 | 0.014** | | -0.005 | | |
| | | | [0.006] | [0.006] | | [0.005] | | |
| Nurturance behaviour | | | 0.001 | -0.0004 | | 0.001 | | |
| | | | [0.006] | [0.006] | | [0.005] | | |
| Inconsistent discipline | | | -0.002 | -0.018*** | | -0.005 | | |
| | | | [0.005] | [0.005] | | [0.005] | | |
| **Reading Ability** | | | -0.001*** | 0.002*** | 0.000*** | 0.001*** | | |
| | | | [0.000] | [0.000] | [0.000] | [0.000] | | |
| **Observations** | 16825 | | 15126 | | 14742 | | 14742 | |

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

**Table 6.** Access models, detailed immigrant indicators with grade and scale variables

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Female (Male)** | -0.030*** | 0.166*** | -0.011 | 0.079*** | -0.028*** | 0.102*** | -0.012 | 0.062*** |
| | [0.010] | [0.010] | [0.010] | [0.010] | [0.011] | [0.011] | [0.011] | [0.011] |
| **HS location - Urban (Rural)** | -0.031*** | 0.050*** | -0.029** | 0.059*** | -0.021* | 0.033*** | -0.024** | 0.046*** |
| | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] | [0.012] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | -0.111*** | 0.122*** | -0.119*** | 0.136*** | -0.119*** | 0.126*** | -0.117*** | 0.127*** |
| | [0.019] | [0.020] | [0.018] | [0.020] | [0.018] | [0.021] | [0.018] | [0.020] |
| Prince Edward Island | -0.178*** | 0.185*** | -0.144*** | 0.113*** | -0.194*** | 0.219*** | -0.165*** | 0.163*** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.016] | [0.018] | [0.016] | [0.018] |
| Nova Scotia | -0.161*** | 0.153*** | -0.129*** | 0.103*** | -0.179*** | 0.191*** | -0.146*** | 0.140*** |
| | [0.017] | [0.018] | [0.016] | [0.018] | [0.015] | [0.017] | [0.016] | [0.017] |
| New Brunswick | -0.167*** | 0.142*** | -0.126*** | 0.092*** | -0.172*** | 0.187*** | -0.143*** | 0.133*** |
| | [0.016] | [0.018] | [0.016] | [0.017] | [0.015] | [0.018] | [0.016] | [0.017] |
| Quebec | 0.015 | -0.072*** | 0.032* | -0.096*** | 0.021 | -0.075*** | 0.025 | -0.087*** |
| | [0.017] | [0.016] | [0.018] | [0.017] | [0.018] | [0.017] | [0.019] | [0.017] |
| Manitoba | -0.185*** | 0.091*** | -0.164*** | 0.065*** | -0.185*** | 0.108*** | -0.168*** | 0.083*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] | [0.016] | [0.017] |
| Saskatchewan | -0.161*** | 0.083*** | -0.129*** | 0.038** | -0.166*** | 0.108*** | -0.140*** | 0.067*** |
| | [0.016] | [0.018] | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] |
| Alberta | -0.098*** | -0.029* | -0.117*** | 0.041** | -0.082*** | -0.059*** | -0.104*** | 0.001 |
| | [0.016] | [0.016] | [0.016] | [0.016] | [0.017] | [0.016] | [0.016] | [0.016] |
| British Columbia | -0.085*** | -0.031* | -0.081*** | -0.029* | -0.085*** | -0.026 | -0.080*** | -0.030* |
| | [0.017] | [0.017] | [0.016] | [0.017] | [0.017] | [0.017] | [0.016] | [0.017] |
| **Linguistic Minority** | | | | | | | | |
| (Speaks Provincial Language) | | | | | | | | |
| French outside QC | 0.031 | 0.001 | -0.001 | 0.027 | -0.012 | 0.065*** | -0.012 | 0.061*** |
| | [0.023] | [0.026] | [0.020] | [0.021] | [0.021] | [0.025] | [0.020] | [0.021] |
| English in QC | 0.039 | 0.034 | 0.028 | 0.059** | 0.038 | 0.056* | 0.033 | 0.056* |
| | [0.026] | [0.030] | [0.024] | [0.030] | [0.025] | [0.033] | [0.024] | [0.031] |
| **Family Type (Two Parents)** | | | | | | | | |
| Mother only | -0.002 | 0.006 | -0.008 | -0.001 | -0.008 | -0.007 | -0.008 | -0.008 |
| | [0.017] | [0.019] | [0.018] | [0.018] | [0.018] | [0.019] | [0.018] | [0.018] |
| Father only | 0.060* | -0.054 | 0.007 | -0.005 | 0.009 | -0.036 | -0.003 | -0.010 |
| | [0.035] | [0.035] | [0.033] | [0.033] | [0.032] | [0.032] | [0.032] | [0.031] |
| Other | -0.003 | -0.009 | -0.030 | 0.000 | -0.033 | 0.012 | -0.035 | 0.013 |
| | [0.054] | [0.068] | [0.050] | [0.053] | [0.050] | [0.060] | [0.048] | [0.052] |
| **Parent's Education** | | | | | | | | |
| (HS completed) | | | | | | | | |
| Less than HS | -0.007 | -0.138*** | -0.002 | -0.075*** | 0.015 | -0.086*** | 0.010 | -0.067*** |
| | [0.021] | [0.022] | [0.021] | [0.022] | [0.023] | [0.023] | [0.022] | [0.022] |
| Some PSE | 0.011 | 0.045** | 0.012 | 0.018 | 0.026 | -0.002 | 0.018 | 0.006 |
| | [0.021] | [0.023] | [0.021] | [0.022] | [0.022] | [0.022] | [0.021] | [0.021] |
| Trade/College | -0.005 | 0.074*** | 0.003 | 0.041*** | 0.012 | 0.026* | 0.010 | 0.025* |
| | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] |
| University-below BA degree | -0.070*** | 0.207*** | -0.056** | 0.141*** | -0.040* | 0.117*** | -0.039* | 0.109*** |
| | [0.023] | [0.025] | [0.022] | [0.024] | [0.023] | [0.026] | [0.023] | [0.025] |
| University-BA | -0.101*** | 0.284*** | -0.054*** | 0.161*** | -0.045*** | 0.147*** | -0.035** | 0.126*** |
| | [0.015] | [0.017] | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| University-Grad | -0.188*** | 0.400*** | -0.121*** | 0.246*** | -0.124*** | 0.239*** | -0.106*** | 0.206*** |
| | [0.018] | [0.019] | [0.020] | [0.022] | [0.021] | [0.023] | [0.021] | [0.023] |
| Other/unknown | 0.014 | -0.048 | -0.029 | 0.025 | -0.121 | 0.097 | -0.134 | 0.126 |
| | [0.165] | [0.162] | [0.134] | [0.113] | [0.097] | [0.099] | [0.089] | [0.087] |

Table 6 continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Family Income Level ($50,000 to $75,000)** | | | | | | | | |
| Extremely low ($0-$5,000) | 0.018 | -0.032 | -0.013 | 0.015 | -0.040 | 0.050 | -0.032 | 0.039 |
| | [0.053] | [0.055] | [0.047] | [0.061] | [0.048] | [0.058] | [0.048] | [0.061] |
| $5,000- $25,000 | -0.016 | -0.053** | -0.019 | -0.014 | -0.023 | -0.011 | -0.026 | -0.001 |
| | [0.022] | [0.023] | [0.023] | [0.024] | [0.023] | [0.024] | [0.023] | [0.023] |
| $25,000 to $50,000 | 0.005 | -0.048*** | -0.007 | -0.013 | -0.007 | -0.014 | -0.010 | -0.004 |
| | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] | [0.014] |
| $75,000 to $100,000 | -0.012 | 0.034** | -0.027** | 0.045*** | -0.020 | 0.037** | -0.023* | 0.042*** |
| | [0.014] | [0.015] | [0.014] | [0.014] | [0.014] | [0.015] | [0.013] | [0.014] |
| $100,000+ up | -0.010 | 0.083*** | -0.019 | 0.079*** | -0.018 | 0.069*** | -0.017 | 0.068*** |
| | [0.017] | [0.019] | [0.016] | [0.018] | [0.016] | [0.019] | [0.016] | [0.018] |
| **Generation and Origin** | | | | | | | | |
| (Non-Immigrant) | | | | | | | | |
| ***1st Generation*** | | | | | | | | |
| *(Origin of the student)* | | | | | | | | |
| Americas (except USA) | 0.030 | -0.090** | 0.035 | -0.083** | 0.056 | -0.0726* | 0.046 | -0.055 |
| | [0.061] | [0.063] | [0.065] | [0.061] | [0.072] | [0.075] | [0.067] | [0.069] |
| Africa | -0.020 | 0.196 | 0.050 | 0.145 | -0.003 | 0.210 | 0.018 | 0.180 |
| | [0.104] | [0.137] | [0.103] | [0.157] | [0.088] | [0.177] | [0.099] | [0.164] |
| China | -0.204*** | 0.472*** | -0.173*** | 0.396*** | -0.208*** | 0.436*** | -0.186*** | 0.408*** |
| | [0.053] | [0.055] | [0.045] | [0.054] | [0.039] | [0.045] | [0.039] | [0.051] |
| Other East & South-east Asia | 0.135** | 0.006 | 0.103 | 0.015 | 0.074 | 0.066 | 0.079 | 0.044 |
| | [0.065] | [0.076] | [0.073] | [0.069] | [0.070] | [0.081] | [0.070] | [0.071] |
| Other Asia | -0.022 | 0.197** | -0.044 | 0.161** | -0.090 | 0.198*** | -0.089 | 0.188*** |
| | [0.065] | [0.083] | [0.061] | [0.069] | [0.065] | [0.072] | [0.062] | [0.064] |
| Western or Northern Europe | 0.002 | 0.066 | 0.019 | 0.025 | 0.038 | 0.030 | 0.034 | 0.025 |
| | [0.101] | [0.079] | [0.094] | [0.090] | [0.099] | [0.102] | [0.096] | [0.106] |
| Southern or Eastern Europe | 0.060 | 0.053 | 0.058 | 0.025 | 0.055 | 0.011 | 0.054 | 0.013 |
| | [0.056] | [0.070] | [0.055] | [0.067] | [0.059] | [0.074] | [0.058] | [0.069] |
| Anglosphere | -0.079 | 0.044 | -0.065 | 0.046 | -0.081 | 0.069 | -0.065 | 0.040 |
| | [0.064] | [0.070] | [0.070] | [0.054] | [0.067] | [0.063] | [0.068] | [0.057] |
| Others/Unknown | 0.140 | -0.021 | 0.068 | 0.060 | 0.188 | -0.073 | 0.135 | -0.016 |
| | [0.152] | [0.197] | [0.110] | [0.220] | [0.173] | [0.258] | [0.153] | [0.257] |
| ***2nd Generation*** | | | | | | | | |
| ***Mixture of the parent(s)' origin*** | | | | | | | | |
| Canadian mother; immigrant father | -0.027 | 0.112*** | -0.032 | 0.094*** | -0.034 | 0.098*** | -0.031 | 0.085*** |
| | [0.027] | [0.028] | [0.024] | [0.024] | [0.026] | [0.028] | [0.024] | [0.025] |
| Canadian father; immigrant mother | -0.020 | 0.041 | -0.017 | 0.023 | -0.019 | 0.033 | -0.016 | 0.019 |
| | [0.031] | [0.031] | [0.030] | [0.028] | [0.031] | [0.031] | [0.030] | [0.029] |
| Both Parents immigrants, but different origin | -0.134*** | 0.106** | -0.122*** | 0.100** | -0.119** | 0.094* | -0.117** | 0.085* |
| | [0.044] | [0.048] | [0.044] | [0.043] | [0.047] | [0.055] | [0.046] | [0.048] |

Table 6 continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| ***Both Parents immigrants of same origin*** | | | | | | | | |
| Americas (except USA) | 0.076 | -0.030 | 0.059 | 0.070 | 0.092 | 0.012 | 0.057 | 0.055 |
| | [0.063] | [0.065] | [0.058] | [0.080] | [0.065] | [0.084] | [0.058] | [0.076] |
| Africa | -0.116 | 0.362*** | -0.047 | 0.228* | -0.109 | 0.281** | -0.093 | 0.256** |
| | [0.111] | [0.139] | [0.084] | [0.137] | [0.091] | [0.127] | [0.088] | [0.126] |
| China | -0.166** | 0.399*** | -0.144** | 0.319*** | -0.154** | 0.323*** | -0.143** | 0.307*** |
| | [0.065] | [0.071] | [0.060] | [0.084] | [0.067] | [0.073] | [0.067] | [0.088] |
| Other East & South-east Asia | -0.023 | 0.195*** | -0.021 | 0.165*** | -0.040 | 0.182*** | -0.029 | 0.166*** |
| | [0.055] | [0.059] | [0.047] | [0.049] | [0.046] | [0.047] | [0.044] | [0.046] |
| Other Asia | -0.017 | 0.253*** | 0.030 | 0.170* | 0.030 | 0.166 | 0.044 | 0.142 |
| | [0.057] | [0.089] | [0.045] | [0.095] | [0.051] | [0.105] | [0.048] | [0.097] |
| Western or Northern Europe | 0.093 | 0.088 | 0.049 | 0.088 | 0.056 | 0.083 | 0.051 | 0.082 |
| | [0.104] | [0.121] | [0.092] | [0.117] | [0.080] | [0.092] | [0.080] | [0.104] |
| Southern or Eastern Europe | -0.031 | 0.091* | -0.047 | 0.067 | -0.057 | 0.074* | -0.048 | 0.061 |
| | [0.044] | [0.054] | [0.041] | [0.043] | [0.042] | [0.042] | [0.040] | [0.040] |
| Anglosphere | 0.068 | -0.039 | 0.080 | -0.030 | 0.100 | -0.055 | 0.105 | -0.051 |
| | [0.067] | [0.064] | [0.068] | [0.069] | [0.073] | [0.067] | [0.079] | [0.070] |
| Other/ Unknown/ Single parent | -0.009 | 0.125*** | -0.038 | 0.144*** | -0.044 | 0.172*** | -0.043 | 0.159*** |
| | [0.039] | [0.048] | [0.035] | [0.046] | [0.036] | [0.046] | [0.035] | [0.044] |
| ***Generation unknown*** | 0.017 | -0.045 | -0.001 | 0.014 | 0.012 | -0.009 | -0.001 | 0.012 |
| | [0.042] | [0.046] | [0.043] | [0.043] | [0.042] | [0.046] | [0.042] | [0.042] |
| **High School Grades** | | | | | | | | |
| Overall grade | | | -0.004*** | 0.014*** | | | -0.004*** | 0.011*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Math grade | | | -0.001*** | 0.0008* | | | -0.001** | 0.001 |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Main language grade | | | -0.002*** | 0.006*** | | | -0.002*** | 0.004*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Science grade | | | -0.002*** | 0.007*** | | | -0.002*** | 0.004*** |
| | | | [0.000] | [0.000] | | | [0.000] | [0.001] |
| **High School Engagement** | | | | | | | | |
| Academic identification | | | | | 0.007 | 0.003 | 0.008 | 0.001 |
| | | | | | [0.007] | [0.007] | [0.006] | [0.006] |
| Academic participation | | | | | -0.025*** | 0.103*** | -0.020*** | 0.071*** |
| | | | | | [0.006] | [0.006] | [0.006] | [0.006] |
| Social engagement | | | | | -0.002 | 0.010 | -0.005 | 0.012** |
| | | | | | [0.006] | [0.006] | [0.006] | [0.006] |
| **Self-perception** | | | | | | | | |
| Self-esteem | | | | | 0.003 | 0.015* | 0.005 | 0.004 |
| | | | | | [0.007] | [0.008] | [0.007] | [0.007] |
| Self-efficacy | | | | | -0.024*** | 0.050*** | -0.010 | 0.011* |
| | | | | | [0.006] | [0.006] | [0.006] | [0.006] |
| Self-mastery | | | | | -0.006 | 0.015** | -0.008 | 0.019*** |
| | | | | | [0.007] | [0.007] | [0.007] | [0.007] |
| **Social Support** | | | | | 0.006 | -0.032*** | 0.005 | -0.026*** |
| | | | | | [0.006] | [0.007] | [0.006] | [0.006] |

Table 6 continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parental Behaviour** | | | | | | | | |
| Monitoring behaviour | | | | | -0.006 | 0.016** | -0.006 | 0.015** |
| | | | | | [0.006] | [0.006] | [0.006] | [0.006] |
| Nurturance behaviour | | | | | -0.001 | 0.008 | -0.002 | 0.006 |
| | | | | | [0.006] | [0.006] | [0.005] | [0.006] |
| Inconsistent discipline | | | | | -0.001 | -0.016*** | -0.004 | -0.005 |
| | | | | | [0.005] | [0.005] | [0.005] | [0.005] |
| **Reading Ability** | | | | | -0.001*** | 0.002*** | 0.000*** | 0.001*** |
| | | | | | [0.000] | [0.000] | [0.000] | [0.000] |
| **Observations** | 16825 | | 15126 | | 14742 | | 14742 | |

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

**Table 7.** Access models, aggregate immigrant indicators with parental aspirations

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Female (Male)** | -0.027 | 0.165*** | -0.028 | 0.162*** | -0.021 | 0.134*** |
| | [0.010] | [0.010] | [0.010] | [0.010] | [0.010] | [0.010] |
| **HS location - Urban (Rural)** | -0.034 | 0.058*** | -0.033 | 0.050*** | -0.021 | 0.017 |
| | [0.012] | [0.012] | [0.012] | [0.012] | [0.011] | [0.012] |
| **HS Province (ON)** | | | | | | |
| Newfoundland and Labrador | -0.112 | 0.126*** | -0.111 | 0.110*** | -0.086 | 0.052*** |
| | [0.019] | [0.020] | [0.019] | [0.020] | [0.019] | [0.020] |
| Prince Edward Island | -0.178 | 0.189*** | -0.178*** | 0.185*** | -0.159 | 0.146*** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.018] |
| Nova Scotia | -0.162 | 0.157*** | -0.161 | 0.151*** | -0.146 | 0.122*** |
| | [0.017] | [0.018] | [0.017] | [0.018] | [0.016] | [0.017] |
| New Brunswick | -0.169 | 0.145*** | -0.168 | 0.144*** | -0.153 | 0.107*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Quebec | 0.018 | -0.074 | 0.020 | -0.063 | 0.021 | -0.066 |
| | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] |
| Manitoba | -0.183 | 0.091*** | -0.183 | 0.102*** | -0.172 | 0.083*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Saskatchewan | -0.162 | 0.088*** | -0.162 | 0.093*** | -0.158 | 0.077*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Alberta | -0.097 | -0.025 | -0.097 | -0.021 | -0.093 | -0.024 |
| | [0.016] | [0.016] | [0.016] | [0.016] | [0.016] | [0.016] |
| British Columbia | -0.097 | -0.003 | -0.097 | 0.003 | -0.097 | 0.005 |
| | [0.017] | [0.017] | [0.017] | [0.017] | [0.016] | [0.017] |
| **Linguistic Minority (Speaks Provincial Language)** | | | | | | |
| French outside QC | 0.029 | 0.004 | 0.029 | 0.003 | 0.020 | 0.022 |
| | [0.023] | [0.026] | [0.023] | [0.026] | [0.021] | [0.026] |
| English in QC | 0.035 | 0.036 | 0.037 | 0.021 | 0.059** | -0.018 |
| | [0.026] | [0.031] | [0.026] | [0.030] | [0.026] | [0.028] |
| **Family Type (Two Parents)** | | | | | | |
| Mother only | 0.005 | -0.004 | 0.004 | -0.011 | 0.007 | -0.030 |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.017] |
| Father only | 0.061* | -0.061 | 0.060* | -0.060 | 0.052 | -0.057 |
| | [0.035] | [0.034] | [0.035] | [0.034] | [0.035] | [0.032] |
| Other | -0.006 | 0.012 | -0.005 | 0.007 | 0.004 | -0.015 |
| | [0.053] | [0.067] | [0.053] | [0.066] | [0.054] | [0.062] |

Table 7 continued

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Parent's Education (HS completed)** | | | | | | |
| Less than HS | -0.008 | -0.133 | -0.005 | -0.128 | -0.001 | -0.111 |
| | [0.021] | [0.023] | [0.021] | [0.023] | [0.021] | [0.023] |
| Some PSE | 0.014 | 0.035 | 0.015 | 0.029 | 0.020 | 0.010 |
| | [0.021] | [0.023] | [0.022] | [0.023] | [0.021] | [0.022] |
| Trade/College | -0.002 | 0.068*** | -0.002 | 0.062*** | -0.002 | 0.051*** |
| | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] |
| University-below BA degree | -0.070 | 0.206*** | -0.067 | 0.193*** | -0.045 | 0.135*** |
| | [0.023] | [0.026] | [0.023] | [0.026] | [0.023] | [0.024] |
| University-BA | -0.097 | 0.281*** | -0.094 | 0.266*** | -0.069 | 0.201*** |
| | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] |
| University-Grad | -0.187 | 0.399*** | -0.184 | 0.385*** | -0.145 | 0.304*** |
| | [0.018] | [0.019] | [0.019] | [0.019] | [0.021] | [0.021] |
| Other/ Unknown | 0.012 | -0.031 | 0.009 | -0.035 | -0.038 | 0.049 |
| | [0.165] | [0.154] | [0.165] | [0.155] | [0.133] | [0.115] |
| **Family Income Level ($50,000 to $75,000)** | | | | | | |
| Extremely low ($0-$5,000) | 0.009 | -0.017 | 0.010 | -0.016 | -0.002 | 0.004 |
| | [0.053] | [0.055] | [0.052] | [0.056] | [0.049] | [0.048] |
| $5,000- $25,000 | -0.021 | -0.039 | -0.020 | -0.034 | -0.022 | -0.011 |
| | [0.022] | [0.023] | [0.022] | [0.023] | [0.021] | [0.023] |
| $25,000 to $50,000 | 0.003 | -0.042 | 0.004 | -0.038 | 0.000 | -0.027 |
| | [0.014] | [0.014] | [0.014] | [0.015] | [0.014] | [0.014] |
| $75,000 to $100,000 | -0.012 | 0.032** | -0.012 | 0.026* | -0.010 | 0.019 |
| | [0.014] | [0.015] | [0.014] | [0.015] | [0.014] | [0.015] |
| $100,000+ up | -0.009 | 0.078*** | -0.008 | 0.072*** | 0.002 | 0.044** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.018] |
| **Immigrant Generation (Non-Immigrant)** | | | | | | |
| 1st Generation | -0.013 | 0.137*** | -0.012 | 0.122*** | 0.014 | 0.055** |
| | [0.025] | [0.028] | [0.025] | [0.027] | [0.025] | [0.024] |
| 2nd Generation | -0.023 | 0.113*** | -0.024 | 0.107*** | -0.010 | 0.068*** |
| | [0.015] | [0.017] | [0.015] | [0.016] | [0.015] | [0.015] |
| Generation unknown | 0.018 | -0.062 | 0.015 | -0.062 | 0.004 | -0.037 |
| | [0.042] | [0.045] | [0.042] | [0.044] | [0.041] | [0.045] |
| **Importance Child Graduates HS (Not Important At All)** | | | | | | |
| Slightly Important | | | -0.093 | -0.108 | -0.074 | -0.022 |
| | | | [0.230] | [0.093] | [0.219] | [0.104] |
| Fairly Important | | | -0.135 | 0.102 | -0.168 | 0.081 |
| | | | [0.199] | [0.130] | [0.168] | [0.121] |
| Highly Important | | | -0.118 | 0.166 | -0.130 | 0.126 |
| | | | [0.223] | [0.151] | [0.215] | [0.159] |

Table 7 continued

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Importance of Child Attending PSE** | | | | | | |
| (Not Important At All) | | | | | | |
| Slightly Important | | | -0.022 | -0.071 | -0.027 | -0.043 |
| | | | [0.109] | [0.080] | [0.111] | [0.074] |
| Fairly Important | | | 0.005 | 0.018 | -0.021 | -0.015 |
| | | | [0.125] | [0.132] | [0.128] | [0.121] |
| Highly Important | | | -0.022 | 0.175 | -0.014 | 0.039 |
| | | | [0.122] | [0.153] | [0.122] | [0.164] |
| **Highest Level of Education Parent Hopes for Child** | | | | | | |
| (HS Completion) | | | | | | |
| Less than HS | | | | | 0.046 | -0.059 |
| | | | | | [0.153] | [0.000] |
| Trade/College | | | | | 0.144*** | 0.046* |
| | | | | | [0.046] | [0.028] |
| One University Degree | | | | | 0.023 | 0.368*** |
| | | | | | [0.038] | [0.043] |
| Multiple University Degrees | | | | | -0.071 | 0.459*** |
| | | | | | [0.031] | [0.045] |
| Any level of PSE | | | | | 0.121** | 0.193*** |
| | | | | | [0.048] | [0.047] |
| **Observations** | 16764 | | 16764 | | 16764 | |

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

**Table 8.** Access models, detailed immigrant indicators with parental aspirations

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Female (Male)** | -0.028*** | 0.165*** | -0.028*** | 0.162*** | -0.022** | 0.134*** |
| | [0.010] | [0.010] | [0.010] | [0.010] | [0.010] | [0.010] |
| **HS location - Urban (Rural)** | -0.032*** | 0.050*** | -0.031*** | 0.043*** | -0.020* | 0.013 |
| | [0.012] | [0.012] | [0.012] | [0.012] | [0.011] | [0.012] |
| **HS Province (ON)** | | | | | | |
| Newfoundland and Labrador | -0.111*** | 0.121*** | -0.110*** | 0.105*** | -0.084*** | 0.048** |
| | [0.019] | [0.020] | [0.019] | [0.020] | [0.019] | [0.020] |
| Prince Edward Island | -0.177*** | 0.185*** | -0.176*** | 0.181*** | -0.156*** | 0.141*** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.018] |
| Nova Scotia | -0.161*** | 0.153*** | -0.160*** | 0.147*** | -0.144*** | 0.117*** |
| | [0.017] | [0.018] | [0.017] | [0.018] | [0.016] | [0.017] |
| New Brunswick | -0.168*** | 0.142*** | -0.167*** | 0.140*** | -0.151*** | 0.103*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Quebec | 0.017 | -0.073*** | 0.019 | -0.062*** | 0.020 | -0.066*** |
| | [0.017] | [0.016] | [0.017] | [0.016] | [0.017] | [0.016] |
| Manitoba | -0.183*** | 0.090*** | -0.183*** | 0.101*** | -0.172*** | 0.082*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Saskatchewan | -0.160*** | 0.083*** | -0.160*** | 0.088*** | -0.156*** | 0.071*** |
| | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.017] |
| Alberta | -0.096*** | -0.031* | -0.095*** | -0.027* | -0.092*** | -0.029* |
| | [0.016] | [0.016] | [0.016] | [0.016] | [0.016] | [0.016] |
| British Columbia | -0.083*** | -0.032* | -0.084*** | -0.027 | -0.085*** | -0.021 |
| | [0.017] | [0.017] | [0.017] | [0.017] | [0.016] | [0.017] |
| **Linguistic Minority (Speaks Provincial Language)** | | | | | | |
| French outside QC | 0.031 | 0.001 | 0.031 | 0.000 | 0.023 | 0.019 |
| | [0.023] | [0.026] | [0.023] | [0.026] | [0.021] | [0.026] |
| English in QC | 0.038 | 0.035 | 0.041 | 0.020 | 0.063** | -0.019 |
| | [0.026] | [0.030] | [0.026] | [0.030] | [0.026] | [0.028] |
| **Family Type (Two Parents)** | | | | | | |
| Mother only | -0.002 | 0.005 | -0.003 | -0.003 | 0.004 | -0.026 |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.018] |
| Father only | 0.058* | -0.055 | 0.057* | -0.054 | 0.051 | -0.053 |
| | [0.035] | [0.035] | [0.035] | [0.034] | [0.035] | [0.033] |
| Other | -0.004 | -0.007 | -0.003 | -0.012 | 0.006 | -0.033 |
| | [0.054] | [0.068] | [0.054] | [0.066] | [0.055] | [0.064] |

Table 8 continued

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Parent's Education (HS completed)** | | | | | | |
| Less than HS | -0.008 | -0.136*** | -0.004 | -0.130*** | 0.001 | -0.114*** |
| | [0.021] | [0.023] | [0.021] | [0.023] | [0.021] | [0.023] |
| Some PSE | 0.010 | 0.047** | 0.011 | 0.040* | 0.017 | 0.018 |
| | [0.021] | [0.023] | [0.021] | [0.023] | [0.021] | [0.022] |
| Trade/College | -0.005 | 0.075*** | -0.005 | 0.069*** | -0.004 | 0.056*** |
| | [0.013] | [0.014] | [0.013] | [0.014] | [0.013] | [0.014] |
| University-below BA degree | -0.070*** | 0.208*** | -0.067*** | 0.194*** | -0.045** | 0.137*** |
| | [0.023] | [0.025] | [0.023] | [0.025] | [0.023] | [0.024] |
| University-BA | -0.102*** | 0.285*** | -0.099*** | 0.271*** | -0.074*** | 0.206*** |
| | [0.015] | [0.017] | [0.015] | [0.017] | [0.016] | [0.017] |
| University-Grad | -0.187*** | 0.400*** | -0.184*** | 0.386*** | -0.146*** | 0.307*** |
| | [0.018] | [0.019] | [0.019] | [0.019] | [0.020] | [0.021] |
| Other/Unknown | 0.014 | -0.047 | 0.012 | -0.052 | -0.043 | 0.037 |
| | [0.164] | [0.162] | [0.164] | [0.162] | [0.128] | [0.118] |
| **Family Income Level ($50,000 to $75,000)** | | | | | | |
| Extremely low ($0-$5,000) | 0.019 | -0.034 | 0.020 | -0.033 | 0.006 | -0.010 |
| | [0.053] | [0.055] | [0.053] | [0.056] | [0.049] | [0.048] |
| $5,000- $25,000 | -0.014 | -0.053** | -0.014 | -0.047** | -0.018 | -0.019 |
| | [0.022] | [0.023] | [0.022] | [0.023] | [0.021] | [0.023] |
| $25,000 to $50,000 | 0.006 | -0.049*** | 0.007 | -0.045*** | 0.001 | -0.032** |
| | [0.014] | [0.015] | [0.014] | [0.015] | [0.014] | [0.014] |
| $75,000 to $100,000 | -0.012 | 0.032** | -0.012 | 0.026* | -0.010 | 0.019 |
| | [0.014] | [0.015] | [0.014] | [0.015] | [0.014] | [0.015] |
| $100,000+ up | -0.011 | 0.084*** | -0.010 | 0.076*** | 0.002 | 0.047*** |
| | [0.017] | [0.019] | [0.017] | [0.019] | [0.017] | [0.018] |
| **Generation and Origin (Non-Immigrant)** | | | | | | |
| ***1st Generation*** *(Origin of the student)* | | | | | | |
| Americas (except USA) | 0.030 | -0.091 | 0.026 | -0.107* | 0.026 | -0.139*** |
| | [0.061] | [0.063] | [0.061] | [0.061] | [0.061] | [0.051] |
| Africa | -0.020 | 0.197 | -0.020 | 0.191 | 0.032 | 0.099 |
| | [0.104] | [0.137] | [0.103] | [0.136] | [0.104] | [0.113] |
| China | -0.204*** | 0.472*** | -0.197*** | 0.461*** | -0.130** | 0.374*** |
| | [0.053] | [0.055] | [0.054] | [0.058] | [0.063] | [0.078] |
| Other East & South-east Asia | 0.135** | 0.006 | 0.138** | -0.012 | 0.163** | -0.069 |
| | [0.065] | [0.076] | [0.065] | [0.073] | [0.070] | [0.063] |
| Other Asia | -0.022 | 0.196** | -0.017 | 0.177** | 0.027 | 0.093 |
| | [0.065] | [0.083] | [0.065] | [0.082] | [0.061] | [0.077] |
| Western or Northern Europe | 0.002 | 0.066 | -0.001 | 0.057 | -0.010 | 0.089 |
| | [0.101] | [0.079] | [0.099] | [0.075] | [0.091] | [0.070] |
| Southern or Eastern Europe | 0.061 | 0.052 | 0.062 | 0.038 | 0.077 | 0.001 |
| | [0.056] | [0.070] | [0.055] | [0.068] | [0.054] | [0.062] |
| Anglosphere | -0.079 | 0.044 | -0.079 | 0.044 | -0.078 | 0.030 |
| | [0.064] | [0.069] | [0.064] | [0.068] | [0.062] | [0.057] |
| Others/ Unknown | 0.141 | -0.021 | 0.130 | -0.012 | 0.172 | -0.058 |
| | [0.152] | [0.196] | [0.145] | [0.191] | [0.150] | [0.228] |

Table 8 continued

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| ***2nd Generation*** | | | | | | |
| ***Mixture of the parent(s)' origin*** | | | | | | |
| Canadian mother; immigrant father | -0.026 | 0.112*** | -0.027 | 0.111*** | -0.017 | 0.088*** |
| | [0.027] | [0.028] | [0.027] | [0.027] | [0.025] | [0.025] |
| Canadian father; immigrant mother | -0.021 | 0.040 | -0.020 | 0.040 | -0.013 | 0.012 |
| | [0.031] | [0.031] | [0.031] | [0.032] | [0.031] | [0.029] |
| Both parents immigrants, but different origin | -0.132*** | 0.102** | -0.132*** | 0.103** | -0.122*** | 0.059 |
| | [0.044] | [0.049] | [0.045] | [0.048] | [0.045] | [0.046] |
| ***Both Parents immigrants of same origin*** | | | | | | |
| Americas (except USA) | 0.077 | -0.030 | 0.074 | -0.045 | 0.086 | -0.079 |
| | [0.063] | [0.065] | [0.063] | [0.063] | [0.063] | [0.056] |
| Africa | -0.116 | 0.362*** | -0.106 | 0.344** | -0.041 | 0.252* |
| | [0.111] | [0.139] | [0.111] | [0.141] | [0.100] | [0.151] |
| China | -0.168*** | 0.400*** | -0.165** | 0.390*** | -0.125* | 0.309*** |
| | [0.065] | [0.071] | [0.066] | [0.072] | [0.070] | [0.075] |
| Other East & South-east Asia | -0.028 | 0.199*** | -0.023 | 0.178*** | 0.006 | 0.112** |
| | [0.056] | [0.059] | [0.057] | [0.058] | [0.058] | [0.053] |
| Other Asia | -0.008 | 0.244*** | -0.002 | 0.230*** | 0.066 | 0.135 |
| | [0.057] | [0.090] | [0.056] | [0.089] | [0.050] | [0.088] |
| Western or Northern Europe | 0.093 | 0.088 | 0.096 | 0.101 | 0.104 | 0.079 |
| | [0.104] | [0.121] | [0.104] | [0.151] | [0.097] | [0.127] |
| Southern or Eastern Europe | -0.027 | 0.086 | -0.030 | 0.068 | -0.017 | 0.032 |
| | [0.044] | [0.054] | [0.044] | [0.053] | [0.045] | [0.052] |
| Anglosphere | 0.078 | -0.032 | 0.073 | -0.023 | 0.074 | -0.046 |
| | [0.068] | [0.067] | [0.067] | [0.066] | [0.067] | [0.055] |
| Others/ Unknown/ Single Parent | -0.008 | 0.126*** | -0.008 | 0.119** | 0.002 | 0.091** |
| | [0.039] | [0.048] | [0.039] | [0.047] | [0.037] | [0.045] |
| ***Generation Unknown*** | 0.016 | -0.045 | 0.014 | -0.045 | 0.003 | -0.023 |
| | [0.042] | [0.046] | [0.042] | [0.044] | [0.041] | [0.046] |
| **Importance Child Graduates HS** | | | | | | |
| (Not Important At All) | | | | | | |
| Slightly Important | | | -0.032 | -0.078 | 0.009 | -0.010 |
| | | | [0.235] | [0.095] | [0.236] | [0.109] |
| Fairly Important | | | -0.129 | 0.104 | -0.157 | 0.079 |
| | | | [0.195] | [0.119] | [0.166] | [0.116] |
| Highly Important | | | -0.119 | 0.181 | -0.126 | 0.132 |
| | | | [0.209] | [0.140] | [0.208] | [0.156] |
| **Importance of Child Attending PSE (Not Important At All)** | | | -0.028 | -0.074 | -0.032 | -0.046 |
| Slightly Important | | | [0.108] | [0.081] | [0.110] | [0.075] |
| | | | 0.006 | 0.009 | -0.019 | -0.021 |
| Fairly Important | | | [0.126] | [0.132] | [0.130] | [0.122] |
| | | | -0.021 | 0.161 | -0.012 | 0.034 |
| Highly Important | | | [0.122] | [0.155] | [0.122] | [0.165] |

Table 8 continued

| | Basic Model | | HS Grad+PSE | | All | |
|---|---|---|---|---|---|---|
| | College | University | College | University | College | University |
| **Highest Level of Education Parent Hopes Child Will Get** (HS Completion) | | | | | | |
| Less than HS | | | | | -0.004 | -0.060*** |
| | | | | | [0.136] | [0.000] |
| Trade/College | | | | | 0.142*** | 0.044 |
| | | | | | [0.046] | [0.028] |
| One University Degree | | | | | 0.019 | 0.357*** |
| | | | | | [0.038] | [0.043] |
| Multiple University Degrees | | | | | -0.072** | 0.436*** |
| | | | | | [0.031] | [0.045] |
| Any level of PSE | | | | | 0.119** | 0.188*** |
| | | | | | [0.048] | [0.047] |
| **Observations** | 16764 | | 16764 | | 16764 | |

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

**Table 9a.** Oaxaca decomposition of university attendance rates

| | First Generation (.57 - .38) 0.19 | | Second Generation (.54 - .38) 0.16 | |
|---|---|---|---|---|
| | Explained | Unexplained | Explained | Unexplained |
| **Gender** | 0.004 | 0.004 | 0.003 | 0.000 |
| **Province/ Language** | 0.002 | 0.000 | 0.004 | -0.011 |
| **Family** | 0.000 | -0.025 | 0.001 | -0.009 |
| **Parents' Education** | 0.072 | -0.065 | 0.044 | -0.005 |
| **Parents' Income** | -0.012 | 0.010 | 0.006 | -0.011 |
| **Constant** | | 0.199 | | 0.145 |
| | 0.066 | 0.124 | 0.057 | 0.109 |

**Notes:** Actual difference between the mean of the immigrant generation and non-immigrants. The difference in rates of each group is shown in parentheses.

**Table 9b.** Oaxaca decomposition of university attendance rates with detailed grade, scale and parental aspiration variables

| | First Generation (.61 - .40) 0.21 | | Second Generation (.58 - .40) 0.18 | |
|---|---|---|---|---|
| | Explained | Unexplained | Explained | Unexplained |
| **Gender** | 0.000 | -0.002 | 0.001 | -0.006 |
| **Province/ Language** | 0.004 | 0.003 | 0.007 | -0.013 |
| **Family** | 0.002 | -0.006 | 0.001 | 0.006 |
| **Parents' Education** | 0.038 | -0.146 | 0.020 | -0.007 |
| **Parents' Income** | 0.000 | -0.014 | 0.002 | -0.027 |
| **Grades** | | | | |
| Overall | 0.014 | 0.438 | 0.008 | 0.301 |
| Math | 0.006 | 0.041 | 0.000 | -0.053 |
| Reading | 0.000 | -0.178 | 0.006 | -0.090 |
| Science | 0.009 | 0.133 | 0.004 | 0.031 |
| **Scale Variables** | | | | |
| Academic Engagement | 0.030 | 0.000 | 0.017 | 0.007 |
| Social Engagement | 0.001 | 0.003 | 0.001 | 0.000 |
| Self-Perception | -0.002 | -0.003 | 0.001 | -0.001 |
| Parental Behaviour | -0.001 | -0.001 | -0.001 | 0.000 |
| PISA Reading Score | -0.014 | -0.081 | 0.009 | -0.060 |
| **Parental Aspirations** | | | | |
| High School Graduation | 0.000 | -0.346 | 0.000 | -0.134 |
| Attend Postsecondary | 0.002 | 0.356 | 0.002 | 0.158 |
| Level of Postsecondary | 0.044 | 0.220 | 0.028 | 0.138 |
| **Constant** | | -0.341 | | -0.177 |
| | 0.132 | 0.078 | 0.106 | 0.074 |

**Notes:** Actual difference between the mean of the immigrant generation and non-immigrants. The difference in rates of each group is shown in parentheses.

## Appendix

**Table A1.** Immigration region in model

| Region classification by United Nations | | | | |
|---|---|---|---|---|
| **Continents** | **Region** | **Countries within Region** | | |
| **North America** | **North America** | Bermuda | St.Pierre and Miquelon | |
| **South America** | **South America** | Argentina | Colombia | Peru |
| | | Bolivia | Ecuador | Uruguay |
| | | Brazil | Guyana | Venezuela |
| | | Chile | Paraguay | South America unspecified |
| **North America** | **Latin America and the Caribbean** | Aruba | Grenada | St.Vincent/Grenadines |
| | | Bahamas | Haiti | Trinidad-Tobago |
| | | Barbados | Jamaica | |
| | | Cuba | St.Lucia | |
| **North America** | **Central America** | Belize | Guatemala | Nicaragua |
| | | Costa Rica | Honduras | Central America unspecified |
| | | El Salvador | Mexico | |
| **Africa** | **Eastern Africa** | Burundi | Mauritius | Uganda |
| | | Eritrea | Mozambique | Zambia |
| | | Ethiopia | Somalia | Zimbabwe |
| | | Kenya | Tanzania | East Africa unspecified |
| **Africa** | **Middle Africa** | Angola | Congo | |
| **Africa** | **Northern Africa** | Algeria | Libya | Sudan |
| | | Egypt | Morocco | Tunisia |
| **Africa** | **Southern Africa** | Botswana | Lesotho | Republic of South Africa |
| **Africa** | **Western Africa** | Cape Verde Islands | Mali | Sierra Leone |
| | | Ghana | Nigeria | Togo |
| | | Africa unspecified | | West Indies |
| **Asia** | **East Asia** | Hong Kong | P.R. China | Macao |
| | | Taiwan | | |
| **Asia** | **East Asia** | South Korea | Japan | |
| | | Korea unspecified | Mongolia | |
| **Asia** | **South-East Asia** | Brunei | Malaysia | Thailand |
| | | Indonesia | Philippines | Union of Myanmar |
| | | Kampuchea | Singapore | Viet Nam |
| | | Laos | | |
| **Asia** | **Southern Asia** | Afghanistan | India | Pakistan |
| | | Bangladesh | Iran | Sri Lanka |
| | | Ethiopia | Somalia | Zimbabwe |
| | | Kenya | Tanzania | East Africa unspecified |
| **Asia** | **Western Asia** | Bahrain | Jordan | Saudi Arabia |
| | | Cyprus | Kuwait | Syria |
| | | Iraq | Lebanon | Turkey |
| | | Israel | Qatar | United Arab Emirates |
| | | Asia unspecified | | |

Appendix A1 continued

| Region classification by United Nations | | | | |
|---|---|---|---|---|
| **Continents** | **Region** | **Countries within Region** | | |
| **Europe** | **Western Europe** | Austria | France | Luxembourg |
| | | Belgium | Germany | Netherlands |
| | | | | Switzerland |
| **Europe** | **Northern Europe** | Denmark | Latvia | Sweden |
| | | Estonia | Lithuania | Iceland |
| | | Finland | Norway | |
| **Europe** | **Southern Europe** | Bosnia-Herzegovina | Malta | Slovenia |
| | | Croatia | Portugal | Spain |
| | | Greece | Serbia | Yugoslavia |
| | | Italy | | |
| **Europe** | **Eastern Europe** | Bulgaria | Hungary | Russia |
| | | Czech Republic | Moldavia | Slovakia |
| | | Czechoslovakia | Poland | Ukraine |
| | | | Romania | USSR |
| | | Europe unspecified | | |
| **Oceania** | **Australia and New Zealand** | Australia | New Zealand | |
| **Europe** | **Northern Europe** | United Kingdom | Ireland unspecified | Republic of Ireland (EIRE) |
| **North America** | **North America** | USA | | |
| **Oceania** | **Melanesia** | Fiji | Other | |

**Table A2.** Sample selection

| **Starting Sample** (YITS-A participants over all 4 cycles) | **% of Obs. in the Starting Sample** | **Observations Deleted** | **Observations Left** |
|---|---|---|---|
| **Starting Sample** (YITS-A participants over all 4 cycles) | | | 17374 |
| **High School Continuer** | 0.88 | 153 | 17221 |
| **High School Status Unknown** | 0.49 | 85 | 17136 |
| **Non-Canadian Citizen** | 0.25 | 43 | 17093 |
| **Missing Values** | | | |
| **Unknown visible minority status** | 0.25 | 43 | 17050 |
| **Unknown PSE status** | 1.30 | 225 | 16825 |
| **High Schol Grades** | 9.33 | 1621 | 15204 |
| **Scales** | 0.52 | 90 | 15114 |

**Note:** The sample includes only those respondants whose parents responded to the YITS-Parent questionaire in cycle one.

**Table A3a.** High school engagement scale: Social engagement

All the various scales used for both the 15-year-old and 18-20 year-old cohorts of the YITS were modeled after the Likert Scale (Likert, 1932). Scores released for the YITS scales were based on an item response theory (IRT) approach. The IRT scores and their respective standard errors were estimated using weighted maximum likelihood (see Warm, 1989) and applying a generalised partial credit model. The generalised partial credit model is an extension of the two parameter logistic distribution to polytomous (categorical) data (Muraki, 1997). For estimating IRT scores, the population distribution of the scores was specified to have a mean of zero and a standard deviation of one. Once standardised, the respondent's estimated score, in this case, could be interpreted as the number of standard deviations of the population of interest above (if positive) or below (if negative) the mean.

**Social Engagement**

Defined as the identification with and behavioural involvement in the social aspects of school (the school social life). It involves both a feeling of belonging to the school's social environment and a sense of fit between the individual and the school. This connection reflects the extent to which students feel personally accepted, respected, included and supported by others in the school's social environment.

| **Related Questions** | |
|---|---|
| YSA9K | People at school are interested in what I have to say. |
| YSA9O | I have friends at school whom I can talk to about personal things. |
| YSA9P | I have friends at school who can help me with school work, if needed. |
| ST31Q01 | My school is a place where I feel like an outsider. |
| ST31Q02 | My school is a place where I make friends easily. |
| ST31Q03 | My school is a place where I feel like I belong. |
| ST31Q04 | My school is a place where I feel awkward and out of place. |
| ST31Q05 | My school is a place where other students seem to like me. |
| ST31Q06 | My school is a place where I feel lonely. |

**Academic Engagement**

Defined as the identification with and behavioural involvement (participation) in the academic aspects of school. Academic aspects of school include the students' dealings with teachers, curricula, and the school governance.

**Related Questions**: Derived by a simple average of the variables "academic participation" and "academic identification"

| **Academic Participation** | |
|---|---|
| **Description** | Focusing on the first three levels of taxonomy to academic participation: the acquiescence to the need to attend school, to be prepared and to respond to directions and questions; students' demonstrating initiative-taking behaviours; and participation in the social, extracurricular, and athletic aspects of school life in addition to or as a substitute for extensive participation in academic work. |
| **Related Questions** | |
| YSA6 | Hours on homework outside of class during free periods and at home. |
| YSA7 | Number of time I cut or skipped a class without permission. |
| YSA8B | I completed my assignments. |
| ST32Q01 | I completed homework on time. |
| ST33Q01<br>ST33Q02<br>ST33Q03 | On average, time spent each week on homework and study in these subject areas:<br>test language,<br>mathematics and<br>science,<br>respectively. |

| **Academic Identification** | |
|---|---|
| **Description** | Measures a respondent's academic identification with high school, the focus of attention is on two components of identification, valuing and belonging. A student who fails to identify with school is expected to have a lack of valuing for the school and a lack of feelings of belonging to the school. |
| **Related Questions** | |
| YSA8I | I get along well with teachers; |
| YSA8J | I am interested in what I am learning in class; |
| YSA9E | School is one of the most important things in my life; |
| YSA9F | Many of the things we learn in class are useless; |
| YSA9G | Most of my teachers don't really care about me |
| YSA9H | Most of the time, I would like to be any place other than in school; |
| YSA9J | Most of what I learn in school will be useful when I get a job; |
| YSA9L | School is often a waste of time; |
| YSA9M | School is more important than most people think; |
| YSA9N | Most of my teachers do a good job of teaching; |
| ST30Q03 | Most of my teachers really listen to what I have to say; |
| ST30Q04 | If I need extra help, I will receive it from my teachers; |
| ST30Q05 | Most of my teachers treat me fairly; |
| ST31Q07 | My school is a place where I do not want to go; |
| ST32Q06 | I am given interesting homework. |

## Self-perception: **Self-Esteem**

The self-esteem scale that was chosen for the YITS is Morris Rosenberg's self-esteem scale (RSE) (Rosenberg, 1965, p.17). Rosenberg defines self-esteem as favourable or unfavourable attitudes towards the self and proposes a series of ten questions to measure it. Within the context of YITS, RSE attempts to measure adolescents' global feelings of self-worth or self-acceptance.

| **Related Questions** | |
|---|---|
| YSI1A | I feel I am a person of worth, at least on an equal basis with others. |
| YSI1B | I feel that I have a number of good qualities. |
| YSI1C | All in all, I tend to feel that I am a failure. |
| YSI1D | I am able to do things as well as most other people. |
| YSI1E | I feel I do not have much to be proud of. |
| YSI1F | I have a positive attitude toward myself. |
| YSI1G | On the whole, I am satisfied with myself. |
| YSI1H | I wish I could like myself more. |
| YSI1I | I certainly feel useless at times. |
| YSI1J | At times I think I am no good at all. |

## Self-perception: **Self-efficacy**

Defines academic self-efficacy as the student's competence and confidence in performance of class work as perceived by the student. This concept should be distinguished from global self-efficacy or mastery (i.e., the belief that one has control over one's own destiny).

| **Related Questions** | |
|---|---|
| YSA8K | I am certain I can understand the most difficult material presented in texts. |
| YSA8L | I am confident I can understand the most complex material presented by teacher. |
| YSA8M | I am confident I can do an excellent job on assignments and tests. |
| YSA8N | I am certain I can master the skills being taught. |

## Self-perception: **Self-mastery**

The powerlessness scale chosen by the YITS is based upon the work of Pearlin and Schooler (1978). This scale, referred to as the Mastery scale25, assesses a feeling of powerlessness without reference to concrete life situations. Mastery can be defined as a measure that assesses "the extent to which one regards one's lifechances as being under one's own control in contrast to being fatalistically ruled" (Pearlin and Schooler, 1978). Hence, if one scores high on the mastery scale, one does not feel powerless.

| **Related Questions** | |
|---|---|
| YSI2A | Sometimes I feel I'm being pushed around in life. |
| YSI2B | What happens to me in the future mostly depends on me. |
| YSI2C | There is really no way I can solve some of the problems I have. |
| YSI2D | There is little I can do to change many of the important things in my life. |
| YSI2E | I often feel helpless in dealing with the problems of life. |
| YSI2F | I have little control over the things that happen to me. |
| YSI2G | I can do just about anything I really set my mind to. |

## Social support

Measures the availability of social supports (via friends, family and other sources) for the youth. Three aspects were included: reliable alliance (the assurance that others can be counted upon for practical help), attachment (emotional closeness) and guidance (advice or information). These aspects are most directly related to problem-solving within the context of stress. Two items were proposed to measure each of these aspects for a total of six items.

| **Related Questions** | |
|---|---|
| YSD1A | If something went wrong, no one would help me. |
| YSD1B | I have family and friends who help me feel safe, secure and happy. |
| YSD1C | There is someone I trust whom I would turn to for advice if I were having problems. |
| YSD1D | There is no one I feel comfortable talking about problems with. |
| YSD1E | There is no one I feel close to. |
| YSD1F | There are people I can count on in times of trouble. |

## Parents' behaviours

Parents who are supportive of their youth's education, who are involved in their youth's school, and who have a firm but responsive parenting style have a positive influence on their youth's achievement and educational attainment. The parenting practices scales are designed to measure three facets of parenting: nurturance, inconsistent rejection-oriented discipline (rejection), and monitoring. An overall parenting scale was not formed from the three subscales.

| **Monitoring Behaviour** | |
|---|---|
| **Description** | Measures parents' monitoring behaviour. A monitoring parent is defined as one who believes that he or she is knowledgeable about his or her child's activities, whereabouts and friends. |
| **Related Questions** | |
| PB17A | Know where child goes at night. |
| PB17D | Know what child is doing when he/she goes out. |
| PB17G | Know who child spends time with when he/she goes out. |
| **Nurturance Behaviour** | |
| **Description** | Measures parents' nurturing behaviours. Nurturance represents child-centered effective parenting practices such as nurturance, involvement, and positive reinforcement. |
| **Related Questions** | |
| PB17C | Praise child. |
| PB17F | Listen to child's ideas and options. |
| PB17J | Make sure child knows that they are appreciated. |
| PB17M | Speak of good things those children does. |
| PB17O | Seem proud of the things child does. |
| **Inconsistent discipline (Rejection-oriented behaviour)** | |
| **Description** | Measures parents' inconsistent discipline or rejection-oriented behaviours. |
| **Related Questions** | |
| PB17B | Soon forget a rule that they have made. |
| PB17E | Nag child about little things. |
| PB17H | Keep rules only when it suits themselves. |
| PB17I | Get angry and yell at child. |
| PB17L | Threaten punishment more often than using it. |
| PB17N | Enforce or do not enforce rules depending on their mood |

### Student's performance score in reading

Weighted likelihood estimate in reading ability, which was provided for all students who answered at least one reading question. It was transformed to a scale with a mean of 500 and a standard deviation of 100 by using the data for the participating OECD countries only (except the Netherlands).

**Table A4a.** Access models, aggregate immigrant indicators with grade and scale variables, males

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **HS location - Urban (Rural)** | -0.053** | -0.019*** | -0.011*** | 0.066*** | -0.011** | 0.044*** | -0.011 | 0.056*** |
| | [0.021] | [0.017] | [0.017] | [0.015] | [0.017] | [0.017] | [0.018] | [0.016] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | -0.035*** | -0.085*** | -0.085*** | 0.110*** | -0.101*** | 0.133*** | -0.093*** | 0.117*** |
| | [0.025] | [0.028] | [0.029] | [0.029] | [0.029] | [0.031] | [0.030] | [0.029] |
| Prince Edward Island | -0.020*** | -0.182*** | -0.145*** | 0.117*** | -0.197*** | 0.240*** | -0.166*** | 0.169*** |
| | [0.021] | [0.025] | [0.026] | [0.027] | [0.024] | [0.028] | [0.025] | [0.027] |
| Nova Scotia | 0.002*** | -0.146*** | -0.128*** | 0.098*** | -0.181*** | 0.195*** | -0.146*** | 0.136*** |
| | [0.023] | [0.024] | [0.024] | [0.024] | [0.023] | [0.025] | [0.024] | [0.025] |
| New Brunswick | 0.024*** | -0.170*** | -0.129*** | 0.086*** | -0.184*** | 0.213*** | -0.154*** | 0.138*** |
| | [0.025] | [0.023] | [0.024] | [0.025] | [0.023] | [0.027] | [0.024] | [0.025] |
| Quebec | 0.064** | 0.019*** | 0.033 | -0.126*** | 0.013 | -0.084*** | 0.017 | -0.113*** |
| | [0.029] | [0.025] | [0.029] | [0.020] | [0.028] | [0.022] | [0.030] | [0.021] |
| Manitoba | 0.107*** | -0.213*** | -0.209*** | 0.097*** | -0.227*** | 0.149*** | -0.214*** | 0.121*** |
| | [0.032] | [0.022] | [0.021] | [0.024] | [0.022] | [0.025] | [0.022] | [0.024] |
| Saskatchewan | 0.080*** | -0.182*** | -0.175*** | 0.067*** | -0.202*** | 0.131*** | -0.185*** | 0.093*** |
| | [0.030] | [0.022] | [0.022] | [0.023] | [0.022] | [0.024] | [0.022] | [0.023] |
| Alberta | 0.117*** | -0.124*** | -0.135*** | 0.046** | -0.116*** | -0.030*** | -0.133*** | 0.016 |
| | [0.032] | [0.022] | [0.022] | [0.021] | [0.023] | [0.022] | [0.022] | [0.021] |
| British Columbia | 0.093*** | -0.108*** | -0.098*** | -0.003 | -0.109*** | 0.019 | -0.101*** | 0.001 |
| | [0.030] | [0.023] | [0.024] | [0.023] | [0.024] | [0.025] | [0.024] | [0.024] |
| **Linguistic Minority** | | | | | | | | |
| (Speaks Provincial Language) | | | | | | | | |
| French outside QC | -0.041 | 0.052 | 0.021 | 0.000 | 0.001 | 0.059*** | 0.004 | 0.044 |
| | [0.042] | [0.032] | [0.033] | [0.030] | [0.030] | [0.043] | [0.034] | [0.031] |
| English in QC | -0.080** | 0.046 | 0.046 | 0.058** | 0.055 | 0.057* | 0.055 | 0.058 |
| | [0.038] | [0.036] | [0.035] | [0.037] | [0.037] | [0.042] | [0.037] | [0.039] |
| **Family Type (Two Parents)** | | | | | | | | |
| Mother only | 0.027 | -0.016 | -0.029 | 0.007 | -0.031 | 0.001 | -0.030 | 0.007 |
| | [0.033] | [0.025] | [0.025] | [0.023] | [0.025] | [0.025] | [0.025] | [0.023] |
| Father only | -0.001* | 0.056 | -0.001 | -0.013 | -0.012 | -0.025 | -0.012 | -0.015 |
| | [0.048] | [0.051] | [0.046] | [0.038] | [0.047] | [0.044] | [0.047] | [0.041] |
| Other | -0.030 | 0.014 | -0.034 | 0.033 | -0.048 | 0.033 | -0.032 | 0.025 |
| | [0.083] | [0.084] | [0.071] | [0.071] | [0.076] | [0.092] | [0.073] | [0.072] |
| **Parent's Education (HS completed)** | | | | | | | | |
| Less than HS | 0.191*** | -0.051* | -0.031 | -0.089*** | -0.015 | -0.077** | -0.016 | -0.070** |
| | [0.057] | [0.031] | [0.033] | [0.031] | [0.036] | [0.035] | [0.035] | [0.031] |
| Some PSE | -0.051* | 0.025 | 0.038 | -0.024 | 0.036 | -0.020 | 0.031 | -0.026 |
| | [0.031] | [0.032] | [0.033] | [0.029] | [0.035] | [0.033] | [0.033] | [0.030] |
| Trade/College | -0.058*** | 0.004*** | 0.011 | 0.032* | 0.011 | 0.028* | 0.012 | 0.021 |
| | [0.022] | [0.019] | [0.020] | [0.019] | [0.020] | [0.020] | [0.020] | [0.019] |
| University-below BA degree | -0.142*** | -0.057* | -0.057* | 0.160*** | -0.049 | 0.138*** | -0.047 | 0.132*** |
| | [0.024] | [0.034] | [0.033] | [0.036] | [0.034] | [0.037] | [0.034] | [0.037] |
| University-BA | -0.196*** | -0.094*** | -0.062*** | 0.166*** | -0.066*** | 0.176*** | -0.055** | 0.142*** |
| | [0.015] | [0.021] | [0.022] | [0.023] | [0.022] | [0.025] | [0.022] | [0.023] |
| University-Grad | -0.256*** | -0.187*** | -0.125*** | 0.284*** | -0.141*** | 0.296*** | -0.113*** | 0.246*** |
| | [0.011] | [0.026] | [0.028] | [0.032] | [0.030] | [0.032] | [0.029] | [0.033] |
| Other/unknown | 0.117 | -0.286*** | -0.283*** | 0.184 | -0.277*** | 0.237* | -0.278*** | 0.234** |
| | [0.268] | [0.019] | [0.017] | [0.129] | [0.022] | [0.124] | [0.019] | [0.112] |

Table A4a continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Family Income Level** | | | | | | | | |
| ($50,000 to $75,000) | | | | | | | | |
| Extremely low ($0-$5,000) | -0.031 | -0.033 | -0.056 | 0.063 | -0.060 | 0.085 | -0.056 | 0.066 |
| | [0.075] | [0.065] | [0.064] | [0.063] | [0.064] | [0.062] | [0.064] | [0.063] |
| $5,000 to $25,000 | 0.015 | -0.007 | 0.024 | 0.005 | 0.001 | 0.016 | 0.012 | 0.013 |
| | [0.047] | [0.033] | [0.039] | [0.033] | [0.037] | [0.036] | [0.038] | [0.033] |
| $25,000 to $50,000 | 0.003 | -0.021 | -0.025 | 0.051*** | -0.023 | 0.039** | -0.023 | 0.046** |
| | [0.028] | [0.020] | [0.020] | [0.018] | [0.021] | [0.019] | [0.021] | [0.018] |
| $75,000 to $100,000 | -0.049** | -0.002** | -0.019** | 0.054*** | -0.004* | 0.036* | -0.009 | 0.043** |
| | [0.021] | [0.020] | [0.020] | [0.019] | [0.021] | [0.020] | [0.020] | [0.019] |
| $100,000 and up | -0.087*** | 0.015*** | 0.004 | 0.071*** | 0.012 | 0.045* | 0.009 | 0.055** |
| | [0.021] | [0.024] | [0.024] | [0.024] | [0.024] | [0.025] | [0.024] | [0.024] |
| **Immigrant Generation** | | | | | | | | |
| (Not an Immigrant) | | | | | | | | |
| 1st Generation | -0.142*** | 0.024 | 0.015 | 0.087** | 0.008 | 0.117*** | 0.015 | 0.092** |
| | [0.028] | [0.034] | [0.035] | [0.034] | [0.037] | [0.041] | [0.036] | [0.038] |
| 2nd Generation | -0.101*** | -0.005*** | -0.007 | 0.083*** | -0.015 | 0.098*** | -0.009 | 0.079*** |
| | [0.021] | [0.021] | [0.020] | [0.021] | [0.021] | [0.023] | [0.021] | [0.021] |
| Generation unknown | 0.075 | -0.047 | -0.050 | 0.032 | -0.031 | 0.004 | -0.049 | 0.031 |
| | [0.095] | [0.054] | [0.053] | [0.051] | [0.060] | [0.068] | [0.054] | [0.054] |
| **High School Grades** | | | | | | | | |
| Overall grade | | | -0.006*** | 0.015*** | | | -0.005*** | 0.012*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Math grade | | | -0.002*** | 0.001* | | | -0.002*** | 0.001* |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Main language grade | | | -0.003*** | 0.005*** | | | -0.003*** | 0.004*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Science grade | | | -0.002*** | 0.007*** | | | -0.001** | 0.004*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| **High School Engagement** | | | | | | | | |
| Academic identification | | | | | -0.001 | 0.014** | 0.003 | 0.006 |
| | | | | | [0.009] | [0.009] | [0.009] | [0.008] |
| Academic participation | | | | | -0.026*** | 0.094*** | -0.021** | 0.061*** |
| | | | | | [0.009] | [0.008] | [0.009] | [0.008] |
| Social engagement | | | | | -0.001 | -0.002 | -0.004 | 0.002 |
| | | | | | [0.009] | [0.008] | [0.009] | [0.008] |
| **Self-perception** | | | | | | | | |
| Self-esteem | | | | | -0.004 | 0.024** | -0.002 | 0.014 |
| | | | | | [0.011] | [0.011] | [0.010] | [0.010] |
| Self-efficacy | | | | | -0.022** | 0.051*** | -0.004 | 0.008 |
| | | | | | [0.009] | [0.009] | [0.009] | [0.009] |
| Self-mastery | | | | | 0.003 | 0.011 | -0.002 | 0.016* |
| | | | | | [0.010] | [0.010] | [0.010] | [0.009] |
| **Social Support** | | | | | 0.004 | -0.034*** | 0.005 | -0.027*** |
| | | | | | [0.009] | [0.009] | [0.009] | [0.009] |

Table A4a continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parental Behaviour** | | | | | | | | |
| Monitoring behaviour | | | | | 0.005 | 0.002** | 0.004 | 0.004* |
| | | | | | [0.008] | [0.008] | [0.008] | [0.007] |
| Nurturance behaviour | | | | | -0.006 | 0.011*** | -0.005 | 0.007 |
| | | | | | [0.008] | [0.008] | [0.008] | [0.007] |
| Inconsistent discipline | | | | | -0.004 | -0.022*** | -0.007 | -0.009 |
| | | | | | [0.008] | [0.008] | [0.008] | [0.007] |
| **Reading Ability** | | | | | -0.001*** | 0.002*** | 0.000*** | 0.001*** |
| | | | | | [0.000] | [0.000] | [0.000] | [0.000] |
| **Observations** | 8216 | | 7254 | | 7249 | | 7013 | |

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

**Table A4b.** Access models, aggregate immigrant indicators with grade and scale variables, females

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **HS location - Urban (Rural)** | -0.045*** | 0.044** | -0.049*** | 0.065*** | -0.036** | 0.038** | -0.042*** | 0.051*** |
| | [0.017] | [0.018] | [0.016] | [0.018] | [0.016] | [0.018] | [0.016] | [0.018] |
| **HS Province (ON)** | | | | | | | | |
| Newfoundland and Labrador | -0.135*** | 0.132*** | -0.145*** | 0.159*** | -0.133*** | 0.128*** | -0.134*** | 0.138*** |
| | [0.026] | [0.029] | [0.023] | [0.027] | [0.025] | [0.028] | [0.024] | [0.028] |
| Prince Edward Island | -0.177*** | 0.178*** | -0.145*** | 0.112*** | -0.193*** | 0.206*** | -0.166*** | 0.160*** |
| | [0.024] | [0.026] | [0.023] | [0.026] | [0.021] | [0.023] | [0.022] | [0.024] |
| Nova Scotia | -0.176*** | 0.170*** | -0.129*** | 0.111*** | -0.175*** | 0.192*** | -0.145*** | 0.146*** |
| | [0.023] | [0.025] | [0.022] | [0.026] | [0.021] | [0.024] | [0.021] | [0.025] |
| New Brunswick | -0.168*** | 0.145*** | -0.125*** | 0.100*** | -0.167*** | 0.175*** | -0.138*** | 0.132*** |
| | [0.023] | [0.025] | [0.022] | [0.025] | [0.020] | [0.023] | [0.021] | [0.024] |
| Quebec | 0.013 | -0.059** | 0.032 | -0.071*** | 0.034 | -0.066** | 0.036 | -0.066** |
| | [0.024] | [0.026] | [0.023] | [0.027] | [0.024] | [0.027] | [0.024] | [0.027] |
| Manitoba | -0.157*** | 0.077*** | -0.121*** | 0.034 | -0.145*** | 0.076*** | -0.126*** | 0.050* |
| | [0.024] | [0.026] | [0.023] | [0.027] | [0.023] | [0.025] | [0.023] | [0.026] |
| Saskatchewan | -0.141*** | 0.073*** | -0.092*** | 0.0139** | -0.135*** | 0.094*** | -0.106*** | 0.051** |
| | [0.024] | [0.026] | [0.023] | [0.026] | [0.023] | [0.025] | [0.023] | [0.026] |
| Alberta | -0.072*** | -0.055** | -0.100*** | 0.036 | -0.050** | -0.080*** | -0.079*** | -0.011 |
| | [0.024] | [0.025] | [0.022] | [0.024] | [0.024] | [0.025] | [0.023] | [0.025] |
| British Columbia | -0.089*** | -0.02 | -0.081*** | -0.02 | -0.082*** | -0.023 | -0.077*** | -0.023 |
| | [0.024] | [0.026] | [0.023] | [0.025] | [0.023] | [0.024] | [0.022] | [0.024] |
| **Linguistic Minority** (Speaks Provincial Language) | | | | | | | | |
| French outside QC | 0.01 | 0.016 | -0.025 | 0.046 | -0.024 | 0.069** | -0.029 | 0.073** |
| | [0.033] | [0.036] | [0.028] | [0.030] | [0.028] | [0.031] | [0.027] | [0.029] |
| English in QC | 0.02 | 0.042 | 0.004 | 0.07 | 0.008 | 0.067 | 0.003 | 0.068 |
| | [0.041] | [0.052] | [0.037] | [0.049] | [0.038] | [0.055] | [0.036] | [0.051] |
| **Family Type (Two Parents)** | | | | | | | | |
| Mother only | 0.017 | 0.006 | 0.011 | -0.005 | 0.013 | -0.004 | 0.011 | -0.008 |
| | [0.023] | [0.026] | [0.022] | [0.025] | [0.023] | [0.025] | [0.023] | [0.025] |
| Father only | 0.083* | -0.067 | 0.031 | -0.003 | 0.042 | -0.042 | 0.022 | -0.005 |
| | [0.049] | [0.056] | [0.046] | [0.051] | [0.045] | [0.048] | [0.044] | [0.047] |
| Other | -0.015 | 0.01 | -0.027 | 0.027 | -0.039 | 0.053 | -0.041 | 0.051 |
| | [0.071] | [0.083] | [0.067] | [0.080] | [0.064] | [0.074] | [0.062] | [0.074] |
| **Parent's Education (HS completed)** | | | | | | | | |
| Less than HS | 0.032 | -0.134*** | 0.025 | -0.071** | 0.036 | -0.093*** | 0.031 | -0.072** |
| | [0.029] | [0.031] | [0.029] | [0.032] | [0.030] | [0.032] | [0.029] | [0.032] |
| Some PSE | 0.002 | 0.042 | 0 | 0.033 | 0.024 | -0.003 | 0.016 | 0.012 |
| | [0.030] | [0.033] | [0.028] | [0.032] | [0.029] | [0.031] | [0.028] | [0.030] |
| Trade/College | -0.009 | 0.079*** | 0.003 | 0.037* | 0.017 | 0.017 | 0.016 | 0.017 |
| | [0.018] | [0.020] | [0.018] | [0.020] | [0.018] | [0.020] | [0.018] | [0.020] |
| University-below BA degree | -0.084*** | 0.214*** | -0.053* | 0.128*** | -0.033 | 0.099** | -0.033 | 0.088** |
| | [0.032] | [0.035] | [0.030] | [0.033] | [0.032] | [0.039] | [0.031] | [0.035] |
| University-BA | -0.097*** | 0.268*** | -0.034 | 0.152*** | -0.015 | 0.120*** | -0.006 | 0.104*** |
| | [0.023] | [0.026] | [0.022] | [0.028] | [0.023] | [0.028] | [0.022] | [0.028] |
| University-Grad | -0.189*** | 0.355*** | -0.118*** | 0.209*** | -0.115*** | 0.189*** | -0.103*** | 0.165*** |
| | [0.026] | [0.026] | [0.030] | [0.029] | [0.032] | [0.033] | [0.032] | [0.032] |
| Other/unknown | 0.406 | -0.281 | 0.29 | -0.168 | 0.163 | -0.107 | 0.126 | -0.055 |
| | [0.481] | [0.179] | [0.325] | [0.176] | [0.177] | [0.152] | [0.158] | [0.147] |

Table A4b continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Family Income Level ($50,000 to $75,000)** | | | | | | | | |
| Extremely low ($0-$5,000) | 0.043 | -0.094 | -0.003 | -0.01 | -0.06 | 0.065 | -0.046 | 0.047 |
| | [0.078] | [0.087] | [0.068] | [0.109] | [0.063] | [0.084] | [0.066] | [0.098] |
| $5,000 to $25,000 | -0.036 | -0.073** | -0.067** | -0.012 | -0.055* | -0.01 | -0.065** | 0.005 |
| | [0.029] | [0.032] | [0.028] | [0.033] | [0.029] | [0.033] | [0.028] | [0.032] |
| $25,000 to $50,000 | 0.027 | -0.098*** | 0.004 | -0.059*** | 0 | -0.044** | -0.005 | -0.036* |
| | [0.020] | [0.021] | [0.019] | [0.021] | [0.020] | [0.021] | [0.019] | [0.021] |
| $75,000 to $100,000 | -0.024 | 0.014 | -0.038* | 0.036* | -0.037* | 0.039* | -0.039** | 0.042** |
| | [0.021] | [0.023] | [0.019] | [0.021] | [0.020] | [0.022] | [0.019] | [0.021] |
| $100,000 and up | -0.031 | 0.085*** | -0.038 | 0.079*** | -0.038 | 0.082*** | -0.036 | 0.076*** |
| | [0.026] | [0.030] | [0.023] | [0.027] | [0.024] | [0.030] | [0.023] | [0.028] |
| **Immigrant Generation (Not an Immigrant)** | | | | | | | | |
| 1st Generation | -0.017 | 0.033 | -0.039 | 0.114*** | -0.060* | 0.146*** | -0.053* | 0.132*** |
| | [0.044] | [0.048] | [0.033] | [0.039] | [0.033] | [0.041] | [0.032] | [0.040] |
| 2nd Generation | -0.034 | 0.082*** | -0.050*** | 0.113*** | -0.042** | 0.106*** | -0.043** | 0.102*** |
| | [0.024] | [0.026] | [0.019] | [0.022] | [0.020] | [0.023] | [0.019] | [0.022] |
| Generation unknown | 0.07 | -0.101 | 0.035 | -0.042 | 0.059 | -0.066 | 0.043 | -0.047 |
| | [0.062] | [0.065] | [0.066] | [0.070] | [0.061] | [0.063] | [0.064] | [0.064] |
| **High School Grades** | | | | | | | | |
| Overall grade | | | -0.003*** | 0.015*** | | | -0.003** | 0.010*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Math grade | | | -0.001 | 0.001 | | | 0 | 0.001 |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Main language grade | | | -0.001 | 0.005*** | | | -0.001 | 0.004*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| Science grade | | | -0.003*** | 0.007*** | | | -0.002*** | 0.003*** |
| | | | [0.001] | [0.001] | | | [0.001] | [0.001] |
| **High School Engagement** | | | | | | | | |
| Academic identification | | | | | 0.014 | -0.008 | 0.014 | -0.004 |
| | | | | | [0.009] | [0.010] | [0.009] | [0.010] |
| Academic participation | | | | | -0.024*** | 0.128*** | -0.019** | 0.094*** |
| | | | | | [0.009] | [0.010] | [0.009] | [0.009] |
| Social engagement | | | | | -0.003 | 0.025*** | -0.006 | 0.025*** |
| | | | | | [0.009] | [0.009] | [0.008] | [0.009] |
| **Self-perception** | | | | | | | | |
| Self-esteem | | | | | 0.007 | 0.007 | 0.011 | -0.007 |
| | | | | | [0.010] | [0.011] | [0.010] | [0.011] |
| Self-efficacy | | | | | -0.030*** | 0.050*** | -0.020** | 0.014 |
| | | | | | [0.009] | [0.009] | [0.009] | [0.010] |
| Self-mastery | | | | | -0.011 | 0.01 | -0.011 | 0.017* |
| | | | | | [0.010] | [0.011] | [0.010] | [0.010] |
| **Social Support** | | | | | 0.009 | -0.038*** | 0.008 | -0.030*** |
| | | | | | [0.009] | [0.010] | [0.008] | [0.009] |

Table A4b continued

| | Basic Model | | Grades Only | | Scales Only | | Grades and Scales | |
|---|---|---|---|---|---|---|---|---|
| | College | University | College | University | College | University | College | University |
| **Parental Behaviour** | | | | | | | | |
| Monitoring behaviour | | | | | -0.012 | 0.025*** | -0.012 | 0.023** |
| | | | | | [0.008] | [0.009] | [0.008] | [0.009] |
| Nurturance behaviour | | | | | 0.005 | -0.011 | 0.004 | -0.01 |
| | | | | | [0.008] | [0.008] | [0.008] | [0.008] |
| Inconsistent discipline | | | | | 0.004 | -0.009 | 0.001 | 0 |
| | | | | | [0.007] | [0.008] | [0.007] | [0.007] |
| **Reading Ability** | | | | | 0.000*** | 0.002*** | 0.000*** | 0.001*** |
| | | | | | [0.000] | [0.000] | [0.000] | [0.000] |
| **Observations** | 8609 | | 7872 | | 7729 | | 7729 | |

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

**Table A5a.** Linear probability access models, by generation

| | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **Female (Male)** | 0.160*** | 0.169*** | 0.161*** |
| | [0.011] | [0.044] | [0.026] |
| **HS Province (ON)** | | | |
| Atlantic | 0.150*** | 0.115 | 0.126*** |
| | [0.015] | [0.082] | [0.038] |
| Quebec | -0.056*** | -0.247*** | -0.068 |
| | [0.017] | [0.064] | [0.044] |
| Manitoba | 0.102*** | -0.003 | 0.019 |
| | [0.020] | [0.083] | [0.042] |
| Saskatchewan | 0.090*** | 0.116 | -0.005 |
| | [0.019] | [0.131] | [0.062] |
| Alberta | -0.036* | 0.043 | -0.032 |
| | [0.019] | [0.062] | [0.037] |
| British Columbia | -0.017 | 0.070 | -0.029 |
| | [0.021] | [0.049] | [0.034] |
| **Linguistic Minority (Speaks Provincial Language)** | | | |
| English in QC | 0.053* | -0.139 | -0.041 |
| | [0.029] | [0.142] | [0.055] |
| French outside QC | 0.000 | 0.187 | -0.059 |
| | [0.023] | [0.164] | [0.118] |
| **Family Type (Two Parents)** | | | |
| Mother only | 0.032* | -0.160** | -0.053 |
| | [0.019] | [0.069] | [0.052] |
| Father only | -0.020 | -0.242* | -0.029 |
| | [0.031] | [0.132] | [0.112] |
| **Parent's Education (HS completed)** | | | |
| Less than HS | -0.106*** | -0.159 | -0.100* |
| | [0.016] | [0.100] | [0.058] |
| Some PSE | 0.042* | -0.102 | 0.053 |
| | [0.024] | [0.109] | [0.060] |
| Trade/College | 0.075*** | 0.084 | 0.053 |
| | [0.015] | [0.076] | [0.042] |
| University-below BA degree | 0.230*** | 0.239** | 0.175** |
| | [0.030] | [0.112] | [0.073] |
| University-BA | 0.314*** | 0.141* | 0.317*** |
| | [0.020] | [0.072] | [0.044] |
| University-Grad | 0.452*** | 0.325*** | 0.464*** |
| | [0.025] | [0.078] | [0.043] |
| **Family Income Level ($50,000 to $75,000)** | | | |
| Extremely low ($0-$5,000) | -0.034 | 0.022 | -0.021 |
| | [0.058] | [0.145] | [0.151] |
| $5,000 to $25,000 | -0.078*** | 0.049 | 0.030 |
| | [0.023] | [0.064] | [0.070] |
| $25,000 to $50,000 | -0.060*** | -0.026 | 0.010 |
| | [0.015] | [0.060] | [0.039] |
| $75,000 to $100,000 | 0.057*** | 0.013 | -0.031 |
| | [0.016] | [0.074] | [0.036] |
| $100,000 and up | 0.097*** | -0.014 | 0.039 |
| | [0.020] | [0.078] | [0.039] |
| **Constant** | 0.167*** | 0.403** | 0.327*** |
| | [0.018] | [0.079] | [0.042] |
| **Observations** | 13589 | 732 | 2145 |

Notes: Omitted categories are in parentheses. Standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1.
Total number of observations is smaller than in previous tables because respondents whose generation was unknown were not included.

**Table A5b.** Linear probability access models, by generation, with grade, scale and parental aspiration variables

| | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **Female (Male)** | 0.061*** | 0.056 | 0.049*** |
| | [0.012] | [0.046] | [0.025] |
| **HS Province (ON)** | | | |
| Atlantic | 0.128*** | 0.094 | 0.073*** |
| | [0.014] | [0.081] | [0.034] |
| Quebec | -0.087*** | -0.137** | -0.036 |
| | [0.016] | [0.066] | [0.040] |
| Manitoba | 0.085*** | 0.043 | 0.041 |
| | [0.019] | [0.075] | [0.039] |
| Saskatchewan | 0.078*** | 0.108 | -0.008 |
| | [0.018] | [0.110] | [0.053] |
| Alberta | -0.004 | 0.065 | -0.045 |
| | [0.017] | [0.057] | [0.031] |
| British Columbia | -0.002 | 0.012 | -0.043 |
| | [0.019] | [0.047] | [0.030] |
| **Linguistic Minority** | | | |
| (Speaks Provincial Language) | | | |
| English in QC | 0.050* | 0.074 | -0.042 |
| | [0.028] | [0.191] | [0.053] |
| French outside QC | 0.0597*** | 0.392*** | 0.042 |
| | [0.019] | [0.102] | [0.073] |
| **Family Type** (Two Parents) | | | |
| Mother only | -0.014 | -0.073 | 0.030 |
| | [0.018] | [0.068] | [0.043] |
| Father only | -0.013 | -0.057 | 0.101 |
| | [0.033] | [0.138] | [0.082] |
| **Parent's Education (HS completed)** | | | |
| Less than HS | -0.042** | -0.152 | -0.030* |
| | [0.019] | [0.086] | [0.056] |
| Some PSE | 0.015* | -0.253 | 0.002 |
| | [0.024] | [0.077] | [0.050] |
| Trade/College | 0.032*** | -0.103 | 0.052 |
| | [0.014] | [0.068] | [0.036] |
| University-below BA degree | 0.133*** | -0.053** | 0.079** |
| | [0.026] | [0.106] | [0.067] |
| University-BA | 0.156*** | -0.107* | 0.137*** |
| | [0.019] | [0.064] | [0.039] |
| University-Grad | 0.219*** | -0.021*** | 0.169*** |
| | [0.022] | [0.068] | [0.041] |
| **Family Income Level ($50,000 to $75,000)** | | | |
| Extremely low ($0-$5,000) | 0.027 | -0.006 | 0.170* |
| | [0.059] | [0.128] | [0.091] |
| $5,000 to $25,000 | 0.001*** | 0.015 | 0.050 |
| | [0.024] | [0.063] | [0.070] |
| $25,000 to $50,000 | -0.003*** | 0.025 | -0.018 |
| | [0.014] | [0.049] | [0.033] |
| $75,000 to $100,000 | 0.052*** | -0.036 | -0.015 |
| | [0.015] | [0.060] | [0.031] |
| $100,000 and up | 0.074*** | 0.003 | -0.003 |
| | [0.018] | [0.065] | [0.033] |

Table A5b continued

| | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **High School Grades** | | | |
| Overall High School Grades | 0.007*** | 0.013*** | 0.011*** |
| | [0.001] | [0.003] | [0.002] |
| High School Math Grade | 0.001*** | 0.002 | 0.001 |
| | [0.001] | [0.002] | [0.001] |
| High School Reading Grade | 0.004*** | 0.001 | 0.003** |
| | [0.001] | [0.003] | [0.001] |
| High School Science Grade | 0.003*** | 0.005*** | 0.003*** |
| | [0.000] | [0.002] | [0.001] |
| **Scale Variables** | | | |
| **Academic Engagement** | | | |
| Academic Identification | -0.002 | -0.033 | 0.008 |
| | [0.007] | [0.023] | [0.014] |
| Academic Participation | 0.044*** | 0.066*** | 0.081*** |
| | [0.006] | [0.025] | [0.015] |
| **Social Engagement** | 0.013** | -0.015 | -0.005 |
| | [0.006] | [0.024] | [0.014] |
| **Self-Perception** | | | |
| Self Esteem | -0.005 | 0.004 | 0.009 |
| | [0.008] | [0.024] | [0.017] |
| Self-Efficacy | 0.013* | -0.014 | 0.005 |
| | [0.007] | [0.024] | [0.014] |
| Self-Mastery | 0.023*** | 0.007 | -0.003 |
| | [0.007] | [0.022] | [0.016] |
| Social Support | -0.020*** | -0.019 | -0.027* |
| | [0.007] | [0.025] | [0.015] |
| **Parental Behaviour** | | | |
| Monitoring Behaviour | 0.012** | 0.023 | 0.004 |
| | [0.006] | [0.017] | [0.013] |
| Nurturance Behaviour | 0.008 | -0.026 | -0.013 |
| | [0.006] | [0.017] | [0.012] |
| Inconsistant Discipline | -0.002 | 0.005 | -0.007 |
| | [0.005] | [0.019] | [0.011] |
| **PISA Reading Score** | 0.001*** | 0.001*** | 0.001*** |
| | [0.000] | [0.000] | [0.000] |
| **Parental Aspirations** | | | |
| **High School Graduation** | | | |
| Slightly Important | 0.235 | | 0.200 |
| | [0.120] | | [0.203] |
| Fairly Important | 0.234 | | 0.025 |
| | [0.176] | | [0.197] |
| Highly Important | 0.211 | -0.212 | 0.064 |
| | [0.162] | [0.157] | [0.139] |
| **Attend Post-secondary Education** | | | |
| Slightly Important | -0.018 | 0.517 | 0.046 |
| | [0.161] | [0.314] | [0.144] |
| Fairly Important | -0.039 | 0.348 | 0.055 |
| | [0.161] | [0.299] | [0.135] |
| Highly Important | -0.021 | 0.416 | 0.160 |
| | [0.160] | [0.289] | [0.134] |

Table A5b continued

| | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **Highest Level Parents Hope Child will Get** | | | |
| Less than High School | -0.240 | | |
| | [0.148] | | |
| Trade/College | -0.077*** | 0.174 | 0.055 |
| | [0.026] | [0.203] | [0.066] |
| One University Degree | 0.065** | 0.314 | 0.225*** |
| | [0.027] | [0.201] | [0.067] |
| More than one University Degree | 0.100*** | 0.465** | 0.256*** |
| | [0.031] | [0.202] | [0.070] |
| Any level of Post-secondary Education | -0.018 | -0.031 | 0.130 |
| | 0.031 | 0.223 | 0.082 |
| **Constant** | -1.605*** | -2.020** | -1.800*** |
| | [0.076] | [0.425] | [0.220] |
| **Observations** | 11832 | 638 | 1915 |

**Notes:** Omitted categories are in parentheses. Standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1.
Total number of observations is smaller than in Table A5a because respondents whose generation was unknown were not included, nor were those with missing values for the additional variables.

**Table A6.** Descriptive statistics by generation (Means)

| Variable | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **Female** | 0.49 | 0.52 | 0.51 |
| **HS Location** | | | |
| Urban | 0.71 | 0.95 | 0.91 |
| **HS Province** | | | |
| Atlantic Region | 0.11 | 0.01 | 0.03 |
| Quebec | 0.27 | 0.10 | 0.10 |
| Ontario | 0.32 | 0.56 | 0.54 |
| Manitoba | 0.04 | 0.02 | 0.04 |
| Saskatchewan | 0.05 | 0.00 | 0.01 |
| Alberta | 0.11 | 0.07 | 0.11 |
| British Columbia | 0.10 | 0.24 | 0.18 |
| **Linguistic Minority** | | | |
| Speaks Majority Language | 0.95 | 0.99 | 0.96 |
| English in QC | 0.02 | 0.01 | 0.03 |
| French outside QC | 0.04 | 0.00 | 0.01 |
| **Family Type** | | | |
| Two Parents | 0.83 | 0.84 | 0.87 |
| Mother only | 0.14 | 0.11 | 0.11 |
| Father only | 0.03 | 0.03 | 0.01 |
| **Parent's Education** | | | |
| Less than HS | 0.09 | 0.08 | 0.07 |
| High School completed | 0.23 | 0.15 | 0.19 |
| Some PSE | 0.07 | 0.07 | 0.07 |
| Trade/College | 0.33 | 0.22 | 0.27 |
| University-below BA degree | 0.05 | 0.04 | 0.05 |
| University-BA | 0.17 | 0.26 | 0.22 |
| University-Grad | 0.07 | 0.19 | 0.13 |
| **Family Income Level** | | | |
| Extremely low ($0-$5,000) | 0.01 | 0.03 | 0.01 |
| $5,000 to $25,000 | 0.07 | 0.18 | 0.04 |
| $25,000 to $50,000 | 0.25 | 0.32 | 0.22 |
| $50,000 to $75,000 | 0.29 | 0.22 | 0.29 |
| $75,000 to $100,000 | 0.23 | 0.15 | 0.25 |
| $100,000 and up | 0.15 | 0.10 | 0.18 |
| **High School Grades** | | | |
| Overall High School Grades | 77 | 79 | 78 |
| High School Math Grade | 75 | 77 | 75 |
| High School Reading Grade | 77 | 77 | 78 |
| High School Science Grade | 74 | 77 | 76 |
| **Scale Variables** | | | |
| **Academic Engagement** | | | |
| Academic Identification | -0.02 | 0.38 | 0.06 |
| Academic Participation | -0.08 | 0.49 | 0.23 |
| **Social Engagement** | -0.05 | -0.16 | 0.01 |
| **Self-Perception** | | | |
| Self Esteem | 0.00 | -0.01 | 0.03 |
| Self-Efficacy | -0.02 | 0.17 | 0.03 |
| Self-Mastery | 0.02 | -0.16 | 0.04 |
| Social Support | 0.01 | -0.08 | -0.01 |

Table A6 continued

| Variable | Non-Immigrants | First Generation | Second Generation |
|---|---|---|---|
| **Parental Behaviour** | | | |
| Monitoring Behaviour | 0.05 | -0.10 | 0.01 |
| Nurturance Behaviour | 0.03 | -0.09 | -0.08 |
| Inconsistant Discipline | 0.00 | -0.09 | 0.07 |
| **PISA Reading Score** | 535 | 516 | 545 |
| **Parental Aspirations** | | | |
| High School Graduation | | | |
| Not Important at All | -- | 0.00 | -- |
| Slightly Important | -- | -- | -- |
| Fairly Important | 0.02 | 0.01 | 0.01 |
| Highly Important | 0.97 | 0.99 | 0.99 |
| **Attend Post-secondary Education** | | | |
| Not Important at All | 0.00 | -- | -- |
| Slightly Important | 0.02 | -- | -- |
| Fairly Important | 0.12 | 0.03 | 0.07 |
| Highly Important | 0.85 | 0.96 | 0.92 |
| **Highest Level Parents Hope Child will Get** | | | |
| Less than High School | -- | -- | -- |
| Complete High School | 0.03 | 0.01 | 0.01 |
| Trade/College | 0.30 | 0.11 | 0.16 |
| One University Degree | 0.46 | 0.55 | 0.53 |
| More than one University Degree | 0.13 | 0.29 | 0.22 |
| Any level of Post-secondary Education | 0.08 | 0.04 | 0.07 |
| **Observations** | 11832 | 638 | 1915 |

**Note:** The statistics not shown have small sample sizes or were otherwise suppressed to follow Statistics Canada's rules regarding residual disclosure.