University Attendance and the Children of Immigrants: Patterns of Participation and the Role of Background Factors

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ABSTRACT

The children of Canadian immigrants from some source regions, Asia, Africa and China in particular, attend university at very high rates. Most other immigrant groups participate at lower rates, but still compare favourably with non-immigrant Canadians. In this paper the Youth in Transition Survey is used to analyse the role of various background factors on these outcomes, including parental education, family income, parental expectations, high school grades, and PISA test scores. To some degree, the children of immigrants go to university because they have higher levels of the background attributes associated with university attendance, parental education in particular. But by allowing these effects to vary by immigrant group, this research finds that the high overall immigrant university participation rates are largely driven by those who attend university *in spite of* some apparent disadvantages (e.g., low parental education). Another finding is that among our population of youth who had arrived in Canada by the age of 15, year of immigration has no effect on PSE participation.

JEL codes: I20, I23, J15, J18

Executive Summary

Finnie and Mueller (2009, 2010) showed that the children of immigrants attend post-secondary education (PSE), especially university, at much higher rates than their non-immigrant counterparts, and this result applies to both the first generation, children, who came to Canada as immigrants themselves (technically, the 1.5 generation since they arrived by the age of 15 in these data), and the second generation, defined as those born in Canada to parents who came as immigrants. Overall, university participation rates by age 21 are 57 percent for first generation immigrants, and 54 percent for second generation immigrants, compared to 38 percent for the non-immigrant population.

What is perhaps more surprising is the range of outcomes among different immigrant groups. For example, by age 21 over 98 percent of first generation Chinese had attended some form of PSE, with 88 percent having attended at least some university. For the second generation, these numbers decline somewhat to 94 percent and 82 percent, respectively. Certain other immigrant groups, namely those from Africa and East Asia (including India and Pakistan), also have high participation rates (in the 60-80 percent range for university attendance). Those from Europe and the Anglosphere (i.e., English-speaking countries) have lower rates than these, but still go to university at higher rates than the non-immigrant population. Only those from Central and Latin America (including the Caribbean) tend to have lower participation rates than the non-immigrant population.

Furthermore, these significant immigrant effects hold for both first and second immigrant generations even after controlling for a variety of background influences, including family income and parental education and expectations, as well as academic preparation as measured by high school grades and PISA test scores. But how could it be that substantial differences remain even after controlling for these factors, along with other potential influences?

To further explore this question, this research uses a more flexible functional form in the access model employed, whereby the key determinants of PSE attendance – family income, parental education, parental aspirations for their children's schooling, high school grades, PISA reading scores – are allowed to vary by immigrant source region. This contrasts to previous work, which has largely constrained these effects to be the same across all immigrant and non-immigrant groups.

The paper finds that the children of immigrants go to university in higher numbers partially because they come from family backgrounds that are amenable to attending (e.g., high levels of parental education), but also because those possessing characteristics usually viewed as being disadvantageous (lower levels of parental education in particular) attend university *in spite of* these apparent disadvantages.

These patterns even hold when high school grades and (even more so) PISA scores are considered. It's not so much that immigrant children get high grades in high school and do well on their PISA scores (in fact they actually tend to do worse on the latter), but that they tend to go to university even when their performance is relatively weak. Somehow these disadvantages are

overcome even when, statistically speaking, these young people do not possess the usual characteristics to attend university.

This paper also introduces the year of immigration for the first generation (i.e., those born abroad). Here there is no significant relationship as PSE participation rates do not appear to vary by the age of arrival – at least among those who have arrived by age 15.

Finally, measures of ethnic capital – defined as mean values of immigrant-group specific paternal education and parental income – are included in the model. The results show little statistical or economic significance.

University Attendance and the Children of Immigrants: Patterns of Participation and the Role of Background Factors

"No one who rises before dawn three hundred sixty days

a year fails to make his family rich."[1]

"Nothing comes worthier than being well-educated."[2]

I.   Introduction and Background

In previous work, Finnie and Mueller (2009, 2010) showed that the children of immigrants attend post-secondary education (PSE), especially university, at significantly higher rates than their non-immigrant counterparts. This holds for both first generation children, who came to Canada as immigrants themselves (by the age of 15 in these data), and the second generation, (defined as those born in Canada to parents who themselves came as immigrants). Overall, university participation rates are 57 percent for first generation immigrants, and 54 percent for second generation immigrants, compared to 38 percent for the non-immigrant population by the age of 21.

This result is perhaps not surprising given the increased emphasis that Canadian immigration policy has placed on attracting highly educated immigrants, coupled with the fact that education tends to be passed from parents to children. Indeed, this set of relationships – high educational attainment by the children of immigrants related to the relatively high schooling levels held by their parents, in turn linked to the Canadian immigration system – has become part of the story of Canadian immigration.

And it appears to be positive story, since it contrasts sharply with the experiences of most other Western countries, whose children of immigrants are not doing nearly as well in these terms (or others). The finding also stands in stark contrast to most of the recent literature which shows that

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[1] Malcolm Gladwell in *Outliers* explaining how Chinese persistence stems from its centuries-old wet-rice cultivation techniques.

[2] An old Chinese saying.

recent Canadian immigrants are not doing as well in the Canadian labour market compared to both previous cohorts of immigrants or to the non-immigrant population.[3]

What is perhaps more surprising is the range of outcomes among different immigrant groups. For example, by the age of 21, over 98 percent of first generation Chinese had attended some form of PSE, with 88 percent having attended at least some university. These numbers go down for the second-generation Chinese, but only slightly, to 94 percent and 82 percent, respectively. Certain other immigrant groups, namely those from Africa and East Asia (including India and Pakistan), also have high participation rates (in the 60-80 percent range for university attendance). Those from Europe and "the Anglosphere" have lower rates than these, but still go to university at higher rates than the non-immigrant population. Only those from Central and Latin America (including the Caribbean) tend to have lower participation rates than the non-immigrant population.[4]

Furthermore, these significant "immigrant effects" hold for both first and second immigrant generations even after controlling for a variety of background influences, including family income and parental education and expectations, as well as academic preparation as measured by high school grades and PISA test scores. These latter results began to call into question the immigrant story noted above: after all, if higher levels of parental education are the source of their children's educational attainment, how could it be that substantial differences remain even after controlling for these factors, along with other potential influences?

To explore these issues further, the principal contribution of this paper is to use a more flexible functional form in the access model employed, whereby the key determinants of PSE attendance – family income, parental education, parental aspirations for their children's schooling, high school grades, PISA reading scores – are allowed to vary by immigrant source region. This contrasts to previous work, which has largely constrained these effects to be the same across all

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[3] Examples of this research include Aydemir, Chen and Corak (2008), Aydemir and Skuterud (2005), Broudarbat and Lemieux (2010), Frenette and Morissette (2005), Hou (2010), Li (2001), and Picot (2008). Also, see Reitz (2007a,b) and Picot and Hou (2011b) for comprehensive reviews of the factors behind this decline.

[4] See Picot and Hou (2011a) for a recent and detailed review of the educational attainment literature by source region.

immigrant and non-immigrant groups, even though there is no theoretical reason to believe that the effects of (say) parental education should be the same across groups.

This leads to the main finding of the paper that although the children of immigrants go to university in higher numbers *to some degree* because they have higher levels of the background attributes associated with university attendance, parental education in particular, the high immigrant university participation rates are largely driven by those possessing characteristics usually viewed as being disadvantageous (lower levels of parental education in particular) attending university *in spite of* these apparent disadvantages. They also tend to attend university at higher rates even when the attributes are favourable (higher levels of parental education, higher family income, etc.), but the differences here are not so great.

Interestingly, these patterns even hold when high school grades and (even more so) PISA scores are considered. It's not so much that immigrant children get high grades in high school and do well on their PISA scores (in fact they actually tend to do worse on the latter), thus ushering them into university spots, but that they tend to go to university even when their performance is relatively weak. Somehow these disadvantages are overcome even when, statistically speaking, these young people do not possess the usual characteristics to attend university.

The answer as to why the children of immigrants go to university at such high rates thus reverts to at least a significant degree to one with which economists (among others) tend to be uncomfortable – cultural differences. Or, in more neutral terms these differences must be attributed to unobservable (or at least unmeasured) factors – despite the unprecedented richness of the Youth in Transition Survey data employed here. Further research is warranted.

This paper also introduces the year of immigration for the first generation children of immigrants (i.e., those born abroad), since the amount of time spent in Canada has been shown to be an important correlate of educational and labour market outcomes. Here there is no significant effect: PSE participation rates do not appear to vary by the age of arrival – at least among those who have arrived by age 15.

Finally, measures of ethnic capital – define as mean values of immigrant-group specific paternal education and income – are included in the model. The results show little statistical or economic significance.

II. Literature[5]

In Canada, evidence from Kučera (2008) has shown that second generation immigrants have higher levels of educational attainment relative to those born to Canadian-born parents, even after controlling a number of individual and family characteristics. However, he does not disaggregate by source region, nor does his General Social Survey data contain the same rich background variables as some other data sets.

Abada, Hou and Ram (2008) use the 2002 Ethnic Diversity Survey to find higher educational attainment among second-generation immigrants compared to non-immigrants, even after controlling for a variety of other influencing factors. They also include parental region of origin and find that the children of Chinese and Indian immigrants, in particular, attain the highest levels of university education, while those of Portuguese ancestry have low university completion rates. Indeed, Bonikowska and Hou (2011) find that much of the increase in the positive completion rate gap between the 1.5 generation (those who arrived at age 12 or earlier) and the third-or-higher generation can be explained by the change in the source countries, especially Asia, where the propensity to send children to university is higher than both the third generation or higher and immigrants from other source regions. In a similar fashion to the current paper, these studies focus on the children of immigrants, including the 1.5 generation.

Thiessen (2009) uses the Youth in Transition Survey and disaggregates his sample into first generation immigrants, and second generation or above based on the ethnicity of the respondents. He discovers that those with East Asian ethnicity (i.e., Korean, Chinese or Japanese heritage) had the highest probability of attending university, regardless of whether they were born in Canada or abroad.

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[5] See Finnie and Mueller (2009, 2010) for a more general review of the immigration literature. Here the focus is on the work most pertinent to the issues addressed in this paper.

Western Europe, is also is also taking more interest in these issues as large-scale immigration is relatively new to many of these countries, and immigrant outcomes can vary between host countries, source regions, and time periods. Indeed, the international literature also reveals a great deal of heterogeneity in educational outcomes by source region, for both first and second generation immigrants (e.g., Chiswick and DebBurman (2004) for the United States, van Ours and Veenman (2003, 2006) for the Netherlands, Riphahn (2003) for Germany, Algan, et al. (2010) for Germany, France and the UK, etc.) Some groups of immigrants have better educational outcomes than the non-immigrant population, whereas others do not fare so well, even after controlling for important family and other background factors.

A largely overlooked phenomenon in the economics literature is the role that parental aspirations play in the educational attainment of their children. An increasing body of sociological literature, however, discusses the importance of parental aspirations. In their review, Heath et al. (2008) discuss parental aspirations for their children's education among immigrants in Western Europe. These aspirations tend to be higher than for non-immigrants, but this differs considerably among immigrant groups. One explanation for these higher aspirations is known as the family mobilization thesis, whereby the success of children is an integral part of the initial migration decision. Parental aspirations may also be based on the relative standing of the parents in their country of origin, rather than on their status in the country of destination. Of course, these aspirations must be transferred to their children. For example, based on his review of the evidence, Modood (2004) suggests that what drives the educational success of the British South Asian and Chinese communities is that parents are able to get their children to internalize high educational ambitions and to enforce appropriate behaviour, despite their relatively disadvantaged status in British society.

Empirical evidence for Canada suggests a similar pattern. Krahn and Taylor (2005) use the first cycle of the YITS-A and find that 15-year old visible minority immigrants (VMIs) have university aspirations that are much higher than those of the Canadian-born non-visible minority population (CBNVMs), and these aspirations do not vary a great deal with parental income. In particular, it is those from lower income families that have the highest relative aspirations. For

example, only 43 percent of CBNVMs from households with incomes below $30,000 aspire to a university education, compared to 75 percent for VMIs. For households with incomes in excess of $90,000, 70 percent of CBNVMs have university aspirations compared to 70 percent of VMIs. Thus, VMIs have a high, but relatively flat income-aspirations profile compared to the CBNVM group. Stated differently, aspirations amongst VMIs are not as dependent on income. As noted earlier, Finnie and Mueller (2009, 2010) show that region of origin effects still persist, even after controlling for parental aspirations.

Regarding year of immigration, Schaafsma and Sweetman (2001), for example, use census data from 1991 and 1996 to find that those who entered Canada in their late teens were less likely to graduate from high school compared to those who entered earlier. Even the older immigrant teens who did complete high school were less likely to graduate from university. Corak (2009) takes this analysis one step further, showing that the probability of high school graduation goes down markedly for those who come to Canada after about age nine compared to those who entered earlier. He argues that this age is a critical point whereby second language acquisition is relatively more difficult, especially amongst those whose native language is linguistically distant from either French or English.

Lower educational attainment among later arrivals is also found internationally. For the US, Chiswick and DebBurman (2004) show that first generation immigrants who arrive in their teens or later have fewer years of education as adults compared to those who arrive in their pre-teen years. For the Netherlands, van Ours and Veenman (2006) find that immigrants who arrived at the age of 11 or older have lower levels of educational attainment than those who arrived earlier.

Another important factor in accessing PSE is ethnic capital (Borjas, 1992, 1995), defined as the overall socioeconomic resources possessed by an ethnic group. In practice, this is usually the educational attainment and income levels of the specific ethnic group.[6] And any ethnic capital effects are in addition to the direct effects of an individual's parental income and parental education. Abada, Hou and Ram (2008) use the 2002 Ethnic Diversity Survey (EDS) merged

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[6] See Picot and Hou (2011a) for a recent review of this literature.

with 1991 census data on mean universities completion rates and incomes among males aged 35 to 50 from 76 different sources countries or regions, to act as a measure of ethnic capital amongst the probable fathers of those surveyed in the EDS. They find that the gap between second generation and third-or-higher generation university completion rates shrinks for most ethnic groups and could be accounted for after controlling for ethnic capital and the usual array of other variables. For those from India and China, however, a large proportion of the raw gap remains.

III.   Methodology and Data

The Econometric Model

Access to PSE is modeled as a function of different sets of influences including, most importantly for the purposes of this paper, the individual's immigrant status and the region of origin of the individual (or their parents), as well as the principal demographic and family background variables typically included in such models. the model is then supplemented with the more comprehensive set of regressors representing the other influences captured in the Youth in Transition Survey, Cohort A or YITS-A (high school grades at age 15, PISA reading scores, high school engagement, etc.) and other influences specifically related to immigrants (such as year of immigration or the educational attainment of the ethnic group.).

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 or trade school, university), the X_i are the vectors of covariates that influence Y, the β_i are the coefficients associated with each set of X, and μ is a stochastic error term.

The vector X_1 consists of the immigrant identifiers alone. These come in two forms. In the first, the youth are classified solely by their broad immigrant status: first generation immigrant (or more technically, the 1.5 generation given their arrival in the country by the age of 15), second generation immigrant, or non-immigrant. This specification allows one to capture the broad differences between the PSE experiences of immigrant and non-immigrant youth. 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) are substituted for the basic measures. This allows one to model the PSE experiences of youth from different geographical regions.

The vector X_1 also includes 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 are added to each of the models corresponding to the two different sets of immigrant identifiers described above to act as controls.

The next vector of regressors, X_2, contains an additional set of characteristics that influence PSE access, which differs across the various models discussed in this paper. In one specification, the variables pertaining to the individual's academic preparation – including the Programme of International Student Assessment (PISA) reading score[7] and high school grades (overall average and that gained in math, science and English or French, all at age 15). In addition, a variable for parental aspirations is added, measuring the highest level of education that parents desire for their children. In a separate specification, the sample is limited to include only first generation immigrants, but adding indicator variables for the year of immigration. In all cases, gaps remain after these variables are added an, in observing the changes from model to model, one can ascertain how much of the gaps are related to these factors.

In a final specification a measure of ethnic capital is included. This is defined as a measure of the father's income and educational attainment among others of the same immigrant group. Throughout the paper by adding a vector of interactions, X_3, is added where one variable from X_2 is interacted with the immigrant indicators. This allows the impact of that variable to vary across the immigrant groups.

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[7] This paper uses the Warm (1989) estimates of reading ability (taken from the PISA reading test) for the PISA reading score used in the predicted models. The plausible values, also provided with the YITS, are intended for estimating the distribution of PISA Reading scores across groups of in the PISA sample. By contrast, this paper is interested in the link between individual PISA scores and access to PSE, so the individual estimate is preferred (see OECD, 2009).

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

The data used in the analysis are taken from the Youth in Transition Survey – Reading or A Cohort (generally known as the YITS-A). The YITS-A is ideal for this application since it follows all young people born in 1984 through their high school years and beyond, and contains a wealth of information on the young people, their parents, and their high schools. .

These data currently consist of five cycles (corresponding to the interviews that have been undertaken), The first interview was conducted in 2000, and includes interviews not only with the respondents (who are age 15 at the time), but also with their parents and high school officials, and also contains the youths' reading scores from the PISA (an international standardized test in which Canada participated). Follow-up surveys were carried out with respondents (but not parents or school officials) in 2002, 2004, 2006 and 2008. For the purposes of this paper only those individuals who responded to each of the first four cycles are included. The rationale for this is individuals in the sample are 21 years of age, an age by which most people who pursue a PSE have already begun to do so. Secondly, by using the fourth cycle instead of the fifth a larger sample size is possible owing to attrition from cycle to cycle. This is important for the purposes of this study as it is attempting to define geographical regions of origin as finely as possible.[8]

The parental questionnaire asks the country of birth of the student and both parents or guardians. A first generation immigrant is generally defined as someone born outside of Canada but who subsequently moved to the country and became a citizen or was a landed immigrant. They must have arrived by the time of the first survey (i.e., age 15), although citizenship or landed immigrant status may have occurred at any point before Cycle 4. A second generation immigrant is defined as one who was born in Canada, but who had at least one parent who was born outside of Canada. All other individuals are treated as non immigrants or third generation immigrants and higher.

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[8] Other data (including the older YITS-B cohort) show that access rates change only slowly after this age. Therefore, the fourth cycle is the optimal point for the analysis of access without the loss of sample size from using the last cycle of the YITS.

The YITS data also allow one to identify the particular country of birth of the respondent and their parents, but issues of sample size mean that a country-by-country analysis is impractical. Instead, countries of origin are combined into nine groups: the Anglosphere (all Western English-speaking countries including the United States), the Americas (all countries in Central and South American and the Carribean, Mexico, Bermuda and the islands of St. Pierre and Miquelon), Africa, China (which includes Hong Kong and Taiwan for the purposes of this analysis), East and Southeast Asia (including Japan and Viet Nam), Other Asia (including the Indian Subcontinent), Western and North Europe, Southern and Eastern Europe, and Others. A full listing of the countries included in these categories is contained in Appendix Table A1. These groupings correspond to those used in previous research (Finnie and Mueller, 2009, 2010) and 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.

The parent questionnaire also includes the year that each family member arrived in Canada to live permanently. For the first generation immigrants, the year of arrival of the student is used – which also identifies the age at migration, since the data include only one cohort of individuals (i.e., those who are age 15 in 1999).

The ethnic capital measures included in this paper were constructed from the income and educational attainment of the father's generation for each immigrant group (using the mother's immigrant group where the information is unavailable for the father). The mean of the father's years of schooling and income is calculated for each region of origin as well as the proportion of fathers from that region who received a bachelor's degree.[9]

Non-Canadian citizens, those with unknown immigration status, those who were still continuing in high school at Cycle 4, those who were deceased by Cycle 4, and those with missing values of the variables used in the models are deleted from the samples. Because the immigration status

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[9] It should be noted that the ethnic capital measures used here are based on region of origin and thus could disguise the fact that there is heterogeneity of ethnicity in some of these region of origin. For example, the Africa region of origin would include, among others, black and white South Africans, Asians from Uganda, and Arabs from North Africa.

variable was constructed from responses to the parental questionnaire, only those individuals whose parents responded were included. The sample used in the first parts of the analysis contains 16,214 observations, or 93.3 percent of the initial total in Cycle 4. Sample size is then modestly reduced due to missing values on some of the variables included in the different models, as shown in the tables of results. When high school grades and the student's PISA score are included in the model, the sample size is reduce to 15,019 observations or 86.4 percent of the initial Cycle 4 total. A full accounting of the observations dropped from the sample at various stages of the estimation process is contained in Appendix Table A2.

It should be noted that the analysis has a very specific cohort interpretation – those youth who were 15 years-old in 1999. The results that follow will not, therefore, be directly comparable to other studies which use census (mostly) and other data to look at broader groups of immigrants and non-immigrants. The 1.5 generation immigrants represent a specific group – those who arrived in Canada at some point after their birth in 1984 to 1999 and attending a Canadian high school at age 15 (to be included in the YITS). Our second generation immigrants also include individuals born in the same year (1984) to at least one immigrant parent, but who were themselves born in Canada. Finally, the "non-immigrant" population includes individuals of the same age (birth in 1984) who had no immigrant parents.[10] The analysis must only be interpreted in this specific context.

The dependent variable used in the study is constructed by examining each PSE program that the individual participated in up to the Cycle 4 interview. These programs are separated into college (including trade school and CEGEPs) or university (with university arbitrarily classified as being the higher of the two). Access is defined as having "touched" either of these types of programs, regardless of whether these studies were completed, and then compared to the baseline outcome of not attending PSE at any point before the Cycle 4 interview. Persistence is, in comparison, typically defined as the subsequent process of moving from one year to another through PSE, on to graduation, but represents another distinct topic, which in the current research is not as well

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[10] 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 the analysis are described further below.

suited to the fourth cycle of the YITS-A data since the samples capture individuals at a maximum age of 21, when persistence is still very much an on-going process.[11] Educational attainment is yet another concept, typically referring to final schooling levels, and is again not the subject of the analysis, for similar reasons.

Both college and university attendance are addressed in the analysis (the former defined to include the small number of individuals in trade school). To do so, the multinomial logit approach previously used in Finnie and Mueller (2008a,b, 2009, 2010) is employed. This approach treats the particular level of PSE as a jointly determined process along with the decision to go to PSE or not. This model represents both the conceptually and econometrically correct treatment (which various tests have further verified).[12] This approach also yields, after the appropriate transformations into probability space are made, easily interpretable estimates which represent 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.

IV. Results

Characteristics of the Children of Immigrants

To better ascertain the different characteristics of immigrant groups vis-à-vis other immigrant groups and non-immigrants, the mean values of a number of immigrant determinants are included in Table 1 (other descriptive statistics are in Appendix Table A3). Family income is higher for the second generation than for the first for all but one source regions, in many cases significantly so. The exception is the Anglosphere where the first generation outperforms the second. Conversely, parental education tends to be higher among first generation immigrants, not surprising given the arrival of these immigrants during a period when increasing emphasis has been placed on education in Canadian immigration policy.

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[11] 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 data are not as good for looking at immigrant outcomes as the YITS-A since the immigrant sample size numbers are not as large and the information available is not generally as rich as in the YITS-A. The fifth Cycle of the YITS-A offers some potential for persistence analysis.

[12] In preliminary estimates, for example, the model has been tested against an ordered logit, and found the multinomial logit is indeed appropriate. Also utilized have been logit and linear probability models to test the specifications below (with university attendance as the choice variable) and found little difference between models.

Mean high school grades at age 15 are greater for all by one of the first generation immigrant groups compared to non-immigrants; much higher in some cases such as Africa, China, and Western and Northern Europe. The only exception is for those from the Americas, where mean high school grades are slightly lower than for non-immigrants. For second generation, those from China, Africa and Asia outperform all others in terms of grades.

PISA reading scores tend to be lower for first generation immigrants, although those from Southern and Eastern Europe and the Anglosphere do better than their non-immigrant counterparts. PISA scores generally improve for the second generation with all but those with family origins in the Americas and Southern and Eastern Europe performing better than non-immigrants.

Parental aspirations also vary by region of origin. These aspirations are based on a six-point scale (see below) where a value of one is if parents desire less than a high school education, and six is for two or more university degrees. Chinese parents have the highest aspirations for their children, at least in the first generation, with Africans, and Other Asians also having very high aspirations. All immigrant groups, with the exception of Western and Northern Europe, register higher aspirations than the non-immigrant group. In the second generation, all immigrant groups have higher means aspirations than non-immigrant parents, with Africa, China, East and Asia again having the highest means, although now the rankings within these four has changed with Africa moving to the top position.[13]

Baseline Model Results

Table 2a presents the first set of results from the baseline multinominal logit model. The dependent variable is the three-way choice of attending college (including trade school), attending university, or not attending any PSE. In each case, the individual simply had to be

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[13] It is worth noting again that the aggregation of countries into source regions in some cases does result in a variety of ethnicities, language groups, etc. within the aggregated group. For example, Africa includes Northern Africans, blacks and whites from South Africa, ethnic Asians born on the African continent, etc.

enrolled (for any period of time) in college or university to be included as an attendee, this being the standard definition of access in the literature.

The first model includes some basic controls as well as the immigrant indicators, starting with the overall first generation and . The second model adds in parental income and parental education, two key background factors. The third model adds overall high school grades and the PISA reading score (both at age 15) to the second model. The potential endogeneity of grades and PSIA scores to access are discussed below, but the variables In general, comments are limited to the results for university attendance since this is where the largest and most statistically significant effects are found.

It should be noted that the decision to attend a certain type of PSE is very fluid. For example, although those with higher levels of parental education are less likely to attend college than to attend university, there is still an increase in total PSE attendance rates (as evidence by adding together the two marginal effects coefficients). In other words, higher incomes lead to more people attending PSE in general, but there is also movement from college and into university, and in this particular case, for example, the latter effect dominates. This is why it is important to look at the two effects together, but also explains why the stronger effects are typically found for university attendance, which is the main reason it is focused on in the discussions below.

The general background effects are as expected. Females are more likely to attend university than males. Provinces in Atlantic Canada tend to have higher university participation than Ontario, but lower college attendance. Provinces west of Ontario also display lower college attendance, although Manitoba and Saskatchewan have higher university probabilities. Urban students are more likely to attend university and less likely to attend college. Minority language status is not an important correlate at either level of PSE, and coming from a single-parent family tends to reduce the probability of attending university, but not college.

Parental education exerts a strong positive influence of university access and a negative effect on college attendance. Family income also has a positive, but much smaller impact on university but no measurable effect on college access.

For the purposes of this paper, however, it is the immigrant variables that are of greatest interest. The final two rows in this table show that both first and second generation immigrants are more likely to attend university than non-immigrants, with those in the first generation more likely to attend than those in the second. And these differences are large: about 14 and 10 percentage points for first and second generation immigrants, respectively, compared to the non-immigrants in our sample. Furthermore, these gaps are not much lower than those found in the preceding columns, before the key parental education and family income variables are included: their higher rates do not seem to be explained by these influences, as is sometimes suggested.

Table 2b repeats this exercise disaggregating the immigrants by region of origin (see Appendix Table A1) for both the first and second generation. Further, since a significant proportion of the second generation immigrant population does not have two parents from the same source region, separate dummy variables are coded to identify these individuals as follows: immigrant father and non-immigrant mother; immigrant mother and non-immigrant father, two immigrant parents from different regions; and single immigrant parent. To add further depth to the model, the first two categories are disaggregated into those where a parent comes from a high access region and all other regions. High access regions are Africa, China and Other Asia, based on the university access rates in Appendix Table A3 (and previous research).

Among first generation Canadians, those from Africa, China and Other Asia are much more likely than non-immigrants to attend university. For example, the estimate for the Chinese shows that this group is on average up to 49 percentage points more likely to attend university compared to non-immigrants, depending on the particular set of control variables included (parental education and family income in particular). The popularity of university education is also reflected by the fact that they are much less likely to attend college, only those from East and Southeast Asia also show a higher probability of attending the latter. Other regions have differences that are much smaller, in most cases not statistically different than those for non-immigrants, depending on the particular group and specification.

Among the second generation, this pattern is largely repeated, but now those children whose parents originate in East and Southeast Asia are more likely to go to university (but not college) as are second generation immigrants from Other Asia and South and East Europe. These results are largely in accord with those of Finnie and Mueller (2009, 2010) for Canada. Algan et al. (2010) also find that those from similar source regions (i.e., China, Africa, India and Pakistan) have higher educational attainment (as measured by age when the individuals left full-time education) than the non-immigrant groups in France, Germany, and the UK. Chiswick and DebBurman (2004) show higher levels of educational attainment in the United States for individuals from these countries, while showing lower educational attainment of those from Mexico and Southern Europe. Although different country groupings and dates are used in all cases, the similarity of these results is quite remarkable, especially given the differences in immigration and integration policies within Europe and between Europe, the United States and Canada.[14]

Among the second generation immigrants with single parents or from different regions of origin, other patterns emerge. Having an immigrant father and a non-immigrant mother increases the proabability of attending university across all models. If the father originates in a high access region than this probability is higher still. For children of immigrant mothers and non-immigrant fathers, there is also a much high probability of university attendance, but only if the mother comes from a high access region. Furthermore, this advantage becomes small and insignificant once high school grades and PISA reading scores are added to the model, suggested that this immigrant mother effect is working through these variables rather than directly. Having two parents from different source regions is also related to a higher probability of university attendance, whereas having a single immigrant parent is not.

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[14] Algan, et al. (2010) briefly review immigration and integration policies in France, Germany and the United Kingdom. In general, immigration policy in these countries has largely been reactive and in response to political developments in the region or in former colonies (e.g., Algerian independence or the end of communism in Eastern Europe) and economic needs (e.g., guest workers in German). Canadian immigration policy, by contrast, has been largely proactive by accepting large numbers of immigrants based on their potential for success in Canada (e.g., education, language ability, etc.). According to Manning (2010, F1):

> Very crudely, the UK has sought to celebrate and accommodate cultural and ethnic diversity, France has sought to deny its existence (at least in the public sphere) in the interest of 'equal treatment.' While both of these countries sought to make immigrants and their children full citizens, Germany did not, until recently, give citizenship to immigrants or their children who were not ethnically German.

Allowing the Effects to Vary by Immigrant Region

The models in Tables 2a and 2b constrain the parental income effects to be the same across all groups. The model is now expanded to include interactions of family income and parental education with immigrant status and region of origin, thus allowing these effects to vary.

The regression results from this exercise are presented in Appendix Table A4, but are difficult to interpret directly due to the mix of intercept and slope effects, especially with the non-linear multi-nomial logit model employed here.[15] Therefore, also presented are the predicted probabilities of university attendance at the group-specific means for all variables included in the model based on the coefficients associated with each variable generated by the models, while allowing the probabilities to vary with each variable of interest, one at a time. These predicted probabilities are presented in Figures 1 and 2.

The profiles in Figure 1a show that in most cases the probability of university attendance increases in income, at least among first generation students. The exception to this rule is the Americas, which is slightly declining in income. What are striking are the profiles for Other Asia and China: both are flat, and high. University attendance does not appear to be dependent on family income, and rates are high everywhere. Thus, while it is expected that higher income families will have a somewhat higher probability of sending their children to university, all else equal, Chinese and Other Asians also have high predicted probabilities even at the low end of the income distribution. Compared to the non-immigrant population, almost all immigrant groups show relative high probabilities, *especially* at lower income levels.

Figure 1b replicates these results for second generation immigrants. Compared to the first generation, there is some convergence to the non-immigrant profile. For example, for the Chinese, the probability of university attendance is now increasing in parental income, while

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[15] The results presented here do not include high school grades and PISA reading scores. Results from the exercise when these variables are included are contained in Appendix Table A5 and Appendix Figures 1 and 2. There are few differences between the predictions with and without the grades and PISA scores included in the model.

those whose parents were born in the Americas now have a profile increasing (and not decreasing) in parental income.

The predicted probabilities of university attendance by second generation immigrants who are from single immigrant families or whose two parents are from different source regions are included in Figure 1c. All of the immigrant profiles are above that for the non-immigrant population. What is most striking is the profile with the steepest slope is for those from single immigrant parent families – at low levels of family income the predicted probability of attendance is low, but increases rapidly in family income to become the highest among all groups. Compared to the cases where the children have parents from the same region of origin (Figures 1a and 1b), the profiles here are generally lower, perhaps reflecting the mixture of parental influences.

Figure 2 repeats this exercise for parental educational attainment. Here the profiles are much steeper, reflecting the greater importance of parental education compared to family income. Figure 2a shows that first generation immigrants from China, Other Asia, and Africa all have much higher probabilities at lower levels of parental education, before converging to the non-immigrant profile at the higher levels of education (at which point most go).

Among those from the Americas, the profile is also positive, but it slopes upward at a slower rate, and never converges to the profiles of other groups, including the non-immigrants: even when their parents have high education levels, these youth are not overly likely to attend university.

The Western and Northern European pattern shows the most variance between lower and higher levels of parental education, starting out with the lowest probabilities of attendance at the lowest level of education, growing rapidly in middle income groups, and then surpassing even the Chinese at the top education level. The other groups represent variants around these extremes.

The pattern for second generation immigrants in Figure 2b is also increasing in parental education, and the Chinese, Other Asians and Africans are still more likely to attend university at

lower levels, but now they are joined by those from East and Southeast Asia. Those with parents born in the Americas have high participation rates compared to their first generation counterparts, but are still generally below most others, especially at high education levels. Western and North Europeans, as for the first generation, have the lowest probability of attending at the lowest education level, but this increases rapidly and becomes the largest at the highest level of education.

The predicted probabilities for those whose parents are from mixed regions of origin are in Figure 2c. Here the profiles are generally above the profile for non-immigrants, but have similar slopes. The exception is for those with a non-immigrant father and a mother from a high access region where the profile shows much more variance, rising quickly from low probabilities at low levels of schooling and surpassing all other profiles at about 15 years of schooling.

Preparation for University: High School Grades and PISA Reading Scores

Both high school grades and PISA reading scores have been shown to be strong correlates of university attendance (Finnie and Mueller, 2008a, 2008b). While it is likely that these variables are not exogenous to the model[16] – students wanting to go to university will labour to get high grades and the knowledge they gain in doing so will also be reflected in PISA scores – they still provide predictive power. Furthermore, it is interesting to ask whether immigrant effects wash out when grades and PISA scores are included (i.e., do immigrants go because they get good grades and have high ability) or whether differences remain after controlling for these factors (i.e., do they go more even for given levels of grades and PISA scores). As with the case of family income and parental education, grades and PISA scores are interacted with the immigrant indicator variables to allow the effects of these variables to differ by immigrant source region.

Predicted probabilities of university access are plotted by overall high school grades (Figure 3) and by PISA scores (Figure 4), both at age 15, for each region of origin and for both immigrant

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[16] To investigate this possibility that grades are endogenous, a model with grades as the dependent variable was estimated using OLS and various other specifications. The results from this exercise suggested that grades are indeed endogenous to the model and the immigrant effects work in part indirectly through grades to increase the probability of many immigrant groups attending university.

generations.[17] Appendix Table A6 contains the full regression results from which these predicted probabilities were generated.

Figure 3 shows that – not surprisingly – higher grades are associated with higher probabilities of university attendance. This result holds regardless of immigration generation or region of origin. There is also a sharp increase at about 60 percent, generally the minimum high school grade point average necessary to attend university.[18] Still, there are differences between immigrant groups.

In Figure 3a, those from China, Africa and Other Asia have much higher attendance probabilities at all grade levels, especially at the higher grades where access probabilities are close to one. But this is largely an artefact of the underlying distributions, most of these groups get the grades required to go to university (60 at a minimum), and their attendance rates rise sharply once that minimum is reached. Most interestingly, even those with grades in the minimally acceptable range (upwards of 60 percent) go at much higher rates than non-immigrants with similar grades.

For the second generation (Figure 3b), there is some convergence, as immigrant groups now tend towards the non-immigrant probabilities of attendance. Now for example, those from the Americas have probabilities comparable to non-immigrants, while the higher profiles of the Chinese, Africans and Other Asian – while still high – are not as high as they were for the first generation groups. Another interesting result in both graphs is that some immigrants still access university despite having very low grades at age (i.e., below 60). As noted earlier, these

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[17] Graphs based on the same models but including grades in the last year of high school instead of grades at age 15 were also generated. There was no substantive differences in the results. The main difference is that some of those at grades below 60 at age 15 appear to have improved their grades by the final year in high school (at age 17 in the data). See Appendix Figure 3. That grades have improved between the ages of 15 and 17 helps to explain why some who had grades less than 60 percent at age 15 were able to attend university. Also, recall that attendance is measured as attending university at or before the age of 21, and high school students with low grades may be able to enter university based on criteria other than grades. Transferring from college, completing remedial education courses, and entering as a mature student are all examples of alternative university entry streams.

[18] An inspection of the distribution of high school grades revealed that very few young people attending university had high school grades of less than 60 percent. Those that did have grades lower than this threshold may have improved their grades by the time of high school graduation or entered university indirectly. See footnote 16.

individuals appear to improve their records by age 17, when grades are measured again, thus explaining this phenomenon, at least in terms of how they manage to get admitted.

Figure 3c summarizes the predictions for those of parents from mixed regions of origin. These profiles lie above the profile for non-immigrants, yet there is less variance compared to the previous two cases.

Figure 4 again shows the predicted probabilities of university entry, but now the predicted probabilities are by PISA reading scores. Note that in Figure 4a the probability of university attendance is still very high for immigrants from China, Africa, and Other Asia, even when their PISA scores are low, even when well below the mean in the first generation (see Table 1). For the second generation (Figure 4b), these three groups have improved PISA results, indeed they have scores that are higher than those of non-immigrants. Still, what is striking is that those from these three source regions display high probabilities of attendance even at low PISA reading scores. If PISA scores are a measure of "ability", even those not strong in the measured attributes at age 15 tend to make it into university by age 21. What behaviours underlie these patterns must be left to further research,, but we offer two plausible explanations. First, PISA scores are not taken into consideration by university admissions committees and therefore students with sufficient high school grades are still able to attend regardless of their PISA score (the two measures are positively, but not perfectly, correlated). Second, those with lower language abilities may self-select into fields that are not language intensive. For example, the proportion of first generation immigrants entering the Science, Technology, Engineering and Mathematics (or STEM) fields – where language ability may not be as important – may exceed that of non-immigrants.

Similarly, in Figure 4c, those with immigrant mothers or immigrant fathers from high access regions also show high probabilities of university attendance at lower reading scores. As with grades, family income and parental education, higher probabilities of attendance are found among some groups at lower levels of each variable, levels at which some other immigrant groups and especially non-immigrants are less likely to attend. Stated differently, some of these groups are more likely to attend PSE despite their lower grades and PISA scores. Similar results

have also been found for Europe where many immigrant groups with low secondary school performance still perform well in terms of participation in PSE (see Heath, et al., 2008 for a recent review of this literature).

Parental Aspirations

Parental aspirations may be thought to be strongly correlated with university attendance, but parental aspirations alone are not enough: the children must internalize their parent's values and act on them. Given the potential cultural differences among source regions in terms the willingness of children to carry out the wishes of their parents (i.e., deference), the impact of parental aspirations may vary across these regions. Since the second generation of these groups is more assimilated into Canadian society and culture and therefore are likely to have behaviours more like Canadian norms, it might also be expected that differences exist between different generations from the same region of origin. To investigate these issues, interactions between the variable of interest and immigrant group are introduced.

For this exercise, the parental aspirations variable was coded as a continuous variable based on their responses to the question: "What is the highest level of education that you hope [your child] will get? The possible responses were less than a high school diploma (coded as 1); high school diploma or graduation equivalency (2); trade or vocational certificate or diploma, or an apprenticeship (3); college or CEGEP certificate or diploma (3); any level of education after high school (no preference) (4); one university degree (5); and, more than one university degree (6).[19] The regression results of this exercise are contained in Appendix Table A7. Again for ease of exposition, the predicted values generated from these regression results are presented in Figure 5. In all cases, the probability of university attendance is increasing in parental aspirations. Since almost all parents want their children to at least finish high school (i.e., 12 years of school), the predicted probabilities corresponding to expectations of less than 12 years are unreliable. Still, note that the profiles increase sharply after 12 years of schooling, reflecting the strong positive

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[19] It is possible that parental aspirations are endogenous to the model, i.e., those with higher incomes will expect their children to attend university, while those with lower incomes will not. However, the wording of the question ("What is the highest level of education that you hope [your child] will get?") arguably reduces this problem since it reflects desire rather than more realistic expectations.

correlations between expectations and actual university attendance. The first generation results (Figure 5a) show more variance than those for the second generation (Figure 5b), again showing the convergence in university attendance behaviour across generations.

The pattern among Chinese immigrants is again striking: probabilities of university attendance tend to be high regardless of parental aspirations or generation, possibly suggesting that these children understand that when their parents express aspirations for certain higher levels of higher education, they really mean university. Africans and Other Asians also tend to have higher profiles. Southern and Eastern Europeans are above non-immigrants in the first generation, but not the second.

Age of Entry into Canada

There is an extensive literature on the age of entry effects on educational attainment and labour market performance. The lesson of this literature is that age of arrival is an important determinant of these outcomes (Schaafsma and Sweetman, 2001). The argument is that younger immigrants will fare better in Canada since they are acculturated to the country and its languages, social norms and other soft skills. Here the interest is in exploring if age at immigration is a significant correlate of university or college attendance for the relatively young group of immigrants who come to the country by age 15 at the latest. Since all individuals are the same age (i.e., age 21 in Cycle 4) year of entry to Canada is used as the variable of interest. For obvious reasons, the sample is limited the to only those individuals born abroad – i.e., first generation Canadians.

Table 3 again begins with a baseline model where the Anglosphere is the omitted region of origin category and age at migration is entered as a quadratic.[20] The results in either case are somewhat different than those above based on the entire sample. Many coefficients are no longer statistically significant, likely owing to the smaller sample used in these estimations. The coefficient estimates on the immigrant indicators, however, are consistent with those presented. What is perhaps more interesting, is that none of the year of immigration coefficients are

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[20] Appendix Figure 4 shows the predicted probabilities of university attendance by age at migration calculated from the results in Table 3.

statistically significant. Even though these are not measured with a great deal of precision (as reflected in the large standard errors), there appears to be no trend by year of arrival. This result is robust to model specification.[21]

A closer examination of the (weighted) raw data (not shown) reveals a slight downward trend in the probability of attending PSE for first generation immigrants by age at migration to Canada. The probability of attending any PSE is relatively flat until about 12 years of age and then declines, and this is due to lower probabilities of attending both university and college. Breaking down these results by gender), this downward trend is mainly the result of lower attendance rates among females. Thus, females who arrive in Canada after the age of 12 have much lower probabilities of attending PSE compared to those who arrived earlier. In the case of Schaafsma and Sweetman, however, educational effects are for those who arrived in their late-teens (i.e., ages 15-19). The data used here only account for those who arrived up to age 15 and therefore may not capture the same effects. These results, however, are somewhat supportive of those in Schaafsma and Sweetman which show that late-teen arrivals are not at a disadvantage in terms of college graduation (regardless of whether they graduate from high school) compared to those who arrived earlier.

Corak (2009) also finds some evidence that age at arrival is a determinant of educational outcomes. He finds that the proportion of those immigrants aged 35-55 in the 2006 Census without a high school diploma increased if these individuals entered Canada when they were older than 8-10 years of age. The data used here (but not presented) show no discernible trend by age in the proportion of immigrants who graduate from high school. Both males and females have graduation rates in the 80 to 100 percent range, regardless of age at migration, much higher than those in Corak's work. This is likely due to both cohort effects (i.e., high school graduation

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[21] This exercise was also attempted using a variety of functional forms and year of immigration variables. In terms of university attendance, these results remained statistically insignificant and without any discernible trend. In some cases, the college coefficients were positive and significant when they were largely negative and (usually) insignificant in the cases above. Recall that in this case the sample is limited to include only first generation immigrants and so university and college admissions within this group are compared. Adding and excluding various regressors (such as high school grades and PISA scores) from the model was also attempted, but these did not change the basic result.

rates in general have increased) as well as compositional effects (i.e., recent immigrants come from different source regions and have high levels of parental education).[22]

The question is why do these other studies show a negative age at migration effect whereas the present work does not? As mentioned, the data used here only contain those who came to Canada at age 15 or earlier, so are sample does not include older teen immigrants who are at a disadvantage in attending university when they arrive in Canada. The second reason is due to sample selection bias. The YITS data are stratified and use selected high schools as the basic unit of analysis. Individual students are drawn from these high schools conditional on being enrolled at these schools. If immigrants arrive in Canada and have trouble with the material in school, they may have to be held back a grade or two and thus will not be captured in the YITS data at age 15. This will upward bias our results among recent arrivals since the data are capturing only those who have the necessary prerequisite skills to be in high school. Stated differently, the best young immigrants in terms of academic preparation are captured in our sample.

The Role of Ethnic Capital

To find alternative explanations for the high (and unexplained) immigrant effects, a variety of ethnic capital variables are added to the basic model. Table 4 provides summary statistics for the variables used in the following estimations. Two measures of education are used. First, the average years of schooling in the data among those whose fathers were born in the region of interest. The second is the proportion of this same group who have earned at least a Bachelor's degree. Father's education is used to be consistent with the literature, although in the case of single mother families, it is the maternal level of education that is substituted. Table 4 shows what is already well known about immigrants to Canada: they tend to be better educated, but have lower incomes. In this case, the fathers of first generation Canadians generally have more

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[22] To address these compositional effects, a logit model was utilized in an earlier version of this research where a dummy variable for high school completion was regressed on the region of origin variables as well as a quadratic of the age at migration variable. The marginal coefficients revealed that, compared to the United States (the omitted category), those from China and Other Asia had high school completion rates about 10 percentage points higher than those born in the U.S. Recall, that these are the two regions with among the highest university participation rates. The comparable figure for those from Southern and Eastern Europe was about -7.4 percentage points. No other regions had statistically significant marginal coefficients, and the age at migration variables were small and statistically insignificant.

years of schooling compared to those born to Canadian-born parents in Canada, who have 11.7 years. Only in the case of the Americas and Southern and Eastern Europe (both at 11.4 years) is immigrant education lower, while the fathers of children born in Africa have more than 3 additional years. The figures are similar for the second generation.

By using the proportion of the group with a Bachelor's degree or higher, a somewhat different pattern emerges. Now almost all groups have rates at least as high as the 18.6 percent among the fathers of non-immigrant Canadians. The exception is the second generation from the Americas, where only 17.7 percent of the fathers hold at least a Bachelor's degree. In some cases, for example groups such as Africans, Chinese, and Other Asians, rates that are more than double the non-immigrant average.

Immigrant incomes, regardless of generation, are generally lower than those of non-immigrants. The exception to this is for those born in Southern and Eastern Europe and the Anglosphere for both the first and second generations. What is also notable here is the high mean income levels of those with parents from different origins as well as single parents whose incomes are about as high as non-immigrants.

The results using the first of the two education variables are contained in Table 5. Here the results for the first model are similar – but not identical – to those from the baseline model above. This is owing to slightly different sample sizes. The second model adds in the first ethnic capital variable – the mean years of schooling of the father by region of birth. The effect of this variable is economically small and statistically insignificant. The indirect effect of its inclusion, however, is apparent on the immigrant indicator variables. In all cases, the effect is relatively small, although the immigrant effects do tend to get slightly larger for almost all regions of origin, as well as for both first and second generation immigrants. The third model includes the measure of average income by immigrant group. The effect of this variable is negative and statistically significant. Thus, higher group incomes reduce the probability that an individual in that group will attend university. There is no impact on college attendance. The effect of this variables inclusion in the model is to reduce the impact of the immigrant variables. For example, the coefficient on China decreases by almost 2 percentage points, while that for Other Asia

decreases by about 4.5 percentage points. For the second generation, the effects are similar: a reduced effect on the region of origin coefficients.

The final model in Table 5 includes both measures of ethnic capital: average years of schooling and average annual income. This does not change the much in either case. There are however some relatively profound effects on the immigrant coefficients. In the case of first generation immigrants from Africa, the coefficient is halved in value (from 0.21 in the baseline case to 0.10) and becomes statistically insignificant. The same holds for the Other Asia variable. For China, however, the coefficient only drops by about 2.5 percentage points. For the Americas, the coefficient becomes smaller (or larger in absolute value), decreasing from -0.08 to -0.14. The story is similar among second generation immigrants from the Americas. For second-generation Chinese, the coefficient drops from 0.40 to 0.33. Quantitatively similar changes occur for Other Asia.

Another way of measuring the mean education level of the ethnic group is to use the proportion of the fathers who hold at least a Bachelor's degree. Again, to be consistent with the literature, the father's level of education is used, except in the case of single mothers when the mother's level is used. Table 6 replicates the previous table using this alternative measure of the education.

First, including only the level of education suggests it has no measurable effect on PSE participation, although it does reduce the coefficient estimates on many of immigrant indicator variables in both the first and the second generation, in fact making a number of them statistically insignificant. Recall that when using the average years of education, this effect was reversed. This implies that how widely held Bachelor's degree are among immigrant groups is more important than the average level of education in explaining the differences in university attendance probabilities.

Adding in both the education and income variables results in large a education effect on university attendance, increasing the probability of university attendance by about 5.8 percentage points for each additional 10 percent of the parents in the immigrant group that hold at least an

undergraduate degree. Furthermore, the effects of the immigrant indicators also change. For example, the coefficient on the first generation China indicator decreases from 0.51 to 0.46 when education is added. By contrast, the Africa and Other Asia coefficients decrease from positive and significant to essentially zero. These results then imply that ethnic capital (at least the proportion fathers with at least a bachelor's degree) is important for some groups (e.g., Other Asian and Africans) but not as important for others (e.g., the Chinese), at least in the first generation.

Inclusion of the ethnic capital variables do very little to change any of the results. What is interesting, however, is that mean years of schooling are not important, but proportion of those in the group with at a Bachelor's degree is important. Little faith can be put in the group mean income variable since it is uncertain exactly what this is measuring. Rather it is included as a control variable to be consistent with the literature on ethnic capital. These results are largely in accord with the Canadian results from Abada, Hou and Ram (2008) and for results from Denmark from Colding, Husted, and Hummelgaard (2009).

V.   Conclusion

Using the Canadian YITS-A dataset and a series of multinomial logit models this research expands on previous work which found large differences in PSE access rates between immigrant and non-immigrant Canadians. This previous research has shown that immigrant university participation rates are higher than those of non-immigrants, but that there are significant differences by immigrant source region. While this research is able to explain some of these group differences by adding an increasing number of covariates to the models, large and positive differences remain for regions such as China, Africa and certain Asian countries. The limitation of previous analyses is that the estimated models may be misspecified by not allowing the coefficients on many important determinants of university access to vary by immigrant source region, or by the exclusion of some important variable.

Here previous work is expanded in three ways. First, the constraint which limits the effects of important covariates of PSE access to be the same is relaxed. In particular, family income, parental education, high school grades, PISA reading scores, and parental aspirations are

interacted with the immigrant indicators, thus painting a much richer picture of the determinants of PSE access, especially university. Second, age of arrival into Canada is introduced into the immigrant model. The existing literature has found that age of arrival can be an important factor in educational and labour market outcomes. Finally, measures of ethnic capital are added into the equation, including two measures of father's level of education and a measure of income.

What is striking in these results is that the high probabilities of attending university among many of the immigrant groups (e.g., the Chinese and the Africans) are the result of two (related) phenomena: (1) the higher probability of attending university for a given level of income, parental education, high school grades, PISA scores, and parental aspirations within the range where one would anticipate university attendance to be higher (e.g., high levels of parental education); and (2) a higher probability of participation where one does not anticipate the probability of university attendance to be high (e.g., lower levels of parental education). Stated differently, the probability profiles of some immigrant groups have higher intercepts and a smaller slope, i.e., immigrant groups tend to go to PSE almost regardless of the levels of these explanatory variables.

High school grades also are interesting. Many immigrant groups with low high school grades at age 15 are attending university, whereas those with the same grades in the non-immigrant population are not.

The results with age at arrival are included in the basic model provide no statistically significant results nor any detectable trend. This, however, is itself a result. Contrary to much of the literature which shows the importance of years since migration on a variety of economic outcomes, none is found in these data, and this result is robust to different methods of constructing the year of migration variable. Year of immigration simply does not appear to be an important determinant of access to PSE. That said,, much of the literature that does show different effects by age at migration find these to be important for those youth arriving closer to the end of high school, a period which the data employed here simply do not cover.

Finally, the inclusion of ethnic capital variables – measures of mean paternal education and income – also show little statistical or economic significance. The exception is for the percentage of fathers within the group that hold a Bachelor's degree or higher. Here there is a positive relationship to university access, even though years of education itself is not. Perhaps these highly educated group members provide role models or mentoring to the youngsters in their communities in a way that a broader dispersion of less educated people cannot.

This research has shown that the probabilities of attending PSE – especially university – are higher for most immigrant groups than for the non-immigrant population. Many related questions remain to be answered. First, do these high probabilities of attendance translate into high probabilities of completion? Second, does the apparent success in attending PSE carry forward to the labour market in terms of higher employment rates and entry level compensation? Third, what unobserved factors are driving these immigrant results? Finally, do fields of study differ between immigrant and non-immigrant groups? If so, what are the implications for the long-term needs of the Canadian labour market?

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Table 1: Mean Grades, PISA Scores, Family Income, Parental Education and Parental Expectations, by Immigration Group

	Family income ($1000s)		Parent's Years of Schooling		Overall High School Grade		PISA Reading Score		Expected PSE Level	
	Level	Rel.	Level	Rel.	Level	Rel.	Level	Rel.	Level	Rel.
Detailed Immigrant Status										
Non-Immigrant	71.3	100.0	13.1	100.0	75.6	100.0	535.0	100.0	3.8	100.0
First Generation										
Americas (except USA)	48.6	68.2	12.3	94.0	74.8	99.0	479.8	89.7	4.0	106.1
Africa	62.7	88.0	14.3	109.3	80.1	106.0	521.0	97.4	4.3	113.4
China	47.6	66.8	13.5	102.8	80.8	107.0	527.1	98.5	4.4	116.5
East/South-East Asia	48.3	67.8	14.4	109.8	76.6	101.4	500.9	93.6	4.1	109.8
Other Asia	54.5	76.5	14.7	112.2	78.7	104.2	505.8	94.5	4.3	114.7
West/Northern Europe	66.3	93.0	13.5	103.3	80.1	106.1	523.0	97.8	3.7	99.1
South/Eastern Europe	67.6	94.8	13.9	106.3	79.6	105.4	545.1	101.9	4.1	108.5
Anglosphere	96.9	136.0	14.2	108.0	78.6	104.1	547.6	102.4	3.9	104.1
Other/DK	66.2	92.8	13.2	100.9	78.0	103.2	521.8	97.5	4.0	106.4
Second Generation -- Parents from the Same Region of Origin										
Americas (except USA)	70.6	99.1	12.6	96.2	76.2	100.9	516.4	96.5	4.0	105.2
Africa	78.0	109.5	14.1	107.4	82.4	109.1	554.7	103.7	4.4	117.3
China	73.7	103.4	13.3	101.3	81.8	108.2	570.7	106.7	4.3	114.0
East/South-East Asia	66.1	92.8	13.4	102.1	79.2	104.8	543.4	101.6	4.1	109.0
Other Asia	72.0	101.1	13.6	103.9	80.4	106.4	550.6	102.9	4.3	114.8
West/Northern Europe	70.3	98.7	13.6	103.5	77.7	102.9	556.5	104.0	4.0	107.1
South/Eastern Europe	69.7	97.8	12.1	92.1	74.0	97.9	519.1	97.0	3.9	104.8
Anglosphere	91.3	128.1	13.9	106.0	73.8	97.6	554.6	103.7	3.9	104.5
Other/DK	65.4	91.8	12.3	94.1	73.4	97.1	520.8	97.3	4.4	116.9
Second Generation -- Parents from Different Regions of Origin										
Immigrant Father / non-Immigrant Mother										
High Access Region	46.1	64.6	13.6	103.7	75.3	99.7	536.5	100.3	4.0	105.4
Other	80.4	112.8	13.9	105.8	76.5	101.2	544.9	101.8	3.8	101.9
Immigrant Mother/ non-Immigrant Father										
High Access Region	95.9	134.5	15.0	114.6	81.2	107.5	599.8	112.1	4.2	112.5
Other	88.6	124.3	13.8	105.0	76.4	101.2	555.5	103.8	3.9	104.3
Different Regions	81.9	115.0	13.7	104.5	77.1	102.0	547.7	102.4	3.9	104.9
Single Immigrant Parent	79.2	111.1	14.1	107.8	78.2	103.5	551.6	103.1	4.0	106.9

Notes: The relative column indicates the ratio of the level for the particular group to the level of the non-immigrant group.

The Expected PSE Level is measured in years of PSE that the parents expect their child to complete.

The High Access region refers to Africa, China and Other Asia.

Table 2a: Basic Access Models, Aggregate Immigrant Indicators

	(1) Basic Controls		(2) Family Income and Parental Education		(3) High School Grades and PISA Score	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.048***	0.152***	-0.051***	0.159***	-0.009	0.066***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)
Province (Ontario)						
Newfoundland and Labrador	-0.097***	0.090***	-0.109***	0.137***	-0.100***	0.132***
	(0.018)	(0.021)	(0.018)	(0.020)	(0.016)	(0.016)
Prince Edward Island	-0.171***	0.168***	-0.175***	0.190***	-0.150***	0.145***
	(0.016)	(0.020)	(0.016)	(0.019)	(0.015)	(0.015)
Nova Scotia	-0.156***	0.145***	-0.160***	0.165***	-0.137***	0.139***
	(0.015)	(0.019)	(0.015)	(0.018)	(0.014)	(0.014)
New Brunswick	-0.147***	0.119***	-0.152***	0.145***	-0.129***	0.117***
	(0.015)	(0.019)	(0.015)	(0.018)	(0.014)	(0.014)
Quebec	0.030*	-0.110***	0.026	-0.069***	0.029*	-0.098***
	(0.018)	(0.016)	(0.018)	(0.016)	(0.016)	(0.012)
Manitoba	-0.173***	0.055***	-0.180***	0.087***	-0.169***	0.071***
	(0.015)	(0.020)	(0.015)	(0.019)	(0.014)	(0.015)
Saskatchewan	-0.143***	0.062***	-0.151***	0.087***	-0.132***	0.043***
	(0.015)	(0.019)	(0.015)	(0.019)	(0.014)	(0.014)
Alberta	-0.083***	-0.046***	-0.087***	-0.037**	-0.085***	-0.026**
	(0.017)	(0.018)	(0.017)	(0.016)	(0.015)	(0.013)
British Columbia	-0.087***	-0.019	-0.093***	-0.007	-0.076***	-0.021
	(0.017)	(0.018)	(0.017)	(0.017)	(0.016)	(0.014)
Linguistic Minority (Non Minority)						
English Min. in Que.	-0.002	0.105***	0.025	0.049*	0.015	0.071***
	(0.028)	(0.029)	(0.029)	(0.029)	(0.025)	(0.022)
French Min. outside Que.	0.024	-0.006	0.020	0.011	-0.008	0.077***
	(0.026)	(0.026)	(0.026)	(0.025)	(0.020)	(0.017)
High School Location (Urban)						
Rural high school	-0.068***	0.129***	-0.054***	0.075***	-0.048***	0.066***
	(0.012)	(0.013)	(0.012)	(0.012)	(0.011)	(0.010)
Family Structure (Two Parents)						
Single mother	0.013	-0.095***	0.005	-0.046**	-0.009	-0.024
	(0.018)	(0.017)	(0.020)	(0.019)	(0.017)	(0.015)
Single father	0.054	-0.115***	0.065	-0.101***	0.030	-0.051*
	(0.040)	(0.038)	(0.041)	(0.038)	(0.035)	(0.031)
Other	0.008	-0.165***	0.002	-0.085*	-0.028	-0.023
	(0.049)	(0.045)	(0.049)	(0.051)	(0.040)	(0.040)

Table 2a: Basic Access Models, Aggregate Immigrant Indicators - cont.

	(1) Basic Controls		(2) Family Income and Parental Education		(3) High School Grades and PISA Score	
	College	University	College	University	College	University
Additional Explanatory Variables						
Parents' Years of Schooling			-0.014***	0.056***	-0.004*	0.029***
			(0.003)	(0.002)	(0.002)	(0.002)
Family Income in $10,000s			-0.002	0.010***	-0.001	0.006***
			(0.002)	(0.002)	(0.002)	(0.002)
High School Grade					-0.052***	0.135***
					(0.005)	(0.004)
PISA Reading Score					-0.042***	0.131***
					(0.007)	(0.006)
Immigrant Indicators						
Aggregate Immigrant Indicators (Not an Immigrant)						
First Generation	-0.040*	0.163***	-0.024	0.150***	-0.022	0.141***
	(0.024)	(0.025)	(0.026)	(0.026)	(0.023)	(0.021)
Second Generation	-0.033**	0.125***	-0.027*	0.121***	-0.019	0.100***
	(0.015)	(0.016)	(0.015)	(0.016)	(0.014)	(0.012)
Number of Observations	15,019		15,019		15,019	

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

High School Grade is a percentage score divided by 10. The PISA Reading score is divided by 100.

The High Access region refers to Africa, China and Other Asia.

Table 2b: Basic Access Models - Detailed Immigrant Indicators

	(1) Basic Controls		(2) Family Income and Parental Education		(3) High School Grades and PISA Score	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.048***	0.151***	-0.051***	0.158***	-0.010	0.065***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.008)
Province (Ontario)						
Newfoundland and Labrador	-0.093***	0.082***	-0.107***	0.132***	-0.099***	0.130***
	(0.018)	(0.021)	(0.018)	(0.020)	(0.016)	(0.016)
Prince Edward Island	-0.167***	0.160***	-0.172***	0.186***	-0.150***	0.145***
	(0.016)	(0.020)	(0.016)	(0.019)	(0.015)	(0.015)
Nova Scotia	-0.152***	0.138***	-0.159***	0.162***	-0.137***	0.139***
	(0.015)	(0.019)	(0.015)	(0.018)	(0.014)	(0.014)
New Brunswick	-0.144***	0.113***	-0.151***	0.143***	-0.129***	0.117***
	(0.015)	(0.019)	(0.015)	(0.018)	(0.014)	(0.014)
Quebec	0.030*	-0.111***	0.025	-0.069***	0.027*	-0.098***
	(0.018)	(0.016)	(0.018)	(0.015)	(0.016)	(0.012)
Manitoba	-0.173***	0.057***	-0.181***	0.089***	-0.170***	0.073***
	(0.015)	(0.020)	(0.015)	(0.019)	(0.014)	(0.015)
Saskatchewan	-0.139***	0.054***	-0.149***	0.083***	-0.131***	0.042***
	(0.015)	(0.019)	(0.015)	(0.018)	(0.014)	(0.014)
Alberta	-0.080***	-0.053***	-0.087***	-0.040**	-0.085***	-0.029**
	(0.017)	(0.017)	(0.017)	(0.016)	(0.015)	(0.013)
British Columbia	-0.076***	-0.045**	-0.084***	-0.032*	-0.072***	-0.039***
	(0.018)	(0.018)	(0.017)	(0.017)	(0.016)	(0.014)
Linguistic Minority (Non Minority)						
English Min. in Que.	0.004	0.102***	0.027	0.051*	0.018	0.074***
	(0.028)	(0.029)	(0.029)	(0.028)	(0.025)	(0.022)
French Min. outside Que.	0.028	-0.011	0.022	0.009	-0.005	0.076***
	(0.026)	(0.026)	(0.026)	(0.024)	(0.020)	(0.017)
High School Location (Urban)						
Rural high school	-0.066***	0.123***	-0.052***	0.068***	-0.046***	0.059***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.010)
Family Structure (Two Parents)						
Single mother	0.010	-0.094***	0.002	-0.040**	-0.009	-0.025
	(0.019)	(0.018)	(0.021)	(0.020)	(0.018)	(0.016)
Single father	0.054	-0.119***	0.062	-0.101***	0.027	-0.057*
	(0.040)	(0.037)	(0.041)	(0.038)	(0.035)	(0.030)
Other	0.013	-0.176***	0.008	-0.091*	-0.022	-0.036
	(0.049)	(0.045)	(0.049)	(0.052)	(0.041)	(0.041)

Additional Explanatory Variables

Parents' Years of Schooling		-0.014***	0.056***	-0.005*	0.029***
		(0.003)	(0.002)	(0.002)	(0.002)

Table 2b: Basic Access Models - Detailed Immigrant Indicators - cont.

	(1) Basic Controls		(2) Family Income and Parental Education		(3) High School Grades and PISA Score	
	College	University	College	University	College	University
Additional Explanatory Variables -- cont.						
Family Income in $10,000s			-0.002	0.011***	-0.001	0.006***
			(0.002)	(0.003)	(0.002)	(0.002)
High School Grade					-0.050***	0.131***
					(0.005)	(0.004)
PISA Reading Score					-0.043***	0.135***
					(0.007)	(0.006)
Immigrant Indicators						
Detailed Immigrant Indicators (Not an Immigrant)						
First Generation						
Americas (Except USA)	0.017	-0.145**	0.020	-0.070	0.022	-0.045
	(0.072)	(0.057)	(0.073)	(0.070)	(0.064)	(0.057)
Africa	0.002	0.239***	0.029	0.210**	0.008	0.224***
	(0.091)	(0.092)	(0.088)	(0.089)	(0.066)	(0.065)
China	-0.215***	0.473***	-0.227***	0.490***	-0.201***	0.457***
	(0.037)	(0.037)	(0.033)	(0.033)	(0.031)	(0.030)
E/SE Asia	0.133**	0.028	0.152**	0.001	0.097*	0.064
	(0.068)	(0.065)	(0.067)	(0.062)	(0.057)	(0.052)
Other Asia	-0.104**	0.273***	-0.070	0.227***	-0.085*	0.252***
	(0.051)	(0.057)	(0.058)	(0.063)	(0.048)	(0.043)
W/E Europe	-0.028	0.079	-0.016	0.067	-0.010	0.048
	(0.098)	(0.086)	(0.092)	(0.067)	(0.079)	(0.048)
S/E Europe	0.038	0.090	0.063	0.059	0.096*	0.004
	(0.060)	(0.059)	(0.063)	(0.058)	(0.058)	(0.046)
Anglosphere	-0.121**	0.155**	-0.096	0.084	-0.096	0.047
	(0.060)	(0.070)	(0.071)	(0.075)	(0.062)	(0.054)
Unknown region	0.141	-0.048	0.126	-0.014	0.162	-0.018
	(0.181)	(0.149)	(0.167)	(0.122)	(0.108)	(0.083)
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)	0.106	-0.057	0.103	-0.011	0.069	0.009
	(0.072)	(0.062)	(0.069)	(0.064)	(0.058)	(0.048)
Africa	-0.136*	0.375***	-0.111	0.337***	-0.050	0.252***
	(0.081)	(0.083)	(0.082)	(0.084)	(0.076)	(0.068)
China	-0.180***	0.384***	-0.182***	0.399***	-0.121**	0.298***
	(0.043)	(0.052)	(0.042)	(0.049)	(0.048)	(0.051)
E/SE Asia	-0.025	0.189***	-0.030	0.211***	-0.010	0.148***
	(0.067)	(0.064)	(0.065)	(0.063)	(0.051)	(0.038)
Other Asia	-0.039	0.270***	-0.037	0.275***	0.021	0.199***
	(0.051)	(0.052)	(0.051)	(0.052)	(0.045)	(0.041)
W/N Europe	0.111	0.077	0.110	0.080	0.127	0.042
	(0.124)	(0.118)	(0.110)	(0.101)	(0.087)	(0.071)
S/E Europe	0.011	0.006	-0.011	0.103**	-0.023	0.115***

	(0.051)	(0.049)	(0.047)	(0.052)	(0.039)	(0.034)

Table 2b: Basic Access Models - Detailed Immigrant Indicators - cont.

	(1) Basic Controls		(2) Family Income and Parental Education		(3) High School Grades and PISA Score	
	College	University	College	University	College	University
Immigrant Indicators - cont.						
Second Generation -- Parents from the Same Region of Origin - cont.						
Anglosphere	0.060	-0.015	0.070	-0.047	0.099	-0.052
	(0.072)	(0.064)	(0.072)	(0.061)	(0.068)	(0.055)
Unknown region	-0.067	0.131	-0.107	0.223	-0.127	0.251***
	(0.151)	(0.171)	(0.132)	(0.146)	(0.095)	(0.085)
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region	-0.026	0.153***	-0.014	0.133***	-0.011	0.135***
	(0.045)	(0.048)	(0.044)	(0.047)	(0.041)	(0.037)
Other	-0.044	0.114***	-0.037	0.092***	-0.043*	0.096***
	(0.027)	(0.029)	(0.027)	(0.026)	(0.024)	(0.020)
Immigrant Mother/ non-Immigrant Father						
High Access Region	-0.101	0.335***	-0.041	0.259***	0.068	0.135
	(0.085)	(0.086)	(0.092)	(0.089)	(0.089)	(0.083)
Other	-0.032	0.087**	-0.019	0.052*	-0.010	0.028
	(0.033)	(0.034)	(0.033)	(0.031)	(0.030)	(0.024)
Different Regions	-0.140***	0.157***	-0.127***	0.142***	-0.117***	0.114***
	(0.043)	(0.054)	(0.044)	(0.051)	(0.042)	(0.040)
Single Immigrant Parent	-0.020	0.111	-0.005	0.088	0.029	0.044
	(0.136)	(0.126)	(0.132)	(0.105)	(0.131)	(0.105)
Number of Observations	15,019		15,019		15,019	

Notes: Average marginal effects shown. Standard errors are in parenthesis. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

High School Grade is a percentage score divided by 10. The PISA Reading score is divided by 100.

The High Access region refers to Africa, China and Other Asia.

Table 3: Access Models, First Generation Only
Age at Migration, Detailed Immigrant Indicators

	(1) Baseline Model		(2) Quadratic Age of Migration	
	College	University	College	University
Basic Control Variables				
Gender (Male)				
Female	-0.085**	0.144***	-0.086**	0.144***
	(0.038)	(0.041)	(0.038)	(0.041)
Province (Ontario)				
Newfoundland	-0.098	0.225	-0.091	0.218
	(0.141)	(0.140)	(0.152)	(0.151)
Prince Edward Island	0.148	-0.021	0.150	-0.023
	(0.172)	(0.171)	(0.165)	(0.164)
Nova Scotia	0.030	0.082	0.021	0.090
	(0.109)	(0.107)	(0.110)	(0.108)
New Brunswick	-0.010	-0.007	0.026	-0.030
	(0.170)	(0.162)	(0.189)	(0.172)
Quebec	0.139*	-0.248***	0.151**	-0.253***
	(0.072)	(0.060)	(0.074)	(0.060)
Manitoba	-0.025	0.002	-0.023	-0.001
	(0.069)	(0.074)	(0.070)	(0.074)
Saskatchewan	0.059	0.037	0.086	0.012
	(0.185)	(0.183)	(0.192)	(0.188)
Alberta	-0.065	0.012	-0.060	0.008
	(0.047)	(0.051)	(0.049)	(0.052)
British Columbia	0.048	-0.056	0.035	-0.051
	(0.050)	(0.049)	(0.050)	(0.050)
Linguistic Minority (Non Minority)				
English Min. in Que.	-0.030	0.062	-0.036	0.061
	(0.157)	(0.138)	(0.148)	(0.134)
French Min. outside Que.	-0.099	0.174	-0.066	0.150
	(0.130)	(0.142)	(0.135)	(0.141)
High School Location (Rural)				
Urban high school	0.185*	-0.008	0.184*	-0.010
	(0.097)	(0.093)	(0.096)	(0.092)
Family Structure (Two Parents)				
Single mother	-0.013	-0.021	-0.006	-0.021
	(0.072)	(0.069)	(0.075)	(0.071)
Single father	0.371**	-0.224	0.379**	-0.231
	(0.160)	(0.161)	(0.149)	(0.150)
Other	0.153	-0.160	0.133	-0.149
	(0.149)	(0.160)	(0.149)	(0.163)

Table 3: Access Models, First Generation
Detailed Immigrant Indicators, Age of Immigration - cont.

	(1)		(3)	
	Baseline Model		**Quadratic Age of Migration**	
	College	**University**	**College**	**University**
<u>**Additional Explanatory Variables**</u>				
Parent's Years of Schooling	-0.024***	0.039***	-0.024***	0.040***
	(0.008)	(0.008)	(0.007)	(0.008)
Family Income in $10,000s	0.005*	0.005*	0.006**	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
Age at Migration				
Age at migration			0.011	-0.011
			(0.019)	(0.019)
Quadratic			-0.001	0.001
			(0.001)	(0.001)
<u>**Immigrant Indicators**</u>				
Region of Origin (Anglosphere)				
Americas (Except USA)	0.078	-0.115	0.050	-0.104
	(0.108)	(0.100)	(0.110)	(0.098)
Africa	0.016	0.165	-0.020	0.176
	(0.098)	(0.109)	(0.099)	(0.108)
China	-0.157***	0.417***	-0.193***	0.431***
	(0.041)	(0.046)	(0.040)	(0.044)
E/SE Asia	0.226**	-0.077	0.185*	-0.063
	(0.108)	(0.099)	(0.107)	(0.097)
Other Asia	0.025	0.156	-0.015	0.171*
	(0.091)	(0.096)	(0.089)	(0.094)
W/N Europe	0.160	-0.003	0.157	-0.010
	(0.131)	(0.117)	(0.132)	(0.117)
S/E Europe	0.106	0.003	0.074	0.014
	(0.098)	(0.097)	(0.098)	(0.095)
Unknown Region	0.190	-0.105	0.147	-0.091
	(0.190)	(0.157)	(0.184)	(0.154)
Number of Observations	675		675	

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

Table 4: Ethnic Capital Descriptive Statistics

	Years of School	% With BA	Income ($1000s)
By Father's Region of Birth			
Canada	11.7	18.6	51.3
Americas (except USA)	11.4	17.7	37.9
Africa	15.1	47.7	48.2
China	12.9	37.9	43.1
E/SE Asia	13.6	40.0	42.5
O. Asia	13.2	46.1	42.6
W/N Europe	12.5	32.4	50.2
S/E Europe	11.4	27.6	51.8
Anglosphere	13.5	34.1	64.8
Unknown region	12.6	33.6	38.5

Note: % with BA indicates the proportion of father's within the immigrant group who have earned a Bachelor's degree or above.

Table 5: Access Model, Ethnic Capital: Father's Years of Schooling

	(1)		(2)		(3)		(4)	
	Base Model		**Ethnic Capital Education**		**Ethnic Capital Income**		**Ethnic Capital Both**	
	College	University	College	University	College	University	College	University
Basic Control Variables								
Gender (Male)								
Gender	-0.053***	0.159***	-0.053***	0.159***	-0.053***	0.159***	-0.053***	0.159***
	(0.009)	(0.010)	(0.010)	(0.014)	(0.010)	(0.011)	(0.010)	(0.014)
Province (Ontario)								
Newfoundland	-0.108***	0.124***	-0.109***	0.124***	-0.108***	0.125***	-0.108***	0.125***
	(0.018)	(0.019)	(0.018)	(0.020)	(0.018)	(0.019)	(0.018)	(0.020)
Prince Edward Island	-0.176***	0.190***	-0.177***	0.190***	-0.176***	0.191***	-0.176***	0.191***
	(0.015)	(0.019)	(0.016)	(0.020)	(0.016)	(0.019)	(0.016)	(0.020)
Nova Scotia	-0.160***	0.164***	-0.161***	0.165***	-0.160***	0.166***	-0.161***	0.165***
	(0.015)	(0.017)	(0.015)	(0.018)	(0.015)	(0.017)	(0.015)	(0.018)
New Brunswick	-0.159***	0.138***	-0.159***	0.138***	-0.159***	0.139***	-0.159***	0.139***
	(0.015)	(0.017)	(0.015)	(0.018)	(0.015)	(0.017)	(0.015)	(0.018)
Quebec	0.020	-0.073***	0.020	-0.073***	0.020	-0.073***	0.020	-0.073***
	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)
Manitoba	-0.180***	0.086***	-0.180***	0.086***	-0.180***	0.084***	-0.180***	0.084***
	(0.015)	(0.018)	(0.015)	(0.019)	(0.015)	(0.018)	(0.015)	(0.019)
Saskatchewan	-0.152***	0.076***	-0.152***	0.077***	-0.151***	0.077***	-0.152***	0.077***
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Alberta	-0.092***	-0.033**	-0.092***	-0.033**	-0.091***	-0.032**	-0.092***	-0.032**
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
British Columbia	-0.089***	-0.032*	-0.089***	-0.031*	-0.088***	-0.030*	-0.089***	-0.031*
	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)
Linguistic Minority (Non Minority)								
English Min. in Que.	0.034	0.044	0.034	0.044	0.034	0.043	0.034	0.044
	(0.029)	(0.027)	(0.029)	(0.027)	(0.029)	(0.027)	(0.029)	(0.027)
French Min. outside Que.	0.031	0.007	0.031	0.007	0.031	0.006	0.030	0.006
	(0.025)	(0.023)	(0.025)	(0.023)	(0.025)	(0.023)	(0.025)	(0.023)
High School Location (Rural)								
Urban high school	-0.047***	0.069***	-0.047***	0.069***	-0.047***	0.068***	-0.047***	0.068***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Family Structure (Two Parents)								
Single mother	-0.002	-0.038**	-0.002	-0.038**	-0.002	-0.038*	-0.002	-0.037*
	(0.020)	(0.019)	(0.020)	(0.019)	(0.020)	(0.019)	(0.020)	(0.019)
Single father	0.068*	-0.098***	0.068*	-0.098***	0.069*	-0.097***	0.069*	-0.097***
	(0.040)	(0.036)	(0.040)	(0.036)	(0.040)	(0.035)	(0.040)	(0.036)
Other	0.085	-0.081	0.087	-0.083	0.086	-0.082	0.088	-0.080
	(0.086)	(0.082)	(0.086)	(0.082)	(0.086)	(0.082)	(0.086)	(0.082)

cont…

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Table 5: Ethnic Capital: Father's Years of Schooling - cont.

	(1) Base Model		(2) Ethnic Capital Education		(3) Ethnic Capital Income		(4) Ethnic Capital Both	
	College	University	College	University	College	University	College	University
<u>Additional Explanatory Variables</u>								
Parent's Years of Schooling	-0.015***	0.057***	-0.015***	0.057***	-0.014***	0.058***	-0.014***	0.058***
	(0.002)	(0.002)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Family Income in $10,000s	-0.002	0.011***	-0.002	0.011***	-0.002	0.011***	-0.002	0.011***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Ethnic Capital Measures								
Fathers' mean years of schooling			0.013	-0.013			0.029	0.022
			(0.020)	(0.018)			(0.024)	(0.020)
Fathers' mean family income in $10,000s					-0.012	-0.054***	-0.029	-0.067***
					(0.021)	(0.020)	(0.025)	(0.023)
<u>**Immigrant Indicators**</u>								
Detailed Immigrant Indicators (Not an Immigrant)								
First Generation								
Americas (Except USA)	0.013	-0.077	0.014	-0.078	-0.016	-0.126**	-0.032	-0.136**
	(0.067)	(0.064)	(0.068)	(0.064)	(0.069)	(0.059)	(0.070)	(0.057)
Africa	-0.040	0.207**	-0.083	0.253**	-0.038	0.190**	-0.103	0.120
	(0.087)	(0.091)	(0.097)	(0.114)	(0.089)	(0.092)	(0.107)	(0.132)
China	-0.242***	0.509***	-0.252***	0.519***	-0.235***	0.497***	-0.243***	0.491***
	(0.030)	(0.030)	(0.033)	(0.040)	(0.033)	(0.033)	(0.038)	(0.046)
E/SE Asia	0.135**	-0.006	0.107	0.020	0.130*	-0.043	0.053	-0.081
	(0.065)	(0.059)	(0.070)	(0.068)	(0.070)	(0.059)	(0.086)	(0.069)
Other Asia	-0.032	0.193***	-0.052	0.215***	-0.027	0.152**	-0.069	0.111
	(0.059)	(0.060)	(0.064)	(0.073)	(0.062)	(0.062)	(0.073)	(0.080)
W/N Europe	0.012	0.050	0.005	0.056	0.008	0.042	-0.015	0.030
	(0.089)	(0.066)	(0.088)	(0.068)	(0.088)	(0.066)	(0.084)	(0.068)
S/E Europe	0.036	0.066	0.039	0.063	0.035	0.067	0.039	0.069
	(0.057)	(0.054)	(0.058)	(0.054)	(0.057)	(0.054)	(0.058)	(0.054)
Anglosphere	-0.082	0.062	-0.094	0.075	-0.084	0.081	-0.104	0.059
	(0.070)	(0.072)	(0.070)	(0.073)	(0.071)	(0.072)	(0.071)	(0.071)
Unknown region	0.121	-0.006	0.108	0.006	0.114	-0.056	0.064	-0.081
	(0.166)	(0.122)	(0.165)	(0.123)	(0.178)	(0.118)	(0.185)	(0.121)
Second Generation -- Parents from the Same Region of Origin								
Americas (Except USA)	0.083	-0.031	0.087	-0.034	0.058	-0.095	0.038	-0.107*
	(0.067)	(0.060)	(0.068)	(0.060)	(0.077)	(0.061)	(0.076)	(0.060)
Africa	-0.113	0.344***	-0.152*	0.385***	-0.109	0.332***	-0.143	0.290**
	(0.079)	(0.081)	(0.087)	(0.101)	(0.080)	(0.082)	(0.097)	(0.124)
China	-0.186***	0.398***	-0.198***	0.411***	-0.178***	0.366***	-0.196***	0.335***
	(0.040)	(0.047)	(0.044)	(0.059)	(0.043)	(0.053)	(0.048)	(0.075)
E/SE Asia	-0.018	0.202***	-0.045	0.229***	-0.011	0.162**	-0.058	0.118
	(0.064)	(0.062)	(0.072)	(0.079)	(0.067)	(0.064)	(0.081)	(0.086)
Other Asia	-0.039	0.273***	-0.059	0.293***	-0.024	0.240***	-0.048	0.221***
	(0.049)	(0.051)	(0.058)	(0.067)	(0.053)	(0.054)	(0.067)	(0.077)
W/N Europe	0.083	0.109	0.072	0.120	0.083	0.104	0.067	0.094
	(0.114)	(0.106)	(0.114)	(0.109)	(0.114)	(0.106)	(0.115)	(0.107)
S/E Europe	-0.022	0.103**	-0.019	0.099*	-0.023	0.106**	-0.018	0.111**
	(0.045)	(0.051)	(0.046)	(0.051)	(0.045)	(0.051)	(0.046)	(0.051)

cont…

Table 5: Ethnic Capital: Father's Generation -- Years of Schooling - cont.

	(1)		(2)		(3)		(4)	
	Base Model		Ethnic Capital Education		Ethnic Capital Income		Ethnic Capital Both	
	College	University	College	University	College	University	College	University
Immigrant Indicators - cont.								
Second Generation -- Parents from the Same Region of Origin - cont.								
Anglosphere	0.103	-0.069	0.078	-0.046	0.117	-0.008	0.089	-0.022
	(0.069)	(0.056)	(0.076)	(0.064)	(0.074)	(0.067)	(0.076)	(0.068)
Unknown region	-0.112	0.230	-0.123	0.241	-0.113	0.155	-0.147	0.107
	(0.131)	(0.146)	(0.130)	(0.148)	(0.134)	(0.153)	(0.127)	(0.160)
Second Generation -- Parents from Different Regions of Origin								
Immigrant Father / non-Immigrant Mother								
High Access Region	0.002	0.114**	-0.012	0.128**	0.005	0.112**	-0.017	0.093*
	(0.045)	(0.046)	(0.050)	(0.054)	(0.045)	(0.045)	(0.052)	(0.054)
Other	-0.030	0.089***	-0.041	0.100***	-0.028	0.113***	-0.043	0.100***
	(0.027)	(0.025)	(0.031)	(0.033)	(0.028)	(0.028)	(0.031)	(0.033)
Immigrant Mother/ non-Immigrant Father								
High Access Region	-0.062	0.245***	-0.090	0.274***	-0.056	0.215**	-0.100	0.166
	(0.090)	(0.085)	(0.099)	(0.103)	(0.093)	(0.087)	(0.106)	(0.108)
Other	-0.028	0.055*	-0.028	0.055*	-0.028	0.054*	-0.029	0.055*
	(0.031)	(0.030)	(0.032)	(0.030)	(0.031)	(0.030)	(0.032)	(0.030)
Different Regions	-0.138***	0.118**	-0.151***	0.133**	-0.136***	0.117**	-0.164***	0.081
	(0.044)	(0.052)	(0.047)	(0.067)	(0.044)	(0.053)	(0.046)	(0.065)
Single Immigrant Parent	-0.027	0.121	-0.027	0.120	-0.028	0.120	-0.030	0.119
	(0.125)	(0.102)	(0.126)	(0.102)	(0.125)	(0.102)	(0.125)	(0.102)
Number of Observation	15,904		15,904		15,904		15,904	

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

The High Access region refers to Africa, China and Other Asia.

Table 6: Access Model, Ethnic Capital: Father's Education -- Percentage with BA

| | (1) | | (2) | | (3) | | (4) | |
| | **Base Model** | | **Ethnic Capital Education** | | **Ethnic Capital Income** | | **Ethnic Capital Both** | |
	College	**University**	**College**	**University**	**College**	**University**	**College**	**University**
<u>**Basic Control Variables**</u>								
Gender (Male)								
Gender	-0.053***	0.159***	-0.053***	0.159***	-0.053***	0.159***	-0.053***	0.159***
	(0.009)	(0.010)	(0.009)	(0.010)	(0.010)	(0.011)	(0.010)	(0.011)
Province (Ontario)								
Newfoundland	-0.108***	0.124***	-0.109***	0.124***	-0.108***	0.125***	-0.108***	0.125***
	(0.018)	(0.019)	(0.018)	(0.019)	(0.018)	(0.019)	(0.018)	(0.019)
Prince Edward Island	-0.176***	0.190***	-0.177***	0.190***	-0.176***	0.191***	-0.176***	0.190***
	(0.015)	(0.019)	(0.015)	(0.019)	(0.016)	(0.019)	(0.016)	(0.019)
Nova Scotia	-0.160***	0.164***	-0.161***	0.164***	-0.160***	0.166***	-0.161***	0.165***
	(0.015)	(0.017)	(0.015)	(0.017)	(0.015)	(0.017)	(0.015)	(0.017)
New Brunswick	-0.159***	0.138***	-0.159***	0.138***	-0.159***	0.139***	-0.159***	0.139***
	(0.015)	(0.017)	(0.015)	(0.017)	(0.015)	(0.017)	(0.015)	(0.017)
Quebec	0.020	-0.073***	0.020	-0.073***	0.020	-0.073***	0.020	-0.073***
	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)
Manitoba	-0.180***	0.086***	-0.179***	0.086***	-0.180***	0.084***	-0.179***	0.084***
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Saskatchewan	-0.152***	0.076***	-0.152***	0.076***	-0.151***	0.077***	-0.151***	0.077***
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Alberta	-0.092***	-0.033**	-0.092***	-0.033**	-0.091***	-0.032**	-0.092***	-0.033**
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
British Columbia	-0.089***	-0.032*	-0.089***	-0.033**	-0.088***	-0.030*	-0.089***	-0.032*
	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)
Linguistic Minority (Non Minority)								
English Min. in Que.	0.034	0.044	0.034	0.045	0.034	0.043	0.034	0.044
	(0.029)	(0.027)	(0.029)	(0.027)	(0.029)	(0.027)	(0.029)	(0.027)
French Min. outside Que.	0.031	0.007	0.030	0.007	0.031	0.006	0.030	0.005
	(0.025)	(0.023)	(0.025)	(0.023)	(0.025)	(0.023)	(0.025)	(0.023)
High School Location (Rural)								
Urban High School	-0.047***	0.069***	-0.047***	0.069***	-0.047***	0.068***	-0.047***	0.068***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Family Structure (Two Parents)								
Single mother	-0.002	-0.038**	-0.002	-0.038**	-0.002	-0.038*	-0.002	-0.037*
	(0.020)	(0.019)	(0.020)	(0.019)	(0.020)	(0.019)	(0.020)	(0.019)
Single father	0.068*	-0.098***	0.068*	-0.099***	0.069*	-0.097***	0.069*	-0.098***
	(0.040)	(0.036)	(0.040)	(0.036)	(0.040)	(0.035)	(0.040)	(0.035)
Other	0.085	-0.081	0.087	-0.078	0.086	-0.082	0.088	-0.075
	(0.086)	(0.082)	(0.086)	(0.082)	(0.086)	(0.082)	(0.086)	(0.082)

cont…

Table 6: Ethnic Capital: Father's Education -- Percentage with BA - cont.

	(1) Base Model		(2) Ethnic Capital Education		(3) Ethnic Capital Income		(4) Ethnic Capital Both	
	College	University	College	University	College	University	College	University
Additional Explanatory Variables								
Parent's Years of Schooling	-0.015***	0.057***	-0.015***	0.057***	-0.014***	0.058***	-0.014***	0.058***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Family Income in $10,000s	-0.002	0.011***	-0.002	0.011***	-0.002	0.011***	-0.002	0.011***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Ethnic Capital Measures								
Percentage of father's generation with BA			0.146	0.192			0.255	0.478**
			(0.261)	(0.240)			(0.269)	(0.244)
Fathers' mean family income in $10,000s					-0.012	-0.054***	-0.018	-0.066***
					(0.021)	(0.020)	(0.022)	(0.021)
Immigrant Indicators								
Detailed Immigrant Indicators (Not an Immigrant)								
First Generation								
Americas (Except USA)	0.013	-0.077	0.014	-0.078	-0.016	-0.126**	-0.023	-0.139**
	(0.067)	(0.064)	(0.068)	(0.065)	(0.069)	(0.059)	(0.070)	(0.058)
Africa	-0.040	0.207**	-0.059	0.161	-0.038	0.190**	-0.081	0.048
	(0.087)	(0.091)	(0.112)	(0.122)	(0.089)	(0.092)	(0.118)	(0.128)
China	-0.242***	0.509***	-0.244***	0.499***	-0.235***	0.497***	-0.228***	0.461***
	(0.030)	(0.030)	(0.038)	(0.040)	(0.033)	(0.033)	(0.044)	(0.047)
E/SE Asia	0.135**	-0.006	0.107	-0.037	0.130*	-0.043	0.053	-0.135*
	(0.065)	(0.059)	(0.087)	(0.076)	(0.070)	(0.059)	(0.097)	(0.070)
Other Asia	-0.032	0.193***	-0.052	0.148	-0.027	0.152**	-0.083	0.004
	(0.059)	(0.060)	(0.089)	(0.093)	(0.062)	(0.062)	(0.092)	(0.094)
W/N Europe	0.012	0.050	-0.008	0.030	0.008	0.042	-0.028	-0.008
	(0.089)	(0.066)	(0.088)	(0.071)	(0.088)	(0.066)	(0.085)	(0.072)
S/E Europe	0.036	0.066	0.024	0.049	0.035	0.067	0.016	0.024
	(0.057)	(0.054)	(0.062)	(0.059)	(0.057)	(0.054)	(0.063)	(0.058)
Anglosphere	-0.082	0.062	-0.093	0.040	-0.084	0.081	-0.099	0.033
	(0.070)	(0.072)	(0.071)	(0.072)	(0.071)	(0.072)	(0.071)	(0.071)
Unknown region	0.121	-0.006	0.101	-0.030	0.114	-0.056	0.059	-0.129
	(0.166)	(0.122)	(0.174)	(0.127)	(0.178)	(0.118)	(0.196)	(0.123)
Second Generation -- Parents from the Same Region of Origin								
Americas (Except USA)	0.083	-0.031	0.084	-0.031	0.058	-0.095	0.052	-0.107*
	(0.067)	(0.060)	(0.067)	(0.061)	(0.077)	(0.061)	(0.076)	(0.060)
Africa	-0.113	0.344***	-0.118	0.311***	-0.109	0.332***	-0.111	0.224*
	(0.079)	(0.081)	(0.102)	(0.110)	(0.080)	(0.082)	(0.109)	(0.124)
China	-0.186***	0.398***	-0.192***	0.371***	-0.178***	0.366***	-0.187***	0.272***
	(0.040)	(0.047)	(0.051)	(0.065)	(0.043)	(0.053)	(0.056)	(0.084)
E/SE Asia	-0.018	0.202***	-0.031	0.170**	-0.011	0.162**	-0.045	0.052
	(0.064)	(0.062)	(0.084)	(0.085)	(0.067)	(0.064)	(0.089)	(0.086)
Other Asia	-0.039	0.273***	-0.044	0.243***	-0.024	0.240***	-0.033	0.131
	(0.049)	(0.051)	(0.086)	(0.091)	(0.053)	(0.054)	(0.094)	(0.098)
W/N Europe	0.083	0.109	0.073	0.090	0.083	0.104	0.069	0.051
	(0.114)	(0.106)	(0.120)	(0.112)	(0.114)	(0.106)	(0.122)	(0.109)

cont…

Table 6: Ethnic Capital: Father's Education -- Percentage with BA - cont.

	(1) Base Model		(2) Ethnic Capital Education		(3) Ethnic Capital Income		(4) Ethnic Capital Both	
	College	University	College	University	College	University	College	University
Immigrant Indicators - cont.								
Second Generation -- Parents from the Same Region of Origin - cont.								
S/E Europe	-0.022	0.103**	-0.034	0.085	-0.023	0.106**	-0.041	0.062
	(0.045)	(0.051)	(0.051)	(0.056)	(0.045)	(0.051)	(0.050)	(0.056)
Anglosphere	0.103	-0.069	0.074	-0.095	0.117	-0.008	0.087	-0.057
	(0.069)	(0.056)	(0.082)	(0.063)	(0.074)	(0.067)	(0.083)	(0.069)
Unknown region	-0.112	0.230	-0.124	0.199	-0.113	0.155	-0.148	0.046
	(0.131)	(0.146)	(0.133)	(0.152)	(0.134)	(0.153)	(0.129)	(0.159)
Second Generation -- Parents from Different Regions of Origin								
Immigrant Father / non-Immigrant Mother								
High Access Region	0.002	0.114**	-0.011	0.091	0.005	0.112**	-0.016	0.053
	(0.045)	(0.046)	(0.058)	(0.059)	(0.045)	(0.045)	(0.059)	(0.058)
Other	-0.030	0.089***	-0.045	0.064	-0.028	0.113***	-0.050	0.057
	(0.027)	(0.025)	(0.041)	(0.040)	(0.028)	(0.028)	(0.040)	(0.039)
Immigrant Mother/ non-Immigrant Father								
High Access Region	-0.062	0.245***	-0.076	0.204*	-0.056	0.215**	-0.090	0.082
	(0.090)	(0.085)	(0.109)	(0.109)	(0.093)	(0.087)	(0.113)	(0.113)
Other	-0.028	0.055*	-0.029	0.055*	-0.028	0.054*	-0.030	0.055*
	(0.031)	(0.030)	(0.032)	(0.030)	(0.031)	(0.030)	(0.031)	(0.030)
Different Regions	-0.138***	0.118**	-0.158***	0.074	-0.136***	0.117**	-0.170***	0.013
	(0.044)	(0.052)	(0.052)	(0.072)	(0.044)	(0.053)	(0.050)	(0.070)
Single Immigrant Parent	-0.027	0.121	-0.029	0.120	-0.028	0.120	-0.032	0.118
	(0.125)	(0.102)	(0.125)	(0.102)	(0.125)	(0.102)	(0.124)	(0.102)
Number of Observation	15,904		15,904		15,904		15,904	

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

Table A1: Immigration Regions

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

Table A1: Immigration Regions - cont.

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

* Considered High Access Region

	% of Obs. In the Starting Sample	Observations Deleted	Observations Left
Starting Sample (YITS-A participants over all 4 cycles)			17,374
Unknown visible minority status	0.25	44	17,330
Missing Family Income Information	1.02	177	17,153
Missing High School Location (Urban/Rural)	1.39	242	16,911
Deceased in Cycle 4	0.44	77	16,834
Non-Canadian Citizen	0.70	122	16,712
High School Continuer	0.84	146	16,566
High School Status Unknown	0.04	7	16,559
Unknown PSE status	1.65	286	16,273
Missing Gender Information	0.03	5	16,268
Missing Parents' Years of Schooling	0.31	54	16,214
Missing Values			
High School Grade (Age 15)	6.80	1,182	15,032
Scale Variables	3.94	685	15,529
PISA Reading Score	0.09	16	16,198
Grade + PISA Reading Score	6.88	1,195	15,019
Parental Aspirations - Graduate HS & Attend PSE	0.07	13	16,201
Parental Aspirations -- Level of PSE	0.28	48	16,166
Parental Aspirations - All	0.33	58	16,156
Grades + Scales + PISA Reading Score + Aspirations	10.66	1,852	14,362
Ethnic Capital Measures	1.78	310	15,904

Note: The sample includes only those respondants whose parents responded to the YITS-Parent questionaire in Cycle 1.

Table A3: Descriptive Statistics

	Mean	No PSE	College	University
<u>Basic Control Variables</u>				
Gender				
Female	0.497	0.189	0.310	0.501
Male	0.503	0.310	0.344	0.346
Province				
Newfoundland and Labrador	0.021	0.251	0.302	0.447
Prince Edward Island	0.006	0.221	0.212	0.567
Nova Scotia	0.034	0.226	0.226	0.548
New Brunswick	0.028	0.264	0.240	0.496
Quebec	0.219	0.289	0.402	0.309
Ontario	0.377	0.181	0.358	0.461
Manitoba	0.037	0.327	0.201	0.472
Saskatchewan	0.039	0.321	0.234	0.445
Alberta	0.108	0.331	0.282	0.388
British Columbia	0.132	0.276	0.268	0.456
High School Location				
Urban	0.745	0.224	0.315	0.461
Rural	0.255	0.323	0.363	0.314
Linguistic Minority				
Majority language	0.952	0.252	0.325	0.423
English in Quebec	0.019	0.162	0.405	0.433
French in ROC	0.028	0.218	0.345	0.437
Visible Minority				
Not visible minority	0.874	0.269	0.333	0.398
Visible minority	0.126	0.115	0.286	0.599
Family Structure				
Two parents	0.832	0.236	0.322	0.442
Single mother	0.128	0.312	0.342	0.346
Single father	0.026	0.304	0.406	0.289
Other	0.014	0.378	0.355	0.267
<u>Additional Explanatory Variables</u>				
Parental Education				
Below high school	0.084	0.517	0.327	0.156
High school completed	0.213	0.340	0.381	0.280
Some PSE	0.067	0.277	0.386	0.337
College	0.313	0.263	0.372	0.364
University--below BA	0.047	0.150	0.314	0.536
University--BA	0.181	0.111	0.261	0.627
University--grad	0.094	0.057	0.148	0.796
Other	0.001	0.372	0.401	0.227
Family Income				
Up to $25,000	0.074	0.382	0.318	0.300
$25,000 to 50,000	0.254	0.325	0.352	0.323
$50,000 to 75,000	0.287	0.257	0.345	0.398
$75,000 to 100,000	0.231	0.198	0.314	0.488
$100,000 and up	0.154	0.124	0.277	0.599

cont…

Table A3: Descriptive Statistics - cont.

	Mean	No PSE	College	University
Immigrant Indicators				
Aggregate Immigrant Status				
Non-immigrant	0.727	0.283	0.339	0.378
First generation	0.085	0.143	0.291	0.566
Second generation	0.188	0.168	0.297	0.535
Detailed Immigrant Status				
First Generation				
Americas (except USA)	0.010	0.395	0.363	0.242
Africa	0.005			0.640
China	0.014			0.886
East/South-East Asia	0.012	0.121	0.469	0.411
Other Asia	0.019	0.068	0.260	0.672
West/Northern Europe	0.003	0.214	0.337	0.449
South/Eastern Europe	0.012	0.147	0.348	0.505
Anglosphere	0.008	0.256	0.209	0.535
Unknown region	0.002			0.437
Second Generation -- Parents from Same Origin				
Americas (except USA)	0.009	0.208	0.439	0.353
Africa	0.003			0.814
China	0.009			0.805
East/South-East Asia	0.008	0.113	0.282	0.605
Other Asia	0.012			0.691
West/Northern Europe	0.002			0.545
South/Eastern Europe	0.019	0.218	0.342	0.440
Anglosphere	0.007	0.192	0.416	0.392
Unknown region	0.001			0.520
Second Generation -- Parents from Different Regions of Origin				
Immig. father / non-imm. mother	0.049	0.162	0.282	0.556
Immig. mother / non-imm. father	0.033	0.207	0.291	0.502
Imm. parents, different regions	0.013	0.249	0.222	0.529
Single immigrant parent	0.022	0.166	0.342	0.492

Note: Missing values are owing to Statistics Canada's disclosure requirements.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.035***	0.158***	-0.036***	0.158***	-0.034***	0.156***
	(0.010)	(0.011)	(0.010)	(0.011)	(0.010)	(0.010)
Province (Ontario)						
Newfoundland	-0.104***	0.122***	-0.107***	0.126***	-0.103***	0.123***
	(0.018)	(0.019)	(0.017)	(0.019)	(0.018)	(0.019)
Prince Edward Island	-0.175***	0.192***	-0.178***	0.196***	-0.175***	0.193***
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Nova Scotia	-0.157***	0.162***	-0.160***	0.165***	-0.157***	0.162***
	(0.015)	(0.017)	(0.014)	(0.017)	(0.015)	(0.017)
New Brunswick	-0.156***	0.136***	-0.159***	0.139***	-0.155***	0.136***
	(0.014)	(0.017)	(0.014)	(0.017)	(0.014)	(0.017)
Quebec	0.025	-0.075***	0.022	-0.072***	0.025	-0.073***
	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)
Manitoba	-0.179***	0.088***	-0.181***	0.089***	-0.179***	0.087***
	(0.014)	(0.018)	(0.014)	(0.018)	(0.014)	(0.018)
Saskatchewan	-0.151***	0.078***	-0.153***	0.080***	-0.152***	0.079***
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Alberta	-0.092***	-0.035**	-0.093***	-0.034**	-0.093***	-0.035**
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
British Columbia	-0.086***	-0.030*	-0.089***	-0.028*	-0.086***	-0.031*
	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)
Linguistic Minority (Non Minority)						
English Min. in Que.	0.032	0.046*	0.034	0.045*	0.034	0.043
	(0.028)	(0.027)	(0.028)	(0.027)	(0.029)	(0.027)
French Min. outside Que.	0.028	0.010	0.029	0.010	0.027	0.011
	(0.025)	(0.023)	(0.024)	(0.023)	(0.025)	(0.023)
High School Location (Rural)						
Urban high school	-0.047***	0.069***	-0.047***	0.067***	-0.049***	0.068***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Family Structure (Two Parents)						
Single mother	0.002	-0.039**	-0.001	-0.031	0.002	-0.040**
	(0.020)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)
Single father	0.069*	-0.098***	0.062	-0.088***	0.071*	-0.100***
	(0.039)	(0.035)	(0.037)	(0.033)	(0.039)	(0.035)
Other	0.048	-0.100**	0.040	-0.093*	0.046	-0.097**
	(0.053)	(0.050)	(0.050)	(0.050)	(0.051)	(0.049)
Additional Explanatory Variables						
Parents' Years of Schooling	-0.014***	0.057***	-0.014***	0.056***	-0.013***	0.061***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)
Family Income in $10,000s	-0.002	0.011***	-0.003	0.013***	-0.002	0.011***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)

Table A4: Access Models, Detailed Immigrant Indicators
Interacted with Family Income and Parental Education - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Immigrant Indicators						
Detailed Immigrant Indicators (Not an Immigrant)						
First Generation						
Americas (Except USA)	0.009	-0.071	-0.043	0.061	-0.210**	0.337
	(0.066)	(0.063)	(0.112)	(0.113)	(0.106)	(0.222)
Africa	-0.016	0.191**	0.159	0.089	0.194	0.145
	(0.085)	(0.087)	(0.197)	(0.188)	(0.490)	(0.488)
China	-0.226***	0.491***	-0.256***	0.515***	-0.249***	0.590***
	(0.031)	(0.031)	(0.036)	(0.043)	(0.054)	(0.054)
E/SE Asia	0.144**	-0.005	0.116	0.070	0.269	0.059
	(0.063)	(0.058)	(0.123)	(0.122)	(0.349)	(0.350)
Other Asia	-0.044	0.215***	-0.082	0.258***	-0.182	0.511***
	(0.057)	(0.059)	(0.073)	(0.079)	(0.149)	(0.151)
W/N Europe	0.017	0.048	0.025	-0.038	0.585***	-0.306***
	(0.089)	(0.065)	(0.197)	(0.126)	(0.207)	(0.114)
S/E Europe	0.044	0.062	0.024	0.079	-0.058	-0.012
	(0.057)	(0.053)	(0.106)	(0.097)	(0.244)	(0.363)
Anglosphere	-0.090	0.066	-0.275***	-0.157	-0.242***	-0.075
	(0.067)	(0.070)	(0.032)	(0.096)	(0.084)	(0.305)
Unknown Region	0.123	-0.007	-0.299***	-0.385***	0.161	-0.356***
	(0.166)	(0.121)	(0.088)	(0.010)	(2.041)	(0.006)
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)	0.086	-0.030	0.071	-0.115	-0.136	0.334
	(0.067)	(0.060)	(0.180)	(0.149)	(0.226)	(0.351)
Africa	-0.110	0.344***	-0.268**	-0.210	-0.271**	0.613***
	(0.079)	(0.081)	(0.134)	(0.350)	(0.126)	(0.126)
China	-0.183***	0.398***	0.020	0.211	-0.242***	0.534***
	(0.040)	(0.047)	(0.201)	(0.192)	(0.070)	(0.106)
E/SE Asia	-0.019	0.199***	-0.088	0.259**	-0.211*	0.427**
	(0.063)	(0.062)	(0.114)	(0.116)	(0.114)	(0.169)
Other Asia	-0.037	0.273***	-0.089*	0.326***	-0.087	0.374*
	(0.049)	(0.051)	(0.049)	(0.059)	(0.193)	(0.210)
W/N Europe	0.079	0.120	0.020	0.173	0.674***	-0.336***
	(0.109)	(0.101)	(0.245)	(0.212)	(0.068)	(0.060)
S/E Europe	-0.020	0.101**	0.090	0.102	-0.179**	0.502***
	(0.045)	(0.051)	(0.117)	(0.111)	(0.084)	(0.085)
Anglosphere	0.102	-0.070	0.024	0.035	0.208	-0.055
	(0.069)	(0.056)	(0.109)	(0.098)	(0.404)	(0.379)
Unknown region	-0.109	0.228	-0.324***	-0.385***	-0.136	-0.357***
	(0.132)	(0.146)	(0.022)	(0.008)	(0.183)	(0.009)

Table A4: Access Models, Detailed Immigrant Indicators Interacted with Family Income and Parental Education - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Immigrant Indicators - cont.						
Detailed Immigrant Indicators (Not an Immigrant)						
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region	0.004	0.115**	0.055	0.106	0.087	0.163
	(0.044)	(0.045)	(0.083)	(0.077)	(0.224)	(0.238)
Other	-0.027	0.088***	0.045	0.054	0.175	-0.068
	(0.027)	(0.025)	(0.074)	(0.062)	(0.192)	(0.150)
Immigrant Mother/ non-Immigrant Father						
High Access Region	-0.059	0.244***	0.128	-0.026	0.378	-0.057
	(0.091)	(0.085)	(0.325)	(0.278)	(0.423)	(0.410)
Other	-0.025	0.054*	-0.034	0.080	0.092	-0.107
	(0.032)	(0.030)	(0.057)	(0.058)	(0.213)	(0.145)
Different Regions	-0.097**	0.092*	0.075	0.052	0.515***	-0.228
	(0.048)	(0.050)	(0.161)	(0.123)	(0.183)	(0.156)
Single Immigrant Parent	-0.024	0.119	-0.173	0.014	-0.299***	-0.358***
	(0.126)	(0.102)	(0.125)	(0.183)	(0.006)	(0.005)
Interactions with Immigrant Indicators						
Interactions with Family Income and Parental Education						
First Generation						
Americas (Except USA)			0.010	-0.024	0.025	-0.035
			(0.021)	(0.018)	(0.019)	(0.022)
Africa			-0.043	0.006	-0.043	-0.024
			(0.030)	(0.020)	(0.032)	(0.026)
China			0.040	0.007	-0.016	-0.041***
			(0.030)	(0.024)	(0.021)	(0.014)
E/SE Asia			-0.001	-0.016	-0.027	-0.022
			(0.018)	(0.017)	(0.021)	(0.024)
Other Asia			0.007	-0.007	-0.007	-0.040**
			(0.011)	(0.009)	(0.024)	(0.020)
W/N Europe			0.001	0.014	-0.056	0.033
			(0.023)	(0.016)	(0.043)	(0.033)
S/E Europe			0.003	-0.001	0.009	0.006
			(0.015)	(0.012)	(0.024)	(0.030)
Anglosphere			0.051***	0.024*	0.022	0.001
			(0.015)	(0.013)	(0.022)	(0.023)
Unknown region			0.060	0.175**	-0.107	0.194*
			(0.074)	(0.077)	(0.110)	(0.115)

Table A4: Access Models, Detailed Immigrant Indicators
Interacted with Family Income and Parental Education - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Interactions with Immigrant Indicators - cont.						
Interactions with Family Income and Parental Education						
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)			0.001	0.014	0.016	-0.030
			(0.022)	(0.021)	(0.022)	(0.033)
Africa			0.075	0.089	-0.018	-0.077*
			(0.048)	(0.057)	(0.064)	(0.043)
China			-0.043	0.029	0.008	-0.025
			(0.039)	(0.027)	(0.030)	(0.026)
E/SE Asia			0.013	-0.007	0.022	-0.022
			(0.023)	(0.017)	(0.024)	(0.021)
Other Asia			0.010	-0.005	0.001	-0.012
			(0.015)	(0.014)	(0.019)	(0.020)
W/N Europe			0.008	-0.004	-0.085	0.040
			(0.032)	(0.021)	(0.054)	(0.049)
S/E Europe			-0.022	-0.004	-0.006	-0.051***
			(0.016)	(0.013)	(0.015)	(0.012)
Anglosphere			0.008	-0.011	-0.009	-0.002
			(0.009)	(0.008)	(0.027)	(0.029)
Unknown region			0.056	0.196**	-0.128	0.246
			(0.160)	(0.099)	(0.118)	(0.199)
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region			-0.015	-0.001	-0.012	-0.009
			(0.016)	(0.011)	(0.016)	(0.018)
Other			-0.010	0.004	-0.015	0.011
			(0.009)	(0.007)	(0.014)	(0.013)
Immigrant Mother/ non-Immigrant Father						
High Access Region			-0.015	0.031	-0.041	0.004
			(0.036)	(0.031)	(0.040)	(0.036)
Other			0.001	-0.003	-0.010	0.013
			(0.007)	(0.006)	(0.015)	(0.014)
Different Regions			-0.027	0.005	-0.056**	0.020
			(0.020)	(0.013)	(0.024)	(0.021)
Single Immigrant Parent			0.028	0.011	-0.064	0.266**
			(0.024)	(0.022)	(0.129)	(0.127)
Number of Observations	16,214		16,214		16,214	

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

The High Access region refers to Africa, China and Other Asia.

**Table A5: Access Models, Detailed Immigrant Indicators Interacted with
Family Income and Parental Education including Grade and PISA Score**

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.006	0.066***	-0.005	0.066***	-0.005	0.065***
	(0.010)	(0.009)	(0.010)	(0.009)	(0.010)	(0.009)
Province (Ontario)						
Newfoundland	-0.099***	0.130***	-0.105***	0.136***	-0.098***	0.130***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Prince Edward Island	-0.150***	0.145***	-0.154***	0.150***	-0.149***	0.145***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Nova Scotia	-0.137***	0.139***	-0.141***	0.144***	-0.136***	0.138***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
New Brunswick	-0.129***	0.117***	-0.133***	0.121***	-0.128***	0.117***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Quebec	0.027*	-0.098***	0.024	-0.094***	0.027*	-0.097***
	(0.016)	(0.012)	(0.016)	(0.012)	(0.016)	(0.012)
Manitoba	-0.170***	0.073***	-0.172***	0.075***	-0.168***	0.073***
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.015)
Saskatchewan	-0.131***	0.042***	-0.133***	0.045***	-0.131***	0.042***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Alberta	-0.085***	-0.029**	-0.085***	-0.029**	-0.086***	-0.030**
	(0.015)	(0.013)	(0.015)	(0.013)	(0.015)	(0.013)
British Columbia	-0.072***	-0.039***	-0.076***	-0.036***	-0.071***	-0.041***
	(0.016)	(0.014)	(0.016)	(0.014)	(0.016)	(0.014)
Linguistic Minority (Non Minority)						
English Min. in Que.	0.018	0.074***	0.018	0.072***	0.021	0.071***
	(0.025)	(0.022)	(0.025)	(0.022)	(0.026)	(0.022)
French Min. outside Que.	-0.005	0.076***	-0.006	0.077***	-0.006	0.077***
	(0.020)	(0.017)	(0.020)	(0.017)	(0.020)	(0.017)
High School Location (Rural)						
Urban high school	-0.046***	0.059***	-0.044***	0.056***	-0.047***	0.058***
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.010)
Family Structure (Two Parents)						
Single mother	-0.009	-0.025	-0.014	-0.017	-0.009	-0.027*
	(0.018)	(0.016)	(0.018)	(0.016)	(0.018)	(0.016)
Single father	0.027	-0.057*	0.017	-0.045	0.028	-0.059**
	(0.035)	(0.030)	(0.033)	(0.028)	(0.035)	(0.030)
Other	-0.022	-0.036	-0.023	-0.032	-0.018	-0.035
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Additional Explanatory Variables						
Parents' Years of Schooling	-0.005*	0.029***	-0.004	0.028***	-0.003	0.031***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)
Family Income in $10,000s	-0.001	0.006***	-0.003	0.009***	-0.001	0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)

cont…

Table A5: Access Models, Detailed Immigrant Indicators Interacted with Family Income and Parental Education including Grade and PISA Score - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Additional Explanatory Variables - cont.						
Overall High School Grade	-0.050***	0.131***	-0.050***	0.131***	-0.050***	0.130***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)
PISA Reading Score	-0.043***	0.135***	-0.043***	0.135***	-0.043***	0.134***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)
Immigrant Indicators						
Detailed Immigrant Indicators (Not an Immigrant)						
First Generation						
Americas (Except USA)	0.022	-0.045	-0.024	0.080	-0.187	0.261
	(0.064)	(0.057)	(0.103)	(0.097)	(0.123)	(0.242)
Africa	0.008	0.224***	-0.033	0.295***	0.063	0.259
	(0.067)	(0.065)	(0.112)	(0.111)	(0.325)	(0.325)
China	-0.201***	0.457***	-0.301***	0.384***	-0.225***	0.548***
	(0.031)	(0.030)	(0.023)	(0.086)	(0.074)	(0.074)
E/SE Asia	0.097*	0.064	-0.057	0.224**	0.161	0.139
	(0.057)	(0.052)	(0.094)	(0.095)	(0.258)	(0.261)
Other Asia	-0.085*	0.252***	-0.150***	0.325***	-0.222***	0.527***
	(0.048)	(0.044)	(0.047)	(0.047)	(0.079)	(0.086)
W/N Europe	-0.010	0.048	0.027	-0.069	0.609***	-0.349***
	(0.079)	(0.048)	(0.183)	(0.074)	(0.140)	(0.057)
S/E Europe	0.096*	0.004	0.050	0.081	0.040	0.168
	(0.058)	(0.046)	(0.104)	(0.089)	(0.272)	(0.285)
Anglosphere	-0.096	0.047	-0.287***	-0.089	-0.070	-0.043
	(0.062)	(0.054)	(0.028)	(0.081)	(0.299)	(0.234)
Unknown Region	0.162	-0.018	-0.308***	-0.387***	-0.209	-0.378***
	(0.108)	(0.083)	(0.075)	(0.024)	(0.852)	(0.005)
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)	0.069	0.009	0.142	-0.083	-0.123	0.222
	(0.058)	(0.048)	(0.166)	(0.134)	(0.204)	(0.367)
Africa	-0.050	0.252***	-0.328***	-0.323***	-0.133	0.449
	(0.076)	(0.068)	(0.011)	(0.072)	(0.381)	(0.380)
China	-0.121**	0.298***	0.036	0.193	-0.207**	0.500***
	(0.048)	(0.051)	(0.179)	(0.163)	(0.096)	(0.107)
E/SE Asia	-0.010	0.148***	-0.124	0.170**	-0.181	0.214
	(0.051)	(0.038)	(0.116)	(0.076)	(0.146)	(0.138)
Other Asia	0.021	0.199***	-0.058	0.238***	-0.023	0.201
	(0.045)	(0.041)	(0.068)	(0.054)	(0.181)	(0.195)
W/N Europe	0.127	0.042	0.040	0.119	0.586***	-0.275*
	(0.087)	(0.071)	(0.173)	(0.131)	(0.173)	(0.165)
S/E Europe	-0.023	0.115***	0.061	0.148*	-0.032	0.320***
	(0.039)	(0.034)	(0.090)	(0.083)	(0.119)	(0.115)
Anglosphere	0.099	-0.052	-0.012	0.030	0.358	-0.210
	(0.068)	(0.055)	(0.124)	(0.093)	(0.342)	(0.245)
Unknown region	-0.127	0.251***	-0.330***	-0.365***	-0.289***	-0.380***
	(0.095)	(0.085)	(0.021)	(0.086)	(0.007)	(0.005)

Table A5: Access Models, Detailed Immigrant Indicators Interacted with Family Income and Parental Education including Grade and PISA Score - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Immigrant Indicators - cont.						
Detailed Immigrant Indicators (Not an Immigrant)						
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region	-0.011	0.135***	-0.017	0.168***	0.007	0.233
	(0.041)	(0.037)	(0.049)	(0.049)	(0.190)	(0.193)
Other	-0.043*	0.096***	-0.021	0.094*	0.055	-0.048
	(0.024)	(0.020)	(0.065)	(0.052)	(0.182)	(0.113)
Immigrant Mother/ non-Immigrant Father						
High Access Region	0.068	0.135	0.360	-0.122	-0.289***	-0.336***
	(0.089)	(0.083)	(0.267)	(0.242)	(0.027)	(0.125)
Other	-0.010	0.028	-0.047	0.095**	0.196	-0.181*
	(0.030)	(0.024)	(0.058)	(0.048)	(0.212)	(0.108)
Different Regions	-0.117***	0.114***	-0.076	0.110	0.333	-0.059
	(0.042)	(0.040)	(0.110)	(0.085)	(0.228)	(0.215)
Single Immigrant Parent	0.029	0.044	-0.165	-0.111	-0.286***	-0.381***
	(0.131)	(0.105)	(0.123)	(0.128)	(0.051)	(0.006)
Interactions with Immigrant Indicators						
Interactions with Family Income and Parental Education						
First Generation						
Americas (Except USA)			0.005	-0.020*	0.022	-0.026
			(0.017)	(0.012)	(0.018)	(0.021)
Africa			-0.021	-0.023*	-0.061**	-0.030*
			(0.019)	(0.012)	(0.027)	(0.017)
China			0.178***	0.048**	-0.040*	-0.036***
			(0.035)	(0.020)	(0.022)	(0.013)
E/SE Asia			0.025	-0.028**	-0.023	-0.014
			(0.017)	(0.014)	(0.019)	(0.017)
Other Asia			0.011	-0.012*	-0.002	-0.033**
			(0.010)	(0.007)	(0.020)	(0.017)
W/N Europe			-0.004	0.019*	-0.063*	0.043*
			(0.021)	(0.010)	(0.037)	(0.022)
S/E Europe			0.003	-0.010	-0.001	-0.013
			(0.014)	(0.010)	(0.019)	(0.019)
Anglosphere			0.051***	0.009	-0.002	0.006
			(0.014)	(0.007)	(0.026)	(0.020)
Unknown region			0.099	0.122***	-0.052	0.138*
			(0.095)	(0.045)	(0.100)	(0.073)

Table A5: Access Models, Detailed Immigrant Indicators Interacted with Family Income and Parental Education including Grade and PISA Score - cont.

	(1) Immigrant Variables Only		(2) Family Income Interactions		(3) Parental Education Interactions	
	College	University	College	University	College	University
Interactions with Immigrant Indicators - cont.						
Interactions with Family Income and Parental Education						
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)			-0.009	0.013	0.016	-0.017
			(0.021)	(0.018)	(0.021)	(0.030)
Africa			0.159***	0.075***	-0.020	-0.029
			(0.041)	(0.026)	(0.049)	(0.034)
China			-0.040	0.013	-0.002	-0.027
			(0.038)	(0.021)	(0.025)	(0.018)
E/SE Asia			0.024	-0.002	0.021	-0.008
			(0.024)	(0.012)	(0.023)	(0.013)
Other Asia			0.021	-0.000	0.009	0.002
			(0.023)	(0.011)	(0.018)	(0.015)
W/N Europe			0.011	-0.008	-0.062	0.015
			(0.023)	(0.017)	(0.047)	(0.030)
S/E Europe			-0.023*	-0.008	-0.016	-0.024**
			(0.013)	(0.009)	(0.015)	(0.009)
Anglosphere			0.012	-0.008	-0.020	0.013
			(0.011)	(0.008)	(0.028)	(0.025)
Unknown region			0.133	0.083	-0.104	0.251**
			(0.184)	(0.073)	(0.084)	(0.127)
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region			-0.003	-0.008	-0.008	-0.010
			(0.008)	(0.005)	(0.017)	(0.014)
Other			-0.003	0.000	-0.007	0.011
			(0.008)	(0.006)	(0.013)	(0.009)
Immigrant Mother/ non-Immigrant Father						
High Access Region			-0.033	0.023	0.051	0.034
			(0.036)	(0.027)	(0.036)	(0.031)
Other			0.004	-0.008	-0.016	0.018
			(0.008)	(0.005)	(0.014)	(0.011)
Different Regions			-0.007	0.001	-0.045**	0.007
			(0.016)	(0.009)	(0.019)	(0.016)
Single Immigrant Parent			0.028	0.019	-0.120	0.263
			(0.022)	(0.019)	(0.151)	(0.168)
Number of Observations	16,214		16,214		16,214	

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

Table A6: Access Models, Detailed Immigrant Indicators Interacted with Grades and PISA Reading Scores

	(1) Base Model		(2) Grade Interactions		(3) PISA Reading Score Interactions	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.006	0.066***	-0.004	0.065***	-0.005	0.066***
	(0.010)	(0.009)	(0.010)	(0.009)	(0.010)	(0.009)
Province (Ontario)						
Newfoundland	-0.099***	0.130***	-0.098***	0.128***	-0.097***	0.128***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Prince Edward Island	-0.150***	0.145***	-0.150***	0.146***	-0.148***	0.142***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Nova Scotia	-0.137***	0.139***	-0.137***	0.138***	-0.135***	0.136***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
New Brunswick	-0.129***	0.117***	-0.129***	0.118***	-0.127***	0.115***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Quebec	0.027*	-0.098***	0.027*	-0.097***	0.027*	-0.098***
	(0.016)	(0.012)	(0.016)	(0.012)	(0.016)	(0.012)
Manitoba	-0.170***	0.073***	-0.170***	0.074***	-0.170***	0.074***
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.015)
Saskatchewan	-0.131***	0.042***	-0.132***	0.043***	-0.130***	0.040***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Alberta	-0.085***	-0.029**	-0.085***	-0.030**	-0.086***	-0.028**
	(0.015)	(0.013)	(0.015)	(0.013)	(0.015)	(0.013)
British Columbia	-0.072***	-0.039***	-0.072***	-0.040***	-0.073***	-0.040***
	(0.016)	(0.014)	(0.016)	(0.014)	(0.016)	(0.014)
Linguistic Minority (Non Minority)						
English Min. in Que.	0.018	0.074***	0.018	0.073***	0.020	0.071***
	(0.025)	(0.022)	(0.025)	(0.022)	(0.025)	(0.022)
French Min. outside Que.	-0.005	0.076***	-0.004	0.075***	-0.002	0.073***
	(0.020)	(0.017)	(0.020)	(0.017)	(0.020)	(0.017)
High School Location (Rural)						
Urban high school	-0.046***	0.059***	-0.046***	0.058***	-0.047***	0.059***
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.010)
Family Structure (Two Parents)						
Single mother	-0.009	-0.025	-0.009	-0.025	-0.009	-0.024
	(0.018)	(0.016)	(0.018)	(0.016)	(0.018)	(0.016)
Single father	0.027	-0.057*	0.026	-0.057*	0.021	-0.051*
	(0.035)	(0.030)	(0.034)	(0.029)	(0.034)	(0.030)
Other	-0.022	-0.036	-0.018	-0.033	-0.020	-0.038
	(0.041)	(0.041)	(0.041)	(0.042)	(0.041)	(0.041)
Additional Explanatory Variables						
Parents' Years of Schooling	-0.005*	0.029***	-0.009	-0.025	-0.009	-0.024
	(0.002)	(0.002)	(0.018)	(0.016)	(0.018)	(0.016)
Family Income in $10,000s	-0.001	0.006***	-0.001	0.006***	-0.001	0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)

Table A6: Access Models, Detailed Immigrant Indicators
Interactied with Grades and PISA Reading Scores - cont.

	(1)		(2)		(3)	
	Base Model		**Grade Interactions**		**PISA Reading Score Interactions**	
	College	**University**	**College**	**University**	**College**	**University**
Additional Explanatory Variables - cont.						
Overall High School Grade	-0.050***	0.131***	-0.043***	0.123***	-0.051***	0.131***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)
PISA Reading Score	-0.043***	0.135***	-0.042***	0.135***	-0.035***	0.129***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)
Immigrant Indicators						
Detailed Immigrant Indicators (Not an Immigrant)						
First Generation						
Americas (Except USA)	0.022	-0.045	0.386	-0.307	-0.074	0.314
	(0.064)	(0.057)	(0.330)	(0.263)	(0.339)	(0.358)
Africa	0.008	0.224***	-0.285***	-0.418***	0.608***	-0.327***
	(0.067)	(0.065)	(0.007)	(0.006)	(0.107)	(0.107)
China	-0.201***	0.457***	-0.286***	-0.428***	-0.023	0.281
	(0.031)	(0.030)	(0.006)	(0.005)	(0.313)	(0.320)
E/SE Asia	0.097*	0.064	-0.263***	-0.291	0.433*	-0.197
	(0.057)	(0.052)	(0.038)	(0.262)	(0.258)	(0.232)
Other Asia	-0.085*	0.252***	-0.050	0.303	0.194	-0.037
	(0.048)	(0.044)	(0.284)	(0.283)	(0.405)	(0.271)
W/N Europe	-0.010	0.048	-0.271***	-0.367***	0.588***	-0.335**
	(0.079)	(0.048)	(0.021)	(0.070)	(0.187)	(0.150)
S/E Europe	0.096*	0.004	0.239	-0.012	0.276	-0.135
	(0.058)	(0.046)	(0.394)	(0.420)	(0.411)	(0.260)
Anglosphere	-0.096	0.047	0.319	-0.215	-0.306***	0.059
	(0.062)	(0.054)	(0.534)	(0.456)	(0.009)	(0.368)
Unknown region	0.162	-0.018	0.711***	-0.440***	0.688***	-0.407***
	(0.108)	(0.083)	(0.005)	(0.004)	(0.006)	(0.004)
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)	0.069	0.009	0.437	-0.251	-0.192	0.425**
	(0.058)	(0.048)	(0.403)	(0.291)	(0.172)	(0.210)
Africa	-0.050	0.252***	0.440	-0.169	-0.299***	-0.319
	(0.076)	(0.068)	(0.402)	(0.400)	(0.020)	(0.260)
China	-0.121**	0.298***	0.025	0.227	-0.183	0.406*
	(0.048)	(0.051)	(0.536)	(0.541)	(0.173)	(0.228)
E/SE Asia	-0.010	0.148***	-0.160	-0.425***	0.658***	-0.388***
	(0.051)	(0.038)	(0.251)	(0.020)	(0.038)	(0.029)
Other Asia	0.021	0.199***	-0.261***	-0.429***	0.009	0.253
	(0.045)	(0.041)	(0.008)	(0.007)	(0.284)	(0.280)
W/N Europe	0.127	0.042	0.629***	-0.357**	0.681***	-0.405***
	(0.087)	(0.071)	(0.184)	(0.182)	(0.008)	(0.005)
S/E Europe	-0.023	0.115***	0.224	-0.365***	0.158	-0.273*
	(0.039)	(0.034)	(0.275)	(0.089)	(0.395)	(0.157)
Anglosphere	0.099	-0.052	-0.163	0.422**	0.102	-0.027
	(0.068)	(0.055)	(0.183)	(0.186)	(0.367)	(0.374)
Unknown region	-0.127	0.251***	0.711***	-0.439***	-0.248	0.405

| | (0.095) | (0.085) | (0.005) | (0.004) | (0.152) | (0.480) |

Table A6: Access Models, Detailed Immigrant Indicators
Interactied with Grades and PISA Reading Scores - cont.

	(1) Base Model		(2) Grade Interactions		(3) PISA Reading Score Interactions	
	College	University	College	University	College	University
Immigrant Indicators - cont.						
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region	-0.011	0.135***	0.106	0.126	-0.060	0.016
	(0.041)	(0.037)	(0.280)	(0.284)	(0.239)	(0.263)
Other	-0.043*	0.096***	0.322*	-0.290***	-0.006	0.032
	(0.024)	(0.020)	(0.168)	(0.095)	(0.178)	(0.141)
Immigrant Mother/ non-Immigrant Father						
High Access Region	0.068	0.135	-0.279***	-0.424***	-0.307***	-0.275
	(0.089)	(0.083)	(0.015)	(0.014)	(0.014)	(0.550)
Other	-0.010	0.028	0.325*	-0.132	0.184	0.039
	(0.030)	(0.024)	(0.186)	(0.181)	(0.194)	(0.185)
Different Regions	-0.117***	0.114***	-0.203	-0.227	-0.255***	0.373**
	(0.042)	(0.040)	(0.192)	(0.257)	(0.081)	(0.186)
Single Immigrant Parent	0.029	0.044	0.594***	-0.338*	-0.215	0.495
	(0.131)	(0.105)	(0.223)	(0.204)	(0.303)	(0.304)
Interactions with Immigrant Indicators						
Interactions with Grade and PISA Score						
First Generation						
Americas (Except USA)			-0.054	0.045	-0.011	-0.076
			(0.063)	(0.077)	(0.072)	(0.073)
Africa			1.192***	0.537***	-0.326***	0.046
			(0.081)	(0.050)	(0.100)	(0.054)
China			2.179***	1.519***	-0.032	0.048
			(0.044)	(0.085)	(0.067)	(0.073)
E/SE Asia			0.100	0.026	-0.076	0.044
			(0.070)	(0.054)	(0.071)	(0.058)
Other Asia			-0.026	-0.017	-0.050	0.055
			(0.064)	(0.046)	(0.097)	(0.060)
W/N Europe			0.104	0.035	-0.154	0.083
			(0.074)	(0.049)	(0.109)	(0.085)
S/E Europe			-0.031	-0.004	-0.033	0.025
			(0.057)	(0.060)	(0.083)	(0.060)
Anglosphere			-0.057	0.038	0.169***	-0.074
			(0.079)	(0.081)	(0.065)	(0.051)
Unknown region			-2.059***	2.331***	-2.554**	2.108*
			(0.255)	(0.138)	(1.247)	(1.093)

cont…

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Table A6: Access Models, Detailed Immigrant Indicators
Interactied with Grades and PISA Reading Scores - cont.

	(1) Base Model		(2) Grade Interactions		(3) PISA Reading Score Interactions	
	College	University	College	University	College	University
Interactions with Immigrant Indicators - cont.						
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)			-0.055	0.036	0.037	-0.088
			(0.076)	(0.064)	(0.062)	(0.061)
Africa			-0.101	0.031	0.159**	0.083
			(0.069)	(0.057)	(0.071)	(0.100)
China			-0.039	-0.000	0.011	-0.031
			(0.076)	(0.067)	(0.078)	(0.066)
E/SE Asia			-0.040	0.164**	-0.218**	0.152**
			(0.066)	(0.069)	(0.090)	(0.071)
Other Asia			0.223	0.236**	-0.022	-0.022
			(0.170)	(0.097)	(0.062)	(0.049)
W/N Europe			-0.134	0.047	-0.749***	0.796**
			(0.111)	(0.078)	(0.225)	(0.337)
S/E Europe			-0.052	0.092**	-0.043	0.089
			(0.043)	(0.045)	(0.064)	(0.058)
Anglosphere			0.006	-0.077*	-0.003	-0.004
			(0.050)	(0.039)	(0.062)	(0.064)
Unknown Region			-3.329***	1.869***	0.051	-0.046
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region			-0.031	-0.006	0.017	0.021
			(0.038)	(0.036)	(0.052)	(0.047)
Other			-0.055**	0.062**	-0.006	0.011
			(0.025)	(0.025)	(0.036)	(0.027)
Immigrant Mother/ non-Immigrant Father						
High Access Region			-0.031	-0.006	0.229	0.014
			(0.038)	(0.036)	(0.158)	(0.108)
Other			-0.051**	0.017	-0.051	-0.011
			(0.026)	(0.027)	(0.035)	(0.030)
Different Regions			0.020	0.037	0.052	-0.061
			(0.073)	(0.046)	(0.063)	(0.043)
Single Immigrant Parent			-0.108	0.051	-0.065	-0.146
			(0.091)	(0.078)	(0.159)	(0.117)
			(0.084)	(0.119)	(0.161)	(0.102)
Number of Observations	15,019		15,019		15,019	

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

High School Grade is a percentage score divided by 10. The PISA Reading score is divided by 100.

The High Access region refers to Africa, China and Other Asia.

Table A7: Access Models, Detailed Immigrant Indicators Interacted with Parental Expectations

	(1) Basic Model		(2) Parental Expectations		(3) Interactions	
	College	University	College	University	College	University
Basic Control Variables						
Gender (Male)						
Female	-0.033***	0.156***	-0.027***	0.126***	-0.027***	0.124***
	(0.010)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
Province (Ontario)						
Newfoundland	-0.104***	0.122***	-0.079***	0.054***	-0.080***	0.054***
	(0.018)	(0.019)	(0.018)	(0.018)	(0.018)	(0.018)
Prince Edward Island	-0.174***	0.192***	-0.158***	0.148***	-0.159***	0.148***
	(0.015)	(0.018)	(0.016)	(0.017)	(0.016)	(0.017)
Nova Scotia	-0.156***	0.162***	-0.143***	0.130***	-0.145***	0.131***
	(0.015)	(0.017)	(0.015)	(0.016)	(0.015)	(0.016)
New Brunswick	-0.156***	0.136***	-0.145***	0.103***	-0.146***	0.103***
	(0.014)	(0.017)	(0.015)	(0.016)	(0.015)	(0.016)
Quebec	0.026	-0.075***	0.024	-0.068***	0.022	-0.066***
	(0.018)	(0.015)	(0.017)	(0.014)	(0.017)	(0.014)
Manitoba	-0.178***	0.086***	-0.172***	0.078***	-0.172***	0.078***
	(0.014)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
Saskatchewan	-0.150***	0.078***	-0.150***	0.077***	-0.150***	0.077***
	(0.015)	(0.018)	(0.015)	(0.017)	(0.015)	(0.017)
Alberta	-0.090***	-0.035**	-0.088***	-0.030**	-0.089***	-0.030**
	(0.016)	(0.016)	(0.016)	(0.015)	(0.016)	(0.015)
British Columbia	-0.084***	-0.031*	-0.085***	-0.017	-0.088***	-0.017
	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
High School Location (Rural)						
Urban High School	-0.048***	0.070***	-0.037***	0.034***	-0.037***	0.033***
	(0.012)	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)
Minority Language (Non-Minority)						
English minority in QC	0.031	0.047*	0.061**	-0.012	0.061**	-0.014
	(0.028)	(0.027)	(0.029)	(0.025)	(0.029)	(0.025)
French minority outside QC	0.028	0.011	0.022	0.023	0.023	0.022
	(0.025)	(0.023)	(0.023)	(0.022)	(0.023)	(0.022)
Family Structure (Two Parents)						
Single Mother	0.003	-0.039**	0.006	-0.060***	0.006	-0.058***
	(0.020)	(0.019)	(0.019)	(0.017)	(0.019)	(0.017)
Single Father	0.068*	-0.100***	0.057	-0.091***	0.050	-0.086***
	(0.040)	(0.036)	(0.039)	(0.034)	(0.037)	(0.032)
Other	0.046	-0.098*	0.046	-0.093*	0.043	-0.088*
	(0.053)	(0.050)	(0.052)	(0.049)	(0.052)	(0.048)

Table A7: Access Models, Detailed Immigrant Indicators Interacted with Parental Expectations - cont.

	(1) Basic Model		(2) Parental Expectations		(3) Interactions	
	College	University	College	University	College	University
Additional Explanatory Variables						
Parents' Years of Schooling	-0.015***	0.057***	-0.010***	0.043***	-0.010***	0.043***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)
Family Income in $10,000s	-0.002	0.011***	-0.001	0.006***	-0.001	0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Expected PSE Level			-0.031***	0.094***	-0.030***	0.092***
			(0.003)	(0.002)	(0.003)	(0.002)
Immigrant Indicators						
Detailed Immigrant Indicators (Not an Immigrant)						
First Generation						
Americas (Except USA)	0.010	-0.071	0.009	-0.122**	-0.284***	-0.012
	(0.066)	(0.063)	(0.066)	(0.056)	(0.044)	(0.717)
Africa	-0.016	0.191**	0.030	0.097	-0.302***	-0.389***
	(0.085)	(0.087)	(0.105)	(0.087)	(0.008)	(0.010)
China	-0.225***	0.491***	-0.153***	0.389***	0.375	-0.373***
	(0.031)	(0.031)	(0.043)	(0.042)	(1.118)	(0.026)
E/SE Asia	0.145**	-0.006	0.162**	-0.063	-0.242	0.023
	(0.063)	(0.058)	(0.064)	(0.052)	(0.221)	(0.962)
Other Asia	-0.044	0.214***	0.001	0.095*	0.149	0.137
	(0.057)	(0.059)	(0.062)	(0.054)	(0.818)	(0.818)
W/N Europe	0.017	0.048	0.020	0.057	-0.287***	-0.388***
	(0.089)	(0.065)	(0.084)	(0.060)	(0.013)	(0.010)
S/E Europe	0.045	0.062	0.064	0.006	0.489	-0.304**
	(0.057)	(0.053)	(0.058)	(0.047)	(0.400)	(0.139)
Anglosphere	-0.089	0.066	-0.091	0.045	-0.068	-0.349***
	(0.067)	(0.070)	(0.062)	(0.055)	(0.825)	(0.058)
Unknown region	0.123	-0.006	0.157	-0.055	0.696***	-0.395***
	(0.166)	(0.121)	(0.162)	(0.106)	(0.004)	(0.007)
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)	0.086	-0.031	0.093	-0.068	-0.286***	-0.338***
	(0.067)	(0.060)	(0.068)	(0.054)	(0.044)	(0.063)
Africa	-0.109	0.344***	-0.039	0.236***	0.524	-0.270
	(0.079)	(0.081)	(0.091)	(0.086)	(0.637)	(0.488)
China	-0.183***	0.397***	-0.142***	0.305***	-0.046	-0.344***
	(0.040)	(0.047)	(0.049)	(0.052)	(1.363)	(0.077)
E/SE Asia	-0.026	0.206***	0.003	0.127**	-0.056	0.325
	(0.064)	(0.063)	(0.066)	(0.057)	(0.604)	(0.595)
Other Asia	-0.029	0.265***	0.045	0.159***	-0.251**	0.551***
	(0.049)	(0.051)	(0.053)	(0.055)	(0.106)	(0.106)
W/N Europe	0.080	0.120	0.108	0.071	-0.293***	-0.378***
	(0.109)	(0.101)	(0.102)	(0.089)	(0.020)	(0.029)

Table A7: Access Models, Detailed Immigrant Indicators Interacted with Parental Expectations - cont.

	(1) Basic Model		(2) Parental Expectations		(3) Interactions	
	College	University	College	University	College	University
Immigrant Indicators - cont.						
Second Generation -- Parents from the Same Region of Origin						
S/E Europe	-0.016	0.095*	-0.004	0.046	-0.282***	0.534***
	(0.045)	(0.051)	(0.047)	(0.048)	(0.038)	(0.102)
Anglosphere	0.112	-0.066	0.102	-0.064	-0.293***	-0.382***
	(0.070)	(0.057)	(0.068)	(0.051)	(0.011)	(0.016)
Unknown region	-0.109	0.228	-0.051	0.085	0.328	-0.037
	(0.132)	(0.145)	(0.154)	(0.177)	(1.361)	(1.348)
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region	-0.029	0.099***	0.013	0.083**	0.301	-0.046
	(0.026)	(0.024)	(0.044)	(0.042)	(0.386)	(0.380)
Other			-0.024	0.074***	0.304	-0.219*
			(0.026)	(0.023)	(0.281)	(0.130)
Immigrant Mother/ non-Immigrant Father						
High Access Region	-0.025	0.056*	-0.022	0.168**	-0.280***	-0.393***
	(0.031)	(0.029)	(0.095)	(0.080)	(0.045)	(0.009)
Other			-0.018	0.023	0.170	0.074
			(0.031)	(0.028)	(0.274)	(0.280)
Different Regions	-0.095*	0.089*	-0.089*	0.051	-0.140	0.193
	(0.049)	(0.050)	(0.050)	(0.046)	(0.307)	(0.496)
Single Immigrant Parent	0.005	0.117**	0.003	0.077	0.442	-0.375***
	(0.044)	(0.045)	(0.120)	(0.083)	(1.063)	(0.026)
Interactions with Immigrant Indicators						
Parental Expectations Interactions						
First Generation						
Americas (Except USA)					0.051	-0.027
					(0.044)	(0.046)
Africa					0.289***	0.207***
					(0.040)	(0.040)
China					-0.068	0.119**
					(0.087)	(0.052)
E/SE Asia					0.038	-0.014
					(0.059)	(0.056)
Other Asia					-0.037	-0.022
					(0.054)	(0.045)
W/N Europe					-0.000	0.147*
					(0.056)	(0.085)
S/E Europe					-0.038	0.033
					(0.045)	(0.047)
Anglosphere					-0.030	0.062
					(0.068)	(0.057)
Unknown region					-0.499***	0.498***
					(0.000)	(0.000)

Table A7: Access Models, Detailed Immigrant Indicators Interacted with Parental Expectations - cont.

	(1) Basic Model		(2) Parental Expectations		(3) Interactions	
	College	University	College	University	College	University
Interactions with Immigrant Indicators - cont.						
Second Generation -- Parents from the Same Region of Origin						
Americas (Except USA)					0.039	0.025
					(0.053)	(0.045)
Africa					-0.044	0.034
					(0.106)	(0.069)
China					-0.030	0.074
					(0.079)	(0.055)
E/SE Asia					-0.008	-0.021
					(0.068)	(0.046)
Other Asia					-0.067	-0.106***
					(0.058)	(0.041)
W/N Europe					0.040	0.102
					(0.089)	(0.075)
S/E Europe					0.041	-0.054*
					(0.035)	(0.030)
Anglosphere					0.037	0.098**
					(0.049)	(0.049)
Unknown region					-0.093	-0.041
					(0.116)	(0.077)
Second Generation -- Parents from Different Regions of Origin						
Immigrant Father / non-Immigrant Mother						
High Access Region					-0.028	0.001
					(0.031)	(0.028)
Other					-0.024	0.024
					(0.020)	(0.018)
Immigrant Mother/ non-Immigrant Father						
High Access Region					-0.248***	0.499***
					(0.087)	(0.000)
Other					-0.021	-0.009
					(0.019)	(0.019)
Different Regions					0.006	-0.011
					(0.038)	(0.033)
Single Immigrant Parent					-0.075	0.105
					(0.078)	(0.073)
Number of Observations	16,166		16,166		16,166	

Notes: *** p<0.01, ** p<0.05, * p<0.1

Average marginal effects shown. The Expected PSE Level is measured in years of PSE that the parents expect their child to comple

The High Access region refers to Africa, China and Other Asia.

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Figure 1: Access to University by Family Income

a) First Generation Immigrants
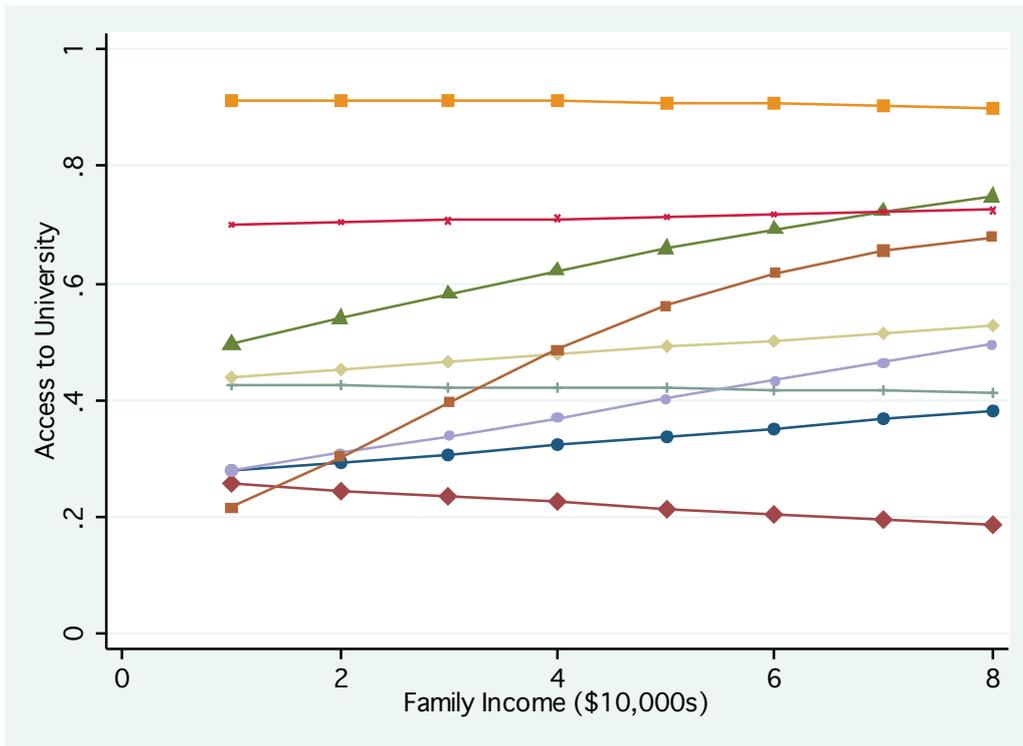
b) Second Generation Immigrants - Parents from the Same Region of Origin

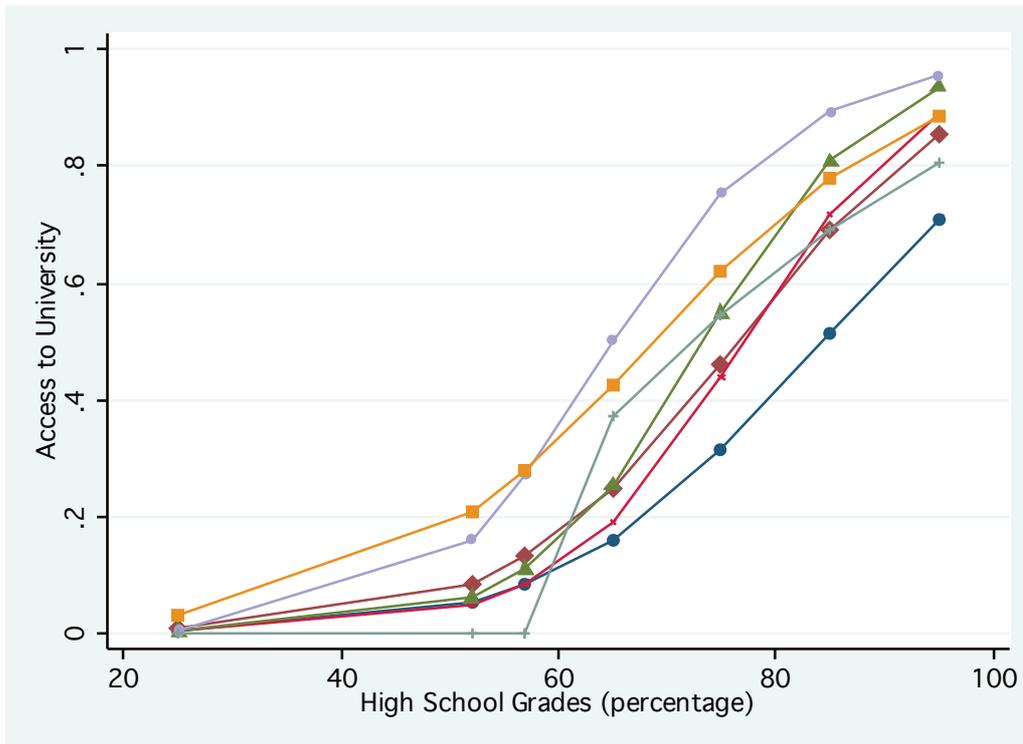|		
●—— Non-Immigrant	◆—— Americas	▲—— Africa	■—— China
+—— E/SE Asia	✕—— O. Asia	●—— W/N Europe	◆—— S/E Europe
■—— Anglosphere		
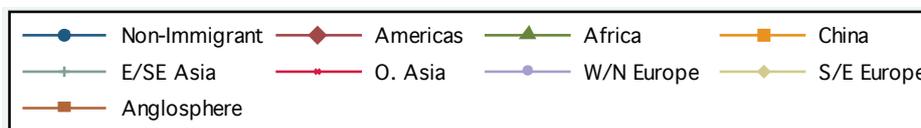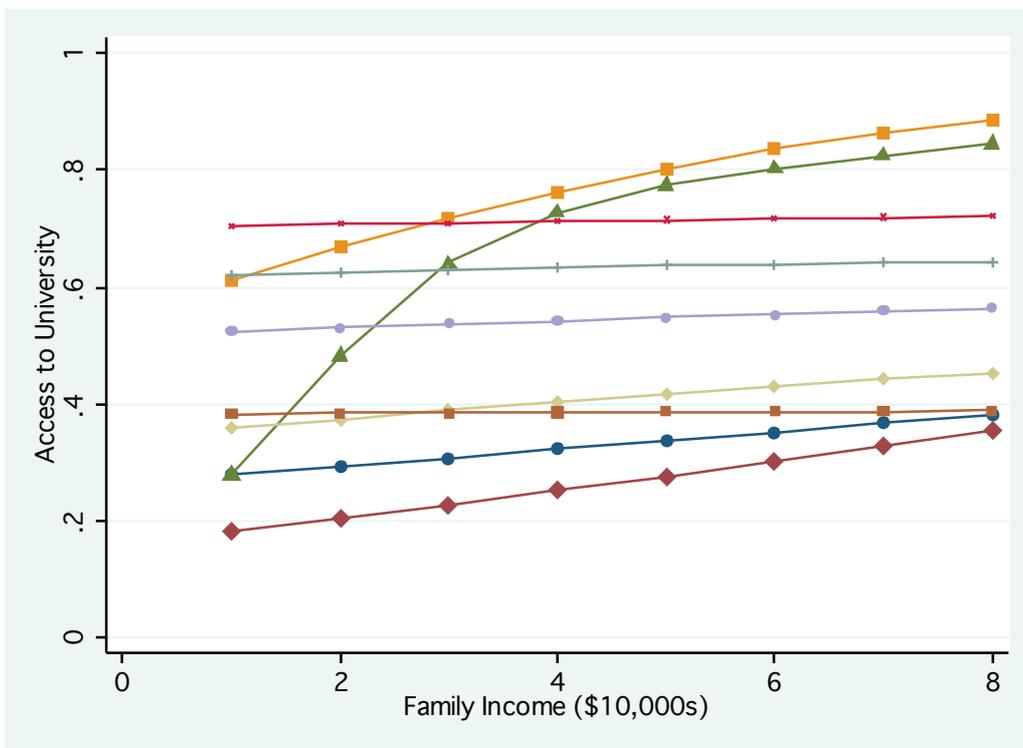
Figure 1: Access to University by Family Income - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin
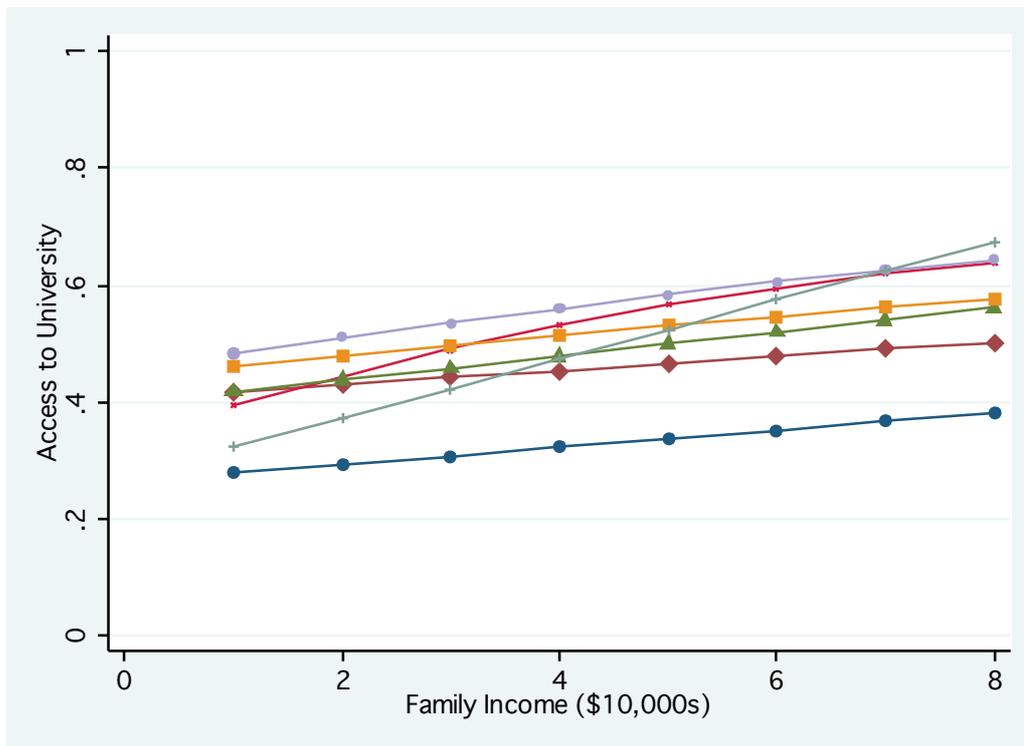
The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), a linear parental education variable and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear family income variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Figure 2: Access to University by Parental Education

a) First Generation Immigrants
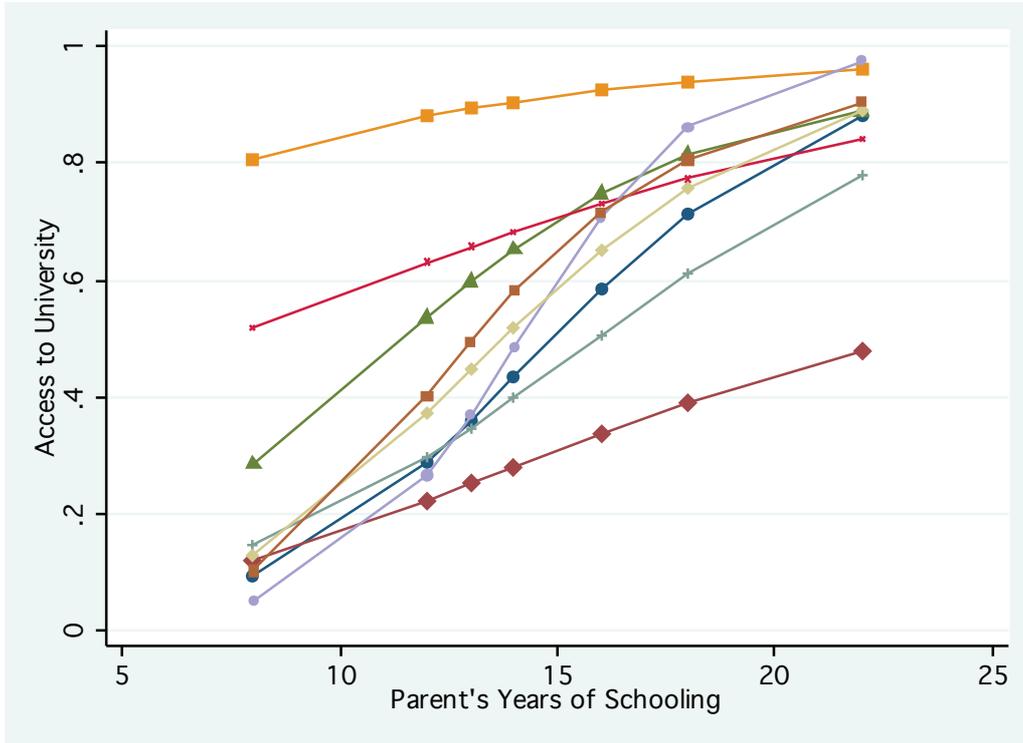
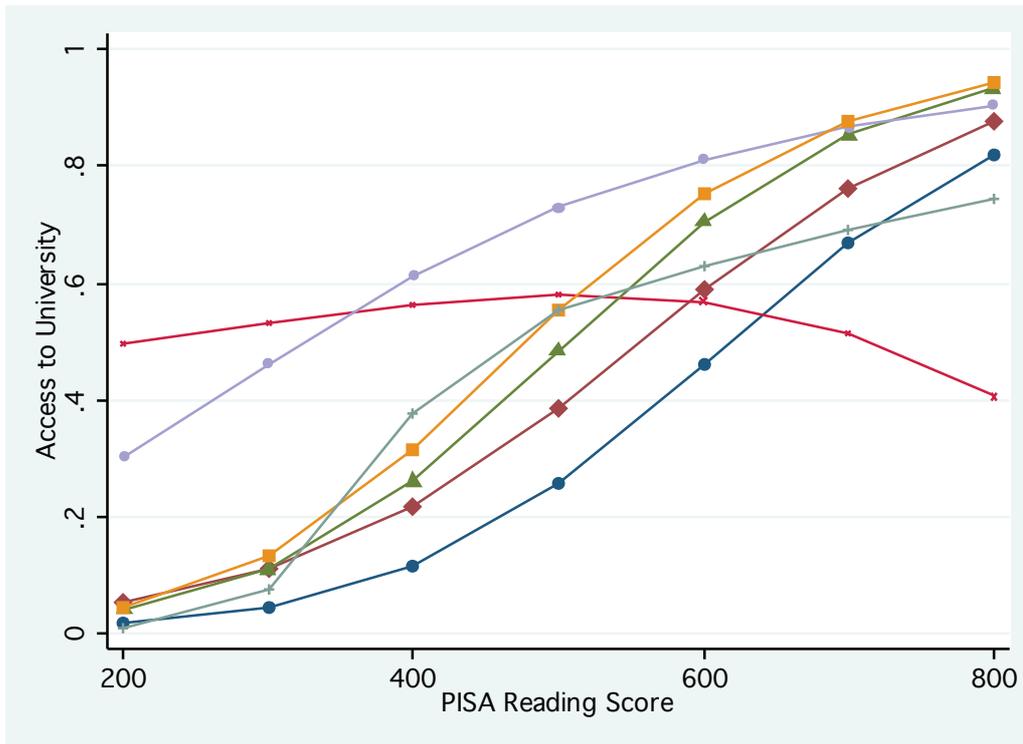## b) Second Generation Immigrants - Parents from the Same Region of Origin
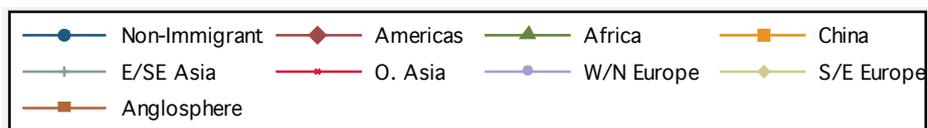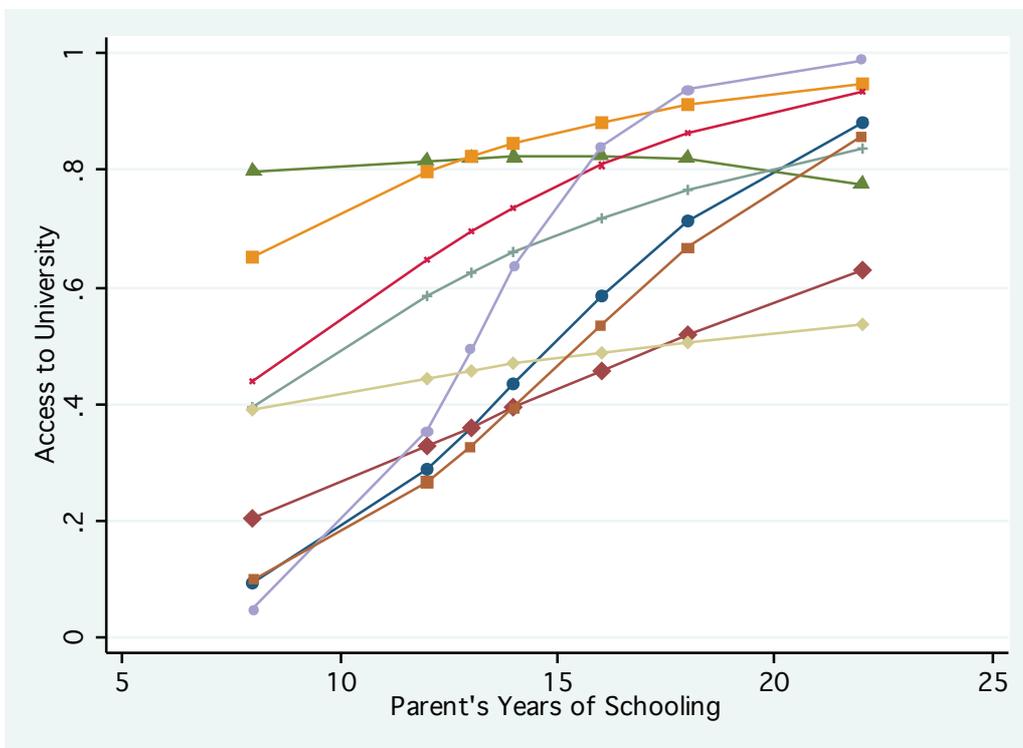
Figure 2: Access to University by Parental Education - cont.

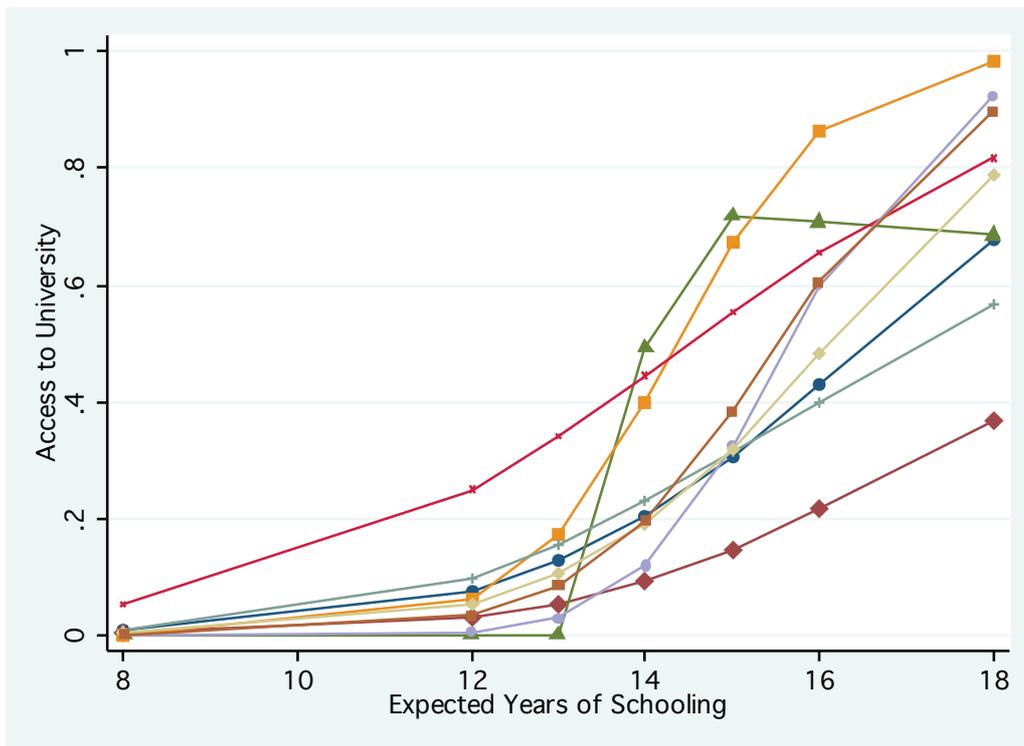c) Second Generation Immigrations - Parents from Mixed Region of Origin
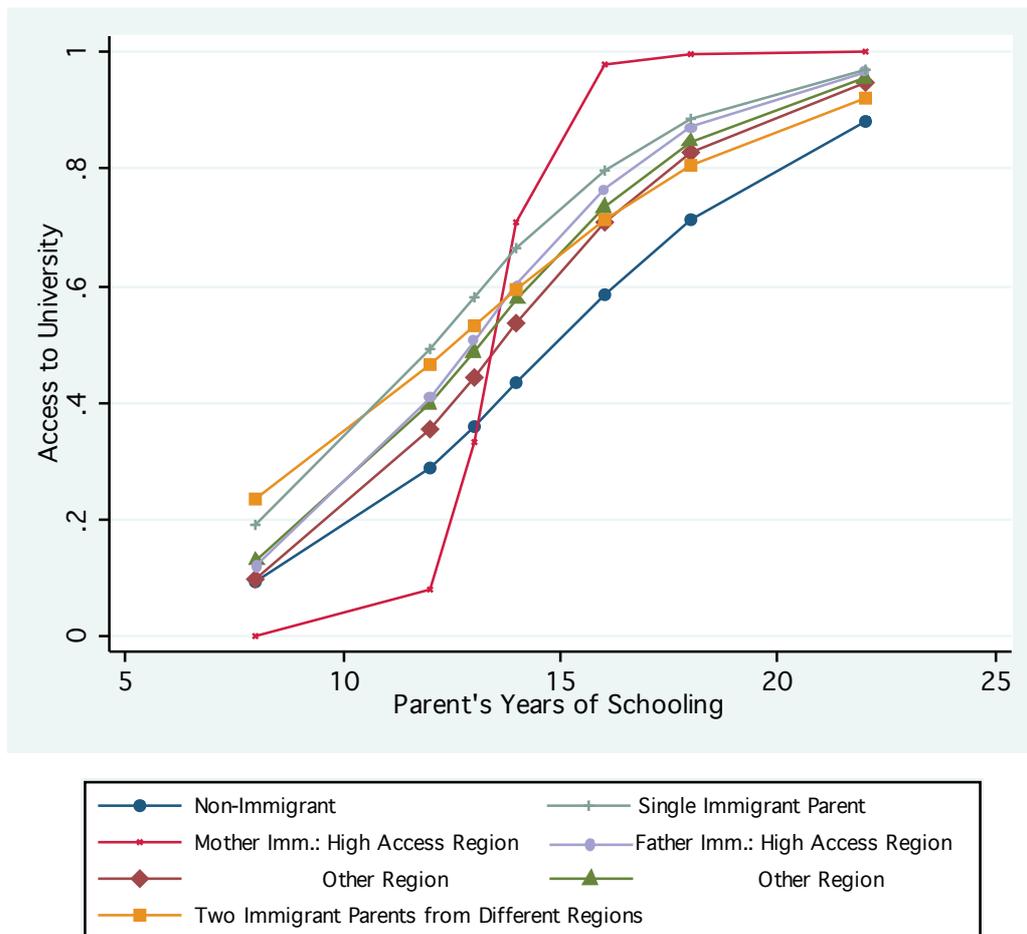
The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), a linear family income variable and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear parental education variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The linear parental education variable was constructed from a categorical education variable from the YITS-A parental survey.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Figure 3: Access to University by High School Grades (Age 15)

a) First Generation Immigrants
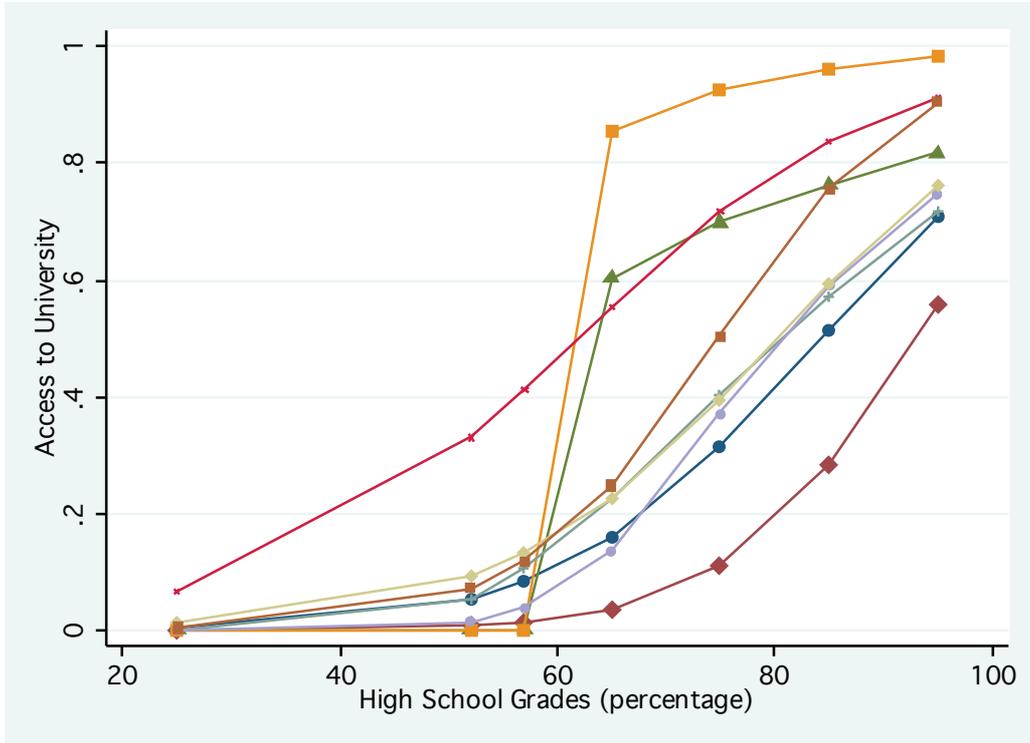
b) Second Generation Immigrants - Parents from the Same Region of Origin
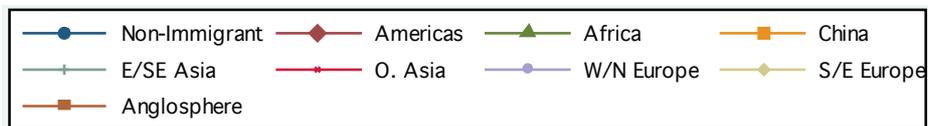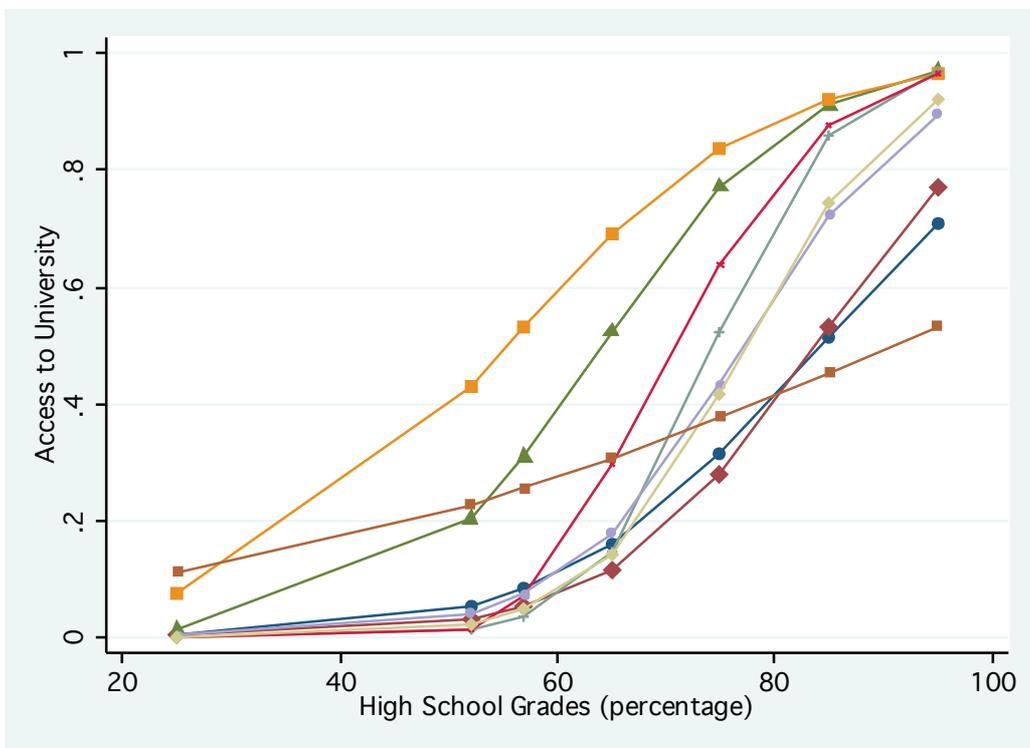
Figure 3: Access to University by High School Grades (Age 15) - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin

The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income, parental education, high school grade and PISA reading score variables, and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear high school grade variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The linear high school grade variable was constructed from a categorical grade variable from the main YITS-A student file in the first year of the survey when students are age 15.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Figure 4: Access to University by PISA Reading Score

a) First Generation Immigrants
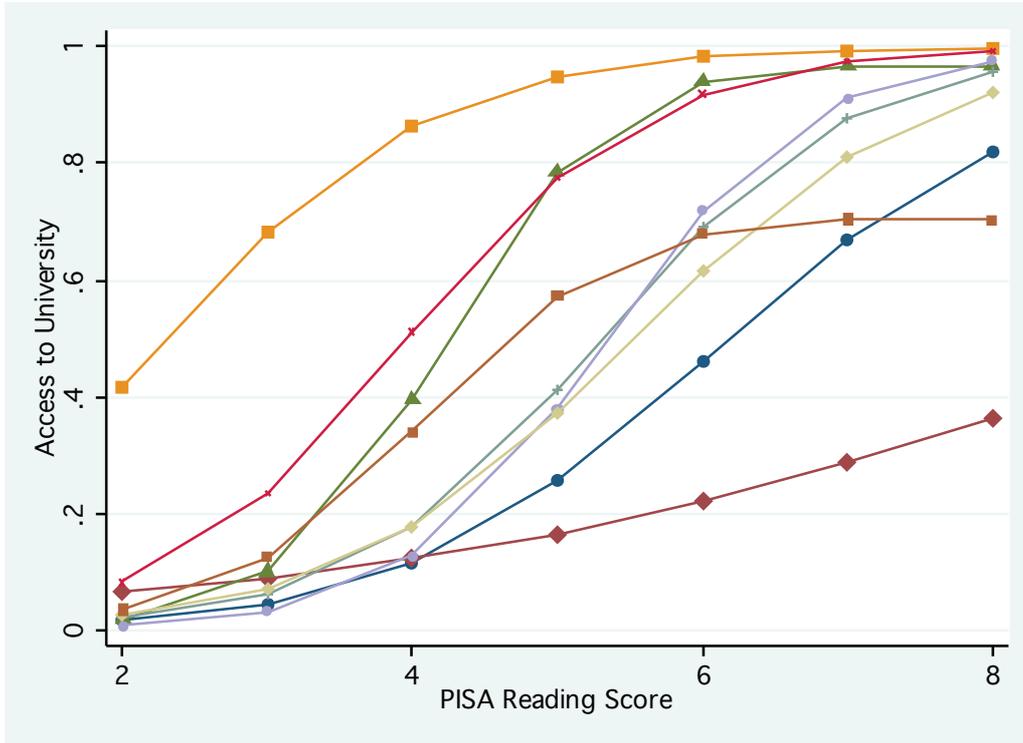
b) Second Generation Immigrants - Parents from the Same Region of Origin

Legend: Non-Immigrant, Americas, Africa, China, E/SE Asia, O. Asia, W/N Europe, S/E Europe, Anglosphere
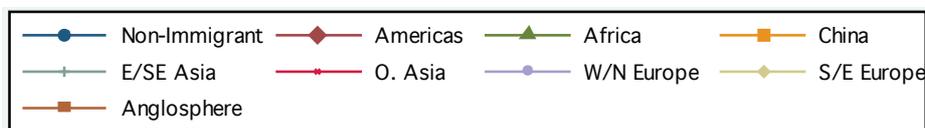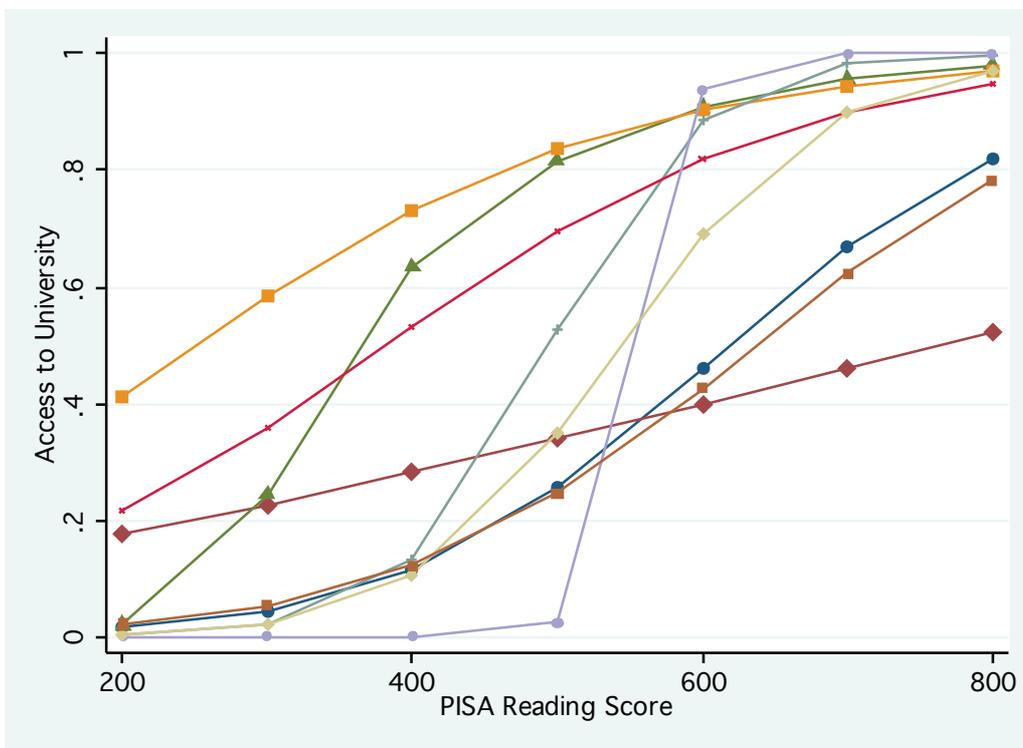
Figure 4: Access to University by PISA Reading Score - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin

Legend:
- Non-Immigrant
- Mother Imm.: High Access Region
- Other Region
- Two Immigrant Parents from Different Regions
- Single Immigrant Parent
- Father Imm.: High Access Region
- Other Region

The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income, parental education, high school grade and PISA reading score variables and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and the student's PISA reading score. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The PISA score variable is the result of a standardized test taken by YITS-A student respondents in the first year of the survey when students are age 15.
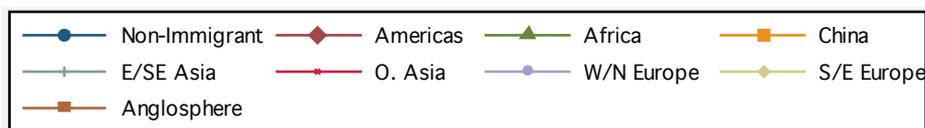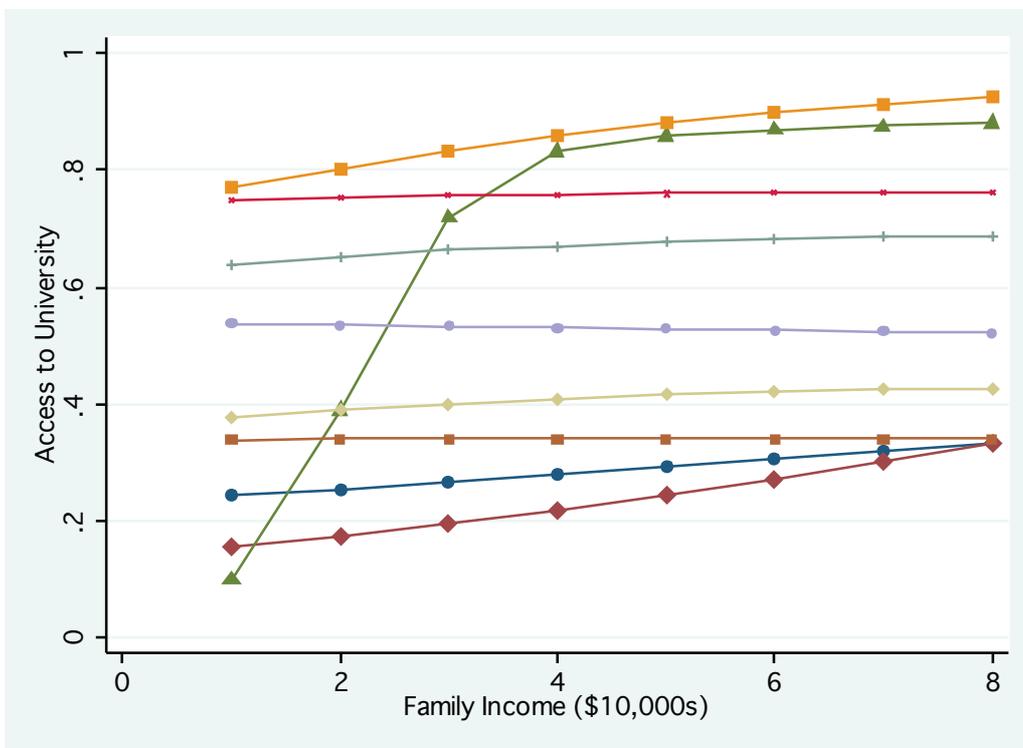
The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Figure 5: Access to University by Parental Expectations

a) First Generation Immigrants

b) Second Generation Immigrants - Parents from the Same Region of Origin
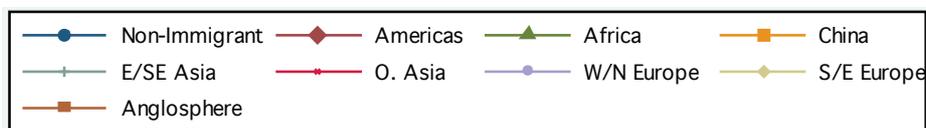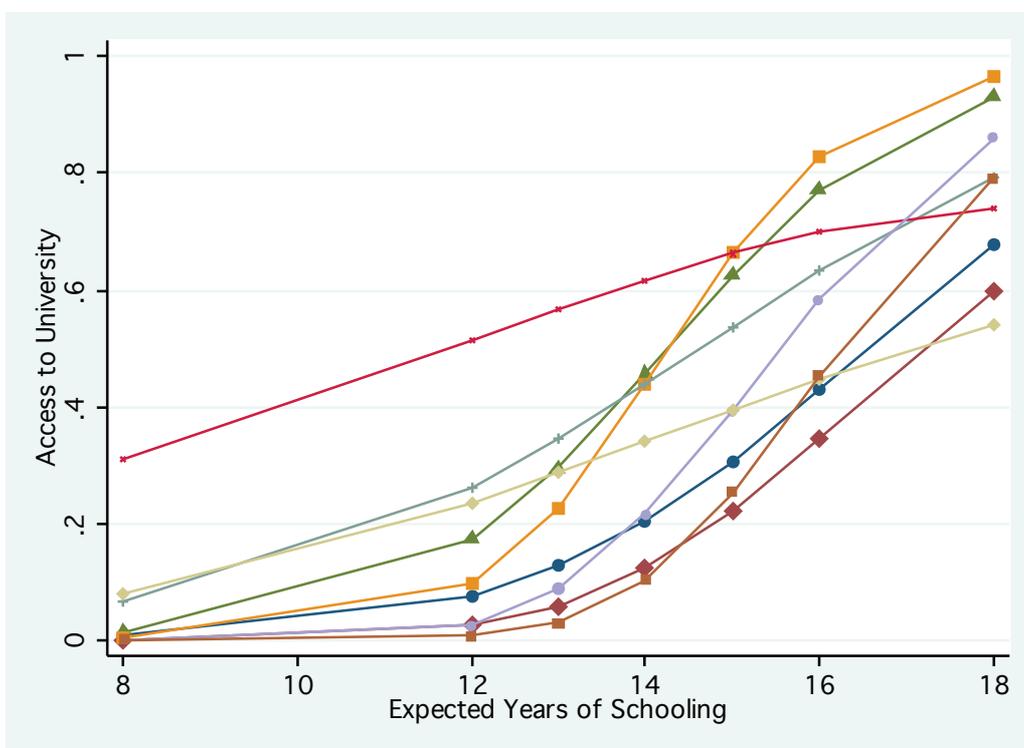
Figure 5: Access to University by Parental Expectations - cont.

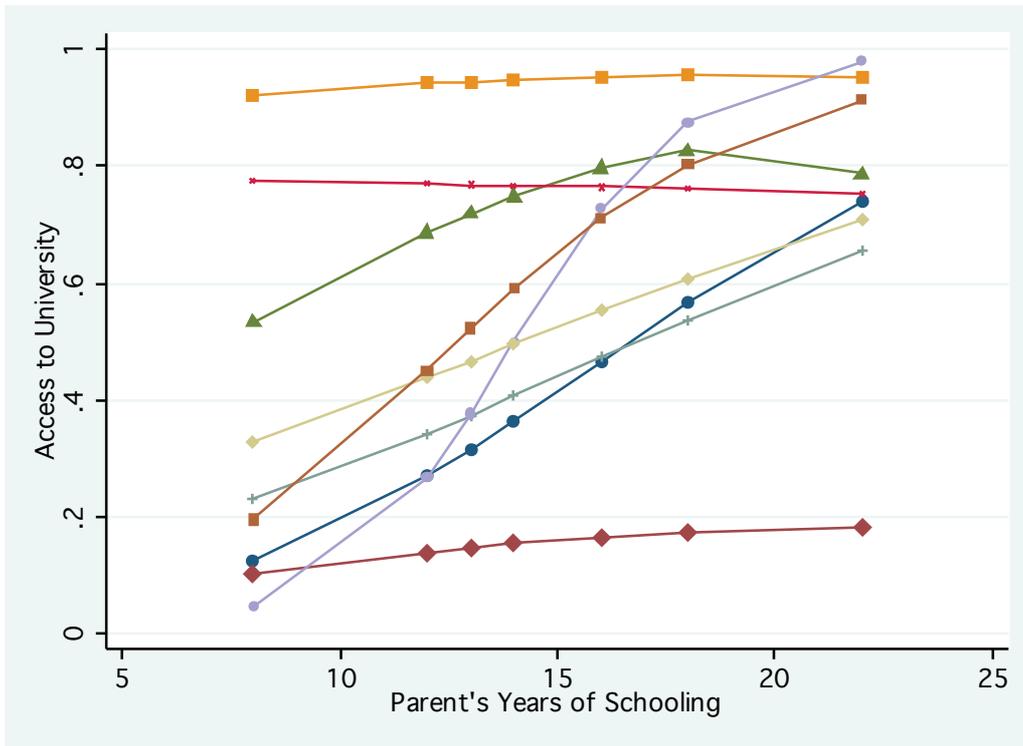c) Second Generation Immigrations - Parents from Mixed Region of Origin
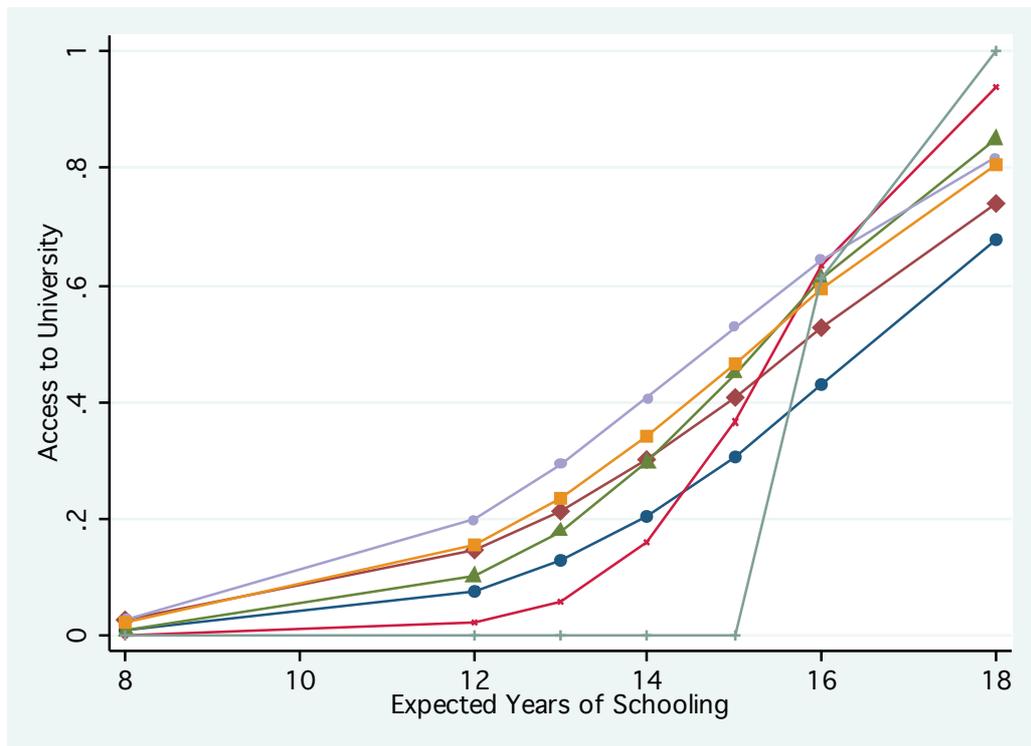
The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income and parental education variables and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear parental educational expectation variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The linear parental educational expectation variable was constructed from a categorical question from the YITS-A parental survey which asked parents what level of education they hoped their child would achieve. This was converted into a linear variable representing the years of education the parents expect.
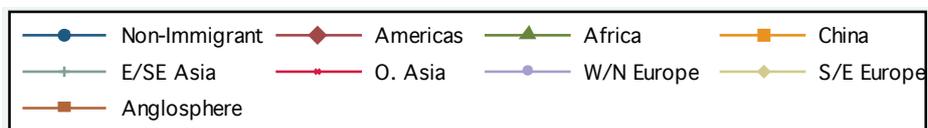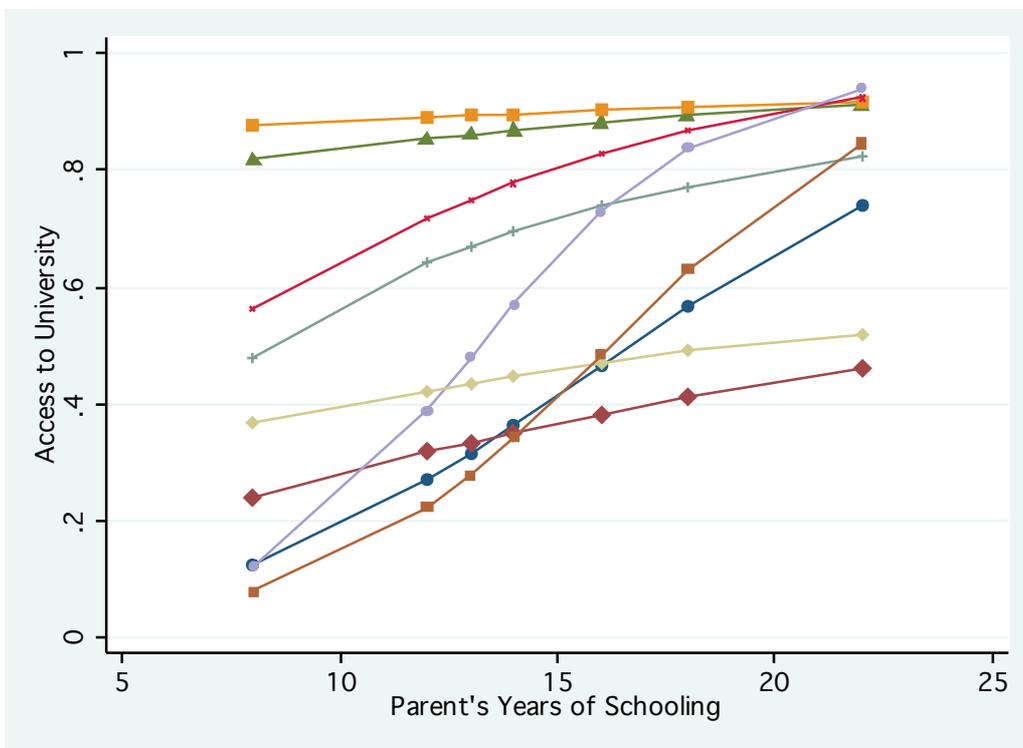
The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Appendix Figure 1: Access to University by Family Income - Grades and PISA Model

a) First Generation Immigrants
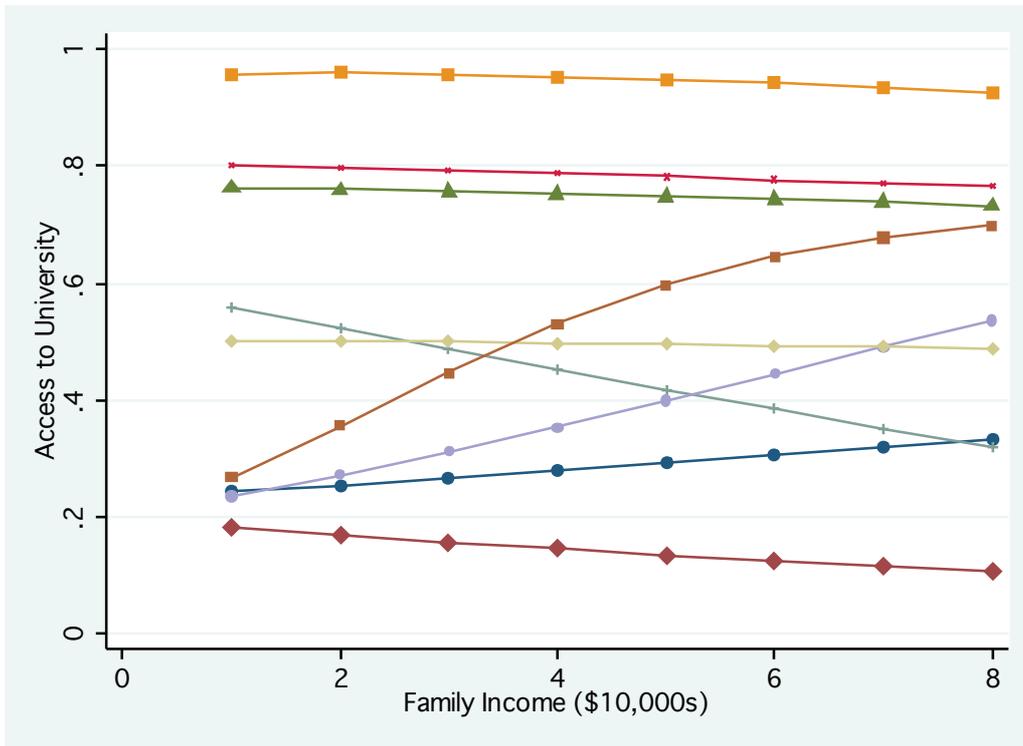
b) Second Generation Immigrants - Parents from the Same Region of Origin

Appendix Figure 1: Access to University by Family Income - Grades and PISA Model - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin

Legend:
- Non-Immigrant
- Single Immigrant Parent
- Mother Imm.: High Access Region
- Father Imm.: High Access Region
- Other Region
- Other Region
- Two Immigrant Parents from Different Regions

The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income, parental education, high school grade and PISA reading score variables and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear family income variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Appendix Figure 2: Access to University by Parental Education - Grades and PISA Model
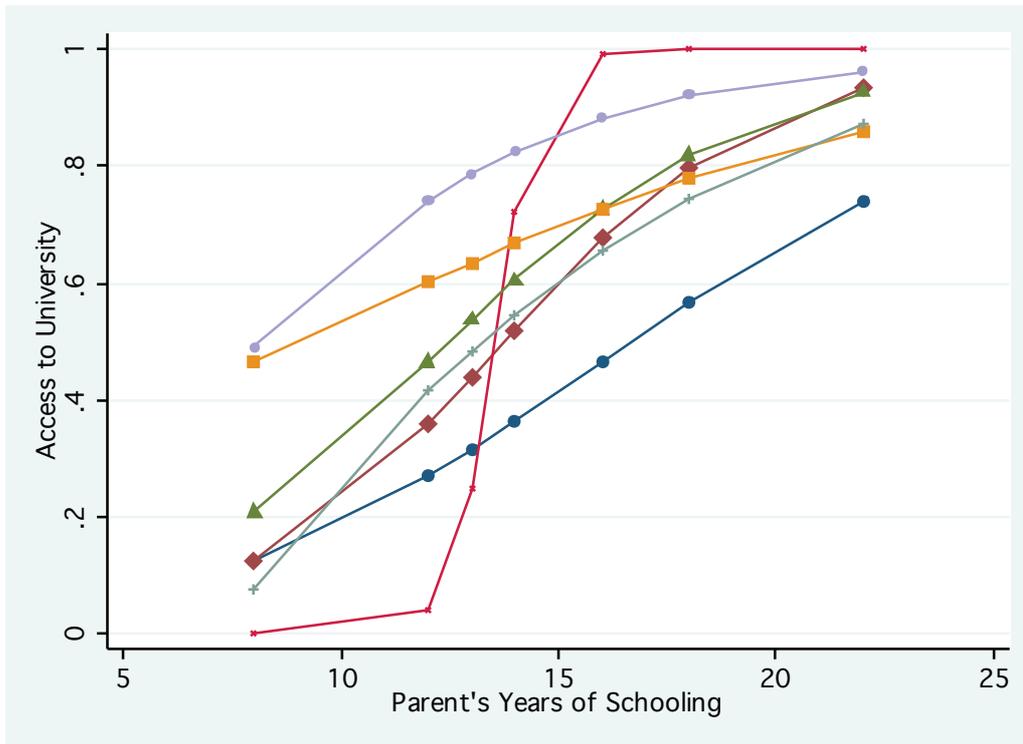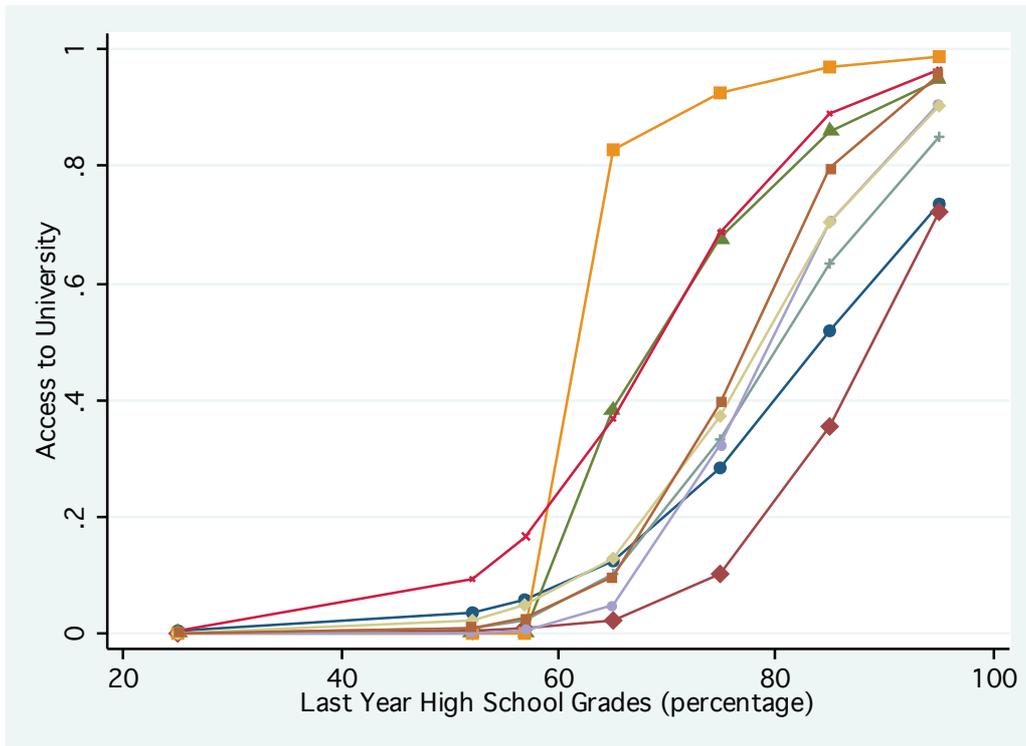
a) First Generation Immigrants

b) Second Generation Immigrants

Appendix Figure 2: Access to University by Parental Education - Grades and PISA Model - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin

The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income, parental education, high school grade and PISA reading score variables and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear parental education variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The linear parental education variable was constructed from a categorical education variable from the YITS-A parental survey.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Appendix Figure 3: Access to University by High School Grades (Last Year of High School)
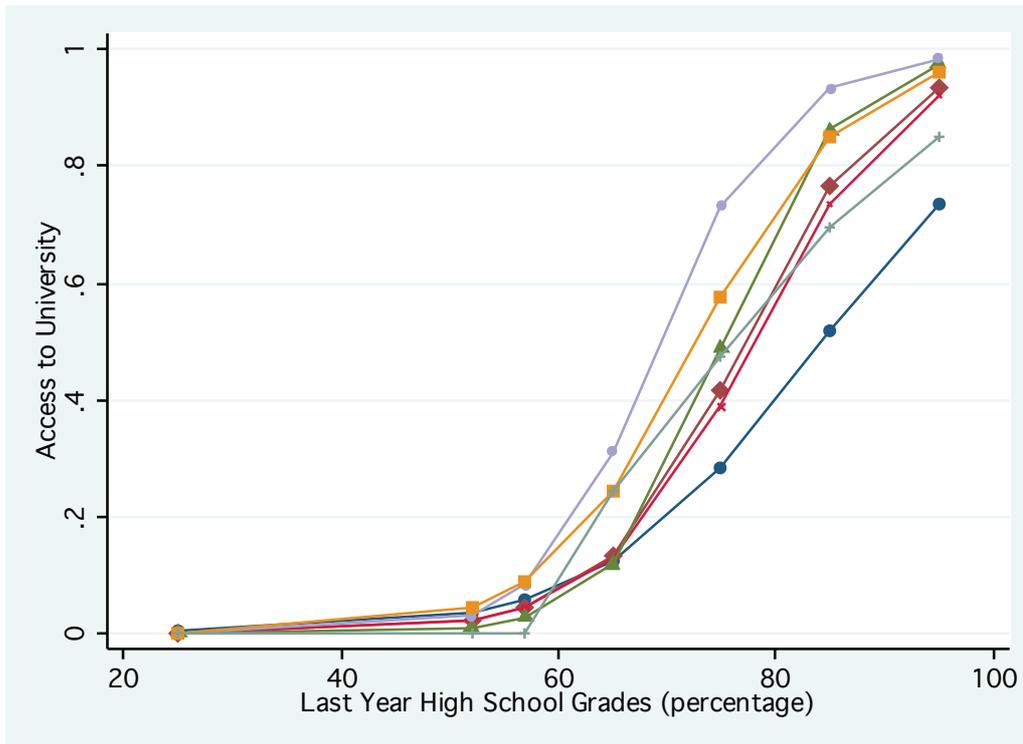
a) First Generation Immigrants

b) Second Generation Immigrants - Parents from the Same Region of Origin

Legend: Non-Immigrant, Americas, Africa, China, E/SE Asia, O. Asia, W/N Europe, S/E Europe, Anglosphere
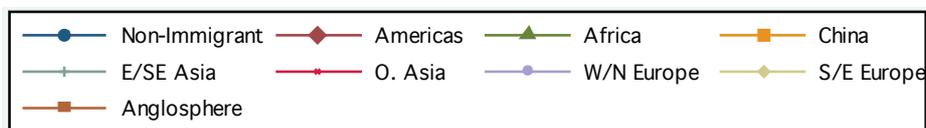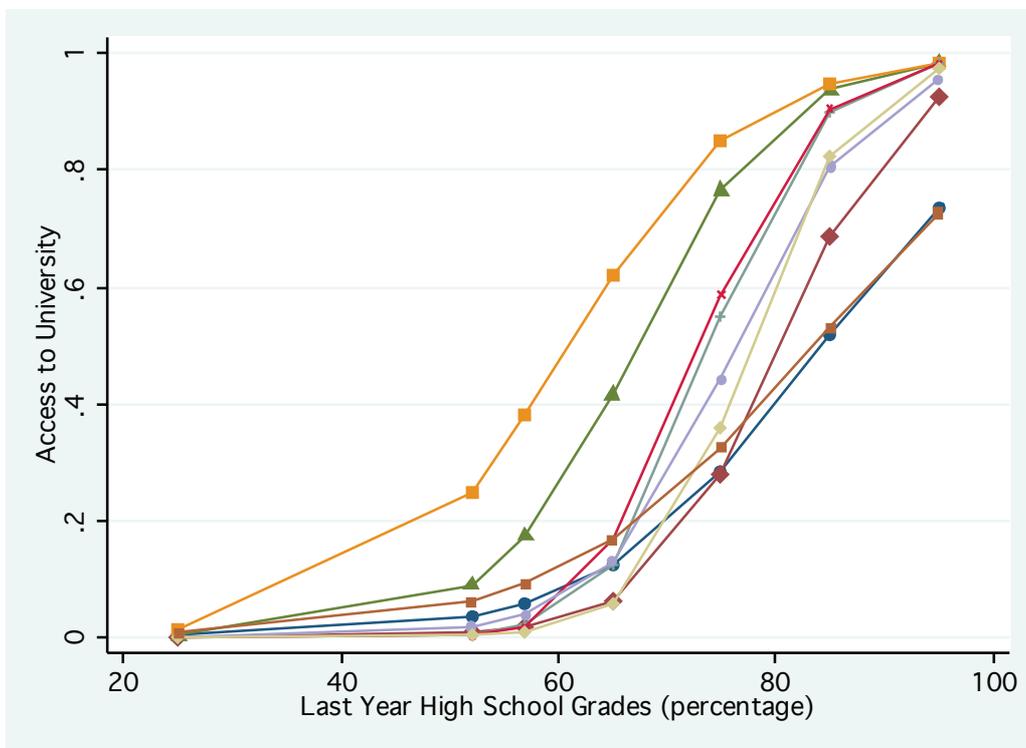
Appendix Figure 3: Access to University by High School Grades (Last Year of High School) - cont.

c) Second Generation Immigrations - Parents from Mixed Region of Origin

The predicted probabilities reported by these three graphs are calculated using a multinomial logit model of access to college and university (only the university results are reported here) that includes a set of categorical control variables (gender, province, urban/rural status, linguistic minority status and family structure), linear family income, parental education, high school grade and PISA reading score variables, and the set of detailed immigrant indicators used in Table 2b and interactions between those indicators and a linear high school grade variable. Aside from the interacted variables, the means of all other variables within each immigrant group are used to generate the probabilities. The linear high school grade variable was constructed from a categorical grade variable from the main YITS-A student file in the student's last year of high school.

The immigrant categories include second generation students with one Canadian parent. These categories are divided into those students from high access (Africa, China and Other Asia) and other regions.

Appendix Figure 4: Access to University by Age at Migration (First Generation Only)