

Beyond Financial Considerations: Culture and Access to Canadian Post-Secondary Education¹

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I. INTRODUCTION

The widely held belief in Canada today is that expanding access to post-secondary education (PSE) is an integral part of the country's long-term ability to raise productivity and hence the well-being of Canadians. The ability for all Canadians, regardless of family circumstances, to access higher education also plays into the Canadian sense of equality of opportunity, one component of a just and fair society. Canada is also experiencing the beginning of a decrease in the size of the labour force as the baby-boomer generation enters retirement age. This trend has substantial implications for the nation's age-dependency ratio as discussed by Denton and Spencer (2009), and is starting to put pressure on the labour force. And, as argued by Picot and Sweetman (2012), immigration does not provide a solution to the pending problem.

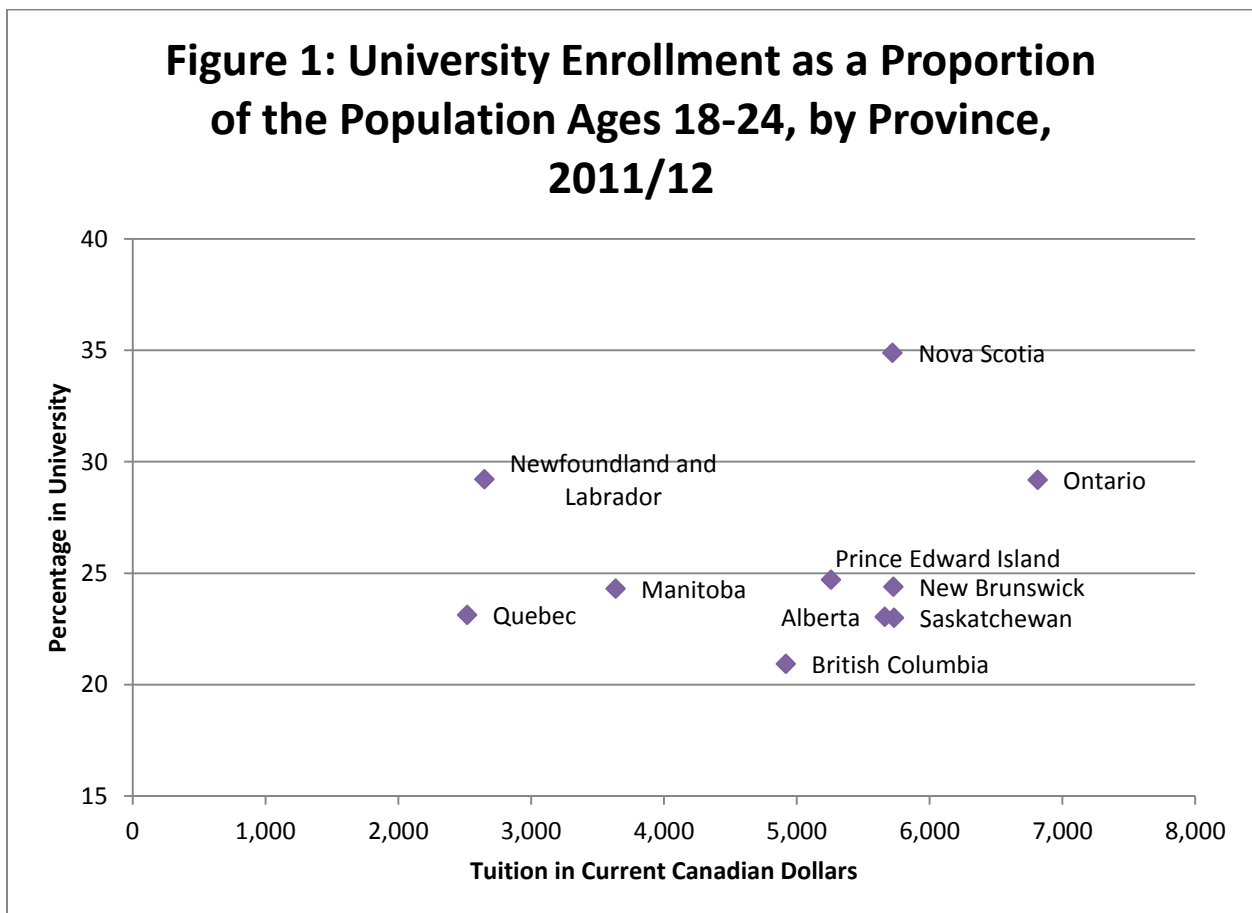
Understanding the factors related to participation in PSE is therefore high on Canada's policy agenda, and the purpose of this paper is to discuss core related issues in a way that we believe will be of interest to many policymakers. To do this, we briefly review the standard/conventional human capital model of schooling decisions that has dominated research and policy making, at least from an economics perspective, for the last several decades. Finally, we present some key empirical findings taken from a body of research undertaken in Canada primarily using the Youth in Transition Survey (or "YITS"), a remarkably rich PISA-based longitudinal data set that has shed new light on the determinants of access to PSE in Canada.²

While we do not reject the basic tenets of the standard human capital investment model, we are of the opinion that cultural factors need to be taken into consideration in any discussion of access to PSE and these may in fact be the most important determinants of who accesses PSE. Further, often these cultural influences happen early in a young person's life, and certainly earlier than the period surrounding high school graduation when existing financial policies (e.g., student loans) are targeted. In a phrase, once all factors are taken into consideration, "culture trumps finances" in determining access to PSE.

The policy implications derived from these developments are striking and represent a distinct change of emphasis: We should adjust our policy levers from the importance placed on financial tools (i.e., tuition fees and student financial aid) to focus on these newly identified cultural factors, including determinants that operate from early childhood up until early high school.

II. RECENT EVIDENCE

Despite the great deal of attention paid to the “affordability” of PSE, both historically and currently in the media, more recent evidence shows that the relationship between financial factors and access to PSE is generally not as strong as previously thought. According to the standard model, there should be a negative relationship between PSE attendance and tuition. Figure 1 depicts the cross-sectional relationship between tuition levels and university enrolments across Canada’s 10 provinces. The horizontal axis is the “sticker price” (ignoring student aid, tax credits and the like) for undergraduate tuition for each province for Canadian students, while the vertical axis is the proportion of those in the 18-24 age group who are enrolled in universities in that province in 2011/12. There is no obvious relationship. In fact, a regression through these data indicates a *positive*, but not statistically significant, relationship. Of course, this simple plot is a simple correlation that does not address the other determinants of enrolments, nor the fact that university spots at Canadian universities tend to be supply constrained (owing to provincial caps on the number of available spots). Still, it provides an informative starting point for our discussion. Namely, that at first glance, the negative relationship between tuition and enrolments does not appear to hold.



The standard human capital model of schooling choice posits that individuals will make choices based on the available information so as to maximize their lifetime utility (i.e., well-being). PSE involves up-front financial costs, related to both the associated direct costs (tuition and other

student fees), as well as the opportunity cost of being in school rather than earning money. Income is one element of this decision, but it need not even be the major consideration for all potential students as reflected in the low explanatory power of many empirical attempts to estimate the relationship. Psychic costs and benefits are permitted in the theoretical model, and education is allowed to be a consumption good, but in much empirical work this “black box” aspect of the model, which is clearly remarkably large, is neglected in favour of easier to measure financial factors.

Who goes to PSE according to this model? The answer is those for whom it is worthwhile, that is those for whom the future benefits outweigh the up-front costs. Those who attend will include, in particular, students who are better at school and who will benefit more from the schooling in the post-schooling period (e.g., the schooling will result in relatively higher earnings and other improved career opportunities). Those who do go, *should* go. The only problems occur where individuals cannot afford the schooling, although a well-functioning capital market will provide the necessary financing to students who would otherwise not have sufficient resources to attend.

A focus on affordability as the principal “barrier” to PSE has followed from this analytical framework, and policy (to date) has mostly been concerned with eliminating those barriers: keeping tuition fees down, providing student financial aid, and so on, so that those who *decide* to go (and are admitted), are *financially able* to go.

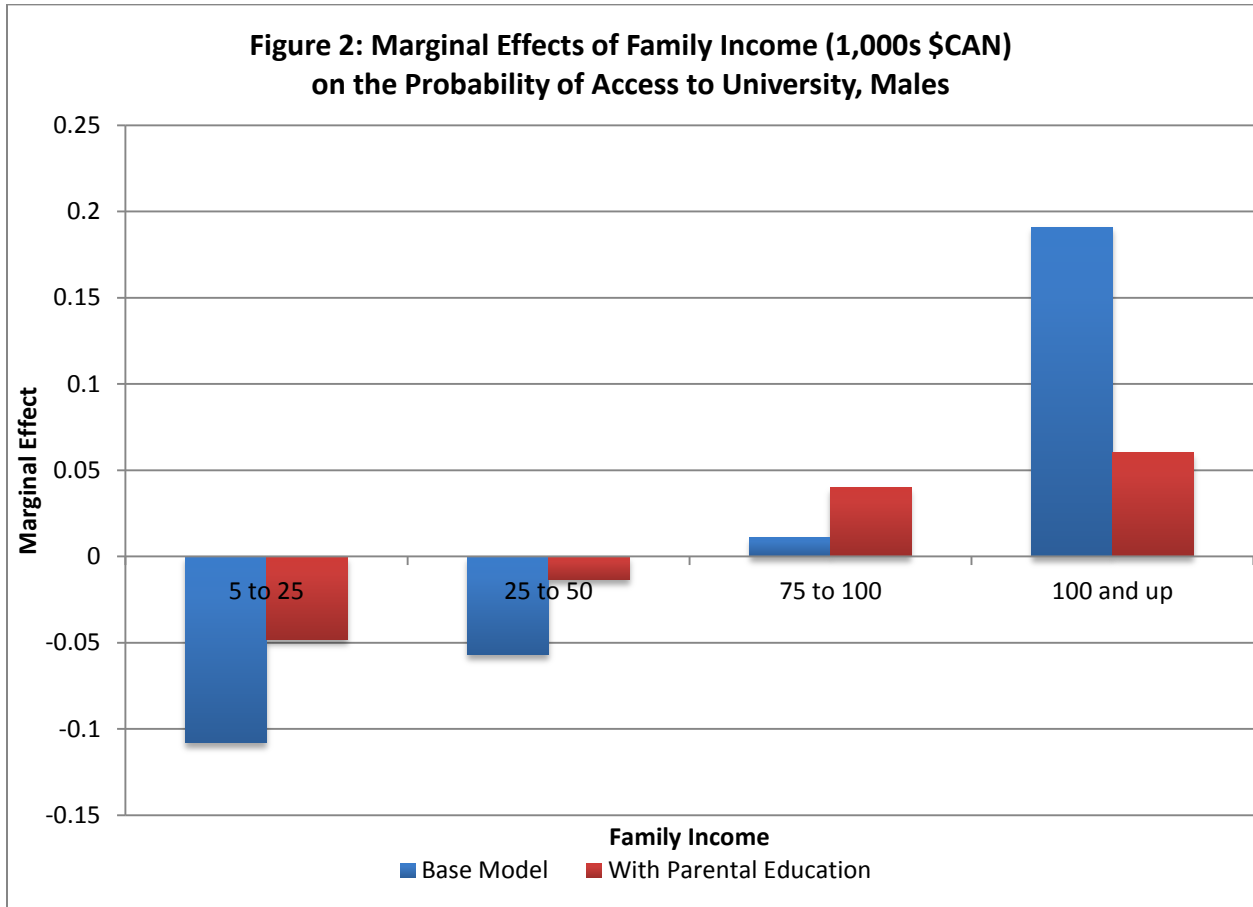
Empirical evidence increasingly suggests that preferences – related to the early exposure to “the culture of PSE” – are important determinants of who goes on to college or university given current levels of financial support. Preparation for PSE, along with parental aspirations and other similar factors, seem to play a central role. In short, decisions regarding access to PSE are increasingly understood to involve a complex set of influences, experiences, relationships, and developments that are rooted in the family and start quite early in an individual’s life.

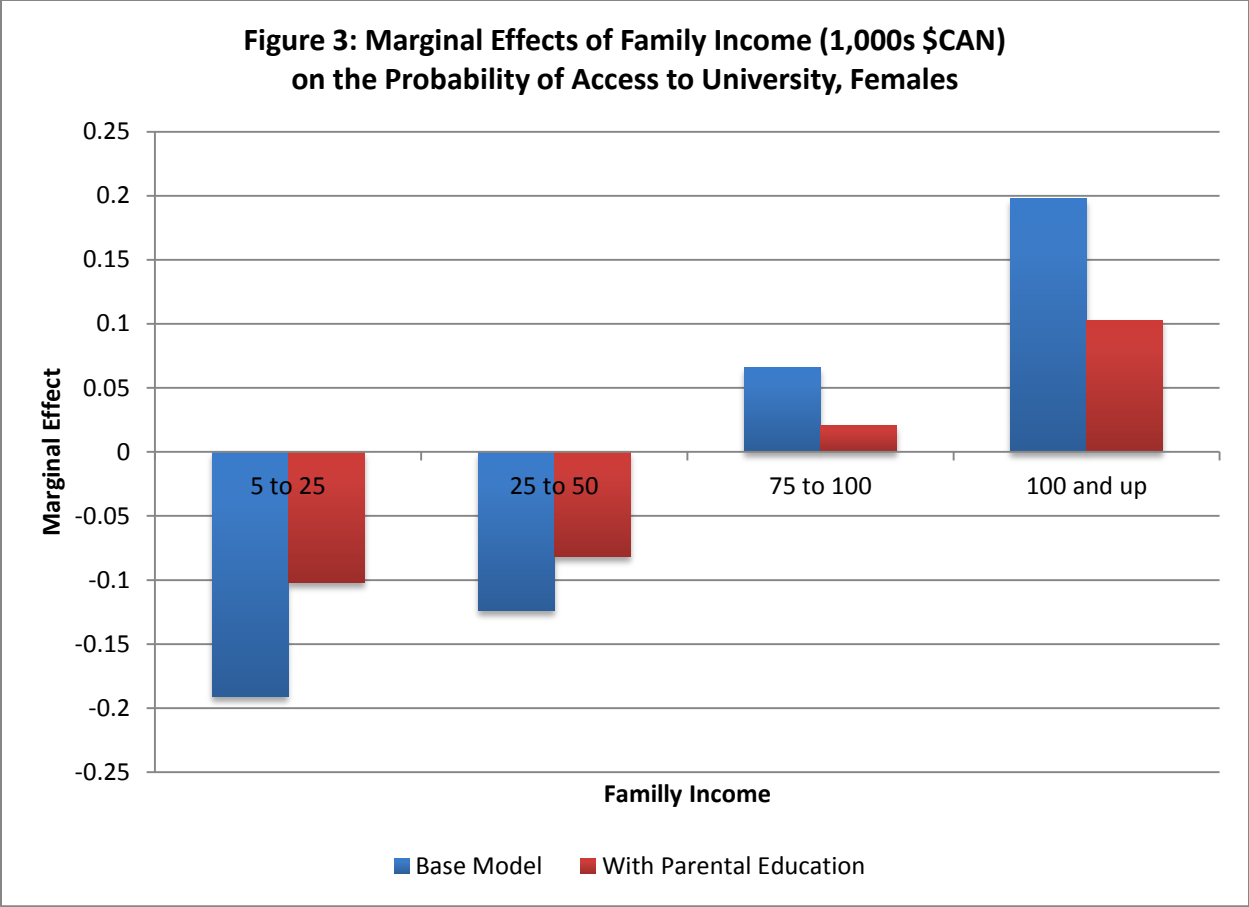
We start our review of the evidence with a focus on the financial factors that may affect access to PSE – the factors that have traditionally been the centre of attention of such studies. Johnson (2008), like most preceding Canadian studies, finds that tuition is not strongly associated with access, even when the changes in tuition are relatively large. Similarly, Coelli (2009) finds that fee increases coincided with very small reductions in university enrolment in general, although they were larger amongst youth from low-income youth families. Neill (2009) finds that a \$1,000 increase in tuition is related to a decrease in university enrolment of between 2.5 and 5 percentage points. But given that average tuition fees in her data were around the \$2000 mark, this represents a fairly modest response to a relatively large percentage change in fees.

Frenette (2005) uses the deregulation of professional program fees in Ontario in the late 1990s, which resulted in quite unusual and large fee increases in fields such as medicine, dentistry, and law. While overall enrolment was not affected, middle-class students (proxied by parental education) were affected most. He hypothesizes that, unlike those from lower-income families, students from middle-income families were somewhat sensitive to the tuition increases but not eligible for the increased student aid, while the higher fees simply did not deter students from higher socioeconomic status families.

Finnie and Mueller (2008a, 2008b) look at access to PSE, specifying three outcomes: attending college, attending university, attending neither. Once parent education is added into the model,

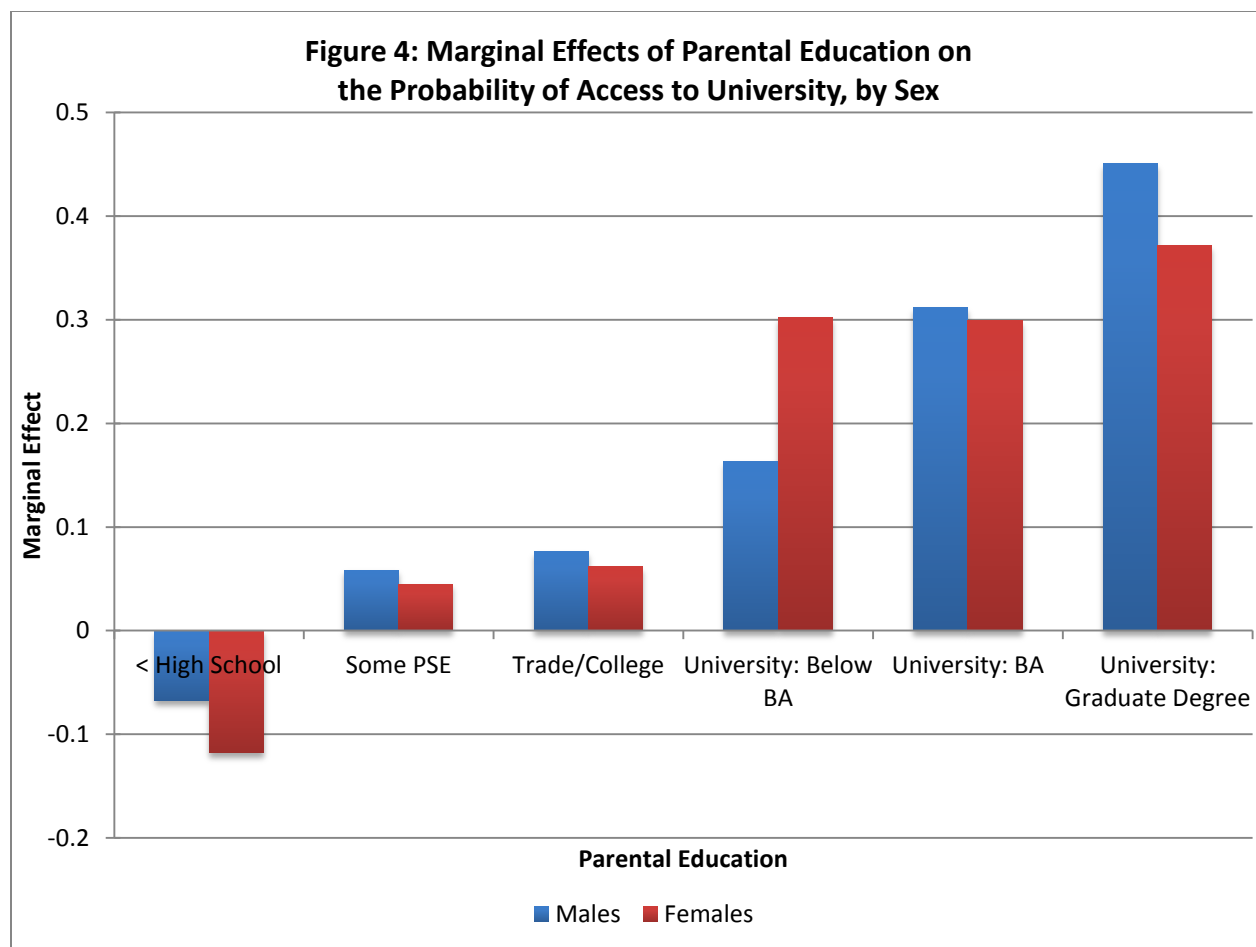
the importance of family income in determining access to university by age 19 decreases greatly. Figure 2 shows that having parents whose combined income is over \$100,000 increases the probability of a male attending university by 19 percentage points over someone whose parents earned \$50,000-\$75,000 (the omitted category). Conversely, those at the lowest income variables are over 10 percentage points less likely to go – a range of about 30 percentage points in a context where the overall access rate is about 36 percent.





Adding in parental education, however, dramatically reduces the estimated effect of parental income. That 19 percentage point high income effect is, for example, reduced to 6 points, and the overall spread drops to only around 10 percentage points. For females, the results are similar (Figure 3).

Figure 4 shows the effects of parental education on access (while controlling for family income and other factors), and we see much greater effects on access than is the case for income once the education variables are included. For example, the difference in access rates between those whose parents have the highest education levels (a graduate degree) and those who have the lowest (less than high school completed) is 52 percentage points for males, while for females it is 49 points.

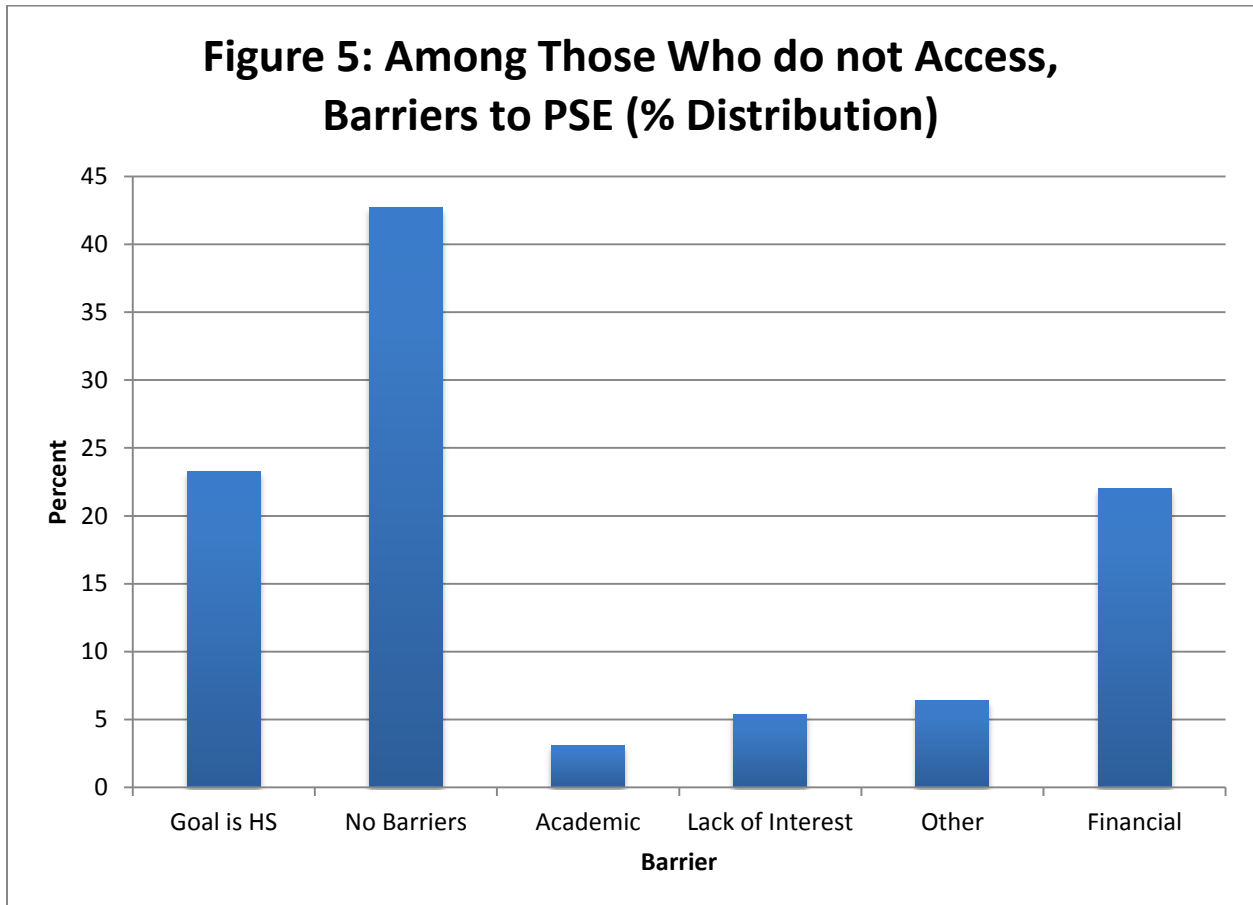


In effect, this evidence shows an overstatement of the effects of income on access results, pointing to a financial barrier and affordability issues in an exaggerated fashion. As Finnie, Childs, and Wismer (2011: 7) note:

These findings present a fundamental challenge to our thinking about “barriers” to PSE. It is perhaps not so much that those from low-income families are not *able* to go to PSE but that those from low-income families also tend to be from families whose parents do not have PSE, and that it is the transmission of values in favour of PSE, the preparation for PSE and other such factors associated with parental education – and not family income – that actually matter most (emphasis in original).

More direct evidence on barriers also casts doubt on the importance of financial factors. Finnie, Mueller and Wismer (2012) undertake a detailed analysis of the 25 percent of young Canadians who *have not* attended PSE by the age of 21. Figure 5 shows the reasons young non-attendees give for why they have not gone on to PSE. Of this group, only 22 percent (or 5.5 percent of the entire sample) claim that finances constitute at least one barrier to entering PSE. This suggests that in most cases the schooling was not actually unaffordable. Rather the underlying factor is that these individuals did not see the benefits of higher education relative to its cost. Of concern, however, is the recent related evidence provided by Frenette and Robson (2011) who conclude that most students overestimate the costs of higher education and underestimate the benefits.

Further, these errors are considerably greater among young people from low-income families, thus hindering them in estimating the true value of schooling. Similarly, Carmichael and Finnie (2008) argue that students from low-income families are more likely to experience greater financial hardship while pursuing PSE (even if they can afford the schooling) since those from higher income families are more likely to receive transfers from their parents.



While financial factors have preoccupied economists and policymakers, the preceding results seem to suggest that there are other “cultural” factors, many of which are correlated with income, which may be the main cause of the underrepresentation of disadvantaged groups in PSE. One important finding to emerge from the Canadian research is that parental education is a much stronger determinant of access than is parental income.³ Further, there is evidence (Finnie, Lascelles, and Sweetman, 2005; Finnie and Mueller, 2008a, 2008b) that parental education works both directly and indirectly to enhance access. Indirectly, it influences high school grades, reading ability, and academic engagement, which are all positively correlated with the higher probability of attending PSE, especially university. This illustrates various mechanisms by which background factors operate from very early ages to influence postsecondary access.

Further investigating these factors, Childs, Finnie and Mueller (2010) use the concept of “cultural capital” and relate this to PSE attendance. Cultural capital refers to “a specific set of ways in which parents pass their social status and economics opportunities on to their children. ...

These processes involve the knowledge, experiences, and connections that help individuals to succeed in life ...” (p. 247). The authors find that factors such as parents communicating with their children (whether on cultural matters or just more generally), cultural activities (e.g., going to concerts and museums), cultural *possessions* (e.g., the number of books in the home), and reading habits are all positively related to PSE access, university in particular, even after controlling for parental education and income. These correlations nevertheless point to a cluster of pre-PSE factors that are strongly associated with PSE attendance. *Something* differentiates families in these regards that is related to participation – and whatever it is that is going on has little to do with money. It points not to a single (cost-benefit) decision, but a cultural pathway.

As another example of the importance of culture, Finnie and Mueller (2010) and Childs, Finnie and Mueller (2012) find a strong manifestation of these sorts of cultural factors among first- and second-generation immigrants. Some immigrant groups, especially those from China, some other parts of Asia, and Africa, have very high participation rates. That the 1.5 and second generation Chinese and other immigrants go to PSE at very high rates regardless of their parents’ education level is shown in Figure 6. So, while we previously argued that parental education is likely a marker for PSE-related cultural influences, here we see evidence of the existence of other cultural influences related to immigration status and country of origin. The authors attribute these differences to differences in culture. In particular, that the Chinese value education highly and thus will do whatever is necessary to send their children to university.

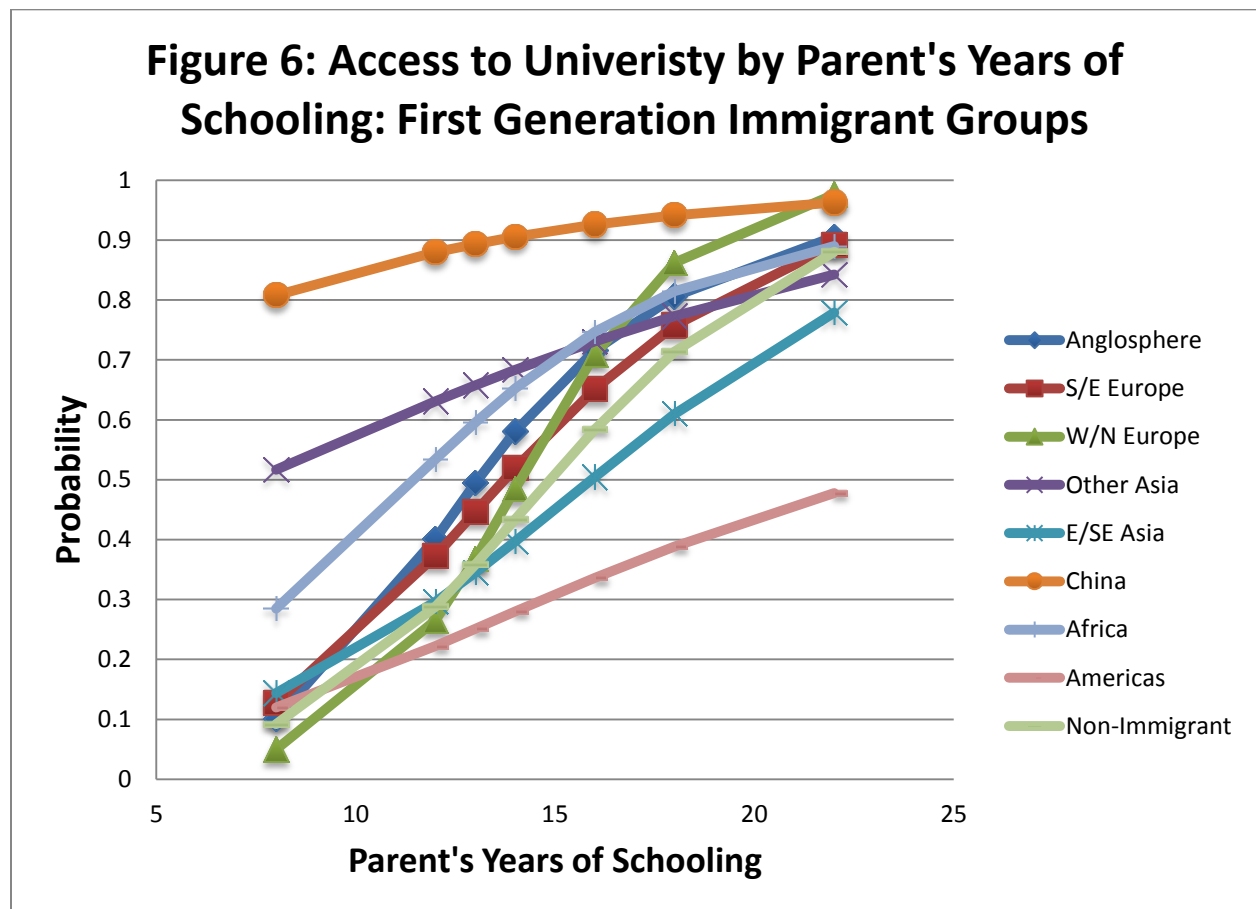
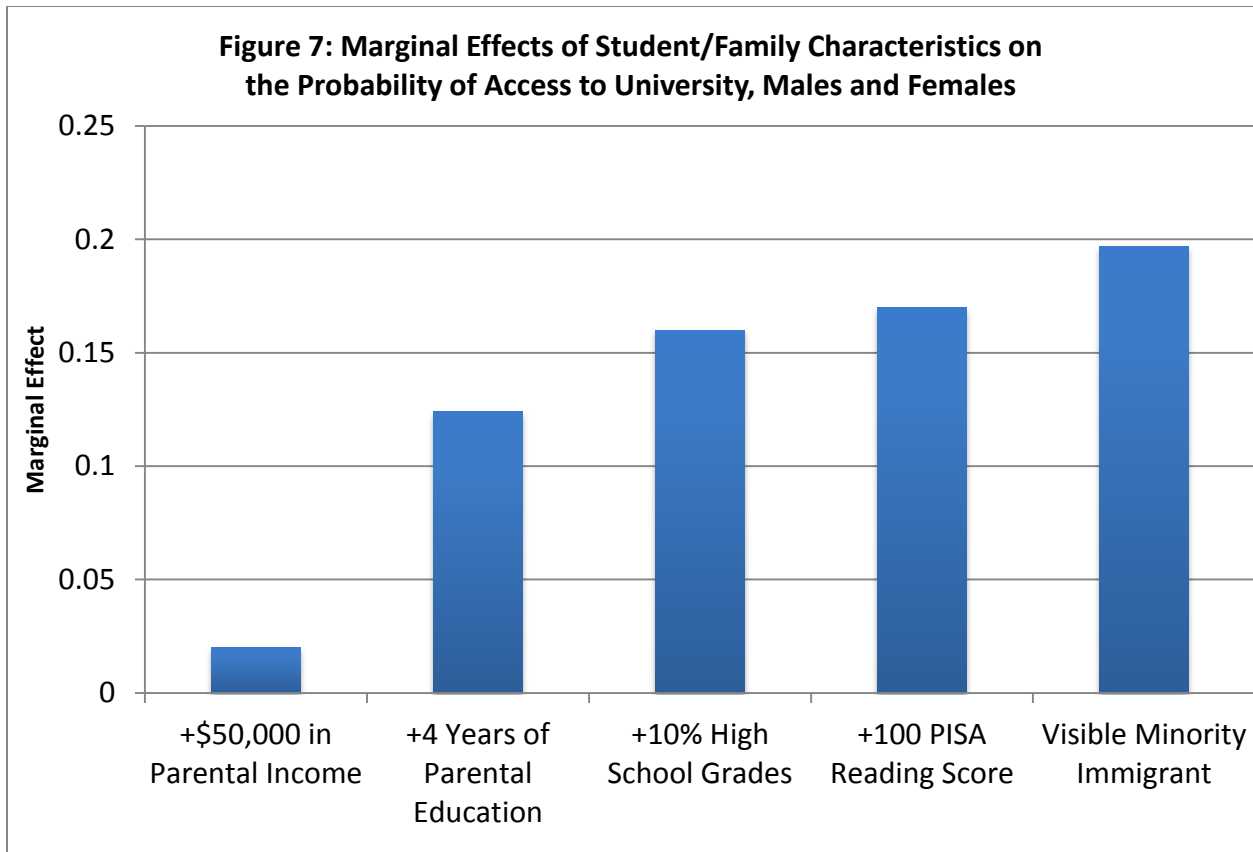


Figure 7 rounds out this line of evidence by showing a range of influences on access to PSE. It shows the results of a model which includes family income and parental education, as well as high school grades at age 15 (expressed as the student’s overall average in percentage terms); the student’s “PISA” (Programme for International Student Assessment) reading score (range of 0-600 with a standard deviation of about 100); and an indicator of whether they are a visible minority immigrant (in this case meaning they came to Canada by age 15). Careful interpretation is required, since grades and PISA scores may be at least partly related to the family background characteristics (thus somewhat diminishing their stated influence), but it is nonetheless revealing.



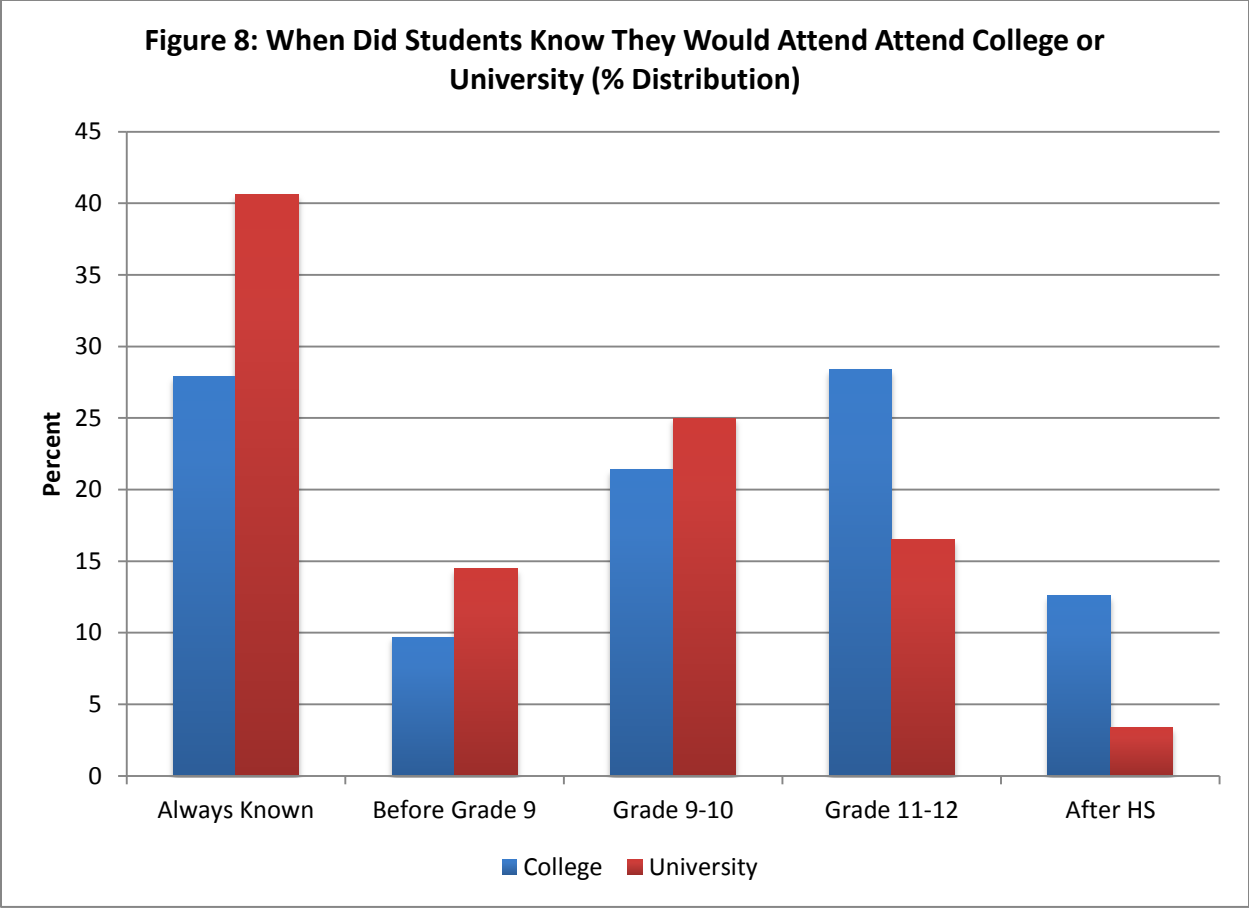
First, the income effects are now very small: a (very large) difference in family incomes of \$50,000 is, for example, associated with only a 2 percentage point difference in university attendance rates. This further suggests that money in general, and affordability in particular, are not very important independent factors in determining university access. Secondly, parental education has a strong direct effect, with four years of education worth around 12 percentage points, or about six times the effect of \$50,000 of family income. Parental education has a sizeable “direct” effect on participation, as well as a sizeable “indirect” effect through grades and PISA scores. Third, the grade and PISA score effects themselves are strong, again pointing to the importance of early preparation. Finally, even with the other controls, being a visible minority immigrant is associated with an access rate almost 20 percentage points higher, on average, than those of non-visible minority students who were born in Canada. This is not the norm internationally and suggests that immigration policy and education policy (which does not promote streaming at a young age) are important factors here (Aydemir and Sweetman, 2008; Sweetman and van Ours, 2014).⁴

Getting at another kind of cultural effect, Foley (2012) also finds a significant relationship between university participation and the fraction of the adult population with at least a bachelor's degree in the neighbourhood where the child grew up. In a similar vein, Lefebvre and Merrigan (2010) use longitudinal data on the mental and physical limitations of young Canadians and how these relate to schooling outcomes. They note that these issues tend to be more prevalent among lower-income families. Similar to the vast literature on the importance of early childhood interventions (popularized by Noble Prize winner James Heckman and his colleagues), these results suggest that early interventions are important to ensure better schooling outcomes, and are more important than raising family incomes.

Two other experimental studies point to the importance of both non-financial factors and of informing students of their options before the end of high school. Oreopoulos and Dunn (2012) showed a 3-minute video about the benefits of PSE to a group of lower-income high school students in the city of Toronto, as well as assisting the group with a financial-aid calculator. A short survey was administered to this group and a control group both before and after. Those who watched the video reported higher expected returns to education, expressed decreased concern about the costs, and expressed aspirations to complete at least a college diploma, with the effects being greater among those who first reported that they were unlikely to attend higher education. Information can thus be one of the mechanisms through which cultural influences operate. The authors argue that "inexpensive information campaigns to promote higher education are worth considering for promoting interest and access." (p. 3).

Similarly, an experiment in the provinces of Manitoba and New Brunswick (Ford, et al. 2012) found that combining substantial career education with large and pre-committed financial aid for higher education, all starting very early in high school, had statistically significant impacts on PSE enrolment for youth from low-income families. Though modest, these impacts passed a benefit/cost ratio justifying each government dollar.

One last set of results gives additional support to the earlier interventions. Figure 8 reports when college and university students say they made their PSE decisions from Finnie, Childs and Wismer (2011). Remarkably, a full 40 percent of those who went to university said they had "always known" they were going, and another 40 percent said they had decided by grades 9 or 10 (age 15-16). That leaves only around 20 percent who said they decided towards the end of high school or later than that. These results, together with the evidence presented previously such as Finnie, Lascelles and Sweetman (2005), suggest that PSE decisions are made early, in many cases very early. Clearly, early family and broader cultural influences play a central role.



III. CONCLUSIONS AND POLICY IMPLICATIONS

Perhaps the most interesting and most policy relevant outcome of the recent Canadian research is that the usual suspects like tuition fees and low family incomes – which would presumably be related to financial barriers – are not as important as was previously believed. This is not to say that money is not important, or that we can reduce financial aid or raise tuition fees and expect no negative results to follow. But it does argue that policies based solely on such factors, typically grounded in the standard human capital model of schooling choices, is almost certainly not going to do much to equalise PSE opportunities.

Culture and family background – as defined in the text – appear to be key determinants of PSE opportunities and choices, and we believe that policies should be developed and re-targeted accordingly. Indeed, the importance of non-financial factors seems to be seeping its way into policy circles in Canada. For example, a recent Senate of Canada committee report (2011) on accessing PSE states:

Our knowledge of the key factors that influence participation and achievement in PSE has also grown considerably. It is now acknowledged that non-financial obstacles such as preparation for school, student motivation and parental influence are as significant as cost. In fact, the cost of PSE becomes an issue only if these non-financial barriers are overcome in the first place. (p. 1)

We concur. Clearly, policy needs to go far beyond making PSE affordable (although that remains a fundamental *sine qua non*) and to target not only children and youth, but also their families, their communities, and their schools in ways that help youth understand and appreciate the benefits of PSE, that allow them to see PSE as an opportunity that is available to them, and that prepare them for that option.

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Sources for Figures

Figure 1: University tuition data are from Statistics Canada, The Daily, September 12, 2012 (data from CANSIM Table 477-0021). Percentage of students in the 18-24 year old age group are authors' calculations from CANSIM Tables 477-0019 and 051-0001.

Figure 2: Finnie and Mueller (2008a, 2008b)

Figure 3: Finnie and Mueller (2008a, 2008b)

Figure 4: Finnie and Mueller (2008a, 2008b)

Figure 5: Finnie, Mueller and Wismer (2012)

Figure 6: Childs, Finnie and Mueller (2012)

Figure 7: Finnie (2012)

Figure 8: Finnie (2012)

Endnotes

¹ This is a significantly abbreviated version of Finnie, Mueller, and Sweetman (Forthcoming).

² PISA is the OECD's Programme for International Student Assessment. Details of the studies cited here as well as additional related research can be found in Finnie, Mueller, and Sweetman (Forthcoming).

³ Work includes, but is not limited to, Butlin (1999), Drolet (2005), Finnie, Laporte and Sweetman (2010), Frenette (2007, 2008), among others.

⁴ Sweetman (2010) provides a comparison of immigrant student outcomes in the American, Australian, and Canadian school systems.