

**Education Matters: Insights on Education, Learning and Training in Canada**

**Postsecondary Education Participation  
among Underrepresented and Minority  
Groups**



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- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- <sup>P</sup> preliminary
- <sup>r</sup> revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- <sup>E</sup> use with caution
- F too unreliable to be published
- \* significantly different from reference category ( $p < 0.05$ )

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Postsecondary Education Participation among Underrepresented and Minority Groups

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A large and growing body of research examines the characteristics of young people who are most likely to go on to college or university following high school graduation and the factors that play a role in that decision. For example, research has shown that those from families with higher incomes, and even more so, those with higher levels of parental education, are most likely to attend postsecondary education, especially university.

But, as noted in a recent report by Finnie, Childs and Wismer (2011),<sup>1</sup> the situation is not so clear for others, including not only those from lower income families or those whose parents have not attended college or university, but also those belonging to other groups. This article summarizes the key findings of their research with respect to youth from lower-income families; those from families with no parental history of attending postsecondary education; those living in rural areas; first- and second-generation children of immigrants; those from single parent (or other "non-traditional") families; and Aboriginal youth. Throughout this article, these are referred to as 'underrepresented and minority groups'.

The data source for the analysis is the **Youth in Transition Survey**, Cohort A, which consists of youth who were 15 years old in 2000. The students were surveyed again in 2002, 2004, 2006, 2008 and 2010 (cycles 2, 3, 4, 5 and 6). The analysis is based on the respondents' postsecondary education status in 2006 (Cycle 4) as the optimal compromise between the ability to identify participation in postsecondary education (which increases with age within this cohort) and sample size (which decreases with each subsequent cycle of the survey). In this wave of the survey, the young people were 21 years of age (as of December 2005 – the reference date for cycle 4), a point at which they have made at least their initial choices about entering PSE.<sup>2</sup>

Participation rates in postsecondary education

Table 1 shows the percentage of youth who had accessed either college or university by the age of 21, by a range of characteristics.

Some groups showed notably lower rates of participation in postsecondary education (either college or university). These include Aboriginal youth compared to non-Aboriginal youth (24.3 percentage-point gap); youth whose parents had not attended postsecondary education compared to youth whose parents had (19.8 percentage-point gap); and youth who came from families in the bottom third of the income distribution (annual incomes of less than \$50,000) compared to youth from families with higher annual incomes (12.8 percentage-point gap).

Somewhat smaller gaps were observed for youth from rural areas compared to youth from population centres (a difference of 10.0 percentage points) and for youth from single-parent families compared to those from two-parent families (a difference of 7.5 percentage points).

Overall, Finnie et al. find that, for the groups that historically have been underrepresented in postsecondary education, the rate of participation in university in particular was substantially lower than for other youth, whereas in every case but one (Aboriginal youth being the exception), their college participation rates were somewhat higher than those of the comparison groups.

Table 1  
Rates of Access to College and University for Underrepresented and Minority Groups, YITS Cohort A, Cycle 4<sup>1</sup>

	All Provinces		
	College	University	Any
	percent		
<b>All</b>	<b>33.0</b>	<b>41.7</b>	<b>74.7</b>
<b>Family income</b>			
Income below \$50,000	34.8	31.4	66.2
Income greater than \$50,000	32.1	46.9	79.0
<b>Parental education</b>			
No postsecondary	36.6	24.3	60.9
At least some postsecondary	31.5	49.2	80.7
<b>Community type</b>			
Rural	35.5	31.5	67.0
Population centre	32.3	44.7	77.0
<b>Family type</b>			
Single parent	35.5	33.0	68.5
Two-parent family	32.5	43.5	76.0
<b>Immigrant status</b>			

First-generation immigrant	29.6	57.0	86.6
Second-generation immigrant	30.0	53.0	83.0
Non-Immigrant	34.2	37.0	71.2
<b>Aboriginal status</b>			
Aboriginal	28.0	23.1	51.1
Non-Aboriginal	33.2	42.2	75.4
<sup>1</sup> YITS Cycle A consists of youth who were 15 years old in 2000. The students were surveyed again in 2002, 2004, 2006, 2008 and 2010 (cycles 2, 3, 4, 5 and 6). The analysis is based on the respondents' postsecondary education status in 2006 (Cycle 4) when they were age 21. <b>Source:</b> Statistics Canada. <u>Youth in Transition Survey</u> . Cohort A. Cycle 4.			

In contrast, **first-and second-generation children of immigrants** had higher rates of participation in postsecondary education than non-immigrant youth. This was driven largely by the former's university participation rates, which were 20.0 percentage points higher for first-generation children of immigrants and 16.0 percentage points higher for second-generation children of immigrants compared to non-immigrant youth.

## The effect of belonging to more than one underrepresented or minority group

While simple descriptive statistics are useful in identifying where differences exist across groups, more sophisticated statistical analysis is necessary to disentangle the complex relationships that underlie such differences. In their analysis, Finnie et al. simultaneously take account of membership in underrepresented and minority groups to better understand the factors that affect the likelihood that an individual will go on to pursue postsecondary studies.

For example, while a number of studies have shown that youth from lower-income families are less likely to attend postsecondary education, recent research has found that this effect is highly correlated with other factors, particularly parental education. Finnie et al. find that over 40 percent of the effect on university access associated with being in the lower-income group disappears when other variables – including parents' postsecondary education backgrounds – are included.

Their results also show that **'first-generation' postsecondary education students** have very different access patterns than others. As noted earlier, the rate of participation in postsecondary education among youth whose parents did not themselves attend postsecondary education was much lower than for youth whose parents had. These effects remain quite strong, retaining over 80 percent of their influence, when membership in the other groups is taken into account.

This result emphasizes the important role that parental education plays with regard to access to postsecondary education. In fact, the effect of having parents with no history of postsecondary education is larger than the effects of belonging to any of the other underrepresented and minority groups. Being from a non-postsecondary education family has a much greater effect than being from a lower income family or from a rural area and is even larger than the effect of being Aboriginal.

Youth from rural areas are also under-represented in postsecondary education as a whole, and in university in particular, the latter offset to some degree by a positive college effect. For example, a student who attended a rural high school was 14.6 percentage points less likely to attend university, but 5.6 percentage points more likely to attend college. These effects are reduced substantially, but remain at 9.2 and 4.5 percentage points, respectively, when the student's other characteristics are taken into account. This suggests that while some of the gap in rural student representation in postsecondary education is explained by other observable demographic student characteristics (particularly membership in a lower-income household or not having a family history of postsecondary education) there is also a significant unexplained portion, or "net" effect.

Youth from single-parent families (and other non-two-parent family types) – often thought to be a disadvantaged group – were 10.8 percentage points less likely, on average, to attend university than those from two-parent families. Again, though, most if not all of these effects appear to be related to the other characteristics of the students, with the remaining differences being small and not statistically significant. In short, family status on its own does not appear to be an important factor. Instead, being in a single-parent family also tends to be associated with lower family income, with the parent not having a background in postsecondary education, and other factors that are themselves associated with lower rates of participation in postsecondary education.

Taken as a whole, first-and second-generation children of immigrants were much more likely than others to attend postsecondary education, particularly university. Furthermore, a substantial proportion of the university effects – 87.2 percent for first-generation children of immigrants and 74.0 percent for the second generation – is not explained by the other student characteristics included in the model. The differences thus remain at 17.0 percentage points for first-generation children of immigrants and 10.8 for the second-generation group in terms of their higher university access rates, while they were approximately 5 and 3 percentage points less likely, respectively, to go to college.

Aboriginal youth were found to be significantly under-represented in postsecondary education. The average gap in university attendance was 16.7 percentage points, with only a small offsetting college effect. However, this effect decreases by about half, to 8.5 percentage points, when the students' other characteristics are taken into account. This gap therefore appears to be partly related to their lower family incomes, being less likely to have a history of postsecondary education in the family, living in rural communities, and so on, but also partly for reasons beyond this.

In summary, these results illustrate some important "gross" and "net" gaps in postsecondary education (PSE) attendance between these underrepresented and minority groups and others. The differences are greatest for university participation, which in most cases are offset to some degree by higher rates of participation in college.

## Taking into account high school and related experiences

In the next stage of their analysis, Finnie et al. added additional sets of explanatory variables that measured high school performance and related variables. The authors note that these variables do not necessarily have a causal impact on postsecondary participation, though they are related to higher rates of participation. For example, students who have decided they want to go on to college or university may work to get higher grades in high school in order to do so; in other words, it is not so much the grades themselves that matter as the effort the students put into achieving those grades.

With respect to high school grades, a student with a 10% higher grade was 22.2 percentage points more likely to attend university, 8.9 percentage points less likely to attend college, and thus 13.3 percentage points more likely to attend any form of postsecondary education. These effects are a bit weaker when the other additional variables are also included.

Scores on overall **academic engagement** show the greatest effect of the school-related variables included in the analysis, probably because it includes both academic identification, which is highly correlated with postsecondary education aspirations, and academic participation, which includes information on study habits and other behaviours that are correlated with academic success. The effect associated with the indicator of **self-efficacy** is also fairly strong. The negative effect of the **social support** measure may indicate that more strongly socially-connected individuals are (holding the other variables constant) simply less likely to go on to university than others. The authors note that this may be because they focus less on school and more on the social side of their lives.

The effects of **parental behaviour** are not large, but they are positive. Finally, the relationship with scores on the reading test administered as part of the **Programme for International Student Assessment** when youth were age 15 is also positive and strong, capturing both unobserved ability and academic skills (as shown by the reduction in the effect of high school grades when the reading scores are included in the model). A positive difference of 100 points in the **PISA** score is associated with a 19.3 percentage-point increase in the probability of attending university, a 6.5 percentage-point reduction in the probability of attending college, and thus an overall increase of 12.8 percentage points in the probability of participating in postsecondary education.

## **The interaction between being a member of an underrepresented or minority group and high school and related factors**

When high school grades are added to the other variables in the model, the negative effect of being from a lower-income family on university attendance is reduced from 8.8 percentage points to 5.9 percentage points, suggesting that one of the ways that income operates is through the student's high school grades. When the indicators of academic engagement, self-efficacy, social support, parental behaviour and the **PISA** reading scores are also included, the gap associated with being from a lower-income family is further reduced to 3.7 percentage points.

In contrast, when the same set of variables is added to the model for youth whose parents had not attended postsecondary education, being part of the latter group still has a strong direct negative effect on attending university, though it is substantially reduced, with the gap in attendance decreasing from 20.0 percentage points to 9.5 percentage points when all the high school and related variables are included. It therefore appears that parental education has one strong set of influences relating to what happens in high school, but also has a significant additional direct impact on youths' postsecondary education outcomes. Furthermore, the small positive relationship with college attendance disappears once the extra variables are added.

The negative effect of being from a rural area on participation in postsecondary education, and on university attendance, in particular, also remains fairly strong when the additional variables are added to the model, though the gap is reduced from 9.2 percentage points to 6.8 percentage points. This is consistent with the idea that part of the rural effect is related to other factors, including not only parental education, family income and others seen above, but also to high school experiences and other related factors. But the results also show that part of the rural effect is net of these factors, perhaps because rural youth face higher costs in accessing postsecondary education, especially university, since institutions tend to be further away, because they have different preferences for higher education or because of other cultural factors not included in the model.

Family status, when other factors are controlled for, continues to have no statistically significant effect on access to postsecondary education. As discussed previously, the sizeable "gross" gap appears to be due to their also being in low income, having parents without a postsecondary education, and so on, rather than their family status per se.

The positive effects on university attendance of being a first- or second-generation child of an immigrant remain strong and are only slightly reduced when all of the high school and related variables are added to the model. These results suggest that the effects of being the child of an immigrant on participation in postsecondary education do not work through high school performance and behaviour. This is an interesting finding: the reason they go on to postsecondary education, especially university, in much greater numbers is not simply because they do better in high school, but because they are responding to other factors. One of these is the high value placed on education by many immigrant families and the resulting high educational expectations that immigrant parents hold for their children.<sup>3</sup>

In contrast, adding the high school variables to the model significantly reduces the Aboriginal youth effect – from a "gross" gap of 19.1 percentage-point gap in university participation, to an 8.5 percentage-points lower gap when membership in all of the underrepresented and minority groups are taken into effect simultaneously, to an insignificant 3.4 percentage-point gap when all the variables are included in the model (the college effects are not significant in any case).

This suggests that the lower participation rates of Aboriginal youth in university are tightly wound up with what happens in and during high school: their grades are lower and they have lower scores on the indicators of academic engagement, self-efficacy, social support and parental behaviour, and on the **PISA** reading test. As a result they go to postsecondary education at lower rates, with only a small unexplained residual effect remaining.

## **Conclusion**

The analysis shows that while the size of the overall gaps in postsecondary participation are important, just as important are how the sizes of these gaps change when the various explanatory variables are included in the analysis.

The effect of being in a lower-income family, for example, decreases significantly as individuals' memberships in the other identified groups are considered (that is, no parental history of postsecondary education, rural residence, and so on), and decreases even further when the various high school and related measures are included. This finding is consistent with the recent literature that finds that family income itself has only a moderate relationship with participation in **PSE**, once other family and individual characteristics are taken into account.

Overall, their findings lead Finnie et al. to conclude that parental education is the single most important determinant of youth participation in postsecondary education. Further research is needed to more fully understand all of the ways in which this influence is transmitted. Some of these mechanisms likely include having a 'culture' of education in the home, while others may more simply reflect a lack of parental exposure to and experience with postsecondary education.

As others have found, coming from a rural area is a significant risk factor for participation in postsecondary education, university in particular, and, while it is moderately related to the other family factors included in the analysis, a substantial pure "rural effect" remains, a portion of which appears to be related to what happens during high school (in school and at home) and another portion of which is not explained by these variables. Further research is needed to determine to what extent the residual rural effect is related to costs of attending postsecondary education, to attitudes to **PSE**, or to other factors.

The authors also note that being in a single-parent family has no independent effect on university participation once membership in the other groups is taken into account. The smallish "gross" overall gap observed in the data thus appears to be not about family structure per se, but about the other family characteristics that tend to go along with it: low income, no parental history of **PSE**, and so on.

Similarly, the Aboriginal effect is strong in the raw data, but also goes away to a significant extent first, when the other group characteristics are taken into account, and then further when the high school and related variables are considered.

Finally, the fact that the children of immigrants are participating in postsecondary education at higher rates than the Canadian-born is becoming increasingly well known, though it is important to note that this finding is not uniform across different immigrant groups. Consistent with other research, the results summarized here conclude that the higher postsecondary education participation rates of the children of immigrants is not particularly related to family background characteristics or to high school experiences and related attributes, including grades. Again, further research is needed to fully understand the influences that underlie this immigrant effect.

## **Notes**

1. Finnie, Ross, Stephen Childs and Andrew Wismer. 2011. Access to Post-secondary Education among Under-represented and Minority Groups: Measuring the Gaps, Assessing the Causes. Education Policy Research Initiative. Working Paper NQ. 2011-01.
2. Finnie et al. note that access rates change only moderately after age 21 and the structure of access with respect to the variables included in their models appears to change very little. In short, the results would hold if individuals were to be followed over a longer period of time.
3. For further details on immigrant children, see Finnie, R., and R.E. Mueller. 2009b. Access to Post-Secondary Education in Canada among the Children of Canadian Immigrants. A MESA Project Research Paper. Toronto, ON: Educational Policy Institute and Finnie, Ross and Richard E. Mueller. 2010. "They Came, They Saw, They Enrolled: Access to Post-Secondary Education by the Children of Canadian Immigrants," in Finnie, Ross, Marc Frenette, Richard E. Mueller, and Arthur Sweetman (eds.) 2010. Pursuing Higher Education in Canada: Economic, Social and Policy Dimensions. Montreal and Kingston: McGill-Queen's University Press, p.191- 216.