



EDUCATION PAPERS

School Dropouts: Who Are They and What Can Be Done?

By
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I N D E P E N D E N T • R E A S O N E D • R E L E V A N T

- While Canada has made progress in the past two decades in terms of lowering high-school dropout rates, those rates remain unacceptably high for boys and certain groups characterized by poverty and cultural traditions that do not stress formal schooling.
- The male share of the dropout population continues to rise, with five males now dropping out for every three females. As well, some groups of immigrants, those living in rural areas and Aboriginals exhibit a worrisome lack of educational achievement compared with the Canadian average.
- The author recommends strategies to address the problem. Among them: education authorities should collect and use reliable data on student performance in core subjects, and should experiment aggressively on initiatives targeted to improve education outcomes for vulnerable groups of Canadians.

One of the most robust predictions about any teenager's future is that dropping out of high school will increase the probability of a life marred by lengthy bouts of unemployment and poverty. Although a high-school certificate is a low rung on the education ladder, it is the crucial one if an individual is to have reasonable employment prospects. For Canadians without a high-school certificate, the average employment rate is under 40 percent; for those with high school, the rate is roughly 25 percentage points higher (Richards and Scott 2009).¹ From these results, three other observations follow, two positive and one less so.

First, in 2008 Canada ranked sixth highest among member countries of the Organisation for Economic Co-operation and Development (OECD), in the share of its young adults (those aged 25 to 34) with at least a high-school certificate – only 8.1 percent of Canadians in this age group lacked such a certificate compared with the OECD average of 20.0 percent (OECD 2010). Second, Canada's high-school dropout rate is falling: the national dropout rate declined from 16.6 percent in the 1990/91 school year to 8.5 percent in 2009/10 (Canada 2010b).

I thank Colin Busby, Pierre Fortin, and Bill Robson for helpful comments on an earlier draft.

1 The extent to which finishing high school explains higher employment is hard to measure precisely, since the characteristics of students that make them likelier to work also make them likelier to finish high school. Nevertheless, Oreopoulos (2005) finds that the beneficial effects of later school leaving persist into adulthood, evidence that supports the argument that finishing high school is, independent of other factors, a positive life event.

Box 1: The Programme for International Student Assessment

The Programme for International Student Assessment is an ambitious undertaking to measure the performance at age 15 of large samples of students in the core subjects of reading, mathematics, and science (see Canada 2010a). In the latest round, conducted in 2009, 63 countries (counting separately four regions within China) participated. In terms of average scores, Canada achieved respectable rankings: 6th in reading, 10th in mathematics, and 8th in science. In terms of variance, however, Canada's performance was less impressive. Based on the difference between the 75th and 25th percentile scores (between high and low student achievers) and ranked from the lowest to the highest difference, Canada performed only slightly above average: 28th in reading, 25th in mathematics, and 20th in science.

Table 1 reports the 10th percentile scores for Canada and the provinces for 2009, and the change from 2000, the first PISA round.

These results suggest that the quality of provincial school strategies to contend with dropouts matters. It has been suggested that provincial differences in scores also might be due to differences in academic standards: provinces with lower 10th percentile scores might have reduced their standards as a way to lower their dropout rates. If that were the case, one would expect a positive link between the score and the dropout rate. However, provinces with lower dropout rates not only have higher 10th percentile scores; they also are more likely to have increased their 10th percentile scores over the decade (as measured by the correlation coefficient between the average provincial dropout rate over the 2007/08 – 2009/10 period and the 2009 provincial 10th percentile scores averaged across reading, mathematics, and science).

Third, according to the 2009 Programme for International Student Assessment (Canada 2010a; see also Box 1), the performance of academically weak students, students at the 10th percentile, has declined in many provinces over the decade. (The 10th percentile score is such that 90 percent of students in a province scored higher, and only 10 percent lower.) Poor performance on standardized tests is a powerful indicator of a student subsequently dropping out of school. In some provinces and some subjects, 10th percentile scores rose over the last decade; in most provinces and most subjects, they fell. Large declines (over 20 points) exist for reading in three provinces (SA, MB, PEI), for mathematics in four (AB, SA, MB, PEI), for science in two (MB, PEI). Sizeable increases (10 points and over) exist for reading in three provinces (ON, NB, NS) and for science in two (ON, NS) (see Table 1).

Thus, Canada has made progress in the past two decades in terms of lowering high-school dropout rates and our international ranking by this measure is respectable. But if one digs into the data, it becomes clear that serious problems still exist: (i) among boys relative to girls and (ii) among particular groups that, in varying degrees, are marginal to mainstream society for reasons of poverty and cultural or ethnic differences.

“The Trouble with Boys”

In Canada, as elsewhere in the OECD, boys do less well academically than girls. This is true at all levels, from high-school completion to university graduation. Admittedly, in absolute numbers, the decline in dropout rates for males over the past two decades has exceeded that for females. However, the male share of the dropout population has continued to rise, with five males now dropping out for every three females (see Figure 1).

Provincially, average dropout rates over the 2007/08 – 2009/10 period ranged from 6.2 percent in British Columbia to 11.7 percent in Quebec (Canada 2010b). Quebec's high rate is largely attributable to the dropout rate

Table 1: 2009 10th Percentile PISA Scores and Changes 2000-2009, Incomplete Secondary School Rates, 1990/91-1992/93 and 2007/08-2009/10, Canada and Provinces

| | 10th Percentile Scores | | | | | |
|-------------------------|------------------------|------|---------|-------------------|------|---------|
| | 2009 scores | | | Change, 2000-2009 | | |
| | Reading | Math | Science | Reading | Math | Science |
| Canada | 406 | 413 | 412 | -4 | -10 | 0 |
| British Columbia | 404 | 408 | 417 | -6 | -14 | -1 |
| Alberta | 408 | 410 | 424 | -15 | -27 | -5 |
| Saskatchewan | 382 | 393 | 395 | -28 | -32 | -17 |
| Manitoba | 372 | 387 | 383 | -34 | -35 | -29 |
| Ontario | 417 | 416 | 416 | 12 | 0 | 10 |
| Quebec | 405 | 425 | 410 | -9 | -18 | -8 |
| New Brunswick | 382 | 396 | 390 | 12 | -5 | 4 |
| Nova Scotia | 401 | 405 | 412 | 10 | 2 | 11 |
| Prince Edward Island | 357 | 374 | 373 | -34 | -31 | -27 |
| Newfoundland & Labrador | 389 | 397 | 410 | 8 | -8 | 9 |

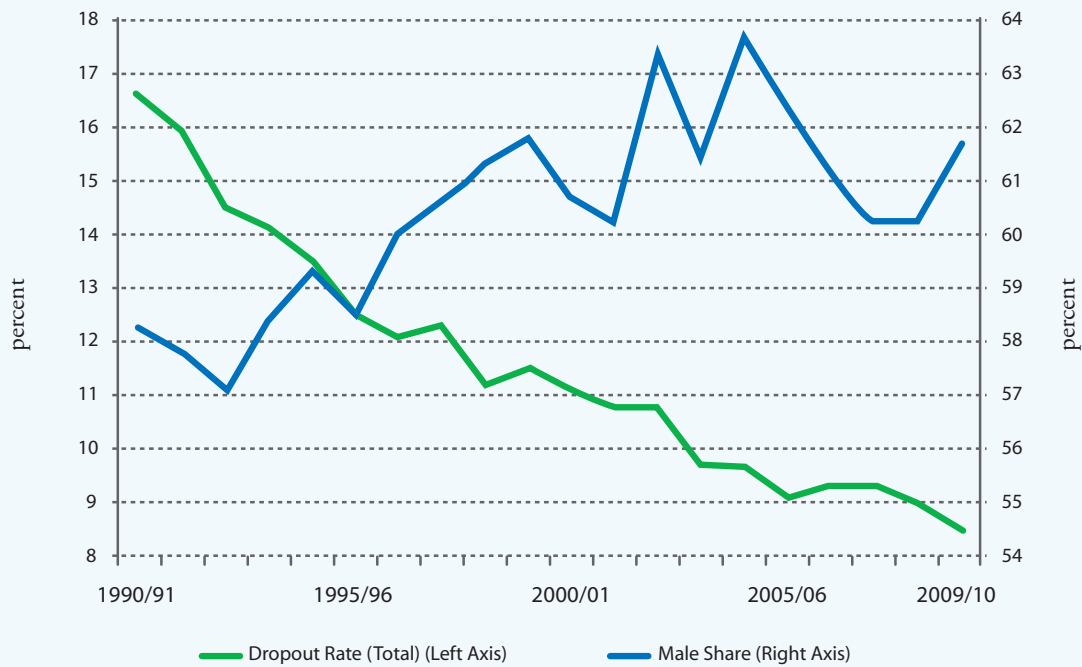
| | Incomplete Secondary School Rates | | |
|-------------------------|------------------------------------|---------------------|---------------------------------------|
| | Average Dropout Rates (percent) | | Change (percentage points) |
| | 1990/91 -1992/93 | 2007/08 -2009/10 | 1990/91-1992/93 to 2007/08-2009/10 |
| British Columbia | 13.3 | 6.2 | -7.1 |
| Alberta | 15.7 | 10.4 | -5.3 |
| Saskatchewan | 16.2 | 9.4 | -6.8 |
| Manitoba | 16 | 11.4 | -4.6 |
| Ontario | 14.8 | 7.8 | -7 |
| Quebec | 17.4 | 11.7 | -5.7 |
| New Brunswick | 15.4 | 8.1 | -7.3 |
| Nova Scotia | 17.8 | 8.6 | -9.2 |
| Prince Edward Island | 18.9 | 8.9 | -10 |
| Newfoundland & Labrador | 19.9 | 7.4 | -12.5 |

Sources: Author's calculations from PISA (2010a, 52, 79, 80; 2010b).

among francophone males: according to the 2006 census, 19 percent between the ages of 20 and 24 lacked high-school certification, even though the primary and secondary education cycle is only 11 years in Quebec, rather than 12 years as in the rest of Canada.² By contrast, the dropout rate among francophone females in Quebec was identical to the national average for this age cohort.

2 At the same time, Quebecers are able to enter a community college (CEGEP) without high-school certification, which provides an alternate route for some to attain a reasonable education outcome. Among those aged 25 and 34 – the youngest cohort for which it is reasonable to assume formal education has been completed (Canada 2008c) and the cohort that, for most groups in Canada, displays the highest average education levels – 14.9 percent of francophone male Quebecers have secondary school graduation as their highest education level, compared with 9.4 percent of francophone females – a gender gap of 5.5 percentage points for this age cohort. In contrast, the gender gap for the 20-to-24-year-old cohort is 7.8 percentage points (19.3 percent for males, 11.5 percent for females). There is also a sizable gap at the upper end of the education distribution: among those aged 25 to 34, 19.7 percent of francophone male Quebecers have a university degree, compared with 29.9 percent of francophone female Quebecers. (See Figure 2.)

Figure 1: The High-School Dropout Rate and the Male Share of Dropouts, Canada – Academic Years 1990/91 – 2009/10



Source: Canada (2010 b).

Marginal Cultural Groups

Educational performance depends on many factors, including the education, income, and cultural expectations of academic success of the student's family and the quality of the school the student attends. Three groups in particular – some immigrant communities, those living in rural areas, and Aboriginals – exhibit a worrisome lack of educational attainment compared with the Canadian average.

Immigrants

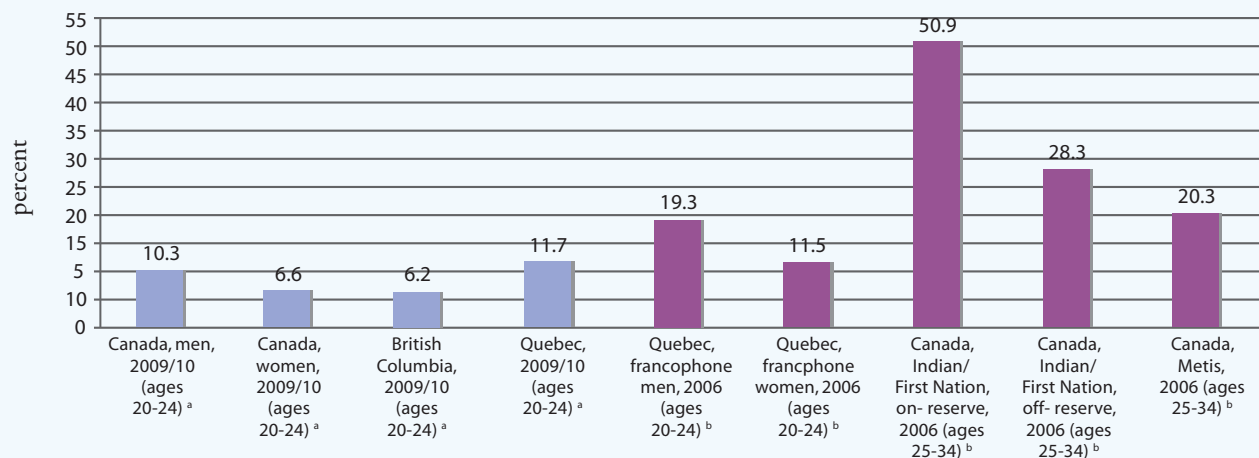
In the 2006/07 academic year, the dropout rate among students born outside Canada was 7.0 percent, compared with 9.8 percent for the Canadian born (Canada 2010b). The dropout rate differs markedly, however, among different ethnic groups. For example, those from East and South Asia have rates considerably below the national average, while Haitians, Portuguese, and Jamaicans have rates well above the average.³

Rural Canadians

Increasingly, Canadians in rural areas and small towns are culturally segregated from urban Canadians and face much higher dropout rates: over the 2007/08-2009/10 period, the high-school dropout rate in large cities averaged 7.9 percent; outside these cities, the rate was 15.5 percent (Canada 2010b).

³ The data on ethnic dropout rates are derived from the responses of those aged 15 to 24 to the ethnic identity question in the 2006 census (Canada 2008b). Those in the relevant identity groups might not be first-generation immigrants, and the age range includes many who are still in secondary school. Nationally, 39.9 percent reported incomplete secondary studies, compared with 30.5 percent of South Asians, 30.6 percent of Chinese, 40.6 percent of Portuguese, 41.0 percent of Haitians, and 44.1 percent of Jamaicans.

Figure 2: The High-School Dropout Rate by Selected Categories, Canada, 2006 – Census and Academic Year 2009/10



Notes:

^a The dropout rate is defined as the share of those aged 20 to 24 without a high-school certificate and not in school Canada (2010b).

^b Author's calculations from Canada (2008a, 2008c).

Aboriginals

Canada's most serious education gap is that between the 1.2 million who identified as Aboriginal in the 2006 census (Canada 2008a) and other Canadians. As with immigrants, however, it is important to dig into the data. Among Métis, who are approximately one-third of the Aboriginal total, there is good news: the dropout rate declined from 37 percent for those aged 45 and older to 20 percent for those aged 25 to 34. Among those who identified as North American Indian/First Nation, the 2006 census revealed that dropout rates declined between those aged 45 and older and those aged 35 to 44, but dropout rates did not budge for those aged 25 to 34. Predictably, the dropout rate was much lower among those choosing to live off-reserve and to participate actively in the mainstream economy, but for both on- and off-reserve Indian/First Nation, the 25-to-34 dropout rate was slightly higher than for those aged 35 to 44 (see Figure 2).

Recommendations

Education is among the most complex of government undertakings and, not surprisingly, policy disagreements about it abound. Yet, a number of strategies could help improve education outcomes among the more vulnerable groups of Canadians.

First, since children at risk of dropping out from secondary school typically start falling “behind grade” by grade three, good-quality pre-kindergarten education programs can yield benefits (see Richards and Brzozowski 2006). Whether children growing up in stable, middle-class, two-parent families realize similar benefits is doubtful.⁴ Hence, there is a case for targeting early childhood programs – whether by the location of daycare centres or by income – at children from at-risk families.

⁴ For example, studies find little or no cognitive benefits for children in Quebec's \$7-a-day childcare centres – the large majority of whom come from two-parent, middle-class families – relative to children in other provinces or to Quebec children evaluated before the program was introduced in 1997 (see Baker, Gruber, and Milligan 2008; Lefebvre, Merrigan, and Roy-Desrosiers 2010).

Second, sports programs in secondary schools are not a frill. They help to engage at-risk students; they should be encouraged and expanded. As well, intensive tutoring programs, such as Pathways to Education, have yielded significant benefits in terms of enhancing the rate of graduation among those enrolled in such programs and should also be expanded.⁵

Third, Aboriginal education deserves intense discussion, the point of departure of which is to recognize the interrelationship of provincial and band-run schools. One-third of the Aboriginal population lives on-reserve, and 40 percent of their children attend off-reserve provincial schools. Adding the children of off-reserve Aboriginals, roughly four out of five Aboriginal children attend provincial schools (Richards and Scott 2009). For the past generation, Aboriginal policy has been examined primarily from the perspective of treaty rights. It is time to acknowledge that elaboration of treaties is far from a panacea for improving Aboriginal education outcomes.

Fourth, student peer effects matter. Concentrating Aboriginal or other at-risk minority-culture students in one or a few schools within a city might enable cultural enrichment of the curriculum; it might also exacerbate failure in core academic subjects. Students at high risk of dropping out usually fare better in schools where most students are not at risk and where expectations of academic success prevail.⁶

Finally, it is important to measure education outcomes in order to determine whether they are improving. Canada has made progress on this front, but gaps remain and opposition to the collection and use of such data is strong: teachers' unions frequently lobby to scrap publicly reported system-wide testing. In this regard, the federal government's decision to weaken the 2011 census by eliminating the mandatory long form is regrettable; a voluntary national household survey is an unsatisfactory substitute that inevitably will exacerbate non-response bias. Those less likely to respond to a voluntary survey are more likely to be from groups with an above-average risk of children dropping out of school.⁷

In summary, declining national dropout rates over the past 20 years are good news, but no reason for complacency. The male share of dropouts has been rising relentlessly and is particularly acute among francophone Quebecers, while the dropout rate remains stubbornly high among Aboriginal children.

5 Tutoring programs, however, are expensive and subject to selection bias: children enrolled in such programs likely would have an above-average probability of graduating from high school even without tutoring. For some results on tutoring programs, see Pathways to Education (2010).

6 The extent of peer effects is controversial. In a study of Aboriginal student performance in BC schools, colleagues and I (Richards et al. 2008) found a sizeable negative peer effect: other characteristics constant, Aboriginal students performed less well in schools with large numbers of Aboriginal students. Based on a study examining in-school peer effects, Jane Friesen and Brian Krauth (2010) have challenged this result.

7 In an attempt to estimate non-response bias, assuming late completers of the 2006 long form would not complete a voluntary survey, Statistics Canada (2010c) found the most severe bias among visible minorities living in small centres.

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This *e-brief* is a publication of the C.D. Howe Institute.

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