



**No "drop" in the bucket:** the high costs of dropping out

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"An individual's educational attainment is one of the most important determinants of their life chances in terms of employment, income, health status, housing and many other amenities."<sup>1</sup>

Despite recent declines in high school dropout rates, thousands of young Canadians continue to leave high school every year without a diploma.<sup>2</sup> Currently, approximately 20% of Canadians aged 20 years and over have never completed high school.<sup>3</sup>

Most Canadians recognize the link between educational attainment and quality of life, and know that dropping out of high school can have negative consequences for individuals and society. However, few people may be fully aware of the many costs—both intangible and tangible—associated with dropping out of high school.

The intangible costs of not completing high school are numerous. Many high school dropouts experience negative outcomes as a result of their decision to leave school, including diminished social growth, a reduced sense of control over their lives and life circumstances, and less personal satisfaction.<sup>4</sup>

The tangible costs are no less numerous: directly or indirectly, dropping out of high school has enormous fiscal implications for government, society, and individual school leavers in terms of expenditures in health, social services and programs, education, employment, criminality, and lower economic productivity.

# Tangible costs of dropping out

In a recent study commissioned by the Canadian Council on Learning, public policy professor Olena Hankivsky of Simon Fraser University estimated the tangible costs associated with dropping out of high school within four domains: health, social assistance, crime, and labour and employment.

# Health

Evidence suggests that staying in school makes people healthier. A review of scientific literature shows strong associations between education and health across a range of illnesses including coronary heart disease,<sup>5,6,7</sup> high blood cholesterol,<sup>8</sup> cancers, Alzheimer's, some mental illnesses, diabetes,<sup>9,10</sup> depression,<sup>11,12,13</sup> stress,<sup>14</sup> lung capacity,<sup>15</sup> and obesity.<sup>16</sup>

A high school dropout enjoys fewer years at a reasonable quality of life. Combining morbidity and mortality costs, there is an estimated cost to the individual dropout of more than \$8,000 per year.

Due to data limitations, it was not possible for Hankivsky to calculate accurately public health care costs associated with early school leaving.

# Social assistance

When individuals fail to acquire a high school diploma, they are more likely to rely upon a variety of public services and subsidies. For example, in Canada, high school leavers make up 42.7% of all welfare recipients (not including children).<sup>17</sup> Most income assistance (85%), which includes welfare and other supports, is spent on people who have not completed high school: 33.6% of those who do not graduate from high school receive income assistance, compared to 6.7% of those who graduate.<sup>18</sup> The average public cost of providing social assistance (e.g., benefits for food, fuel, shelter, clothing and special needs, as well as work incentive programs) to high school leavers is estimated at over \$4,000 per year per high school leaver.

#### Crime

The relationship between education and crime is most obvious when considering rates of incarceration.<sup>19</sup> Some researchers suggest that education is the second-best predictor of incarceration (the best predictor is whether a person has been in jail previously).<sup>20</sup> High school leavers are disproportionately represented among prison populations. For example, in British Columbia, non-graduates represent 34% of the overall population, but they make up 74% of the prison population.<sup>21</sup> The annual costs to the entire criminal justice system (not only related to incarceration) are estimated at over \$200 per high school leaver, or \$350 million per year.

## Labour and employment

An international body of literature indicates a strong relationship between levels of education and employment and income.<sup>22,23,24,25,26,27,28,29,30,31,32,33,34</sup> This relationship is straightforward: those who do not complete high school experience increased unemployment and decreased income earnings compared to those who have completed a high school education.

Higher unemployment and lower incomes result in an estimated income loss to individual dropouts of over \$3,000 per year, compared to individuals with a high school diploma (and no post-secondary education). For the public, the loss of income tax revenue and employment insurance premiums together with the cost of employment insurance payments adds up to an estimated additional \$3,000 per year per high school leaver.

The table below provides estimated private (individual) and public (state) costs associated with each of the four domains described above. Costs are estimated in the hundreds of billions of dollars when aggregated over the expected lifetimes of dropouts across Canada.

#### Table 1:

Tangible costs of high school non-completion in Canada (2008 dollars)

	Estimated cost per dropout		Aggregated total in Canada	
	Annual	Lifetime	Annual	Lifetime
Tangible Costs				
Health (Private) <sup>a</sup>	\$8,098	\$211,471 <sup>b</sup>	\$23.8 billion	\$623 billion <sup>b</sup>
Social Assistance (Public)	\$4,230		\$969 million	
Crime (Public)	\$224		\$350 million	
Labour and Employment				
Earning loss (Private)	\$3,491	\$104,222 <sup>c</sup>	\$10.3 billion	\$307 billion <sup>c</sup>
Tax revenue loss (Public)	\$226	\$6,882	\$378 million	\$11.5 billion
Revenue loss in employ- ment insurance premium (Public)	\$68	\$2,063	\$201 million	\$6.1 billion
Employment insurance cost (Public)	\$2,767		\$1.1 billion	

<sup>a</sup> Data on public costs are not available.

b "Lifetime" costs related to health reflect costs over a span of 35 years.

C "Lifetime" costs related to income reflect earning loss over a 35-year span (assuming lifetime earnings start from age 20 through 54)

# Lessons in Learning: Strategies to promote success among Canadian high school students

There are enormous potential cost savings associated with reducing high school dropout rates in Canada. Governments across Canada recognize this potential and are working to reduce the number of students who leave high school prior to graduation. These efforts have yielded impressive gains: between 1990 and 2004, Canada's high school dropout rate fell from 17% to 10%—and during this period, dropout rates fell in every province, with the steepest decline (from 20% down to 8%) in Newfoundland.<sup>35</sup>

Below are examples of strategies employed by jurisdictions across Canada, designed to keep students engaged in their studies until they complete their high school diplomas.

### Ontario

In 2003, the Ontario government launched a broad, province-wide strategy (the Student Success / Learning to 18 Strategy). This approach is designed to ensure that every student is provided with the tools to complete their secondary schooling successfully and to reach their post-secondary goals-whether these goals involve an apprenticeship, college, university or the workplace. The Ontario Ministry of Education has implemented a support system (in the form of funding, policy and legislative changes, resources and training, and consultation) to encourage the development of innovative and flexible educational opportunities, and to foster positive student engagement with education.

# Ontario secondary school graduation rates<sup>a</sup>, 2003/04 to 2006/07

Year	Graduation Rate		
2003-2004	68%		
2004-2005	71%		
2005-2006	73%		
2006-2007	75%		

Source: Ontario Ministry of Education

<sup>a</sup> The calculation of graduation rates is based on a student cohort over five years.

Ontario has also begun to offer students a wider variety of course and credit options and support systems. Two examples include:

- Specialist High Skills Majors, allowing students to focus on developing skills in a particular area of interest (such as agriculture, forestry, mining, or business) through course bundles, workplace experiences and sector certifications; and
- programs aimed at supporting students during transition periods (elementary to secondary, or secondary to post-secondary).

One of the main objectives of this strategy has been to raise the provincial secondary school graduation rate. Results to date are encouraging. As demonstrated in the table below, the graduation rate has been steadily increasing since 2003.

# British Columbia

The Abbotsford School District and University College of the Fraser Valley (UCFV) have developed a program for students who might not ordinarily succeed in following a traditional academic path through high school. The program provides skilled worker training to high school students and allows them to combine their Grade 11 and 12 classes with UCFV certificate programs. At the end of Grade 12, graduating students receive both a high school diploma and a first-year college studies certificate.

# Alberta

Alberta has approximately 130 outreach programs that help students who may struggle in traditional schooling to finish their education. Junior and senior high school students who benefit from these programs include teen parents, working students and at-risk students.

#### Saskatchewan

SMART (Students Moving Ahead with Real-world Training), a program of the Saskatoon and District Industry Education Council, encourages partnership between businesses and students. The program connects students, teachers and/or career counselors to people in various industries, and provides businesses with the opportunity to increase awareness of career opportunities available in the marketplace. Saskatoon students can make informed career decisions and learn marketable skills before they enter the workforce, and Saskatoon businesses benefit by having a skilled workforce from which to hire.

#### Manitoba

In Manitoba, Career Trek is a community-based program that works with children, families and the education community to motivate students to stay in school and develop career goals.

#### Nova Scotia

As part of its program Learning for Life II: Brighter Futures Together, Nova Scotia has created a new program called Options and Opportunities (O2). Offering hands-on learning experience, O2 is designed to help students successfully switch from high school to work, a career path or a post-secondary program. The curriculum is connected to a career theme, showing students that what they learn in school can be applied to a job after they graduate.

#### Yukon

Yukon has several well-developed experiential education programs, such as ACES (Achievement, Challenge, Environment, Service), MAD (Music, Art and Drama), SASE (Science and Socials Experiential), ES (Experiential Science), OPES (Outdoor Pursuits Experiential Science) and PASE (Plein Air et Sciences expérientielles). The programs are designed to increase engagement in school and improve learning outcomes among students at risk, particularly among Aboriginal students.

#### Quebec

An initiative called Montreal Hooked on Schools works with Montreal's five school boards to develop preventive initiatives focussing on the importance of staying in school and obtaining a qualifying diploma. The program offers services to young people, parents, education professionals and the general public. It also serves as a forum for social workers and education professionals who work with Montreal's youth, by encouraging them to share their experiences and best practices.

# Conclusion

The failure to complete a high school education carries with it astounding economic and social costs to individuals and society. However, much can be done over time to change these outcomes. Governments are already intervening to decrease dropout rates and associated costs. As more strategies and programs are implemented in Canada, the economic toll associated with high school non-completion can be significantly reduced.

# References

- <sup>1</sup> Levin, H. M., Belfield, C., Muennig, P., & Rouse, C. (2007). *Costs and Benefits of an Excellent Education for All of America's Children*. Retrieved January 23, 2008 from www.cbcse.org/pages/cost-benefit-studies.php.
- <sup>2</sup> Bowlby, G. 2005. *Provincial Drop-out Rates Trends and Consequences*. Education Matters, 2(4). Statistics Canada Catalogue No. 81-004-XIE.
- <sup>3</sup> Source: Statistics Canada, 2006 Census of Population, Statistics Canada catalogue no. 97-560-XCB2006007.
- <sup>4</sup> Public Health Agency of Canada. (2004). *Education*. Division of Childhood and Adolescence.
- <sup>5</sup> Davey Smith, G., Hart, C., Hole, D., MacKinnon, P., Gillis, C., Watt, G. et al. (1998). Education and occupational social class: which is the more important indicator of mortality risk? Journal of Epidemiology and Community Health, 52, 153-160.
- <sup>6</sup> Winkleby, M. A., Jatulis, D. E., Frank, E., Fortmann, S. P. (1992). Socioeconomic status and health: how education, income, and occupation contribute to risk factors for cardiovascular disease. *Am J Public Health*, 82(6): 816–820.
- <sup>7</sup> Dryfoos, J. G. (1990). Adolescents at risk: Prevalence and prevention. New York: Oxford University Press.
- <sup>8</sup> Dryfoos, J.G. (1990).
- <sup>9</sup> Nilsson, P. M., Johansson, S. E., & Sundquist, J. (1998). Low educational status is a risk factor for mortality among diabetic people. Diabetic Medicine, 15(3): 213 – 219.
- <sup>10</sup> Dryfoos, J. G. (1990).
- <sup>11</sup> Liem, J. H., Dillon, C. O. & Gore, S. (2001). *Mental Health Consequences Associated with Dropping out of High School*. Paper presented at the Annual Conference of the American Psychological Association, August 24-28, 2001, San Francisco, CA.
- <sup>12</sup> Mirowsky, J. & Ross, C. E. (1998). Education, Personal Control, Lifestyle and Health: A Human Capital Hypothesis. *Research on Aging*, 20(4): 415-449.
- <sup>13</sup> Adler, N. & Matthews, K. (1994). Health Psychology: Why do Some People Get Sick and Some Stay Well? *Annual Review of Psychology*, 45, 229-259.
- <sup>14</sup> Taylor, J. & Turner, R. J. (2002). Perceived Discrimination, Social Stress, and Depression in the Transition to Adulthood: Racial Contrasts. *Social Psychology Quarterly*, 65(3): 213-225.
- <sup>15</sup> Welle, I., Eide, G. E., Gulsvik, A., & Bakke, P. S. (2004). Pulmonary gas exchange and educational level: a community study. *Eur Respir J, 23*, 583-588
- <sup>16</sup> Dryfoos, J. G. (1990). Adolescents at risk: Prevalence and prevention. New York: Oxford University Press.

- <sup>17</sup> Warburton, R. N., & Warburton, W. P. (2004). Canada needs better data for evidence-based policy: Inconsistencies between administrative and survey data on welfare dependence and education. Canadian Public Policy, 30, 241–255.
- <sup>18</sup> Ungerleider, C. and Burns, T. (2002). The State and Quality of Canadian Public Elementary and Secondary Education. A presentation and paper given at The Social Determinants of Health across the Life-Span Conference held in Toronto in November 2002.
- <sup>19</sup> Levine, J. A., Emery, C.R., Pollack, H. (2007). The well-being of children born to teen mothers. J Marriage Fam, 69, 105–22.
- <sup>20</sup> Healey, K., Foley, D & Walsh, K (2001). 'Families affected by the imprisonment of a parent. Towards restorative practices', *Children Australia* Volume 26, No. 1, pp. 12-19.
- <sup>21</sup> Ungerleider, C. and Burns, T. (2002)
- <sup>22</sup> Oreopoulos, P. (2006). Estimating average and local average treatment effects of education when compulsory schooling laws really matter. *American Economic Review*, 96(1): 152–175.
- <sup>23</sup> Easton, T. (2006). Metropolitan Wage Levels of Less-Educated Workers: 1986 to 1999. *Industrial Relations*, 45(2): 119–146.
- <sup>24</sup> Vanttaja, M. & Järvinen, T. (2006). The Young Outsiders: The Later Life Courses of 'Drop-out Youths'. *International Journal of Lifelong Education*, 25(2): 173-184.
- <sup>25</sup> Barrow, L. & Rouse, C. E. (2005). Does College Still Pay? *The Economists' Voice*, 2(4): Article 3. Retrieved October 3, 2006 from http://www.bepress.com/ev/vol2/iss4/art3.
- <sup>26</sup> Ahituv, A. & Tienda, M. (2004). Employment Motherhood, and School Continuation Decisions of Young White, Black and Hispanic Women. *Journal* of Labor Economics, 22(1): 115-158.
- <sup>27</sup> Kaplan-Leiserson, A. (2004). We Learning: Social software and e-learning – Part 2. *Learning Circuits*. Retrieved April 19, 2005 from http://www. learningcircuits.org/2004/jan2004/kaplan2.htm.
- <sup>28</sup> Carneiro, P. & Heckman, J. J. (2003). Human Capital Policy. IZA Discussion Papers . 821, Institute for the Study of Labor (IZA).
- <sup>29</sup> Campbell, C. (2003). State policy and regional diversity in the provision of secondary education for the youth of Sydney, 1960-2001. *History of Education*, 32(5): 577-594.
- <sup>30</sup> Fry, R. (2003). Hispanic youth dropping out of U.S. schools: Measuring the challenge. Washington, DC: Pew Hispanic Center.
- <sup>31</sup> Rumberger, R. W. & Lamb, S. P. (2003). The Early Employment and Further Education Experiences of High School Dropouts: A Comparative Study of the United States and Australia. *Economics of Education Review*, 22, 353-356.

- <sup>32</sup> McMillan, J. & Marks, G. N. (2003). School leavers in Australia: Profiles and pathways. Published by the Australian Council for Educational Research Ltd. Retrieved February 4, 2007 from http://www.acer.edu.au/research/projects/ lsay/ research.html.
- <sup>33</sup> Llagas, C. (2003). Status and Trends in the Education of Hispanics (NCES 2003-008). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- <sup>34</sup> Sum, A., Khatiwada, I., Pond, N., Trub 'skyy, M., Fogg, N., Palma, S. (2002). Left Behind in the Labor Market: Labor Market Problems of the Nation's Outof-School, Young Adult Populations. Prepared for the Alternative Schools Network. Boston: Center for Labor Market Studies, Northeastern University. Retrieved April 10, 2006 from http://www.nupr.neu.edu/2-03/left\_behind. PDF.
- <sup>35</sup> Bowlby, G. (2005). Provincial Drop-out rates Trends and Consequences. Statistics Canada.