Patterns of health and disease are largely
a consequence of how we learn, live and work

Young

Improving the Health of Canadians

Canadian Population Health Initiative

Canadian Institute
for Health Information

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d'information sur la santé

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ISBN 1-55392-680-3 (PDF)

Cette publication est aussi disponible en français sous le titre :
Améliorer la santé des jeunes Canadiens, 2005 ISBN 1-55392-682-X (PDF)

Dedication

This report is dedicated to Chantal Belley (1974–2005)
Senior Analyst, Reports and Analysis
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About the Canadian Population Health Initiative

The Canadian Population Health Initiative (CPHI), a part of the Canadian Institute for Health Information (CIHI), was created in 1999. CPHI's mission is twofold:

- To foster a better understanding of factors that affect the health of individuals and communities; and
- To contribute to the development of policies which reduce inequities and improve the health and well-being of Canadians.

As a key actor in population health, CPHI:

- Provides analysis of Canadian and international population health evidence to inform policies that improve the health of Canadians;
- Commissions research and builds research partnerships to enhance understanding of research findings and to promote analysis of strategies that improve population health;
- Synthesizes evidence about policy experiences, analyzes evidence on the effectiveness of policy initiatives and develops policy options;
- Works to improve public knowledge and understanding of the determinants that affect individual and community health and well-being; and
- Works within the Canadian Institute for Health Information to contribute to improvements in Canada's health system and the health of Canadians.

About the Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) is an independent, pan-Canadian, not-for-profit organization working to improve the health of Canadians and the health care system by providing quality health information. CIHI's mandate, as established by Canada's health ministers, is to coordinate the development and maintenance of a common approach to health information for Canada. To this end, CIHI is responsible for providing accurate and timely information that is needed to establish sound health policies, manage the Canadian health system effectively and create public awareness of factors affecting good health.

CPHI Council

A council of respected researchers and decision-makers from across Canada guides CPHI in its work.

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Acknowledgements

The Canadian Population Health Initiative (CPHI), a part of the Canadian Institute for Health Information (CIHI), acknowledges the contributions of many individuals and organizations to the development of *Improving the Health of Young Canadians*.

We would like to express our appreciation to the members of the Expert Advisory Group, who provided invaluable advice throughout the development of *Improving the Health of Young Canadians*. Members included:

- **Ian Potter** (Chair), Assistant Deputy Minister, First Nations and Inuit Health Branch, Health Canada, Ontario
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- **Tom McIntosh**, Director, Health Network, Canadian Policy Research Networks, Saskatchewan

We would also like to express our appreciation to those individuals who peer reviewed the report and provided invaluable feedback to its development.

- **Will Boyce**, Director, Social Program Evaluation Group, Queen's University, Ontario
- **Roger Tonkin**, Professor Emeritus, University of British Columbia; Member, Board of Directors, McCreary Centre Society, British Columbia
- **Douglas Willms**, Professor, Faculty of Education and Canada Research Chair (Tier 1) in Human Development, University of New Brunswick, New Brunswick

Please note that the analyses and conclusions in this report do not necessarily reflect those of the individual members of the Expert Advisory Group, CPHI Council, peer reviewers or their affiliated organizations.

CPHI would like to express its appreciation to the CIHI Board and CPHI Council for their invaluable support and guidance in the strategic direction of this report.

CPHI staff that comprised the project team for this report included:

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Production of a report such as this involves many people and many aspects of the CIHI organization. We want to thank all CIHI staff for their contribution to this report, including individuals from the Canadian Population Health Initiative, Health Human Resources (Physicians Databases), Publishing, Translation, Web Team, Information Technology and Infostructure Standards, Communication and Distribution Services.

We would like to gratefully acknowledge the staff at Statistics Canada. Statistics Canada is recognized as an invaluable source of rigorous and available data and information, which makes reports like this possible. Statistics Canada information is used with the permission of Statistics Canada. Users are forbidden to copy the data and re-disseminate them, in an original or modified form, for commercial purposes, without the expressed permission of Statistics Canada. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's regional offices, its World Wide Web site at www.statcan.ca and its toll-free access number 1 (800) 263-1136.

We appreciate the ongoing efforts of researchers working in the field of population health to further our knowledge and understanding of the important issues surrounding health determinants and related health improvements.








1

1 Introduction

Just as early childhood experiences can have an important impact on health throughout a person's life,[1] teens' experiences are also linked to health status many years later.[2]

Improving the Health of Young Canadians explores links between adolescents' social environments (families, schools, peers and communities) and their health. Our focus is on the health of Canadian youth aged 12 to 19 years.

Adolescence is the life phase between childhood and adulthood and is marked by biological, intellectual and psychosocial development. It is a developmental phase that begins at different times for different people and progresses at varying rates. It marks a period during which adolescents move from relying on the judgement and authority of others to learning to make independent and responsible choices. Physical changes, including the remodelling of the brain's basic structure in areas that affect logic, impulse control, intuition and language, also occur.[3]

Adolescence is a time of changing social roles, relationships, experiences and expectations. It is a time for developing skills for healthy adulthood and of experimentation in activities that may be beneficial or harmful to health. Lifelong behaviour patterns, which can become protective factors against or long-term risk factors for many chronic health conditions, may be established or strengthened.[2]

Although adolescence is generally a time of good health, injury, depression, substance use, violence and risky sexual activities can present threats to the health and well-being of this age group.[4] A broad range of factors—"determinants of health"—may interact to affect health and well-being during this life phase. One such factor includes "positive relationships, opportunities, competencies, values and self-perceptions" (p. 1) that help adolescents succeed.[5] Research from other countries has shown that the more of these "assets" adolescents possess, the greater their likelihood of engaging in health-enhancing practices and the less likely they are to engage in practices potentially harmful to their health.[6–11]

To date, little is known about the relationship between these assets and health among Canadian teens. New analyses of data from the National Longitudinal Survey of Children and Youth (NLSCY) and the Canadian Community Health Survey (CCHS) attempts to fill this gap.* *Improving the Health of Young Canadians* explores the association between positive assets in adolescents' social environments (families, schools, peers and communities) and their health behaviours and status (for example, health status, self-worth, tobacco, drug and alcohol use).

Speaking to such themes as the clustering of behaviours,[12] youth engagement,[13, 14] resilience[15] and developmental assets,[5] there are a number of adolescent development models that focus on healthy development. This report also highlights this and other research relevant to understanding adolescent health and development. It concludes with a discussion of themes arising from current research and analyses, as well as a review of relevant policies and programs.

* Unless otherwise noted, all analyses involving CCHS 2.1 (2003) and NLSCY Cycle 4 (2000–2001) data were conducted by the Canadian Population Health Initiative (CPHI) and are based on youth who responded to all relevant survey questions. Graphs in the report were produced by CPHI. Please refer to Appendix A for an outline of the methodology and statistical analyses used in this report.

Population Health Approach to Healthy Adolescent Development

The health and well-being of Canadians is linked to a number of factors, including health services; social, economic, cultural and physical environments; and interactions between individual biology and behaviour.

A population health approach acknowledges this range of individual and collective factors that affect our health. It focuses on how the determinants are interrelated and associated with long-term health, it explores health disparities and it applies the resulting knowledge to understanding and informing policies and actions to improve the health and well-being of populations.[16–20]

The pages that follow highlight recent research on how 12 such factors are linked to the health of young Canadians.

What the Research Says . . .

Income and Socioeconomic Status

- United States research suggests that youth from higher-income backgrounds are healthier than those from lower-income backgrounds in terms of self-reported health, health-related behaviours, growth and obesity.[21]
- A Canadian study found "preliminary evidence for an association between income adequacy and several dimensions of well-being," (p. 66) such as physical activity and self-esteem among teens aged 12 to 19 years.[22]
- Family income is associated with living conditions. For example, lower-income families may have more challenges than higher-income families in accessing housing and sufficient healthy food.[23, 24]

Education

- Those with higher levels of education tend to have better health in adulthood.[25, 26]
- How well young people do in school is linked to a number of factors, including socioeconomic status (SES), parents' education level, sex of the youth and the school environment.[27–29]
- Education can influence future employment opportunities and income.[25] It may also equip people with the knowledge and skills needed for problem solving, a sense of control over their life circumstances and ability to access and understand information to keep them healthy.[25]

Social Support Networks and Social Environment

- Positive relationships with family, friends and people in the community are important to healthy youth development.[30]
- Adolescents' social environment is shaped by their experiences with parents and caregivers, peers and schools—and by their community.[12]
- Adolescents are more likely to engage in potentially risky activities (such as getting drunk or using drugs) when their friends use alcohol or drugs, are often in trouble or have a low commitment to school.[32]

Employment and Working Conditions

- Parental employment status and working conditions may affect parents' economic opportunities, levels of stress and their ability to manage both work and family responsibilities.[17] These factors can in turn affect adolescents' health.[17, 33]

- Positive work experiences for adolescents can be associated with increased leadership skills and career motivation;[34] students who work are also more likely to be physically active during their leisure time than students who do not work.[35]

- On the other hand, adolescents who work 20 hours per week or more report higher levels of emotional distress.[36] High school seniors who work fewer than 20 hours per week tend to perform better academically.[37] New CPHI analyses of NLSCY data show that of Canadian youth aged 14 to 17 who reported working in 2000–2001, 81% worked less than 20 hours per week; 19% worked 20 hours or more per week.

- Students who work are more likely than non-working students to use tobacco, as well as to consume alcohol regularly (and occasionally heavily).[35]

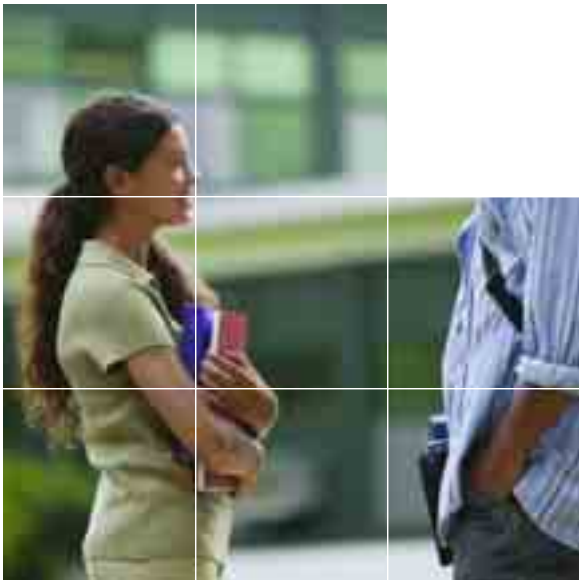
Early Child Development

- Experiences in early childhood can influence health and well-being throughout the lifespan.[39]
- A British study found that social class at birth explains more of the variation in cognitive skills later in life than does birth weight.[40]
- Researchers use the phrase "readiness to learn" to describe the cognitive and social skills, knowledge, dispositions and personal experiences children bring to kindergarten.[41] Children who do not arrive at school "ready to learn" are more prone to drop out of high school and engage in behaviours that break the law.[42]

Physical Environment

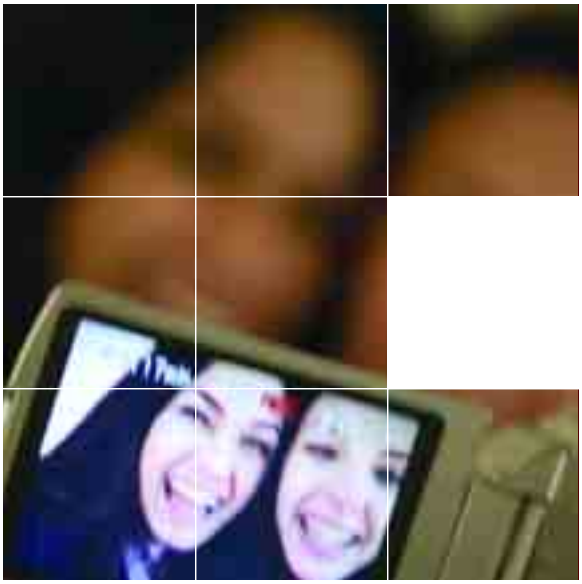
- More research is needed to assess whether the physical environment has specific effects during adolescence, a period during which reproductive, respiratory, skeletal, immune and central nervous systems mature.[43]

- A systematic review of evidence on the effectiveness of strategies to prevent injuries during sports and recreational activities found that safety modifications to aspects of the physical environment, such as the use of break-away bases in baseball, well-maintained playing surfaces for football and larger ice hockey surfaces, are associated with reduced risk of injuries.[44]



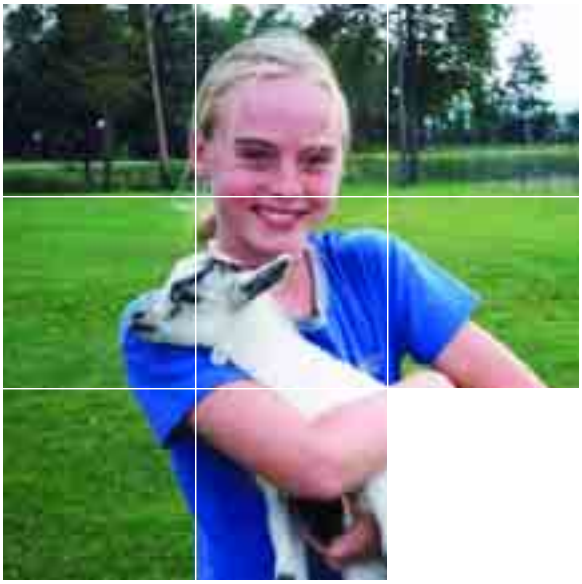
Personal Health Practices and Coping Skills

- Health practices, such as not smoking and practising safe sex, can play a key role in one's health.[17]
- Many of the practices that contribute to health and well-being in adulthood are often established during adolescence.[2]
- Having a positive self-concept appears to protect against depression, particularly among teenage girls,[45] as well as against engagement in risky sexual behaviours (for example unprotected sex).[11]



Biological and Genetic Factors

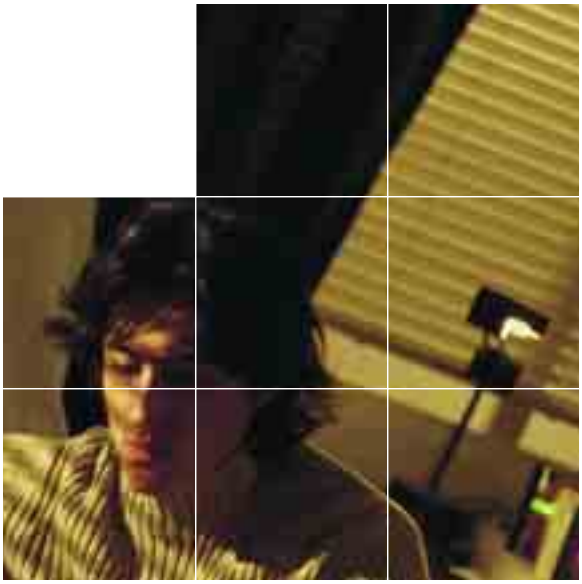
- Emerging research suggests that physical changes in the brain during adolescence play an important role in adolescent development.[4]
- Different parts of the brain develop at different rates. The ability to control impulses, to weigh the consequences of decisions and to prioritize and strategize continues to develop from the teen years into the early 20s.[3]



Health Services

- Adolescents' use of reproductive health services in particular tends to increase when youth perceive services as specific, sensitive and responsive to their needs and when confidentiality is assured.[46]

- CCHS data indicate that in 2003, 8% of Canadian youth aged 12 to 19 reported unmet health care needs during the previous year. The following were the four most cited reasons for their unmet needs: waiting time too long (24%), did not get around to it (18%), decided not to get the service (18%) and too busy (13%). Other reasons cited were services not available at the time (11%), cost (7%) and lack of available services in one's area (5%).



Gender

- For 15- to 19-year-olds, mortality rates are higher among male youth.[47]
- During adolescence, the most common reason for hospital admission for males is injury; for females, it is mental disorders (if hospitalization for pregnancy is excluded).[47]
- Self-reported rates of depression are higher among females than males.[48]
- Adolescent girls are more likely to report wanting to lose weight than adolescent boys.[48]

Culture

- In a survey of 88 Canadian health and social service agencies serving immigrant children and youth, including public health departments and community health centres, language was the most commonly identified barrier to service access.[49]

- Resettlement, discrimination, isolation and conflicting cultural values between "old" and "new" worlds can affect psychosocial adjustment in a new country, especially during adolescence.[17, 49]

- Suicide rates are five to six times higher among Aboriginal youth than among their non-Aboriginal peers.[50] However, suicide rates are lower among Aboriginal youth in communities in British Columbia with band-controlled schools, community self-government, control over their traditional land base, control over health services, presence of cultural facilities and control over police and fire services than in other Aboriginal communities.[51]

Mass Media and Technology

- In 2003, Canadian youth aged 12 to 17 spent an average of 14.8 hours per week watching television.[52]
- Research has found that young people who are exposed to "thin media images" are more likely to have a negative body image.[53]
- There is an association between eating while watching TV and weight gain.[54]
- Over 80% of Canadian households with children under 18 had access to the Internet in 2003.[55]
- Girls are more likely than boys to say that they have been in contact with a stranger on the Internet who made them feel unsafe.[56]








2

2

Adolescence: A Life Stage

Adolescence begins with puberty and ends with adulthood.[57] For many adolescents, the transition to adult status involves a balance of school, extracurricular activities and engagement in the labour force. Researchers define successful transition to adult status by various outcomes, including:

- Secure attachments (to parents);
- Readiness for personal relationships and family life;
- Movement from school to meaningful employment;
- Readiness for employment;
- Social connectedness (to peers and school);
- Engagement with and participation in the community;
- Sense of identity (psychological well-being and values);
- Social competence and citizenship;
- Realistic hope for the future;
- Empowerment to make healthy and responsible choices; and
- Good health.[57–59]

Adolescence can also be a time of experimentation in activities that are potentially harmful, such as taking drugs, drinking alcohol, smoking and engaging in risky sexual behaviours. For most, these experiences may be exciting and challenging, but not ultimately damaging. Others, however, go beyond experimentation, which may lead to behaviours that may be harmful to their health in adolescence and later life. Research suggests that supportive relationships in different settings, such as with families and peers and in schools and communities, may lessen the potential harm of risky activities and encourage health-enhancing behaviours among adolescents.[6–8, 11]

Just the Facts #1: A Portrait of Canada's Adolescents

How many adolescents are there in Canada?

- Adolescents aged 12 to 19 comprise 11% of Canada's population (3,256,265 adolescents in 2001);** 51% are males.*

Who is raising Canada's youth?

- 80% of youth aged 10 to 19 live in two-parent homes (that is, married or common-law parents).*
- 16% of youth aged 10 to 19 live with single mothers and 4% with single fathers.*

How many children and youth are in the care of the state?

- There are over 80,000 children and youth in child welfare care in Canada.[60]
- There are 25,000 youth in youth justice facilities and detention centres.[60]

How many children and youth live in low-income families or poverty?

- 18% of children aged 17 and under live in low-income families as defined by the Statistics Canada low-income cut-off (LICO).***
- Relative to the Canadian average (18%), Newfoundland and Labrador has the highest percentage of children 17 years and under living in low-income families (23%).***
- Poverty rates are higher among families of Aboriginal and immigrant children and youth, as well as in families of children and youth with disabilities.[61]

Where do Canada's youth aged 12 to 19 live?**

1	% of Youth in Total Population	% of Youth in Urban Areas
N.L.	12	55
P.E.I.	12	41
N.B.	11	48
N.S.	11	53
Que.	10	78
Ont.	11	83
Man.	12	67
Sask.	13	60
Alta.	12	77
B.C.	11	83
Y.T.	13	63
N.W.T.	13	55
Nun.	16	27
Canada	11	77

Who are Canada's youth aged 12 to 19?**

2	% of Youth of Aboriginal Identity	% of Immigrant Youth or Non-Permanent Residents
N.L.	5	1
P.E.I.	1	1
N.B.	3	1
N.S.	3	3
Que.	2	7
Ont.	2	16
Man.	19	6
Sask.	19	2
Alta.	7	7
B.C.	6	16
Y.T.	25	3
N.W.T.	62	2
Nun.	95	>1
Canada	5	11

Source: Unless otherwise noted, *Census 2001, **Census Custom Tabulation; ***Census CANSIM (109-0200); Statistics Canada.





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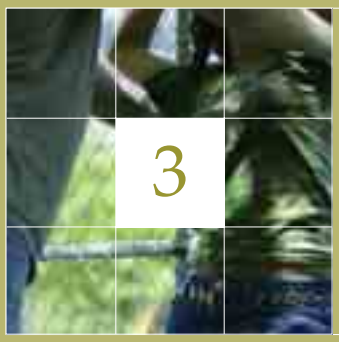


3

Adolescent Health and Development

Adolescent health and development is often measured by "risky" activities and "problem" behaviours.[62] For example, the health status of Canada's youth is often reported in terms of their injuries, substance and tobacco use, risky sexual behaviours, obesity, mental health problems and poor physical health. An emerging body of research is pointing to the limitations of approaches that are problem-focused in nature.[11, 57, 62–65]

A more complete picture may also include indicators that emphasize more positive aspects of adolescent health and development, such as higher perceived self-worth and self-reported health, positive body image, general life satisfaction, helpful and pro-social behaviours, doing well in school, regular physical activity and good nutrition habits.† (See Just the Facts #2 and #3.)

† Issues relating to healthy weight, nutrition and physical activity among youth will be covered in more detail in CPHI's second report in the *Improving the Health of Canadians 2005–2006 Report Series* on healthy weights, to be released in the winter of 2006.

Focusing on risk behaviours and indicators of poor health does not provide a complete picture of adolescent health and development.

Approaches that emphasize this broader perspective on adolescent health share a number of common themes, some of which are drawn upon in this report. One theme, for example, looks at how both positive and negative behaviours appear to occur in "clusters" and what typically leads to their occurrence (personal characteristics, social situations, socio-cultural environment).[12] Another key theme is a focus on the "engagement" of young people in activities that empower them to make decisions for themselves.[13, 14] A third theme is the concept of "resilience," which refers to the capacity of individuals to cope successfully in the face of adversity or risk.[15] A fourth theme suggests that the presence of "assets," such as "positive relationships, opportunities, competencies, values and self-perceptions," (p. 1) contribute to healthy development.[5]

> "What's so hard about being a youth? Making a difference. School, society, they all tell us we're tomorrow's leaders. But they don't give us the tools. Our minds and our actions are what will change the world."
>
> —youth[66]

The following analyses focus on the association between the social environment and health status. The social environment is measured in terms of contexts that have been associated with healthy adolescent development: families, schools, peers and communities.[59] Adolescents' health status is measured in terms of the following indicators: reported health status, self-worth, anxiety levels, tobacco use, alcohol use and drug use. Additional information on these health indicators, as well as on adolescents' success in school, sexual practices, injuries, mental health status and level of physical activity, is presented in the fact sheets.

What Do Canada's Teens Say Is Important to Them?

Canada's Teens: Today, Yesterday and Tomorrow[67] draws on data compiled in 2001 from 3,500 youth aged 15 to 19 years from across Canada to compare today's teens with teens of previous generations.

What do today's teens value and enjoy?

- Females' most valued goals are friendship, being loved and freedom. Males' most valued goals are freedom, friendship and having choices.
- Both males and females value the traits of honesty and humour.
- Today's teens are more accepting of racial, cultural, religious and sexual diversity than were their parents as teenagers.
- Email is a frequent means of communication between friends.

What worries teens?

- Teens feel the strain over lack of time, money and not being understood by their parents.
- 20% of teens report not feeling safe at school.

How do teens feel about their family, friends and other people in their lives?

- Teens recognize the role of their upbringing in who they are and what they will become, but also emphasize the role they themselves play.
- Teens' primary resources during times of need are friends and family.

Just the Facts #2: A Profile of Canadian Adolescents' Health Status

How do teens rate their health?	• In 2003, approximately 67% of teens rated their health as being excellent or very good; another 28% rated it as good.* • Rates of very good or excellent self-rated health were significantly higher than the Canadian average in four health regions and lower in nine health regions.*
How do teens perceive their self-worth?	• New CPHI analyses of NLSCY data indicate that 71% of Canadian youth aged 12 to 15 years report high levels of self-worth; more males (76%) than females (66%) report a high sense of self-worth.** • Higher levels of self-worth among youth aged 12 to 15 are associated with less use of alcohol, tobacco and marijuana and fewer experiences with bullying.**
What is the prevalence of self-reported anxiety and headaches?	• 92% of youth aged 12 to 15 years self-reported low levels of anxiety in 2000–2001.** • In 2000–2001, 33% of youth aged 12 to 17 years reported getting headaches once a week or more; more females (40%) than males (26%) reported getting headaches once a week or more.**
To what extent are teens engaging in pro-social behaviours?	• New CPHI analyses of NLSCY data indicate that among Canadian youth aged 12 to 15 years, 68% of youth report high levels of pro-social behaviour defined as sympathy towards others, willingness to help those in need, willingness to include others in activities and attempts to resolve conflict.** • Females (81%) report higher levels of pro-social behaviours than males (56%).**
How physically active are teens?	• In 2003, 76% of 12- to 14-year-old males and 71% of 12- to 14-year old females were moderately active or active in leisure-time physical activity; among youth aged 15 to 19 years, rates decreased slightly for males to 74% and decreased significantly for females to 61%.*†
How many fruits and vegetables do teens consume daily?	• In 2003, among 12- to 14-year-olds, 41% of males and 46% of females consumed fruit and vegetables five or more times per day; proportions were slightly lower for 15- to 19-year olds at 38% for males and 45% for females.*
How do teens perform academically?	• In international comparative studies of 41 countries, Canadian youth ranked second in reading, third in mathematics and fifth in science in 2003.[29] • 2003 PISA data further indicate that the performance of students in Alberta was significantly higher than the Canadian average in combined scales for reading, math and science.[29] • Canada has seen a steady increase in both college and university enrolment in the past two decades.[68] A survey that interviewed youth in 2001 indicated that 71% had participated in postsecondary education by age 20 to 22.[68]
	Source: *Canadian Community Health Survey (CCHS) 2.1 (2003) [CANSIM Tables 105-0222, 105-0233,105-0249], Statistics Canada. **CPHI analysis of the National Longitudinal Survey of Children and Youth (NLSCY) (Cycle 4, 2000–2001), Statistics Canada.

† These results are based on the Physical Activity Index using adult categories and thus may not reflect other studies focusing on children and youth.

Common Themes From the Research

"Clustering" of Behaviours

Individuals who engage in one "risky" behaviour, such as smoking, are more likely to engage in other risky behaviours, such as insufficient physical activity and excess alcohol use.[69] A review of theories of adolescent health behaviour concludes that behaviours cluster this way because all behaviours tend to be associated with three common underlying factors: personal characteristics, social situations and the broader socio-cultural environment.[12]

Resilience

The concept of resilience has been used to explain why some individuals and groups overcome obstacles better than others.[15] Resilience is a sort of insulating capacity that enables people to cope successfully (to "bounce back") in the face of adversity or risk.[15] This capacity develops and changes over time and it helps individuals to maintain and enhance their health.[15] Resilience is not a characteristic that individuals possess in isolation. It results from a complex and ever-changing interaction between individuals and features of their environment, such as families, neighbourhoods or communities and the broader environment.[15]

Individuals who engage in one risky behaviour are more likely to engage in others.

Empowerment and Engagement

Canada's Centre of Excellence for Youth Engagement[14] defines engagement as the "meaningful participation and sustained involvement of a young person in an activity that has a focus outside himself or herself."[133] (p. 49) This can mean participation in almost any kind of activity such as school, music, politics, the arts or community work, so long as the activity is felt to be meaningful, significant and structured (that is, it is performed with a specific purpose in mind).[14, 133] A review of the literature found that these kinds of activities can be empowering for youth when the adults who are involved in them create social spaces that youth find welcoming and safe and in which adults enable youth to play a role in planning and decision-making.[70]

Just the Facts #3: A Profile of Canadian Adolescents' Health Status

What is the prevalence of alcohol and drug use?	• In 2002, the rate of weekly alcohol use increased from 3 to 23% between Grades 6 and 10 for girls and from 6 to 34% for boys.[48] • In 2002, 16% of Grade 8 students reported having used alcohol to get drunk at least twice; by Grades 9 and 10, the proportion had increased to 31% and 44%, respectively.[48] • Among males and females aged 12 to 17, 31% said that they had tried marijuana in 2000–2001; 13% had tried other illicit drugs (for example, cocaine or crack).**
What is the prevalence of tobacco use?	• Smoking among teens declined from 22% in 2002 to 18% in 2003.[71] • In 2003, more girls (20%) reported smoking than boys (17%).[71] • In 2003, 23% of teens aged 12 to 19 said that they were exposed to second-hand smoke at home.*
How many youth are homeless, and what are their health risks?	• The exact number of homeless youth is unknown; the majority are male, but the number of homeless female youth is growing.[72, 73] • Aboriginal youth tend to be over-represented in the homeless population of larger urban centres.[73] • Homeless youth are at higher risk for injuries, poor physical health, sexually transmitted infections, violence, substance abuse disorders, conflicts with the law, suicide and other mental health problems.[72–74]
What is the prevalence of unintentional and intentional injuries among adolescents?	• Over one in five adolescents aged 12 to 19 years had an injury that limited their activities in 2000–2001; [75] sports and falls are major causes of non-fatal injuries among all youth.[48, 75] • In 1999, unintentional injuries were the leading cause of death among children (1 to 14 years) and youth (15 to 24 years).[77] Death rates from injuries are higher among male youth.[47] • In 1998–1999, males aged 15 to 19 years were more likely to complete their suicide attempts; hospitalization rates for suicide attempts were over two times higher among females aged 15 to 19 years.[78]
To what extent are adolescents engaging in risky sexual activity?	• Between 1989 and 2002, the proportion of youth in Grades 9 to 11 reporting having sex decreased; however, those having sex said that they did so more often.[79] • 12% of boys and 13% of girls reported having had sex by ages 14 or 15;[80] in 2003, 22% of youth aged 15 to 17 and 33% of youth aged 18 to 19 reported having had sex without a condom.[81] • In 2002, less than 1% reported having been diagnosed with a sexually transmitted disease.[79] • Rates of chlamydia cases among males and female aged 15 to 19 increased from 623 to 802 per 100,000 youth between 1991 and 2002.[82] • Pregnancy rates among girls aged 15 to 19 years declined from 43 to 36 per 1,000 girls between 1997 and 2001.[83]
What are teens' experiences with mental health problems?	• In 2002, 21% and 25% of boys in Grade 6 and 10, respectively, reported that they felt low at least weekly in the previous six months; 23% and 36% of girls in Grade 6 and 10, respectively, reported feeling low at least weekly in the previous six months.[48] • Hospitalization rates for eating disorders in girls under age 15 increased by 34% from 1987 to 1999.[84]

Source: *Canadian Community Health Survey (CCHS) 2.1 (2003) [CANSIM: Table 105-0256], Statistics Canada. **CPHI analysis of the National Longitudial Survey of Children and Youth (NLSCY) (Cycle 4, 2000–2001), Statistics Canada.

Developmental Assets

The U.S.-based Search Institute defines developmental assets as the "positive relationships, opportunities, competencies, values and self-perceptions" (p. 1) that adolescents need to succeed.[5] Assets fall into two broad categories:

- External (for example, support, empowerment, boundaries, expectations, constructive use of time); and
- Internal (for example, commitment to learning, positive values, social competencies, positive identity).[5, 85]

Research indicates that assets and feelings of connectedness play important roles in healthy development, including protecting youth against risky behaviours, promoting positive and healthy choices and building resiliency in youth to help them cope with challenges and difficulties.[5, 56] Further, the more assets adolescents possess, the more likely they are to engage in health-enhancing activities and the less likely they are to engage in activities potentially harmful to their health.[7, 8, 10]

> "The hardest thing about being a youth is having to make so many decisions about everything, especially about school and your friends."
>
> —youth[66]

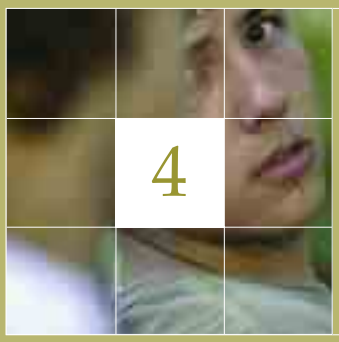







4

Adolescent Development and the Social Environment



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Researchers suggest that when adolescents engage in risky behaviours, negative effects of the behaviours may be limited by supportive relationships with family, community, peers and school,[12] as well as by positive personal experiences, values, competencies and self-perceptions.[5] These factors, or pieces of the puzzle, which are referred to as "developmental assets," are interrelated.[11, 59, 63–65, 86–91] For example, positive parenting may act as a buffer that moderates the effects of other determinants such that "the effects of living in a poor neighbourhood may have far different implications for an adolescent with close family ties than for an adolescent without such support."[92] (p. 202)

When adolescents engage in risky behaviours, a number of protective factors may limit their impact.

Consistent with this, an extensive literature review commissioned by the New Zealand Ministry of Youth Affairs[59] also identifies family, schools, communities and peers as key influences on healthy adolescent development. This review further indicates that the best developmental outcomes for adolescents are facilitated by a number of factors:

- families characterized by a nurturing parenting style;
- environments that support positive parenting;
- schools where students feel connected;
- schools that are well resourced, provide education that is accepting, set limits and have high expectations for students;
- communities in which young people feel a sense of belonging and where they have opportunities to participate; and
- positive relationships with peers.[59]

The review did not look specifically at health outcomes.

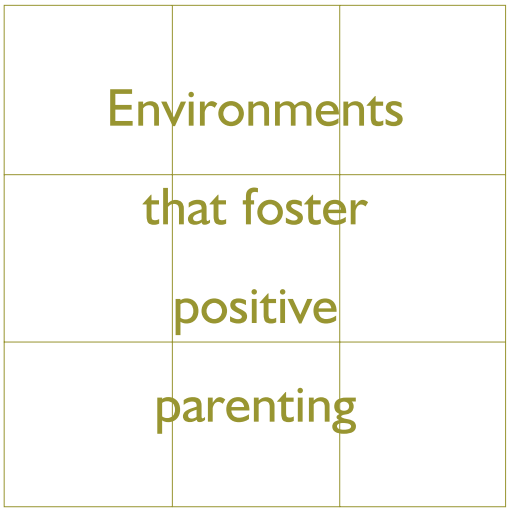
This report attempts to fill this gap. We look first, one by one, at the link between each of these factors and a range of health behaviours and outcomes. Then we explore the inter-relationships between these factors and health behaviours and outcomes.[§] The results of these analyses are presented in a summary table at the end of this section.

§ Scoring levels (that is, high and medium-low) for the variables were based on Statistics Canada guidelines for use of the NLSCY and literature that used similar variables and scoring strategies and are identified in greater detail in Appendix A.

Family

Family characteristics such as household income, family composition, parental employment and parental education can make a difference in how adolescents develop by influencing parenting style, stress, conflict and the time parents can spend with their children.[33, 93]

Higher levels of family connectedness and more positive relationships with parents are associated with a lower likelihood of engaging in unprotected sex, lower levels of teen pregnancy, less violence and substance use,[11, 36] less likelihood of experiencing emotional distress and higher self-rated health status.[56] Among Aboriginal youth in the U.S., those reporting a sense of connectedness with their family are less likely to report a past suicide attempt.[65] Suicidal youth tend to report poorer relationships with their parents, on average, than non-suicidal youth.[36, 86]



The National Longitudinal Survey of Children and Youth (NLSCY) measures a number of dynamics within families and between parents and youth. Among those dynamics are adolescents' reports of the level of parental nurturance and degree of parental monitoring.

Higher levels of parental nurturance are associated with higher levels of self-rated health among youth.

Studies have found that when parents have a parenting style that is nurturing, sets limits on behaviour, models constructive conflict resolution and encourages independence with a democratic approach, this tends to favour positive outcomes for their children including pro-social behaviours, high school completion and pursuing higher levels of education.[59, 94]

Parental nurturance refers to the extent to which parents praise and show pride in their child, ensure their child feels appreciated, listen to their child's ideas and problem-solve with the child when disagreements occur.

Parental monitoring refers to the extent to which parents take an interest in where their child is going, with whom and what they are doing, set curfews and limit the frequency with which their children go out.

Parent-Adolescent Attachment

Just as attachment between parents and infants supports early childhood development, attachment or connections between parents and adolescents can be important in supporting adolescents' transition to increased autonomy and healthy adulthood.[95, 96]

Secure parental attachment appears to facilitate adolescents' emotional, cognitive and social development. Recent reviews of the literature indicate that adolescents with secure parental attachments are less likely to engage in drug use, excessive drinking and risky sexual behaviour.[95, 96] They are also less likely to have mental health problems, weight-related concerns and eating disorders and poorer transitions between schools.[95, 96]

To support secure attachments, research suggests that parents be attentive, active listeners, monitor behaviour, set limits, accept individuality, negotiate rules and responsibilities and maintain "connectedness," even when disagreeing on important issues.[95, 96]

Fifty-three percent (53%) of Canadian youth aged 12 to 15 years report high levels of parental **nurturance**.** The level of parental nurturance is associated with adolescents' health behaviours and outcomes.

New CPHI analyses indicate that among youth aged 12 to 15 years, higher levels of parental nurturance are associated with higher levels of self-rated health and self-worth; lower anxiety levels; fewer contacts with peers who engage in criminal behaviours; and less use of alcohol, tobacco and marijuana (see Figure 1).

Youth with higher levels of parental monitoring are less likely to report using alcohol, tobacco and marijuana, but they rate their health about the same as other youth.

Fifty-three percent (53%) of Canadian youth aged 12 to 15 years also report high levels of parental **monitoring**.†† The level of parental monitoring is also associated with adolescents' health behaviours and outcomes.

New CPHI analyses indicate that higher levels of parental monitoring are also associated with less use of tobacco, alcohol and marijuana. The level of parental monitoring is not related to levels of self-worth, self-rated health or anxiety, or to levels of contact with peers who engage in criminal behaviours (see Figure 2).

** Parental nurturance values are based on a 72% response rate.
†† Parental monitoring values are based on a 74% response rate.

Figure 1

Adolescents' Health Status and Behaviours in Relation to Their Perceptions of Parental Nurturance Level

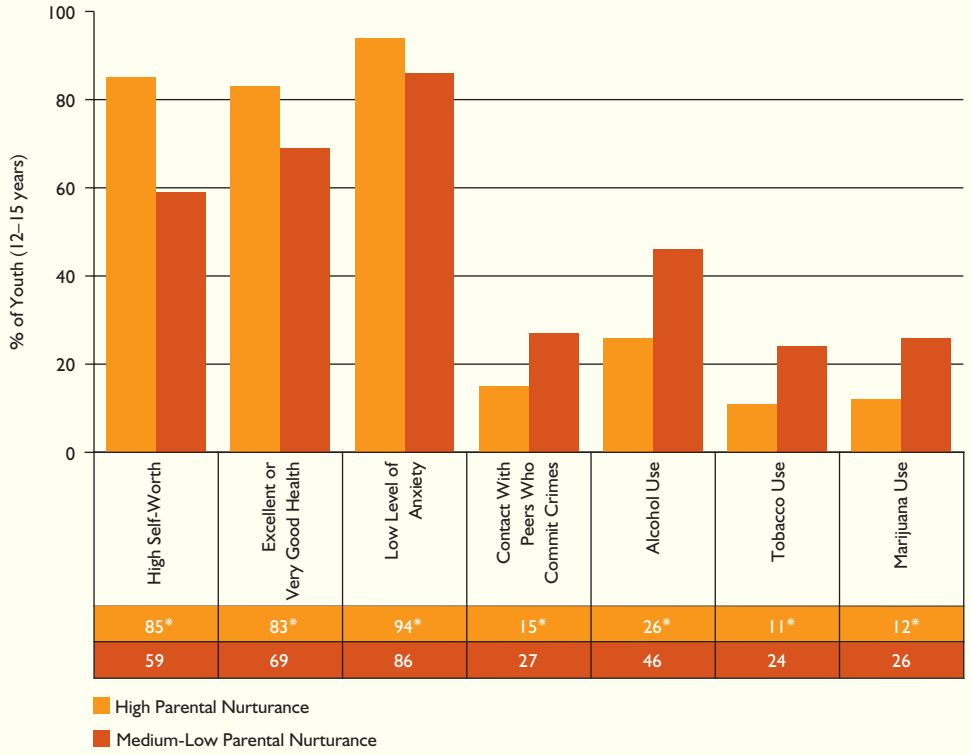
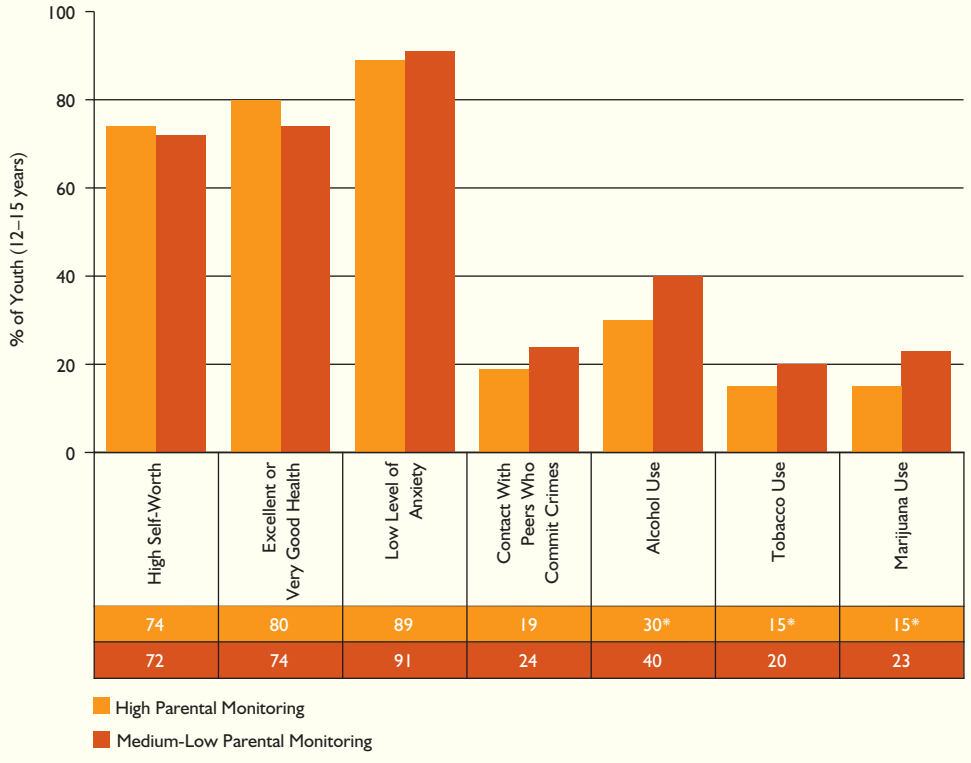


Figure 2

Adolescents' Health Status and Behaviours in Relation to Their Perceptions of Parental Monitoring Level



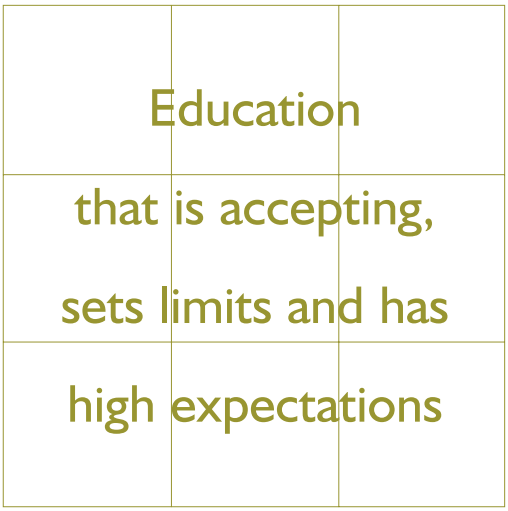
Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* Statistically significant difference between high and medium-low levels at $p < .05$.

School

Most teens spend significant amounts of their time in school. Seventy-seven percent (77%) of youth aged 15 to 19 years are currently attending school; of those, 95% attend on a full-time basis.[97]

The school context is a key element of the adolescent development process. It is a setting in which youth can experience opportunities and challenges to the development of their academic, social, athletic and interpersonal skills.[98]

Research indicates that students who are engaged in the learning process tend to learn more and are more willing to pursue knowledge.[29] More specifically, how well students perform in and enjoy mathematics can affect the courses they select, as well as both their education and career goals.[29]



Feeling safe at school is linked to better physical and emotional health and less likelihood of risk-taking.[56] Further, students who take fewer risks tend to have better health, get better grades and have greater postsecondary education aspirations.[56] Later in life, adults with higher levels of education are more likely to report being in good health.[25, 26]

Feeling safe at school is linked to better physical and emotional health and less likelihood of risk-taking.

Youths' participation in postsecondary education tends to be related to parental educational attainment and parental values towards postsecondary education, particularly university participation.[68, 99] Youth who participate in postsecondary education are also more likely to report having had a high level of academic achievement and social engagement in high school.[68]

Evaluations of Canadian employment programs for youth indicate that educational attainment is associated with adolescents' success in the labour market. Evaluations further demonstrate the importance of linking vocational training to both school curricula and academic studies for all youth, particularly for economically disadvantaged youth.[100, 101]

A U.S. study based on a survey of 75, 515 students found that higher levels of student connectedness were associated with climates that encouraged students to make decisions, as well as smaller school size, disciplinary policies that were not perceived as "severe" and participation in extracurricular activities. [102] A literature review for the New Zealand Ministry of Youth Affairs also found that students feel more connected to smaller schools in which they feel that teachers care about them and where discipline is perceived to be "moderate."[59]

School engagement or connectedness refers to the degree of importance a youth places on doing well academically, learning new things, making friends, participating in extracurricular activities, getting involved with student council or similar groups and expressing their opinion in class.

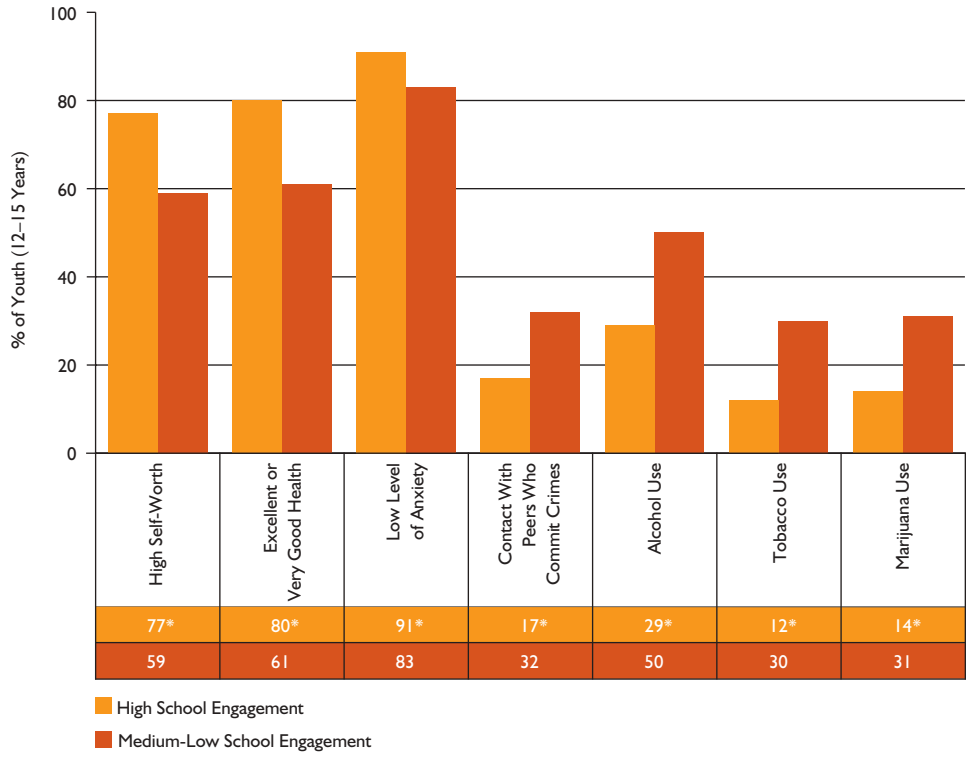
Seventy-four percent (74%) of Canadian youth aged 12 to 15 years report a high level of school engagement.‡‡ Levels of school engagement are higher among female youth (77%) than male youth (71%). Relative to the Canadian average, youths' reported levels of school engagement were highest in Newfoundland and Labrador (86%) and lowest in Quebec (65%) in 2000–2001.

Previous research has shown that feeling connected to or engaged with one's school is associated with higher levels of emotional well-being among youth and may also be a protective factor with regard to suicidal behaviour[103] and engagement in both violent and risky sexual behaviours.[36, 105] Consistent with this, new CPHI analyses indicate that among youth aged 12 to 15 years, students who report feeling highly engaged with their school are less likely to report using marijuana, alcohol and tobacco and more likely to report high self-worth, excellent or very good self-rated health status, lower levels of anxiety and fewer associations with peers who engage in criminal behaviours (see Figure 3).

> "The hardest thing about being a youth is probably school and also your parents' pressure to do well at school."
>
> —youth[66]

Figure 3

Adolescents' Health Status and Behaviours in Relation to Their Perceptions of School Engagement Level



Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* Statistically significant difference between high and medium-low levels of school engagement at $p < .05$.

‡‡ School engagement values are based on a 76% response rate.

Community

Community engagement and feelings of community belonging are facilitated through opportunities for youth to participate outside of school in clubs, sports, music, the arts, fundraising, volunteer activities and other community organizations and activities.[14]

Participation in extra-curricular activities and community youth organizations is associated with better self-reported health, higher perceived self-esteem and feelings of control.[10, 56] Current research indicates that children's participation in organized activities is associated with family income level. Children in low-income families, in single-parent families and of caregivers with less than a high school education are less likely to have ever participated in organized activities.[106]

Involving young people in community activities outside school and work

analyses show that compared to non-volunteers, youth who volunteer are less likely to report using tobacco and marijuana and more likely to report high self-worth and excellent or very good self-rated health (see Figure 4). Non-volunteers, on the other hand, report lower levels of anxiety. This finding is in line with current research that shows that while adolescents' participation in physically active leisure, sports and activities increased from the early 1990s to the late 1990s, so did their reported levels of feeling rushed and time-stressed.[93] In the CPHI analyses, adolescents' use of alcohol and their contact with peers who engage in criminal behaviours were not associated with whether or not they volunteer.

73% of Canadian youth aged 12 to 17 engage in volunteer activities.

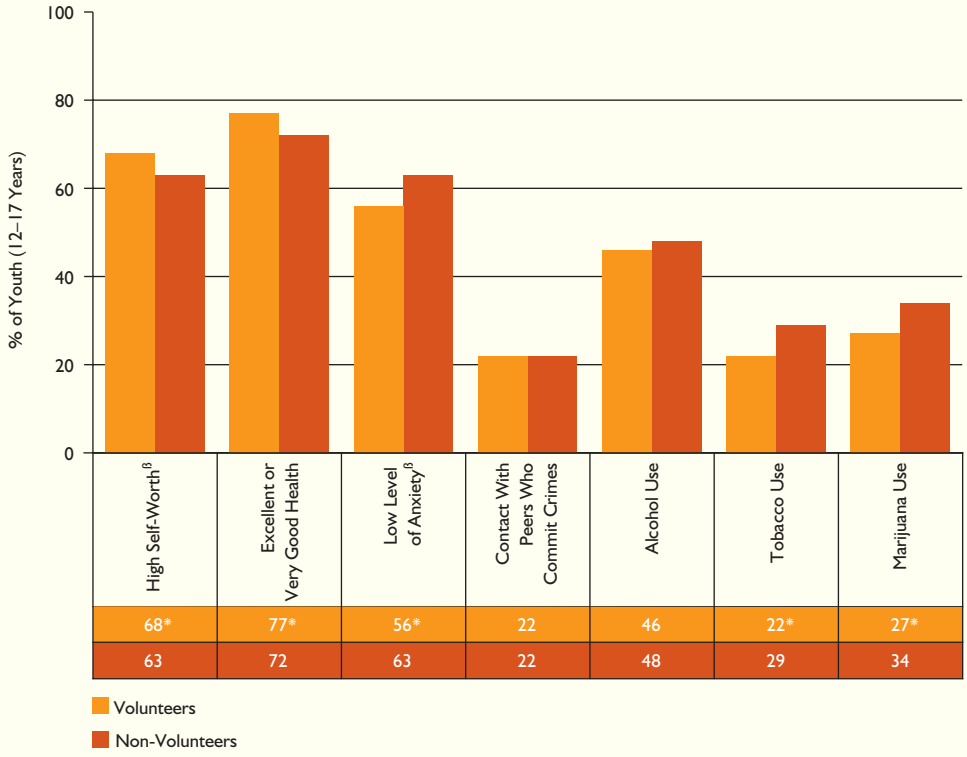
Among Canadian youth aged 12 to 17 years, 73% engage in volunteer activities.[§§] Rates of volunteerism are higher among females (77%) than males (70%). Relative to the Canadian average (73%), volunteerism was highest among youth in Alberta (82%) and lowest among youth in Quebec (61%) in 2000–2001.

Previous research shows an association between higher levels of community involvement and never having had sexual intercourse.[8] Further to this, new CPHI

§§ Volunteer values are based on a 78% response rate.

Figure 4

Health Status and Behaviours of Adolescent Volunteers and Non-Volunteers



Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* Statistically significant difference between volunteers and non-volunteers at $p < .05$.
ß Includes only youth aged 12 to 15 years.

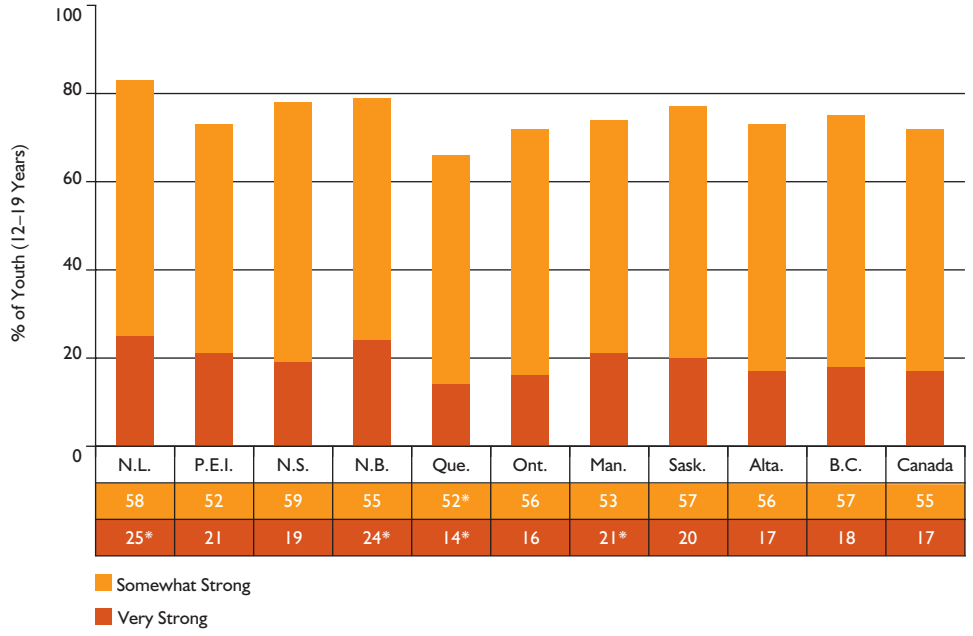
Evidence also indicates that feeling a sense of belonging to one's community is associated with higher levels of health status.[31] A recent study among First Nations youth in British Columbia found that Aboriginal control of key aspects of community and cultural life are strongly associated with lower youth suicide rates.[51] The term "cultural continuity" is used to describe efforts to preserve and promote cultural practices and to control and manage available resources.[51] Markers used to create the cultural continuity index for the B.C. study include community self-government, control over a traditional land base, band-controlled schools, community control over health services, presence of cultural facilities and control over police and fire services. In communities without any of these markers, the rate of youth suicide was 138 per 100,000 population, compared to virtually no suicides in communities with all six markers.[51]

Among male and female youth aged 12 to 19 years across the 10 provinces, 17% report a very strong sense of belonging to their community and 55% a somewhat strong sense of belonging*** (see Figure 5). Across the three territories, 26% report a very strong sense of belonging and 52% report a somewhat strong sense of belonging.†††

A sense of belonging in one's community is associated with higher levels of health status.

Figure 5

Proportion of Adolescents Reporting a Very Strong and Somewhat Strong Sense of Community Belonging



Source: CCHS 2.1 (2003), Statistics Canada, Custom Tabulation.
* Statistically significant difference from Canadian estimate at p <.05.

*** Canadian estimate is based on population excluding the territories.
††† Data specific to the Yukon Territory and Nunavut are of marginal quality and should be interpreted with caution.

Peers

Friendships become increasingly important as young people get older, and it has been suggested that adolescent friendships provide a space in which to develop social and emotional skills.[59] Some studies reviewed for a report for the New Zealand Ministry of Youth Affairs found that friendships can be associated with improved grades, reduced impact of parental divorce, reduced emotional problems and enhanced cognitive skills.[59]

There is increasing evidence to suggest that when youth interact with peers who model positive behaviours, these relationships contribute to good outcomes.[59] For example, having friends with good grades and who engage in few risky behaviours is associated with less likelihood of teen pregnancy.[11] Further, youth with positive peer models are more likely to abstain from using tobacco, drugs or alcohol.[6, 107]

Among Canadian youth aged 12 to 17 years, 80% report a high level of connectedness with their peers.‡‡‡ Survey data reported here do not indicate whether peers modelled behaviours that were risky or health-promoting. New CPHI analyses indicate that youth who report high levels of peer connectedness are more likely to report high self-worth, excellent or very good health status and low levels of anxiety. Adolescents' reported use of tobacco, alcohol and marijuana are not associated with their reported level of peer connectedness.

Youth who report high levels of peer connectedness also tend to report high levels of self-worth and excellent or very good health status.

As an index of **peer connectedness**, the NLSCY "Friends" score asks youth to indicate whether or not they have many friends, the ease with which they get along with others their own age and whether other youth their own age like them and want to be their friend.

‡‡‡ Peer connectedness values are based on a 76% response rate.

Additional CPHI analyses noted differences between male and female youth and peer connectedness levels. Fewer male youth (76%) than female youth (84%) report high levels of peer connectedness. Among female youth, higher levels of peer connectedness are associated with higher levels of self-worth and health status and lower levels of anxiety (see Figure 6). Tobacco, alcohol and marijuana use are not associated with levels of peer connectedness among female youth. Similar findings were obtained for male youth with the exception that anxiety levels were not associated with the level of peer connectedness (see Figure 7).

> "We have more chances of being pressured into doing things just because the people that we hang out with do it too."
>
> —youth[66]

Although these findings suggest that having a high level of connectedness with peers is generally linked with health-promoting outcomes, one exception should be noted. Males with a high level of peer connectedness report significantly more injuries than males with a medium-low level of peer connectedness, indicating an association between level of peer connectedness and risk of injury among males.

Figure 6

Female Adolescents' Health Status and Behaviours in Relation to Their Perceptions of Peer Connectedness

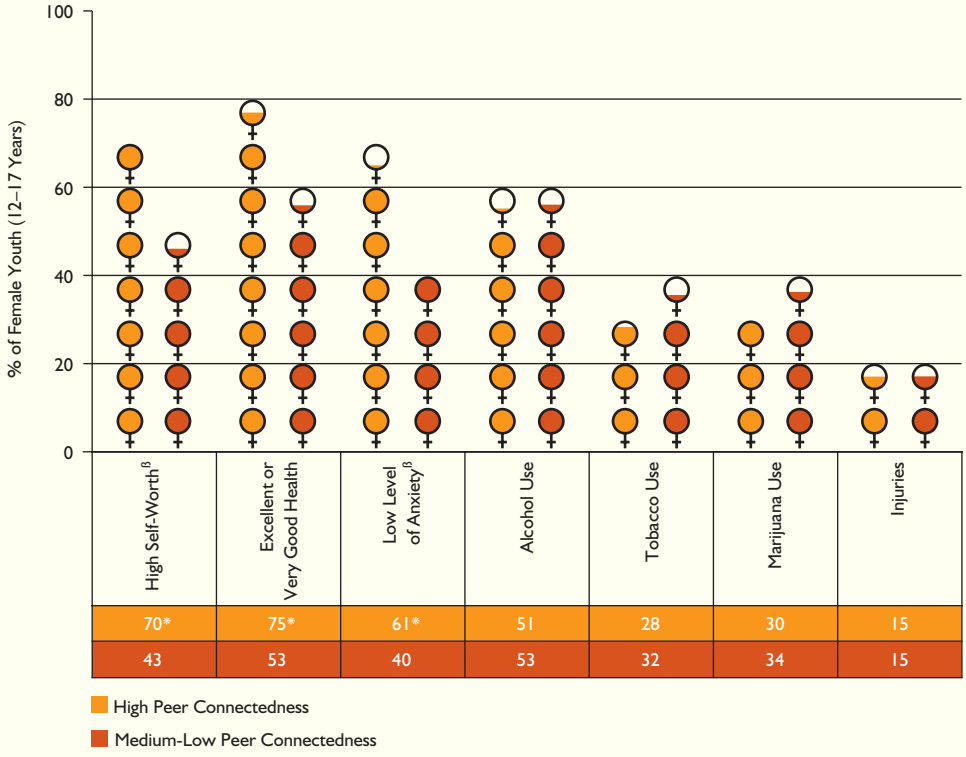
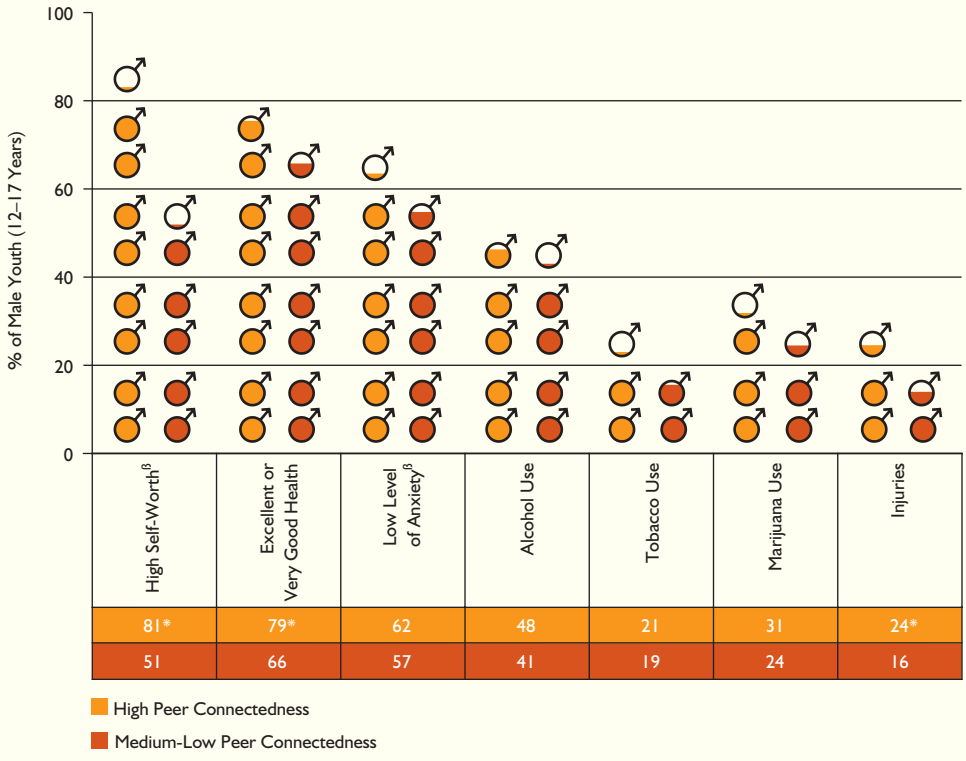


Figure 7

Male Adolescents' Health Status and Behaviours in Relation to Their Perceptions of Peer Connectedness



Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* Statistically significant difference between high and medium-low levels of peer connectedness at $p < .05$.
ß Includes only youth aged 12 to 15 years.

Summary Table

Adolescents' Health Status and Behaviours in Relation to the Individual Positive Assets

	Positive Assets									
	Parental Nurturance (%)		Parental Monitoring (%)		School Engagement (%)		Volunteerism (%)		Peer Connectedness (%)	
Health-Related Behaviours and Outcomes	H	M-L	H	M-L	H	M-L	V	NV	H	M-L
High Self-Worth	85*	59	74	72	77*	59	68**	63	75*	48
Excellent or Very Good Health Status	83*	69	80	74	80*	61	77**ß	72ß	77*ß	61ß
Low Level of Anxiety	94*	86	89	91	91*	83	56**	63	62*	50
Contact With Peers Who Commit Crimes	15*	27	19	24	17*	32	22ß	22ß	---	---
Alcohol Use	26*	46	30*	40	29*	50	46ß	48ß	49ß	46ß
Tobacco Use	11*	24	15*	20	12*	30	22**ß	29ß	25ß	24ß
Marijuana Use	12*	26	15*	23	14*	31	27**ß	34ß	30ß	28ß

H: High
M-L: Medium-Low
V: Volunteers
NV: Non-Volunteers

Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* Statistically significant difference between high and medium-low levels of given asset at $p < .05$.
** Statistically significant difference between volunteers and non-volunteers at $p < .05$.
Youth aged 12 to 15 years, unless otherwise noted.
ß Includes youth aged 12 to 17 years.

Multiple Assets and Health

Youth live in a complex world with many factors influencing them at the same time. The previous sections demonstrate the advantages to adolescents' health behaviours and outcomes of possessing various assets related to family, school, peers and the community (see Summary Table on page 50).

Recent U.S. studies illustrate that the more assets adolescents possess, the greater their likelihood of engaging in health-enhancing practices (for example, wearing a bicycle helmet or seatbelt and engaging in physical activity) and the less likely they are to engage in practices potentially harmful to their health (for example, tobacco use, risky sexual activity, violence, alcohol and drug use).[6–11] For example, the U.S.-based Search Institute conducted surveys of over 217,000 Grade 6 to 12 youth in over 300 communities during the 1999–2000 school year.[108] They found that having more assets was associated with a greater likelihood that adolescents would engage in more positive behaviours and that youth with the most assets were least likely to engage in risky health behaviours.[108] This research further suggests that this is true among youth of all racial/ethnic backgrounds and different socioeconomic levels.[108]

Schools and communities that provide opportunities for all youth

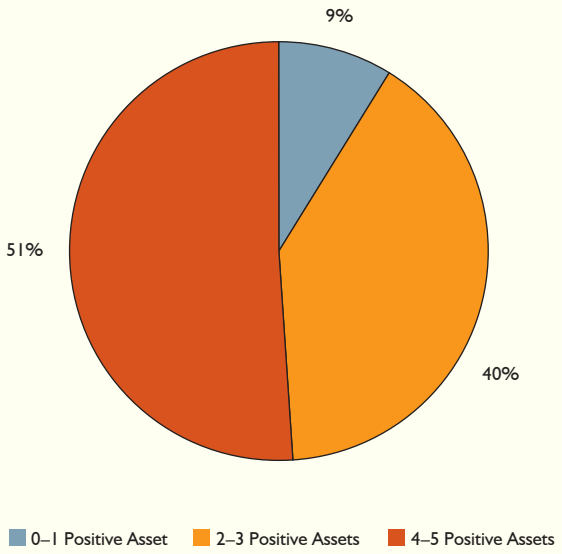
Until now, we have not known if this also held true in Canada. Accordingly, CPHI used NLSCY data to examine the association between five assets (parental nurturance, parental monitoring, school engagement, volunteerism, peer connectedness) and seven health behaviours and outcomes (self-worth, health status, anxiety, contact with peers who commit crimes, alcohol use, tobacco use, marijuana use). Fifty-one percent (51%) of Canadian youth aged 12 to 15 report high levels of four or five assets; 40% report possessing high levels of two or three assets and 9% report zero or one asset (see Figure 8).

The number of assets Canadian youth have is related to their health and health behaviours. In general, the more assets youth have, the more likely they are to report positive health outcomes and the less likely they are to engage in risky health behaviours. Among youth aged 12 to 15 years, youth with four or five assets are more likely to report high levels of self-worth and health status than youth with two or three assets. In turn, youth with two or three assets are more likely to report high levels of self-worth and health status than youth with zero or one asset. Youth with four or five assets are also more likely to report low levels of anxiety and less likely to report using alcohol, tobacco and marijuana than youth with fewer assets. Youth with zero or one asset do not appear to differ significantly from youth with two or three assets in their levels of anxiety or their use of alcohol and tobacco, but they tend to be more likely to report using marijuana. Youth reporting no assets or only one asset are also more likely than youth with a greater number of assets to associate with peers who commit crimes (see Figure 9).

Youth with four or five assets report higher levels of self-worth and health status than youth with two or three assets . . . In turn, youth with two or three assets report higher levels of self-worth and health status than youth with zero or one asset.

Figure 8

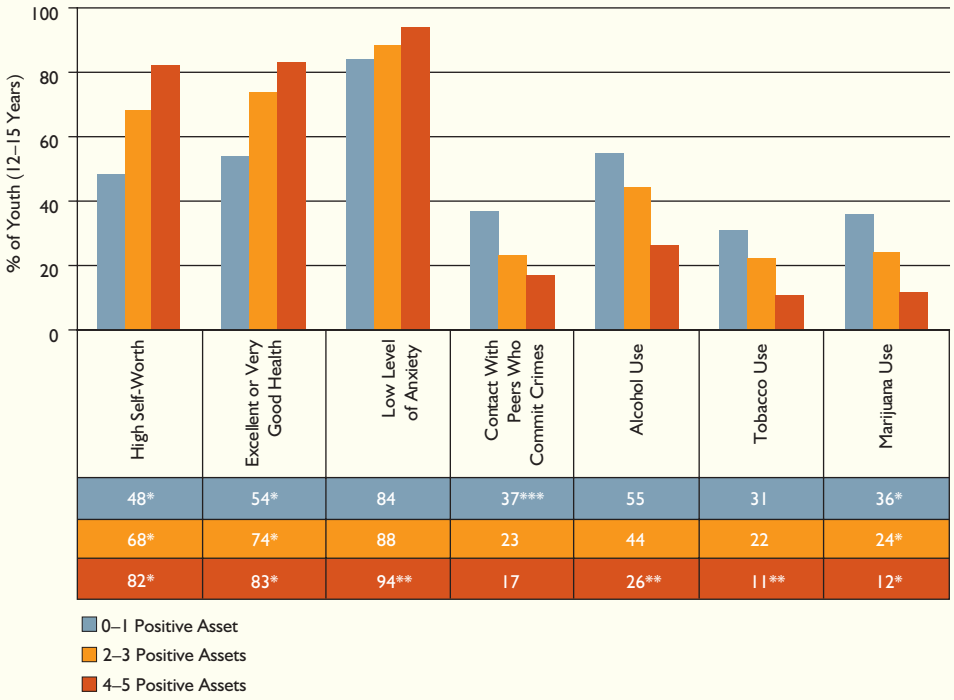
Proportion of Adolescents (12 to 15 Years) Reporting High Levels of Various Positive Assets



Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.

Figure 9

Adolescents' Health Status and Behaviours in Relation to the Number of Positive Assets



Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.
* All pair-wise comparisons statistically significant at $p < .05$.
** Statistically significantly different from two or three assets and zero or one asset at $p < .05$.
*** Statistically significantly different from two or three assets and four or five assets at at $p < .05$.

Assets and Socioeconomic Status

There are different theories about why youth with more assets are more likely to report positive health outcomes and behaviours. One is that youth with more assets tend to share other characteristics. For instance, they might be more likely than their peers to live in high-income or -education households. If this is the case, this raises the following question: is the relationship that we see between positive assets and health driven by underlying socioeconomic differences between the groups?

The relationship of socioeconomic status (SES) and health has been the focus of extensive research in Canada and other countries. Little is known about the association for Canadian youth specifically,[22] although there are indications that SES, as measured by parental income, occupational status and education level, is associated with adolescent health.[21, 48]

CPHI conducted analyses to determine the distribution of adolescents' assets in relation to income adequacy and education in the household where they live. As illustrated in Figures 10 and 11, the distribution of assets was relatively consistent across the different income and education levels. The only exception to note is that the proportion of youth reporting high levels of parental nurturance is higher in the highest income level (Q5) than in any of the other income groups.[††] The proportion of youth reporting high levels of parental nurturance is also higher in households with college or university graduation compared to households with some college or university. The proportion of youth reporting high levels of parental monitoring, peer connectedness, school and community engagement did not vary significantly by income or education level.

Further analyses show that the links between health and SES are complex. For example, analyses of NLSCY data indicate that higher or lower levels of household income and education[†††] do not appear to be related to increased odds that youth aged 12 to 15 years will report high levels of health status and self-worth. Similarly, household income and education levels do not appear to increase the odds that youth will report using tobacco, alcohol or marijuana.

These results differ from recent U.S.[21] and Canadian[48] studies that included youth up to ages 17 and 18, respectively. These studies found that youth from families of higher SES were more likely to report better health than those of lower SES. As noted earlier in this report, income is an important determinant of health.[21–24] The lack of variation across the different SES levels may be due to a potential loss in sensitivity produced by the grouping together of different levels of the variables.[†††] Had it been possible to make comparisons between each of the five income levels, differences consistent with previous studies in the literature might have been found.

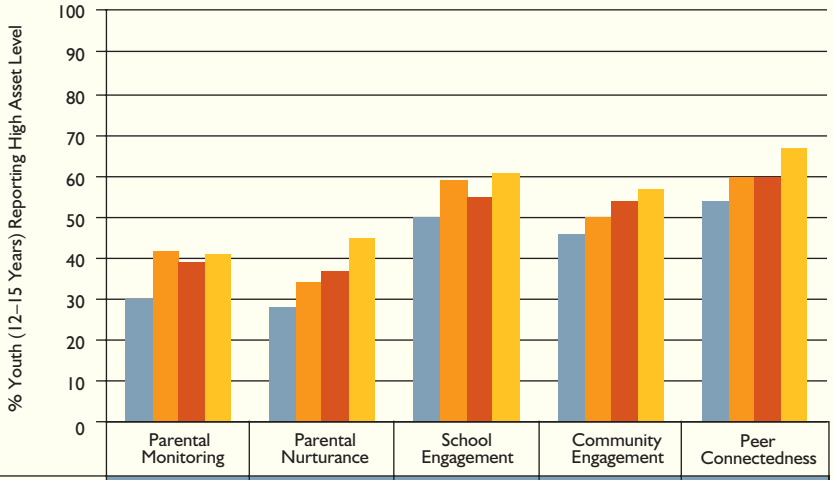
The relationship between SES and health is complex.

†† Due to a small sample size in the lowest income adequacy level (Q1), the lowest and lower-middle income adequacy levels (Q1 and 2) were grouped together. The standard low-income cut-off is <$10,000 for households with one to four persons or <$15,000 for five or more persons. For the purposes of CPHI's analyses, the lowest income level represented this minimum to a maximum of $15,000 for a household size of one or two persons, $19,999 for three or four persons or $29,999 for a household size of five or more persons.

††† Lowest and lower-middle income adequacy levels (Q1 and 2) were grouped together and compared with higher income levels (Q3, 4 and 5 combined). Similarly, education levels were divided into higher/lower levels of education; that is, households with secondary school graduation or less and households with some college/university education or more.

Figure 10

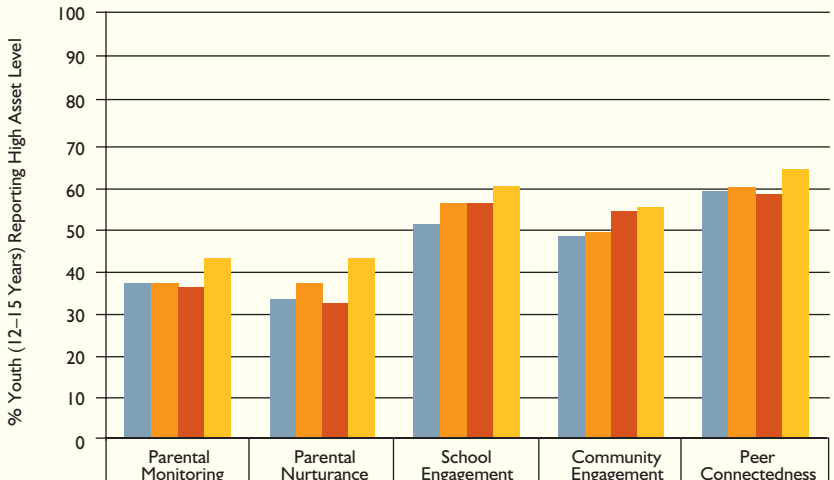
Distribution of High Level of Assets by Income Adequacy Level



	Parental Monitoring	Parental Nurturance	School Engagement	Community Engagement	Peer Connectedness
Lowest Income (Adequacy Levels 1 and 2)	30	28	50	46	54
Middle Income (Adequacy Level 3)	42	34	59	50	60
Upper-Middle Income (Adequacy Level 4)	39	37	55	54	60
Highest Income (Adequacy Level 5)	41	45*	61	57	67

Figure 11

Distribution of High Level of Assets by Household Education Level



	Parental Monitoring	Parental Nurturance	School Engagement	Community Engagement	Peer Connectedness
Less Than Secondary School Graduation	37	33	51	48	59
Secondary School Graduation	37	37	56	49	60
Some College or University	36	32	56	54	58
College or University Graduation	43	43**	60	55	64

Source: CPHI analysis of NLSCY (Cycle 4, 2000–2001), Statistics Canada.

* Statistically significantly different from lowest (Q1 and 2), middle (Q3) and upper-middle (Q4) income adequacy levels at $p < .05$.

** Statistically significantly different from "Some College or University" at $p < .05$.

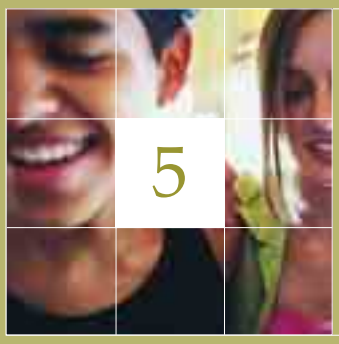







5

Creating Environments and Opportunities for Healthy Adolescent Development



The evidence presented in *Improving the Health of Young Canadians* indicates that adolescence is a complex time of transition, during which adolescent health behaviours and outcomes may be associated with various determinants. In particular, this report has focused on a range of health behaviours and outcomes and their association with the positive relationships youth have in four settings: in their families, schools and communities, as well as with their peers. Positive relationships in these areas have been identified as positive assets.

What Is the Key Message in This Report?

Youth who feel nurtured by their parents and who feel connected to their school, their community and their peers tend to report better health and a higher sense of self-worth. In addition, youth who reported feeling cared for by their parents (nurtured, monitored) and/or felt engaged in their school were less likely to report engaging in risky behaviours such as smoking, drinking alcohol and using marijuana.

Evidence suggests that the association between positive assets and self-worth and health status is cumulative. Youth who report four or five assets rate their health and self-worth better than youth with two or three assets, who in turn rate their health and self-worth better than youth with zero or one asset. In general, youth with more assets are less likely to engage in risky behaviours and are more likely to report low levels of anxiety.

Building Positive Assets: What Appears to Work?

Many youth initiatives focus on specific "problems" such as violence, injuries or tobacco use. Some also incorporate, to varying degrees, some or all of the characteristics and strategies of a broad healthy youth development approach (see Table 1). No comprehensive inventory of Canadian youth programs currently exists. An extensive search for evaluated youth programs was carried out during the preparation of this report. Despite the number of such initiatives across Canada, relatively few have been formally evaluated. Further, the evaluations that exist tend to focus on formative and process evaluation rather than outcomes such as health impacts. In addition, they rarely use experimental, quasi-experimental or longitudinal designs that tend to support stronger inferences based on the results. Perhaps most youth programs improve health in adolescence and in later life, but the current evidence base leaves much that we do not know.

To identify successful policies and programs, appropriate standards of evidence are necessary.[58] Identifying where links to health-related outcomes exist (or do not) would also help to inform decisions. In particular, evaluation evidence is needed to understand the relationship between a program, its costs, critical success factors and health outcomes. Evaluations that demonstrate how health outcomes are associated with or can be attributed to specific youth initiatives can be used by policy- and decision-makers, as well as communities, to determine which initiatives:

- get the best results for a particular population;
- are most cost effective; and
- can be generalized or applied to other groups and settings.

Based on the evidence that does exist, researchers have identified three characteristics of programs/policies that may contribute to healthy youth development by increasing the number and the quality of the relationships that adolescents have with their families, schools, peers and communities:

1. Interventions that are comprehensive and address common factors associated with multiple behaviours;
2. Approaches that support healthy youth development; and
3. Approaches that engage youth.[12–14, 58, 126–127]

Each area is explored in more detail in the pages that follow. It should be noted however, that the scarcity of evaluative research in Canada means that few conclusions regarding the relative effectiveness of these strategies can be made. The strategies may not be effective in all cases and some may be more effective than others.

> "People have to realize that youth have lots of ideas and a fresh outlook. We always hear that we are the future . . . give us a chance to show what we can do."
>
> —youth[66]

Is a Population Health Approach to Adolescent Development Cost Effective?

Estimates (based on figures from the 1990s) indicate that mental illness, alcohol use, tobacco use and drug use cost Canada millions of dollars per year.[130–132] Given research which shows a relationship between behaviours engaged in during adolescence and future health,[2] these estimates suggest that effective interventions to prevent or limit the occurrence of these behaviours and thereby promote healthy adolescent development may generate positive returns on investment. Estimating the returns from a particular type of program is difficult. It requires using available research to make assumptions about how programs will affect health in the short and long term, about program costs (for example, when implemented in a different context or at a different scale) and about how to value benefits or problems in the future relative to those that occur today. Nevertheless, a few studies have been done. For example, U.S. researchers estimate the annual costs of youth development programs to be $3,060 per youth based on the program costs of organizations such as Big Brothers/Big Sisters, the Boys and Girls Clubs and Girl Scouts of America. This includes after-school programming, mentoring, prevention and recreation opportunities for 1,200 hours per year per youth. Using this figure, the Academy for Educational Development Centre for Youth Development (CYD) estimates that for every $1 spent on adolescent development programming the potential return is approximately $11.[116] This estimate is based on the assumption of an average salary for a high school graduate working for 40 years. The CYD did not attempt to incorporate the costs of prevented injury, substance use, teen pregnancy, unemployment and associated health outcomes into its calculation.[117]

Table 1

Examples of Evaluated Adolescent Healthy Development Initiatives in Canada

Program and Location	Program Goals and Approach	Documented Health-Related Benefits
The Outdoor Classroom: Gwich'n Tribal Council[109] Northwest Territories	Through community involvement and a supportive school environment, the traditional "outdoor classroom" is used as a teaching environment to address concerns regarding youth crime.	• Increased parent involvement in children's schoolwork, improved school attendance, self-control and classroom behaviour • 30% reduction in the number of RCMP files • Improved school relations
Together We Light the Way: Building Stronger and Safer Communities[110, 111] Ontario, Manitoba, Nova Scotia	A school-based early intervention model that promotes an emotionally secure and physically safe school environment in which youth can develop feelings of school connectedness and their social competence skills.	• Increased non-violent responses to anger • Improvements in attitudes toward school • Reduced bullying and fighting • Increased respectful behaviour, self-respect and community connectedness
Student Work and Services Program (SWASP)[112] Newfoundland and Labrador	Through government, employer and community partnerships, assists youth in Newfoundland and Labrador to participate in postsecondary education and gain career-related experience.	• 34% of participants receiving social assistance indicated they would not have pursued postsecondary education without the program compared to 10% of participants not receiving social assistance
Project Early Intervention[113] Ontario	Uses a comprehensive approach to provide youth with opportunities to engage in pro-social activities, improve their social functioning, address their behavioural challenges and increase their resiliency to factors putting them at risk for engagement in criminal behaviour.	• Improvements in social functioning (for example, less socially withdrawn) • Reductions in both internalizing (for example, less anxious) and externalizing (for example, less aggression, inattentiveness) behaviour problems

1. Interventions that are comprehensive and address common factors associated with multiple behaviours

Research shows that youth behaviours tend to cluster, which means that various "problem" behaviours (such as tobacco and alcohol use) often occur together; the same is true of "healthy" behaviours.[12] Some suggest that this is because behaviours are associated with common underlying factors that can be found in the influences of early childhood, biology, family, school, community and peers.[12, 39]

Researchers who have observed the clustering of behaviours have suggested that benefits may be achieved by comprehensive approaches that seek to address the underlying factors associated with multiple behaviours,[12, 69] but there remains much that we do not know about this area. Single-issue oriented programs can also have positive outcomes. Some programs specifically targeting risk behaviours, such as graduated licensing programs[118] or programs to reduce sport/recreation-related head injuries,[119] for example, have had some success.

Initiatives aimed at youth tobacco cessation, injury prevention and decreasing drinking and driving, while addressing a single risk behaviour, can use a comprehensive intervention approach. For example, initiatives that have been shown to be effective at reducing the prevalence and initiation rates of tobacco use among youth include regularly enforced policy initiatives (for example, tax increases), counter-marketing, prevention efforts that jointly involve education and community activities, youth-focused media messages, refusal skills training, school-based activities (for example, peer support groups) and multiple activities that address different factors associated with smoking behaviour.[120]

SMARTRISK No Regrets Project[121]

Using a peer leadership and peer education model to mobilize youth to act on injury prevention and related-risk activities, the SMARTRISK No Regrets Project[121] began in five high schools with students from British Columbia, Alberta, Saskatchewan, Ontario and New Brunswick and a comparison school in Ontario.

Outcome data show gains in students' knowledge about injury prevention; improvements in attitudes and beliefs associated with personal responsibility for responsible choices and smart risk-taking and evidence of using strategies to address potentially high-risk behaviours (such as wearing protective gear while at work and having a plan to get home from a party without riding with someone impaired). The schools also reported benefits in terms of enhanced reputations in their communities and increased connections with local injury prevention organizations and programs. The program is currently undergoing evaluation for its long-term health impact on reducing injuries.

2. Approaches that support healthy youth development

While interventions that address risky behaviours can be effective, there is emerging evidence that suggests that youth may also benefit from approaches that focus on supporting healthy development. Healthy youth development initiatives, also known as "positive youth development," view adolescence as a stage in which youth:

- develop a sense of identity and competence;
- make transitions from school to meaningful employment;
- participate in their community; and
- prepare for personal relationships and family life.[16, 58, 128]

Approaching adolescent health from a positive development perspective differs from "problem-based" programs (such as smoking cessation) by focusing on providing support for youth to experience:

- a sense of belonging;
- bonding and connections to caring, committed adults;
- age-appropriate responsibility for decision-making and problem solving; and
- leadership roles and activities that are youth friendly and encourage youth ownership and participation.[57, 58, 126–128]

Some research suggests that by creating supportive environments and opportunities, a positive youth development approach can provide both prevention and health promotion benefits.[57, 58] Evidence from a review of outcome-evaluated positive youth development initiatives indicates that, effective programs which sought to build competence and strengthen bonding showed improvements in relationships with parents, school attachment and attendance, as well as a reduction in problem behaviours such as substance use.[58] An evaluation of Job Corps, a comprehensive vocational skills training and support service program for disadvantaged youth in the U.S., found increased high school graduation rates, modestly improved employment rates, as well as a reduction in arrest rates.[100, 122–124] This evaluation also notes that, while cost-effective, programs such as Job Corps are limited to helping only a few, given that they are intensive, complex and expensive to run.[100, 122]

There is also some evidence that suggests that interventions that support youth to engage in employment and learning experiences and to develop healthy relationships, problem solving and coping skills may be linked to healthier transitions to adulthood.[128] However, more research is needed to better understand the effectiveness of positive youth development approaches on long-term outcomes.[58]

Youth and the National Children's Agenda

Young persons under the age of 18 are included under the banner of the National Children's Agenda, which was announced in the 1997 throne speech as "a comprehensive strategy to improve the well-being of Canada's children."[125] (p. 4) To date, most of the federal, provincial and territorial policy focus related to the agenda has been on early childhood development initiatives, such as the expansion of Aboriginal Head Start (September 1997), the Early Childhood Development Accord (September 2000) and the Multilateral Framework on Early Learning and Childcare (March 2003).

Over the years, Canadian governments have put a number of population-based policies, programs and ministers into place to address various aspects of young peoples' lives, such as education, the justice system, health services, injury prevention, employment training and social-services provisions. For example, eight of the provinces and each of the territories have a minister devoted to youth or ministers with portfolios that include youth.

3. Approaches that engage youth

A literature review by Canada's Centre of Excellence for Youth Engagement demonstrates a link between youth engagement (participation in meaningful activities) and health.[14] The review also indicates that youth who are involved in structured activities such as sports, music and community work are less likely to take part in risky behaviours such as substance use (tobacco, alcohol, marijuana and hard drugs), violence and crime. Youth who are engaged in structured activities are also less likely to drop out of high school and more likely to get higher grades, graduate from college and have higher self-esteem.

The Centre's review notes that it is not clear whether youth who are engaged in structured activities have higher self-esteem or if youth who have higher self-esteem are more likely to participate in such activities. This issue illustrates the need for further research to better understand the connection between engagement, self-esteem and healthy youth development.

> "I think every youth around the world would like to be heard about the things we have to say."
>
> —youth[66]

Centre of Excellence for Youth Engagement[13]

The Centre of Excellence for Youth Engagement[13] (funded by the Public Health Agency of Canada) is committed to supporting youth to become more self-confident and able to make responsible choices for their health. Youth are engaged directly in planning and delivery of the Centre's activities in partnership with agencies, organizations and universities across Canada, including HeartWood Centre for Community Youth Development, Environmental Youth Alliance, Children's Hospital of Eastern Ontario/YouthNet, Wilfred Laurier University, Brock University: Youth Lifestyle Choices, Saskatoon Action Circle on Youth Sexuality and Fédération de la jeunesse canadienne-française.

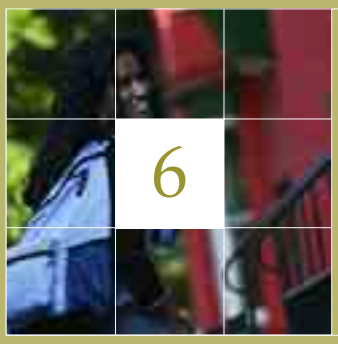
Environments that foster positive parenting		Approaches that support healthy youth development	
	Education that is accepting, sets limits and has high expectations		Approaches that engage youth
Schools and communities that provide opportunities for all youth		Opportunities for youth to engage in paid work	
	Involving young people in community activities outside school and work		Encouraging positive peer relationships








6



6 Summary and Conclusions

Adolescence is a time when new ideas and values may be explored and when experimentation in a range of activities occurs. Experiences during adolescence can have multiple long-term effects, some of which can lead to negative health outcomes.[2] Canada's adolescents are a diverse group. Overall, most are in good health.

Emerging evidence suggests that supportive relationships in the family, as well as feelings of connectedness to school, community and peers, are associated with successful health outcomes and development for youth. These relationships may protect against potentially risky behaviours and promote health-enhancing behaviours. Although adolescence is characterized by increasing independence from parents, families still matter.

Improving the Health of Young Canadians examines why some youth are healthy and others are not. Our primary focus is on how links with families, friends, school and the community are—or are not—related to health and to risky health behaviours.

The report shows that youth with higher levels of parental nurturance and school attachment report higher levels of health status. In addition, the association between assets and positive health behaviours and outcomes appear to be cumulative. Youth with more assets are less likely to engage in risky behaviours than youth with fewer assets and are more likely to report high levels of health status and self-worth.

More research that assesses the health outcomes of youth-based policies and programs may improve what is known about effective interventions. The scarcity of evaluative research in Canada means that few conclusions regarding the effectiveness of the strategies discussed in the previous section can be made. The strategies may be effective in all cases—or in only a few. And some may be more effective than others.

The analyses and the research presented in this report suggest that the relationships that adolescents have in their schools, their families and their neighbourhoods, and with their friends are important. There is a role for parents, peers, schools, communities, employers, program developers, volunteer organizations and all levels of government in supporting adolescents in their transition to healthy adults.[17]

Key Messages and Information Gaps

What do we know?

- Overall, Canada's youth are healthy.
- Youth who feel nurtured by their parents and engaged in their school report better health outcomes (higher self-rated health and self-worth, and lower anxiety levels), as well as less likelihood of engaging in risky health behaviours.
- Youth with higher levels of parental monitoring are less likely to report using alcohol, tobacco and marijuana, but they rate their health and self-worth about the same as other youth.
- Youth with more assets report better health and higher levels of self-worth than youth with fewer assets. They are also less likely to engage in practices that are potentially harmful to their health (for example, alcohol, tobacco and marijuana use).

What do we still need to know?

- The association between positive assets and health behaviours/outcomes among 12- to 15-year-olds has been highlighted in this report. Is there also an association among youth aged 16 to 19 years? Are some assets more important than others for this age group?
- What is the association between positive assets and health behaviours/outcomes among Aboriginal and immigrant youth and youth in the territories?
- What are the mechanisms through which positive assets influence behaviour and health outcomes?
- Are aspects of health and behaviour more influenced by some positive assets than others?
- What other positive assets promote healthy development?
- Which policies and programs are most effective in promoting healthy development for all Canadian youth?
- Are programs designed for specific groups of adolescents associated with changes in health disparities?
- What new risks to adolescent health are emerging?

see next page

Key Messages and Information Gaps (continued)

What's happening in this area?

- The importance of Canada's adolescents has been recognized through various reports and initiatives, including the Federal/Provincial/Territorial Advisory Committee on Population Health's *Opportunities of Adolescence: The Health Sector Contribution*[72] and the Centre of Excellence for Youth Engagement.[13]
- Through provincial and pan-Canadian surveys, as well as research nodes involving Canadian youth, Canada is seeking to better understand the factors affecting adolescent health and development. Examples include:
  - National Longitudinal Survey of Children and Youth (NLSCY, Statistics Canada)
  - Canadian Community Health Survey (CCHS, Statistics Canada)
  - Canadian Component of the Health Behaviours in School-Aged Children Survey
  - McCreary Centre Society (British Columbia)
  - Health and Learning Knowledge Centre of the Canadian Council on Learning
- CPHI has also funded a number of research projects involving youth. Some examples of ongoing and recently completed research projects include:
  - Canadian Adolescents At-Risk Research Network (CAARRN) (principal investigator: William Boyce)
  - Individual-, peer- and community-level determinants of addictions-related health in the adolescent student population (principal investigator: Christiane Poulin)
  - Vulnerable teens: A study of obesity, poor mental health and risky behaviours among adolescents in Canada (principal investigator: Douglas Willms)
  - Program of research examining the relation between the health of Aboriginal youth and Aboriginal community efforts to preserve and promote Native culture (co-principal investigators: Christopher Lalonde and Michael Chandler)
  - How are Canadian adolescents developing in comparison with adolescents in other wealthy countries: Time use, time pressure, emotional well-being and health (principal investigator: Jiri Zuzanek)

For More Information

Improving the Health of Canadians (IHC) 2004[1] was the Canadian Population Health Initiative's first flagship report. The report was organized into four key chapters: income, early childhood development, Aboriginal Peoples' health and obesity. It synthesized and presented evidence about the factors that affect the health of Canadians, ways to improve health and the implications of policy and program options. It also noted key information gaps and recent initiatives.

After the release of IHC 2004, a decision was made to produce and disseminate the second biennial *Improving the Health of Canadians 2005–2006* as a report series reflecting CPHI's three current strategic themes: *Healthy Transitions to Adulthood, Healthy Weights* (scheduled for release in winter 2006) and *Place and Health* (scheduled for release in spring 2006). Building on earlier reports, the *Improving the Health of Canadians 2005–2006 Report Series* further examines what we know about factors that affect the health of Canadians, ways to improve our health and relevant options for evidence-based policy choices. The unique contribution of this first report in the new series is its focus, within a population health framework, on the factors that facilitate healthy youth development.

Improving the Health of Young Canadians is available in both official languages on the CIHI Web site, at www.cihi.ca/cphi. To order additional copies of the report, please contact:

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Reports Previously Published by CPHI

Name of Report	Author and Publication Date
Healthy Transitions to Adulthood	
• *"You say 'to-may-to(e)' and I say 'to-mah-to(e)'": Bridging the Communication Gap Between Researchers and Policy-Makers*	CPHI (September 2004)
Place and Health	
• *Developing a Healthy Community Index*	Collected Papers (February 2005)
• *Housing and Population Health*	Brent Moloughney (June 2004)
• *CPHI Workshop on Place and Health Synthesis report (Banff)*	CPHI (June 2003)
• *Prairie Regional Workshop on the Determinants of Healthy Communities*	CPHI (August 2003)
Healthy Weights	
• *Overweight and Obesity in Canada: A Population Health Perspective*	Kim D. Raine (August 2004)
• *Improving the Health of Canadians—Obesity Chapter*	CPHI (February 2004)
• *Obesity in Canada—Identifying Policy Priorities*	CPHI and CIHR (June 2003)
Early Childhood Development	
• *Early Development in Vancouver: Report of the Community Asset Mapping Project (CAMP)*	Clyde Hertzman et al. (March 2004)
• *Improving the Health of Canadians—Early Childhood Development Chapter*	CPHI (February 2004)
Income	
• *What Have We Learned Studying Income Inequality and Population Health?*	Nancy Ross (December 2004)
• *Improving the Health of Canadians—Income Chapter*	CPHI (February 2004)
• *Poverty and Health CPHI Collected Papers*	CPHI, Shelley Phipps and David R. Ross (September 2003)

continued

Reports Previously Published by CPHI

Name of Report	Author and Publication Date
Aboriginal Peoples' Health	
• *Improving the Health of Canadians—Aboriginal Peoples' Health Chapter*	CPHI (February 2004)
• *Measuring Social Capital: A Guide for First Nations Communities*	Javier Mignone (December 2003)
• *Initial Directions: Proceedings of a Meeting on Aboriginal Peoples' Health*	CPHI (June 2003)
• *Urban Aboriginal Communities: Proceedings of a Roundtable Meeting on the Health of Urban Aboriginal People*	CPHI (March 2003)
• *Broadening the Lens: Proceedings of a Roundtable on Aboriginal People's Health*	CPHI (January 2003)
Cross-Cutting Issues and Tools	
• *Select Highlights on the Public Views of the Determinants of Health*	CPHI (February 2005)
• *Women's Health Surveillance Report: A Multidimensional Look at the Health of Canadian Women*	CPHI and Health Canada (October 2003); Supplementary Chapters (October 2004)
• *Charting the Course Progress: Two Years Later: How Are We Doing?*	CPHI and CIHR (February 2004)
• *CPHI Regional Workshop—Atlantic Proceedings (Fredericton)*	CPHI (July 2003)
• *Charting the Course: A Pan-Canadian Consultation on Population and Public Health Priorities*	CPHI and CIHR (May 2002)
• *Barriers to Accessing and Analyzing Health Information in Canada*	George Kephart (November 2002)
• *Tools for Knowledge Exchange: Best Practices for Policy Research*	CPHI (October 2002)
• *Partnership Meeting Report*	CPHI (March 2002)
• *An Environmental Scan of Research Transfer Strategies*	CPHI (February 2001)

Appendix A

Methodology

Data Sources

This report focused on the health of youth aged 12 to 19 years. Information was obtained from various published reports and surveys and is referenced accordingly (for example, Youth in Transition Survey, Adolescent Health Survey). In addition, this report features new analyses using data from the Canadian Community Health Survey (CCHS 2003) and the National Longitudinal Survey of Children and Youth (NLSCY Cycle 4, 2000–2001).

Variables Examined in This Report

The following variables were included in the analyses based on a review of the literature, their relevance to the report's objectives, availability in the CCHS and NLSCY and their respective psychometric properties (that is, response rates). Scoring levels (high, medium-low) for the variables were created based on literature that used similar variables and scoring strategies.[56, 129]

Canadian Community Health Survey (CCHS 2.1, 2003)

The CCHS provides data on Canadians' health status, health determinants and health care use. It is a bi-annual Canada-wide population survey that was first administered in 2000–2001. The CCHS collects responses from persons aged 12 or older living in private occupied dwellings, excluding persons living on Indian Reserves or Crown Lands, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions, and thus covers approximately 98% of the Canadian population aged 12 and over. Further details on the CCHS can be found at the following Web site: **www.statcan.ca/english/concepts/health/cchsinfo.htm**. For the current report, all data involving the CCHS was obtained from the Canadian Socio-economic Information Management System (CANSIM), custom cross-tabulations, or the Public Use Microdata File (PUMF, Cycle 2.1, 2003).

Sense of Belonging. Asks participants to describe their sense of belonging to their local community.

Response Categories:

- very strong
- somewhat strong
- somewhat weak
- very weak
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Self-Rated Health. Asks participants to indicate their health status in general.

Response Categories:

- excellent
- very good
- good
- fair
- poor
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Income Adequacy. A derived variable that considers the total household income and the number of people living in the household for computing the five income categories.

Response Categories:

- lowest income quintile
- lower-middle income quintile
- middle income quintile
- upper-middle income quintile
- highest income quintile
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Alcohol Use. Participants who answered "yes" to the question, "During the past 12 months, have you had a drink of beer, wine, liquor or any other alcoholic beverage?" were further asked to describe their frequency of consumption of five or more drinks on one occasion during the past 12 months.

Response Categories:

- never
- less than once a month
- once a month
- two to three times a month
- once a week
- more than once a week
- not applicable
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Physical Activity Index. Derived variable using adult categories that groups participants based on the total daily energy expenditure values (kcal/kg/day).

Response Categories:

- active
- moderate
- inactive
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Fruits and Vegetables. Derived variable based on responses to a number of questions on the frequency (times per day) of consumption of various fruits, juices and vegetables.

Response Categories:

- less than 5 times per day
- 5 to 10 times per day
- more than 10 times per day
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Exposure to Second-Hand Smoke at Home. Variable based on questions about exposure to second-hand smoke inside the home on most days.

Response Categories:

- yes
- no
- not applicable
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Self-Perceived Unmet Health Care Needs. Asks participants if there ever was a time during the previous 12 months when they felt that health care was needed but they did not receive it.

Response Categories:

- yes
- no
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

Reasons for Care Not Received. Participants who answered "yes" to the question, "During the past 12 months, was there ever a time when you felt that you needed health care but you didn't receive it?" were asked to agree or disagree with the following reasons for why they did not receive care: not available in the area; not available at time required; waiting time too long; felt would be inadequate; cost; too busy; didn't get around to it/didn't bother; didn't know where to go; transportation problems; language problems; personal or family responsibilities; dislikes doctors/afraid; decided not to seek care; doctor didn't think it was necessary; unable to leave the house because of health; problems; and other.

Response Categories:

- yes
- no
- not applicable
- don't know
- refusal/not stated

Age Group Examined: 12- to 19-year-olds

National Longitudinal Survey of Children and Youth (NLSCY Cycle 4, 2000–2001)

The National Longitudinal Survey of Children and Youth (NLSCY) is a long-term study following Canadian children from birth to early adulthood. It was first completed in the fall of 1994 with a cohort from a targeted population of 25,000 Canadian children aged 0 to 11 years who have been surveyed every two years since. The information is provided by parents, children themselves (for children above 10 or 11 years of age), teachers and principals. The sample excludes children and youth living on Indian Reserves or Crown Lands, in institutions as well as in the territories. More information on the NLSCY can be found at the following Web site: **http://www.statcan.ca/english/sdds/4450.htm**.

For the current report, data for youth aged 12 to 17 years old in 2001 (n = 5,580 and representing 2,451,613 youth of the same age in Canada) were examined. All analyses for the NLSCY were done through Remote Data Access. Cycle 5 longitudinal data was not used due to the unavailability of cross-sectional weights for youth aged 8 to 19 years. Cycle 4 data, for which cross-sectional weights are available, is analyzed in the report.

NLSCY Assets

Parental Nurturance. Derived score based on the following NLSCY items: My parents . . . smile at me; praise me; make me feel appreciated; speak of the good things I do; seem proud of the things I do; listen to my ideas and opinions; solve a problem together with me whenever we disagree about something.

Response Categories:

- never
- rarely
- sometimes
- often
- always
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 28):

- medium-low (0 to 20)
- high (21 to 28)

High score indicates a high degree of parental nurturance.

Non-Response Rate: 28%

Parental Monitoring. Derived score based on the following NLSCY items: My parents . . . want to know exactly where I am and what I am doing; tell me what time to be home when I go out; let me go out any evening I want; take an interest in where I am going and who I am with and find out about my misbehaviour.

Response Categories:

- never
- rarely
- sometimes
- often
- always
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 20):

- medium-low (0 to 14)
- high (15 to 20)

High score indicates a high degree of parental monitoring.

Non-Response Rate: 26%

School Engagement is a compound variable derived by CPHI based on the degree of importance a youth places on the following items: getting good grades; making friends; participating in extra-curricular activities; getting to class on time; learning new things; expressing one's opinion in class; and getting involved in the student council or other similar groups.

Response Categories:

- very important
- somewhat important
- not very important
- not important at all
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 21):
- medium-low (0 to 13)
- high (14 to 21)

High score indicates a high level of school engagement
Non-Response Rate: 24%

Community Engagement (Volunteerism) is a compound variable derived by CPHI based on the youth who indicated that in the past 12 months they engaged in one or more of the following activities without pay:
- supporting a cause (food bank, environmental group)
- fundraising (charity, school trips)
- helping in one's community (hospital volunteering, work in a community organization)
- helping neighbours or relatives (cutting grass, babysitting, shovelling snow for a neighbour)
- doing another organized volunteer activity

Response Categories:
- yes
- no
- not applicable
- refusal/not stated

Age Group Examined: 12- to 17-year-olds
Categorical Score:
- volunteer
- non-volunteer

Non-Response Rate: 22%

Peer Connectedness. Derived score based on the following NLSCY items ("Friends" score):
- I have many friends
- I get along easily with others my age
- others my age want me to be their friend
- most others my age like me

Response Categories:
- false
- mostly false
- sometimes true/sometimes false
- mostly true
- true
- refusal/not stated

Age Group Examined: 12- to 17-year-olds
Continuous Score Range (0 to 16):
- medium-low (0 to 11)
- high (12 to 16)

High score indicates a high level of peer connectedness.
Non-Response Rate: 24%

Labour Force Engagement—Number of Hours. Youth aged 16 and 17 years were asked to indicate in an average week since September 1 how many hours they worked from Monday to Friday and how many hours they worked on Saturday and Sunday. Youth aged 14 and 15 were asked to think of all the jobs they do in a typical school week and indicate how many hours in total they usually worked Monday to Friday and Saturday and Sunday.
Response Categories:
- 1 to 60 hours (varies according to age range and question)
- not applicable
- don't know
- refusal/not stated

Age Group Examined:
- 14- to 15-year-olds
- 16- to 17-year-olds

Categorical Score:
- works 20 hours per week or more
- works less than 20 hours per week

Non-Response Rate: 57%

Multiple Assets. Grouping of parental nurturance, parental monitoring, peer connectedness, school engagement and volunteerism assets for 12- to 15-year-olds. Categorization is based on youth reporting a "high" level of each asset.
CPHI-Derived Score Range:
- 0 or 1 asset
- 2 or 3 assets
- 4 or 5 assets

Age Group Examined: 12- to 15-year-olds

NLSCY Outcome Variables

Self-Rated Health. Asks youth to indicate their health status in general.
Response Categories:
- excellent
- very good
- good
- fair
- poor
- refusal/not stated

Age Group Examined: 12- to 17-year-olds
Categorical Score:
- excellent or very good
- good
- fair or poor

Non-Response Rate: 22%

Anxiety. Derived NLSCY score based on the following items: I am unhappy or sad; I am not as happy as other people my age; I am too fearful or nervous; I worry a lot; I cry a lot; I am nervous, high-strung or tense; and I have trouble enjoying myself.

Response Categories:
- never true or not true
- sometimes or somewhat true
- often or very true

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 14):
- low (0 to 7)
- medium-high (8 to 14)

Non-Response Rate: 24%

Alcohol Use. Asks youth which of the following best describe their experience with drinking alcohol.

Response Categories:
- I have never had a drink of alcohol
- I have only had a few sips
- I only tried once or twice (at least one drink)
- I do not drink alcohol anymore
- a few times a year
- about once or twice a month
- about 1 or 2 days a week
- about 3 to 5 days a week
- about 6 or 7 days a week
- not applicable
- refusal/not stated

Age Group Examined: 12- to 17-year-olds

Categorical Score:
- ever had a drink
- never had a drink

Non-Response Rate: 25%

Tobacco Use. Asks youth which of the following best describes their experience with smoking cigarettes.

Response Categories:
- I have never smoked
- I have only had a few puffs
- I do not smoke anymore
- a few times a year
- about once or twice a month
- about 1 or 2 days a week
- about 3 to 5 days a week
- about 6 or 7 days a week
- refusal/not stated

Age Group Examined: 12- to 17-year-olds

Categorical Score:
- ever smoked
- never smoked

Non-Response Rate: 25%

Marijuana Use. Asks youth which of the following best describes their experience with using marijuana and cannabis products (also known as a joint, pot, grass or hash) during the past 12 months.

Response Categories:
- I have never done it
- I have done it but not during the past 12 months
- a few times
- about once or twice a month
- about 1 or 2 days a week
- about 3 to 5 days a week
- about 6 or 7 days a week
- refusal/not stated

Age Group Examined: 12- to 17-year-olds

Categorical Score:
- ever used marijuana
- never used marijuana

Non-Response Rate: 24%

Self-Worth. Derived NLSCY score based on the following items (general "self" score): in general I like the way I am; overall I have a lot to be proud of; a lot of things about me are good; when I do something I do it well.

Response Categories:
- false
- mostly false
- sometimes false/sometimes true
- mostly true
- true
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 16):
- medium-low (0 to 11)
- high (12 to 16)

High score indicates positive general self-worth.

Non-Response Rate: 24%

Frequency of Headaches. Asks respondents how often in the previous six months they had or felt a headache

Response Categories:
- seldom or never
- about once a month
- about once a week
- more than once a week
- most days
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Categorical Score: Youth who reported headaches once a week or more were classified as having frequent headaches.

Non-Response Rate: 25%

Pro-Social Behaviours. Derived NLSCY score based on the following items ("pro-social" score): I show sympathy to (I feel sorry for) someone who has made a mistake; I try to help someone who has been hurt; I offer to help clear up a mess someone else has made; if there is an argument, I try to stop it; I offer to help other young people (friend, brother or sister) who are having difficulty with a task; I comfort another young person (friend, brother or sister) who is crying or upset; I help to pick up things which another young person has dropped; when I am playing with others, I invite bystanders to join in a game; I help other people my age (friends, brother or sister) who are feeling sick; and I encourage other people my age who cannot do things as well as I can.

Response Categories:
- never or not true
- sometimes or somewhat true
- often or very true
- refusal/not stated

Age Group Examined: 12- to 15-year-olds

Continuous Score Range (0 to 20):
- low (0 to 10)
- high (11 to 20)

Low score indicates a lack of engagement in pro-social behaviours.

Non-Response Rate: 25%

Contact with Peers who Commit Crimes. Asks respondents how many of their close friends do the following: break the law by stealing, hurting someone or damaging property.

Response Categories:
- none
- a few
- most
- all
- refusal/not stated

Age Group Examined: 12- to 17-year-olds

Categorical Score:
- has friends who break the law
- does not have friends who break the law

Non-Response Rate: 24%

Injuries. Asks respondents whether they were injured in the past 12 months.

Response Categories:
- yes
- no
- not applicable
- don't know
- refusal/not stated

Age Group Examined: 12- to 17-year-olds

Categorical Score:
- youth who reported having been injured
- youth who reported having not been injured

Non-Response Rate: 3%

Bullying is a compound variable derived by CPHI based on the following experiences during the past 12 months: number of times someone said something personal about the youth that made him or her feel uncomfortable while at school or on a school bus; number of times someone said something personal about the youth that made him or her feel uncomfortable elsewhere (including at home); number of times someone threatened to hurt the youth badly, but did not actually hurt him or her while at school or on a school bus; number of times someone threatened to hurt the youth, but did not actually hurt him or her elsewhere (including at home); number of times someone physically attacked or assaulted the youth while at school or on a school bus; and number of times someone physically attacked or assaulted the youth elsewhere (including at home).

Response Categories:
- never
- once or twice
- three or four times
- five times or more
- not applicable
- don't know
- refusal
- not stated

Age Group Examined: 12- to 17-year-olds
Categorical Score:
- never
- one or more times

Income Adequacy. A derived variable that considers the total household income and the number of people living in the household for computing five income categories.
Response Categories:
- lowest income quintile
- lower-middle income quintile
- middle income quintile
- upper-middle income quintile
- highest income quintile

Age Group Examined: 12- to 15-year-olds

Household Education Level. A grouped variable that considers the highest level of educational attainment within a household.
Response Categories:
- less than secondary school graduation
- secondary school graduation
- some postsecondary education (college or university)
- postsecondary graduation (college or university)

Age Group Examined: 12- to 15-year-olds

Statistical Analyses

Cross-tabulations were used to estimate the prevalence of various health indicators in the CCHS among youth aged 12 to 19 years. Bootstrapping techniques were used by Statistics Canada in its analysis of the variables presented in the custom tabulations.

Cross-tabulations were also used with the NLSCY to estimate the prevalence of various assets and health behaviours among youth aged 12 to 15, and for some variables, 12 to 17 years. The bootstrap weights method for variance estimation was used to account for the complexity of the NLSCY (that is, complex sample design, non-response adjustment and post-stratification). NLSCY cycle 4 cross-sectional weights were used. Only those who responded to the relevant questions were included in the analyses. Comparisons between respondents and non-respondents for the noted outcomes and independent variables were conducted, as were non-response analyses by gender, household income and household education; these values are available upon request at cphi@cihi.ca.

Multiple logistic regression was used to model associations between health behaviours and outcomes (that is, self-worth, self-rated health, use of alcohol, tobacco and marijuana), assets (parental nurturance, peer connectedness, school engagement, volunteerism) and socio-demographic characteristics (gender, household income, household education).

For the purposes of this report, due to small sample size for the low category (and hence high variability), the medium and low categories for most NSLCY-specific variables have been combined. Consequently, all analyses in this report were of acceptable quality, according to Statistics Canada's quality level guidelines:

Quality Level	Requirements
Acceptable	n is equal or greater than 30 **and** coefficient of variation is between 0 and 16.5%
Marginal	n is equal or greater than 30 **and** coefficient of variation is between 16.5% and 33.33% **Warning:** High level of error associated with the estimate
Unacceptable	n is less than 30 **or** coefficient of variation is greater than 33.33% **The estimate should not be released.**

Data Sources for Just the Facts #1, #2 and #3

Data Source for Exposure to Second-Hand Smoke:

1 Table 105-0256: "Exposure to second-hand smoke at home, by age group and sex, non-smoking household population aged 12 and over, Canada, provinces, territories, health regions (June 2003 boundaries) and peer groups, every 2 years (224448 series)," from the Statistics Canada CANSIM database at <http://cansim2.statcan.ca>; date accessed: May 5, 2005.

Data Source for Self-Rated Health:

2 Table 105-0222: "Self-rated health, by age group and sex, household population aged 12 and over, Canada, provinces, territories, health regions (June 2003 boundaries) and peer groups, every 2 years (392784 series)," from the Statistics Canada CANSIM database at <http://cansim2.statcan.ca>; date accessed: May 9, 2005.

Percentage of Youth (12 to 19 Years) Reporting Excellent or Very Good Health Status—Health Regions Significantly Different from Canadian Average

Canada's Health Regions		Percentage of Youth
CANADIAN AVERAGE		**66.9%**
Significantly Higher Than Canadian Average		
Ontario	Perth District Health Unit	78.6%
Ontario	Waterloo Health Unit	76.0%
Alberta	Capital Health	76.7%
British Columbia	Central Vancouver Island Health Service Delivery Area	80.3%
Significantly Lower Than Canadian Average		
Nova Scotia	Zone 3	51.9%
Quebec	Région des Terres-Cries-de-la-Baie-James	46.7%
Ontario	Leeds, Grenville and Lanark District Health Unit	55.2%
Ontario	Renfrew County and District Health Unit	51.4%
Ontario	Windsor–Essex County Health Unit	53.9%
Manitoba	Burntwood/Churchill*	40.8%
Saskatchewan	Mamawetan/Keewatin/Athabasca	50.6%
Alberta	Northern Lights Health Region	56.6%
Northwest Territories		56.3%

Note: All other health regions not significantly different from Canadian average at $p < .05$.
* Data of marginal quality. Use with caution.

Data Sources for Leisure Time Physical Activity and Dietary Practices:

3 Table 105-0233: "Leisure-time physical activity, by age group and sex, household population aged 12 and over, Canada, provinces, territories, health regions (June 2003 boundaries) and peer groups, every 2 years (336672 series)," from the Statistics Canada CANSIM database at <http://cansim2.statcan.ca>; date accessed: May 5, 2005.

4 Table 105-0249: "Dietary practices, by age group and sex, household population aged 12 and over, Canada, provinces, territories, health regions (June 2003 boundaries) and peer groups, every 2 years (336672 series)," from the Statistics Canada CANSIM database at <http://cansim2.statcan.ca>; date accessed: May 9, 2005.

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It's Your Turn

We welcome comments and suggestions on *Improving the Health of Young Canadians* and on how to make future reports more useful and informative. Please email ideas to cphi@cihi.ca or complete this questionnaire and return it to:

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Instructions

For each question, please put an "X" beside the most appropriate response.
There are no right or wrong answers—we are simply interested in your opinions.
Our goal is to improve future reports. Individual responses will be kept confidential.

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1. How did you obtain your copy of *Improving the Health of Young Canadians*?

❑ It was mailed to me ❑ From a colleague ❑ Through the Internet
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2. To what extent have you read through the report?

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Reader Information

8. Where do you live?

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- ❑ Quebec
- ❑ Ontario
- ❑ Manitoba
- ❑ Saskatchewan
- ❑ Alberta
- ❑ British Columbia
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9. What is your main position or role?

- ❑ Health manager or administrator
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- ❑ Health provider
- ❑ Student/youth
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Thank you for completing and returning this questionnaire

This publication is part of CPHI's ongoing inquiry into the patterns of health across this country. Consistent with our broader findings, it reflects the extent to which the health of Canadians is socially determined, interconnected, complex and changing. CPHI is committed to deepening our understanding of these patterns.

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