

The Health of CANADA'S YOUNG PEOPLE

A MENTAL HEALTH FOCUS



Public Health
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Health Behaviour
in School-aged Children

A World Health Organization Cross-National Study

The Health of CANADA'S YOUNG PEOPLE

A MENTAL HEALTH FOCUS



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and William Pickett
WITH
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To promote and protect the health of Canadians through leadership, partnership, innovation and action in public health.

— *Public Health Agency of Canada*

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Foreword

I am pleased to present the Canadian report on the 2009/10 Health Behaviour in School-aged Children (HBSC) study, *The Health of Canada's Young People: a mental health focus*.

The Canadian HBSC report is part of the World Health Organization's collaborative cross-national study that we have been part of for more than 20 years. This research greatly increases our understanding of young people's health, but also guides health education and health promotion policy and programs in Canada and in the more than 40 countries participating in the study.

The health of our young people is one of Canada's great assets. While most young Canadians experience good health, the transition to adolescence can present challenges as they encounter the social, biological and psychological changes that come with growing up. At the Public Health Agency of Canada, through science and research like the HBSC study, we enhance our knowledge of the determinants of health that contribute to maintaining health and preventing disease as well as injury. The HBSC is of particular interest because it looks at the health of young people in the broadest sense and their social contexts, such as the home, school, community, and peers.

The 2009/2010 Canadian HBSC report focuses on mental health. The report recognizes the importance of mental health and wellness in young people's lives and explores the many facets of emotional and mental health that link to physical health and the various social settings of Canadian youth. For the first time, the Canadian study sought the views of young people on the report findings. Their perspectives have added another rich dimension to our understanding of the health issues facing this age group.

The Canadian HBSC findings will be used by a variety of researchers and stakeholders, and will help build well-grounded policy and program initiatives. The Canadian report becomes a unique data source comparable with other developed countries involved in the HBSC study. It also supports the Agency's ability to promote the health of Canadian youth.

I want to personally thank the school administrators and teachers across Canada who helped to conduct the survey in schools, and the over 26,000 young Canadians who shared their perceptions and experiences.



Dr. David Butler-Jones
Chief Public Health Officer
Public Health Agency of Canada

Executive summary

The Health Behaviour in School-aged Children study (HBSC) is a continuing, cross-national research project conducted in collaboration with the WHO Regional Office for Europe. There are now 43 participating countries and regions from North America and Europe. The study aims to contribute to new knowledge about the health, well-being, and health behaviours of young people (aged 11 to 15 years). HBSC is Canada's only national-level health promotion database for this age group. The Federal Government has supported the Canadian HBSC study since 1988.

This report presents key findings from the 2010 cycle of HBSC. Current priorities for the public health system in Canada are particularly emphasized. As the HBSC study has traditionally focused upon the importance of social settings and conditions as potential determinants of health, this focus continues in the current report. In addition, this report examines the mental health of young Canadians as a primary theme.

In addition to our analysis of survey results from over 26,000 students, this report was informed by findings from a national youth engagement workshop. The purpose of this workshop was to obtain insights from a cross-section of young Canadians with respect to the key mental health findings. Efforts made to integrate the perspectives of young people directly into this report were driven by a philosophy that the opinions and insights of youth matter and the Federal Government's role in supporting youth engagement through its commitment to the United Nations Convention on the Rights of the Child. This represents a new initiative for HBSC in Canada, with interpretation of the national report findings being enriched by this process.

Mental health of young Canadians

Key insights

- Many mental health issues are gender-specific, with important variations in mental health patterns existing between boys and girls.
- Many mental health issues are also age-specific, with important declines in mental health observed as young people get older.
- Whether one views mental health with a positive or negative lens, the same basic groups of young people requiring special attention are identified.
- It is clear that states of mental health in young people, either positive or negative, have many different potential causes. While the report findings cannot infer causal relationships, a diverse number of environmental factors and health behaviours were found to be associated with the four mental health outcomes of interest.
- Positive mental health outcomes are associated with environments that are supportive, and with good communication with adults and peers in those environments. Positive mental health outcomes also coincide with healthy choices in terms of risk behaviours, whether measured in individual young people or their peers.

- Negative mental health outcomes are associated with environments that are non-supportive or disadvantaged socially, and with poor levels of communication. Negative mental health outcomes also coincide with poor health behaviour choices.
- Overall, while relationships vary, the quality of social settings, behavioural choices and norms, and the quality of relationships are key factors in the occurrence of both positive and negative mental health outcomes.
- When it comes to mental health status in young people, interpersonal relationships make an important difference.

Positive messages about mental health status

- The majority of young Canadians rated their life satisfaction as “8 or higher” on a standard 10-point scale.
- Less than 10% of young people reported that engagement in a problem behaviour was “somewhat or definitely like them”.
- Relatively few young people (about 25% for boys and 30% for girls) wish they were someone else.

Negative messages about mental health status

- Girls consistently report more negative emotional health outcomes than boys.
- Boys consistently report more negative behavioural mental health outcomes than girls.
- Mental health suffers as young people move through Grades 6 to 10, especially for girls, with positive indicators decreasing and negative indicators increasing.
- About one-fifth of boys and one-third of girls feel depressed or low on a weekly basis or more.

Relationships with mental health: positive messages

- The vast majority of young people, and particularly boys, have a positive home life that is associated with positive mental health.
- Positive school environments and higher levels of teacher support are associated with more positive mental health.
- Young people who report that their friends engage in positive behaviours are more likely to have higher levels of mental health.
- Economic characteristics do not necessarily relate to positive or negative indicators of mental health.

- Increased physical activity, reduced sedentary behaviour, and healthy diets are all positively related to improved mental health.

Relationships with mental health: negative messages

- As young people get older, they are less connected to school at a time when their emotional well-being is most vulnerable.
- Having peers who engage in risky activities is associated with risks for several negative mental health outcomes.
- Young people who report that they find it difficult to talk to their friends are more likely to report emotional problems.
- Young people who go to schools in neighbourhoods troubled by social tensions are more likely to report higher levels of behavioural problems.
- Mental health problems are strongly associated with the occurrence of fighting injury.
- Physical inactivity, sedentary behaviour, and poor diets are all correlated with mental health problems.
- Overweight and obese young people, particularly young girls, are more likely to report mental health problems.
- Engagement in substance use and risky behaviours is associated with various mental health problems.
- Bullying and violence are strongly related to emotional and behavioural problems.

Social settings and health

Home

- Most young Canadians report positive relationships with their parents and have a happy home life.
- Three quarters or more of both boys and girls in all grade groups find it easy to talk to their mother about things that really bother them.
- There has been recent improvement in young people's relationships with their parents.
- About one-third of young people feel that their parents' expectations of them are too high both generally and at school.

- Adolescent girls are less positive than boys on many of the measures of relationships in home environments.

School

- A majority of young people feel supported by their schools, and have a sense of belonging to their school.
- Conversely, school is not a positive place for a small but important proportion of Canadian youth.
- Young people are increasingly reporting lower levels of achievement and poorer satisfaction with school.

Peers

- A strong majority of young people report having a best friend and being able to talk to their friends about things that are bothering them.
- Over 85% of young people report hanging out with friends who engage in positive activities such as sports, helping others, getting along with their parents, or doing well at school.
- A small but important proportion of young people report hanging around friends who engage in risky activities.

Neighbourhoods

- Highly urban and highly rural or remote environments pose unique challenges to the health of young people.
- Important proportions of school administrators, particularly those from mixed grade schools and from rural and remote communities, documented social tensions and safety issues as problems in the neighbourhoods where schools are located.
- While the majority of HBSC schools are within walking distance to parks, young people may not always use such facilities, sometimes due to their fears about personal safety.

Key issues surrounding the health of young people

Injury

- Injury remains a leading cause of poor health in populations of young Canadians from across the country.
- The leading activity associated with the occurrence of injury to young people remains “playing or training for a sport”. Injuries are a negative side effect of a group of activities that generally have positive effects on the health of young people.
- Helmet use appears to be a normal behaviour among a majority of younger (Grade 6) children.
- Many young people report engagement in known risk-taking behaviours that can lead to major injury, despite widespread knowledge of the potential consequences of these behaviours.

Healthy living

- There have been some notable improvements in the food consumption patterns in recent cycles of the HBSC. In particular, the frequency of fruit consumption has gone up while the frequency of candy and sugared soft drink consumption has gone down.
- While many young people eat at fast food restaurants regularly, about one in three rarely or never do so.
- Less than one in five Canadian youth accumulate enough physical activity to meet Canada’s new physical activity guidelines (i.e., 60 minutes of moderate-to-vigorous intensity physical activity every day).
- Screen time levels are extremely high, particularly for high school boys. More than half of these boys watch TV at least two hours per day, use the computer in their free time for at least two hours per day, and play video games for at least two hours per day.
- Approximately half of young people report that they do not consume fruits or vegetables at least once a day.

Healthy weights

- The prevalence of obesity did not increase between the 2006 and 2010 HBSC surveys, suggesting that increases in obesity observed over the past couple of decades may have reached a peak.
- Approximately one in four boys are either overweight or obese as determined from self-reported heights and weights. Approximately one in six girls are either overweight or obese by these criteria.

Executive summary

- A significant proportion of overweight (24%) and obese (30%) youth report that they are doing something to lose weight.
- Only two-thirds of young people with a healthy weight feel that their body is about the right size.

Substance use and risky behaviour

- Rates of smoking among Canadian youth are at historical lows. In 2010, 7% of boys and 6% of girls in Grade 10 reported smoking cigarettes every day.
- Alcohol and cannabis are the most commonly used substances among Canadian youth. A significant percentage of students have used alcohol and cannabis at least once by the time they reach Grade 10.
- Between 1990 and 2010, the lifetime prevalence of cannabis use among Grade 9 and 10 students increased from 25% to 38%.
- Although many youth have tried using cannabis, less than 20% of students in Grade 9 and 10 report using cannabis in the last 30 days.
- Most young people appreciate the major health risks associated with substance use and risky behaviour.

Bullying and violence

- The prevalence of young people reporting bullying others appears to be decreasing.
- The prevalence of fighting has decreased since the 2006 cycle of the HBSC.
- Higher proportions of young people reported being victims of violence in the form of bullying.

Acknowledgements

This report presents findings from the sixth cycle of the Health Behaviour in School-aged Children survey in Canada. We would like to acknowledge the collaborative efforts of the 43 participating research teams from Europe and North America and the ongoing support of the International Coordinating Centre in Scotland as well as the International Databank Coordinating Centre in Norway.

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1

by William Pickett, Matthew King,
and John Freeman

Introduction

The HBSC survey

The Health Behaviour in School-aged Children (HBSC) Study is a cross-national research study conducted in collaboration with the World Health Organization (WHO) Regional Office for Europe. The study aims to increase understanding of mental and physical health and their determinants in populations of young people. It involves health surveys conducted with students in classroom settings, with a focus on the early adolescent years (ages 11-15). HBSC is administered every four years following a common research protocol.



Jayne Kielo

The HBSC survey was first developed in 1982 by researchers from three European countries. The project has since expanded to include 43 participating countries and regions. HBSC is now coordinated by a multi-disciplinary network of researchers from Europe, North America and Israel. Each country's research network consists of a Principal Investigator(s) and an affiliated research team. The most recent survey, the eighth in the cross-national series, was conducted in 2010. This represents the sixth cycle of the HBSC survey in Canada. A total of 26,078 young Canadians from 436 schools participated in 2010.

The international HBSC network represents a strong and organized research collaboration. All country investigators contribute to the development of the study and provide expertise on a variety of focused health topics. Research that involves the sharing of theory and skills across disciplines is encouraged within the network. A number of HBSC country teams are also involved in such efforts as the Schools for Health in Europe. Internationally, findings from HBSC are now routinely used by organizations such as the European Union and European Commission (2009), the United Nations International

Children's Education Fund (UNICEF, 2010) and the Organization for Economic Cooperation and Development (OECD, 2009) to provide evidence in support of cross-national health promotion initiatives.

In terms of its central coordination, the Child and Adolescent Health Research Unit, University of Edinburgh in Scotland, is the International Coordinating Centre (ICC) of HBSC. It is responsible for the coordination of all international activities within the HBSC research network including the production of HBSC survey protocols and international reports; planning and organizing the network's semi-annual meetings of researchers; facilitating network communications; and acting as a central resource centre. International data collection is managed at the International Data Centre (IDC) at the University of Bergen, Norway. The IDC is responsible for coordinating all data management activities pertaining to the international data files, for both current and past cycles of the HBSC survey. HBSC's collaboration with the study's primary partner, the WHO Regional Office for Europe, creates opportunities for the transfer of knowledge generated by HBSC to participants in the WHO system.

Purpose and objectives of HBSC

The main purpose of the HBSC is to inform and influence health promotion and health education policy and programs at national and international levels, as well as to increase understanding of young people's health and well-being.

Core objectives of the Canadian HBSC initiative are as follows:

- 1** To conduct national and international research on health behaviour, health and well-being, and the social contexts of school-aged children.
- 2** To contribute new theoretical, conceptual, and methodological knowledge pertaining to these areas of research.
- 3** To compare health experiences among young people in Canada with those in other HBSC member countries.
- 4** To disseminate findings to the relevant audiences including researchers, health and education policy makers, health promotion practitioners, teachers, parents and young people.
- 5** To develop partnerships with other agencies who deal with adolescent health, in order to support health promotion efforts with populations of school-aged children.
- 6** To inform policy making and program development.
- 7** To contribute national expertise on health behaviour and on the social determinants of health in school-aged children.

Theory underlying HBSC

HBSC researchers believe that young people's health should be considered in its broadest sense, encompassing physical, social and emotional well-being. As per standard and widely accepted definitions, health is viewed as a resource for everyday living, and not just the absence of disease.

HBSC researchers are intentional about considering positive aspects of health, as well as risk factors for future ill health and disease. This theoretical approach is informed by modern theories such as “assets-based approaches” to adolescent health research (Scales, 1999), in which factors that positively and negatively influence the health of youth populations are systematically examined.

In addition, HBSC research is almost always based upon population health thinking that focuses upon determinants of health, defined quite broadly (Health Canada, 1996). Among youth, these determinants include characteristics of home, school, peer group and neighbourhood settings, as well as socio-economic and behavioural influences. This theoretical approach suggests that health is influenced by the interaction of individual behaviours and environmental factors within these contexts.

HBSC Canada

Within Canada, the research team affiliated with HBSC consists of six independent scientists, the Canadian project manager, project staff, and graduate students who work with the investigators. Two Principal Investigators (J. Freeman, W. Pickett) oversee the work of the Canadian team. The Canadian team includes specific expertise from the fields of education, clinical psychology, kinesiology, and epidemiology. Additional members of the team from the Public Health Agency of Canada (the main national funder of the survey) provide specific expertise related to youth health policy. HBSC Canada and its members are active contributors to the development of the HBSC Study Protocol, national and international reports, with individual scientists having their own research programs that focus on the HBSC data.

HBSC Canada participates in public education activities and supports research initiatives at the international, national and provincial/territorial levels. In 2009, a new partnership was established with the Joint Consortium of School Health (JCSH), to help increase the relevance and impact of HBSC research within Canada. An additional partnership was formed with Health Canada to support expanded samples for the survey in six provinces (BC, AB, SK, ON, QC and NL) and a census of eligible young people in the three Territories (YK, NWT, NU).

Canadian HBSC scientists hold additional operating grants from the Canadian Institutes of Health Research, the Heart and Stroke Foundation and other agencies to support their multi-disciplinary research activities.

Canadian reports

Following completion of each survey cycle in Canada, the Canadian HBSC team has produced a major report that provides an overview of the national survey findings. Recent national reports have focused on: (1) healthy settings for the health of young people (2005-06) (Boyce et al., 2008); (2) a general profile of the health of young Canadians and factors that influence health (2001-02) (Boyce, 2004); and (3) trends in the health of Canadian youth (1997-98) (King et al., 1999). The report from the current 2010 cycle focuses on mental health in young Canadians, consistent with national priorities in the Public Health Agency of Canada and in our country as a whole.

METHODS

The student questionnaire

The student questionnaire represents the core source of information in the HBSC survey. These questionnaires were administered to school classes, typically by teachers, and were filled out by individual students during one 45-70 minute classroom session. Survey items covered a wide range of topics pertaining to health and its determinants in populations of young people. Almost all of the questions could be answered by checking off a response option to the question, as opposed to items with more open-ended response categories.

Internationally, the student questionnaire was developed in a collaborative fashion by HBSC researchers. Questionnaire content and the protocol surrounding its administration were ratified at semi-annual research meetings of the research network. In Canada, there are three sets of items that comprise our national questionnaire; 1) “Mandatory Items” that all countries use; 2) “Optional Package Items” that focus on particular aspects of adolescent health, each used by only some of the participating countries; and 3) additional items developed specifically for the Canadian survey. The optional packages and Canada-only items used in the 2010 questionnaire were selected via a collaborative process. Factors considered during this process were the research interests of the HBSC Canada research team, input from core staff at the Public Health Agency of Canada and Health Canada, and priorities indicated by the Joint Consortium for School Health (JCSH). As a principle, efforts were also made to retain a core set of items on each survey to facilitate the monitoring of trends over time. There were two versions of the Canadian questionnaire, one for Grades 6, 7, and 8, and the other for Grades 9 and 10. The Canadian questionnaire was made available in English, French, and Inuktitut. The research ethics of the study were granted clearance by Research Ethics Boards from both Queen’s University and PHAC/Health Canada.

Three levels of consent were required before a student could participate in the HBSC survey. School jurisdictions of the sampled schools were first approached for permission to invite their schools and students to participate. At the second level, school principals were approached to participate. At the third level, both active parent consent (students were required to return a signed consent form to participate) and passive parent consent (students were permitted to participate if they did not return the parent consent form indicating the parents refused permission to participate) were used. As per the ethics agreements at Queen’s University and with Health Canada, the participating school jurisdictions and schools selected the consent type that was consistent with local norms.

In most classes, students were given instructions for completing the questionnaires at the beginning of the session. They completed the surveys individually at their own pace. Teachers were given the option to read through the survey question by question and have the students follow along at the same pace. This methodology was to be employed only in classes where literacy level was a concern. Students were guaranteed anonymity by sealing their unsigned survey in an envelope.

One exception to the standard survey administration process was in Yukon. There, the Yukon Bureau of Statistics administered the survey. Two experienced researchers from this Bureau travelled to schools in each community to administer the surveys using a standard methodology. In Grades 6 and 7, the survey was read aloud to accommodate the varied comprehension levels of students. For students in the higher grades the surveys were filled in at the students' own pace under the supervision of the researchers. These methods were complementary to those used in other provinces and territories, to ensure that the overall study methodology was not compromised.

The student sample

The international HBSC Network requires samples of young people aged 11, 13, and 15 years, to achieve target sample sizes for three developmental periods. In Canada, the HBSC research team sampled students in Grades 6 through 10. The Canadian sample was enlarged to approximately 26,000 students in 2010. Past cycles had averaged 7,000 to 10,000 students. This expansion was undertaken to achieve representative samples for 9 of Canada's 13 provinces and territories.

Provincial Samples. In each of the provinces, a systematic, two-stage cluster sample approach was used to select whole classes of students to participate in the study. A list of schools within eligible and consenting school jurisdictions was created initially, and then schools in the sample were selected for study from this list. The number of classes in specific schools was estimated based on the grades in the school, the numbers of teachers, the total enrollment, and enrollment by grade, while accounting for known variations in class structure by province. Classes were given an approximately equal chance of being selected. They were ordered on the sample lists according to school jurisdiction, language of instruction, public/Roman Catholic designation, community size, and community location within a province. Classes were proportionally distributed according to these characteristics. In most provinces one or two classes per grade were targeted in each school selected for study. Directions were provided for school administrators to randomly select the participating classes in their schools. The 2010 sample does not include students from Prince Edward Island or New Brunswick. Although the inability of these provinces to participate was unfortunate, their exclusion had little impact on national estimates. In addition, private and special schools including on-reserve schools were also not included to maintain consistency with past survey cycles.

Territorial Samples. For each of the three territories the sample consisted of all students in Grades 6 through 10. All eligible students were invited to participate. This sampling frame represented an attempt to obtain a census for the full student population in this range of grades, excluding private and special schools.

Response. At the student level, approximately 77% of the estimated students in the sample participated in the study. Fewer than 10% of students declined to participate or spoiled their questionnaires intentionally. For the remaining non-participants, the most common reasons for student non-participation were attributable to: failure to return consent forms; failure to receive parental consent; or absence on the day of survey administration.

The 2010 HBSC survey was administered in 436 Canadian schools. **Table 1.1** provides details surrounding the national sample of 26,078 students. As mixed grade levels might exist in some classrooms selected for study, some Grade 5 and Grade 11 students were included. **Table 1.2** further describes the number of participating schools, then students across the provinces and territories.

Table 1.1: Breakdown of the national sample, by grade and gender

	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
Boys	23 (41.8%)	2552 (50.0%)	2571 (49.5%)	2595 (49.4%)	2584 (47.9%)	2448 (50.3%)	105 (59.7%)
Girls	32 (58.2%)	2551 (50.0%)	2624 (50.5%)	2662 (50.6%)	2809 (52.1%)	2420 (49.7%)	71 (40.3%)
Total	55	5103	5195	5257	5393	4868	176

Table 1.2: Schools and students in the national sample, by province and territory

	Schools		Students	
British Columbia	55	(12.6%)	3269	(12.5%)
Alberta	58	(13.3%)	3573	(13.7%)
Saskatchewan	64	(14.7%)	3307	(12.7%)
Manitoba	13	(3.0%)	735	(2.8%)
Ontario	69	(15.8%)	3692	(14.2%)
Quebec	57	(13.1%)	3476	(13.3%)
Nova Scotia	11	(2.5%)	611	(2.3%)
Newfoundland and Labrador	29	(7.7%)	3473	(13.3%)
Yukon	28	(6.4%)	1422	(5.5%)
Northwest Territories	31	(7.1%)	1688	(6.5%)
Nunavut	21	(4.8%)	832	(3.2%)
TOTAL	436	(100%)	26,078	(100%)

The administrator questionnaire

A second source of data for the 2010 HBSC was the Administrator questionnaire, an eight-page survey instrument to be completed by principals or their designate in each of the 436 schools that participated in the survey. The survey covered a basic description of the school and its student population, and individual modules on specific topics that were specified as priorities by HBSC Canada, the Public Health Agency of Canada, Health Canada, and the Joint Consortium for School Health. The latter included modules on: physical activity, school facilities, healthy eating, the school (social) climate, and neighbourhood factors. Administrator questionnaires were completed by representatives from 407 of the 436 (93%) participating schools.

Other data sources

Two additional sources of data were available in the 2010 cycle of the HBSC. Members of the HBSC Canada research team had secured operating grants from the Canadian Institute of Health Research to develop in-depth descriptions of the neighbourhoods surrounding participating Canadian schools. Each school was located on a map using address and postal code information, and characteristics of the area surrounding the

school (using a 1 km to 5 km circular buffer) were abstracted using geographic information systems and data from the Canada Census of Population (Statistics Canada, 2006) and commercially available databases. More details about these data appear in Chapter 6 (Neighbourhoods).

Input from young people in Canada

The final source of information used in this report was direct input from young people. In March 2011, with the support of the Public Health Agency of Canada, the Students Commission, lead of the Centre for Excellence in Youth Engagement (see: <http://www.engagementcentre.ca/>) was contracted to host a 2-day youth engagement event. Invitees included approximately 20 young people in the HBSC age range from across Canada, adult participants from the federal government and the Joint Consortium for School Health, and researchers from HBSC Canada. The young people who were chosen to participate included a cross-section of boys and girls in the appropriate age range. They “represented” a diversity of provinces, community sizes, ethnic backgrounds, and languages.

A major focus of this youth engagement event was to obtain thoughts and insight from the young people on the core findings of the national report, and in particular the findings pertaining to mental health. This youth consultation provided an opportunity for HBSC researchers to consider these interpretations from young people when writing up the findings for each chapter. The young people were also asked to provide their opinions about the contribution of various social environments (home, school, peer group, and neighbourhood) to mental health outcomes, and the relative importance of other major health topics that are presented in this report. These views have been included throughout the report.

APPROACH TO ANALYSIS

Descriptive analyses

The vast majority of survey estimates presented in this report are proportions in simple bar-chart format, broken down by age and gender. The data from one response category (or combination of response categories) are typically presented. Ideally, confidence intervals should be provided for each of the survey estimates, providing the likely range of values to be found in the population being considered. This approach is not practical for a report of this size. However, due to the large sample size available, confidence intervals for virtually all overall estimates (stratified by gender) would be within plus or minus 3 percentage points, and similar estimates would be plus or minus 4 percentage points within strata defined by grade and gender. These estimates account for the clustered sampling design. The primary purpose of the descriptive analysis is to highlight general patterns. The statistical significance of each association has not been presented, given the large sample size (26,000 students) when working with the entire data set. With such a large sample size, the vast majority of coefficients, no matter how small, would be expected to be statistically significant and the presentation of probability values would not add value to the analyses. The same principles apply to the description of trends in proportions observed over time, as is presented for a few items in each chapter.

Survey weights

Results presented from the student data set are weighted. Each province or territory data set is weighted within the national file such that student responses for a particular province or territory contribute to the national results in proportion to the actual student population within the national grade group population. Weights are calculated for each of Grades 6 through 10 independently. Effectively, provinces and territories that are over-represented in the student data file are given a weight of less than 1, while provinces that are under-represented in the data set are given a weight greater than 1.

Composite measures

Several composite measures have been created for the purposes of examining relationships in the report. The composition of these measures is detailed when used later in the report.

A number of new items have been introduced into the HBSC questionnaire for the 2010 cycle of data collection, with the express purpose of having meaningful and valid measures of mental health. For this report, four standard indicators of health have been created based on underlying theory and on factor and reliability analyses: two negative indicators (emotional problems, behavioural problems) and two positive indicators (emotional well-being and prosocial behaviours).

Three composite measures are introduced in the School chapter: school climate, teacher support, and student support. There is also a parent relationship measure introduced in the Home chapter. In the creation of composite measures, semi-continuous measures are created through summing up the responses for several items or by taking the mean across several items. The resulting distributions have been collapsed into thirds (e.g., low, middle and high) for ease of presentation. It should be understood that these three categories are relative measures rather than absolutes. For example, students in the “low” category on the parent relationship measure are considered to have a poorer relationship with their parents than those scoring “middle” or “high,” but they are not necessarily considered to have a poor relationship with their parents in the absolute sense.

Relationships with mental health indicators

The major theme of this report is the mental health of young Canadians. In each chapter, as well as profiling recent data pertaining to its main focus, authors explore relationships between different contextual factors, health behaviours, and health outcomes and the four mental health indicators.

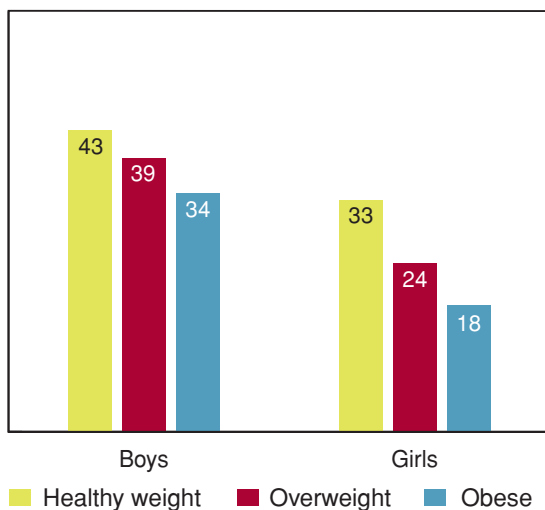
The analytical approach used in these analyses involves the development of models using a specific form of regression called logistic regression. Each model examines the potential relationship between specific variables as independent predictors and specific mental health indicators as dependent variables, while stratifying by gender, and controlling statistically for grade and a single measure of socio-economic status (perceived material wealth). Coefficients from each of the models are used to produce

prevalence estimates for the mental health indicators in relation to each predictor of interest, controlling statistically for the other factors. For simplicity of presentation, the probability of being in the “top third” of the indicator is modeled and presented graphically. Similar to the descriptive analyses, formal tests of statistical significance are not presented, although because of the robust nature of the sample, virtually all noted associations achieve significance by conventional statistical standards.

An example of the findings from one such regression model is provided in **Figure 1.1**. It summarizes the relationship between body weight and emotional well-being, separately for boys and girls, while mathematically accounting for any group differences in grade and socio-economic status. For boys, this model shows that the probability of being in the highest (“top third”) group of young people classified according to their emotional well-being is 43% for normal weight boys, 39% for overweight boys, and 34% for obese boys. There is a clear relationship between reporting a higher body weight and lower emotional well-being. A similar pattern exists for girls, although the overall percentages of girls in all weight categories reporting high emotional well-being is much lower than for boys. Each of these associations is statistically significant, although formal statistics and confidence intervals are not provided in order to simplify the presentation.

An obvious complication surrounding interpretation of these relationships is the issue of causality. It is unclear in many situations whether the health behaviour leads to the mental health outcome or the mental health outcome leads to the health behaviour. Most likely, there is reciprocal causation with regard to health behaviours and mental health. Reciprocal causation suggests that we need a multi-pronged approach to the issue, such that we ignore neither health behaviour nor mental health outcome under the likely false impression that ameliorating the one will directly have positive effects on the other.

1.1 Sample findings from a multivariable regression analysis: relationship between emotional well-being and body weight in boys and girls (%)



Organization of the report

This report is organized as follows. Chapter 2 provides a national profile of mental health indicators for young people, and provides focused results pertaining to the major theme of the present report. Chapters 3 through 6 provide descriptive overviews of the environments that impact the health of young people, including home, school, peer and neighbourhood. This set of chapters is followed by a series of chapters that are organized conceptually around topics that remain priorities for the public health system in Canada, including injury (Chapter 7), healthy living (Chapter 8), healthy weights (Chapter 9), risky behaviour (Chapter 10), and bullying (Chapter 11). Each of Chapters 3 to 11 contains a statistical review of health measures, a brief summary of how selected indicators relate to the four mental health outcomes, some perspective from young people, and a summary and implications section. The final chapter provides a summary of the core messages for public health that emerged from these national analyses.

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2

Mental Health

by John Freeman and King Luu

There is growing recognition within Canada of the critical nature of improving the mental health of young Canadians with a particular emphasis on positive mental health¹ in contrast to what has historically been a focus on mental illness. As Buote (2009) states, in her literature review commissioned by the Public Health Agency of Canada (PHAC), “we know that children who have greater social-emotional health experience greater overall success in life and have better abilities that can be used to overcome life’s challenges”; we also know that “children who suffer from more mental health problems also have more adjustment problems in the area of health, school, self and home” (pp. 9-10).



Kristin Buchanan

This trend to move away from a deficit model of mental health toward a more balanced view (Keyes, 2006) measuring the dual (positive and negative) nature of mental health is further reinforced by a growing acknowledgment of the importance of developmental assets in young people’s lives (Scales, 1999). Assets are characteristics that help youth develop to their fullest potential, shaped by external influences (e.g., parents, teachers) or personal influences (e.g., self-esteem, determination; Benson & Scales, 2009). Assets tend to promote greater personal resilience, namely, the ability to achieve success despite obstacles (Fergus & Zimmerman, 2005).

1 Although definitions vary, positive mental health is generally seen as including emotion (affect/feeling), cognition (perception, thinking, reasoning), social functioning (relations with others and society), and coherence (sense of meaning and purpose in life) (Friedli, 2009, p. 2).

The commitment to better understanding and improving mental health with a focus on asset-based approaches has resulted in major Canadian initiatives exploring this domain. For example, in September 2009, PHAC invited over 80 cross-sectoral participants to a consultation on social-emotional protective factors for young people and their families (PHAC, 2009). One of the conclusions from this two-day meeting was that “population and administrative data from multiple jurisdictions is needed to compare [provincial/territorial] child/youth/family health outcomes with national trends” (p. 24). Similarly, in May 2010, the Canadian Population Health Initiative (CPHI) – in cooperation with ministries within the New Brunswick provincial government – invited approximately 50 individuals from across the country to a one-day workshop (Canadian Institute for Health Information [CIHI], 2010). Two of the four key strategies suggested by participants at this workshop were (i) focusing on determinants, and (ii) developing, strengthening and using evidence, both of which depend on well-validated data, such as those provided by the HBSC. Indeed, Schonert-Reichl, Stewart Lawlor, Oberle, and Thomson (2009), having interviewed six experts in mental health about emotional-social healthy living for children aged 5-12, highlight the HBSC as the tool within Canada currently providing national information to understand mental health for that age group, even though the HBSC monitors health only for 11-15 year olds.

While these reports provide strong evidence for focusing the HBSC national report on mental health, our final decision to examine this topic so extensively arose through our ongoing discussions with policymakers and practitioners in the field. While consulting with the Joint Consortium for School Health (JCSH), attending provincial and national meetings of health and educational professionals, and conversing informally with colleagues, we repeatedly heard the request for more information about mental health, particularly positive mental health/emotional well-being.

Development of mental health indicators

For the current HBSC national report, we created four mental health scales: emotional problems, behavioural problems, emotional well-being, and prosocial behaviours. In this chapter, the four scales are presented through discussion of the items comprising the scale, with an examination of one item from each scale, an investigation of the scale with respect to grade and gender, and an exploration of the scale in terms of family arrangement and perceived wealth/socio-economic status. In subsequent chapters, these scales are related to each of the topics under consideration.

Construction of the scales was goal-informed, research-informed, and data-informed. On a goal level, our initial consultations with PHAC, Health Canada, and JCSH revealed a desire for more survey items to measure mental health. Thus our



goal became to find and include a wider variety of well-validated mental health questions from the international HBSC data packages and appropriate other surveys within Canada.

The research literature revealed two dimensions of mental health. Psychologists have long recognized the presence of both externalizing and internalizing signals for mental health (Hopwood & Grilo, 2010; Krueger & Markon, 2011). Thus, some students reveal their mental health in a more behavioural manner, while other students display their mental health on an emotional level. There are also positive and negative aspects of mental health: mental health is no longer thought of as solely the absence of negative aspects but the presence of positive aspects as well, such that a person can lack negative aspects but still not have positive aspects and thereby not possess optimum mental health (Keyes, Dhingra, & Simoes, 2010; Strauss, 2007). Therefore, we needed to construct four scales: internalizing-negative (emotional problems), externalizing-negative (behavioural problems), internalizing-positive (emotional well-being), and externalizing-positive (prosocial behaviours).

Our final consideration was the student data from the survey. We conducted factor analysis on the data from across Canada and were able to extract five scales, each with good to very good reliability. The fifth scale, psychosomatic symptoms, was not used in this report because of its item overlap and conceptual similarity with emotional problems. However, three of its individual items are highlighted later in the chapter as is the item on life satisfaction, which was not included in the factor analysis.

Emotional problems

The emotional problems scale consists of nine items (see **Table 2.1**) with a reliability of 0.84. Four of the items are measured on frequency: feeling low (depressed), feeling nervous, having difficulties getting to sleep, and feeling sad. The first three items are measured for a six-month time period, while the last item is measured over a week. The remaining five questions ask for strength of agreement. They assess students' trouble making decisions, wishing they were someone else, feeling helpless, feeling left out of things, and feeling lonely. When students are divided into three approximately equally sized groups with respect to emotional problems, 33.8% of students are in the group with the greatest number of emotional problems.

“ A lot of people won't seek professional help when they are feeling suicidal — instead they'll go out to their friends/loved ones to find comfort in the people they trust. These people often won't know how to deal with such a heavy situation, and need to be informed how to best help that person. ”

—Youth, Healthy Advice Workshop

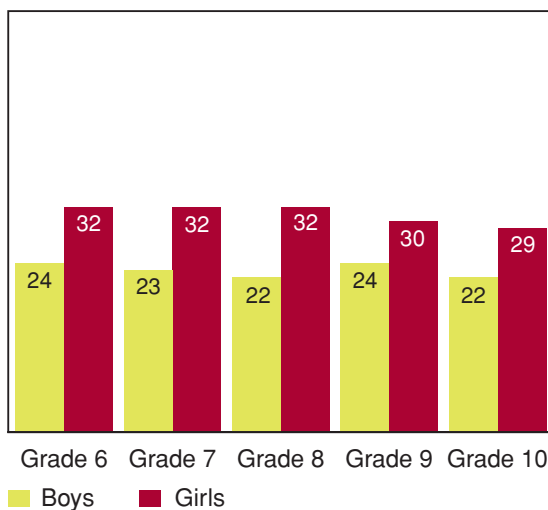
Table 2.1: Emotional problems

In the last 6 months, I have felt low (depressed)	1=About every day,
In the last 6 months, I have felt nervous	2=More than once a week, 3=About every week,
In the last 6 months, I have had difficulties in getting to sleep	4=About every month,
	5=Rarely or never
In the last week have you felt sad?	1=Never, 2=Seldom,
	3=Quite often, 4=Very often, 5=Always
I have trouble making decisions	1=Strongly agree, 2=Agree,
I often wish I were someone else	3=Neither agree nor disagree, 4=Disagree,
I often feel helpless	5=Strongly disagree
I often feel left out of things	
I often feel lonely	

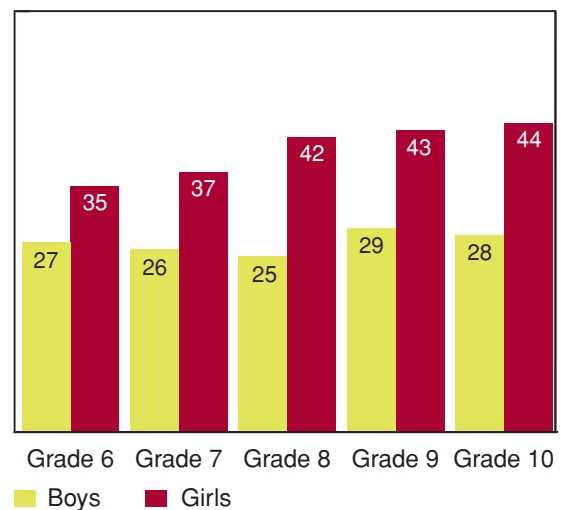
Figure 2.1 shows the percentages by grade and gender for one item in the emotional problems scale, students wishing they were someone else. At each grade level, girls were more likely than boys to wish they were someone else. The percentages for both boys and girls wishing they were someone else held relatively steady across grade levels, ranging from 22-24% for boys and 29-32% for girls.

The emotional problems scale shows a similar gender pattern to the “wishing they were someone else” item with girls consistently reporting a higher level of emotional problems than boys (Figure 2.2). However, while the numbers stay fairly stable for boys, they increase across grades for girls, so that, while there is an 8% difference between genders in Grade 6 (27% for boys and 35% for girls), the difference increases to 16% by Grade 10 (28% as opposed to 44%).

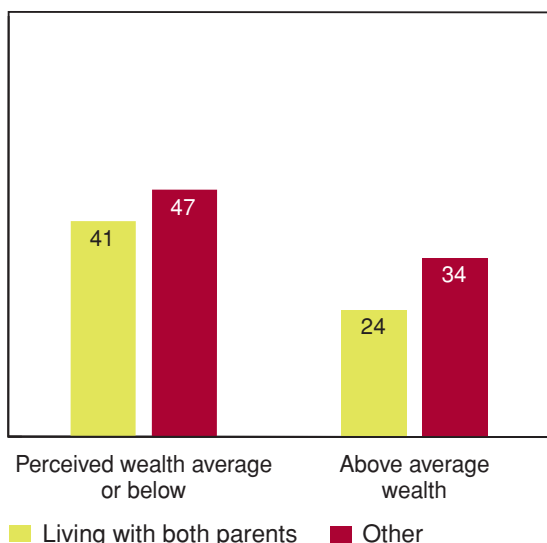
2.1 Students who agree or strongly agree they often wish they were someone else, by grade and gender (%)



2.2 Students reporting high levels of emotional problems, by grade and gender (%)



2.3 Students reporting high levels of emotional problems by perceived wealth and living with both parents (%)



There is some statistical difference in the emotional problems reported by students in different family living arrangements with a lower percentage of such problems reported by adolescents living with both parents. However, the bigger difference in reported emotional problems comes from differences in perceived wealth. Those young people who reported lower wealth were much more likely than those reporting higher wealth to indicate having emotional problems (41% to 24% for living with both parents; 47% to 34% for other family arrangements) (Figure 2.3).

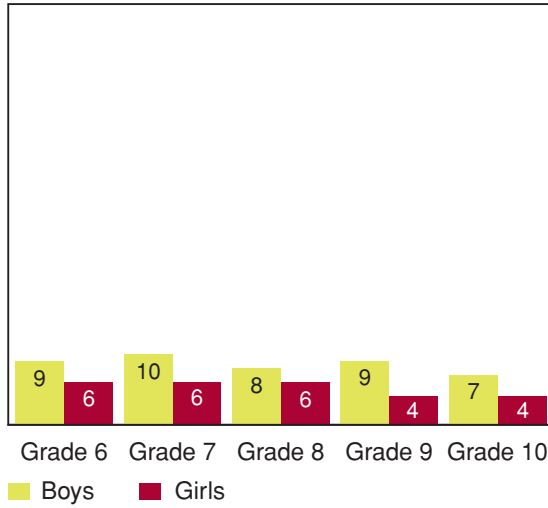
Behavioural problems

There are six items on the behavioural problems scale with a reliability of 0.84 (see Table 2.2). Students were asked to indicate the extent to which each of these statements described them. Items encompassed cutting classes/skipping school, making other people do what one wants, talking back to teachers, getting into fights, regularly saying mean things to get what one wants, and taking other person’s things. When students were divided into three approximately equally sized groups with respect to behavioural problems, 35.8% of students were in the group reporting the highest number of behavioural problems.

Table 2.2: Behavioural problems

I cut classes or skip school	1=Definitely not like me,
I make other people do what I want	2=..., 3=..., 4=..., 5=...,
I talk back to my teachers	6=Definitely like me
I get into fights	
I often say mean things to people to get what I want	
I take things that are not mine from home, school, or elsewhere	

2.4 It is somewhat or definitely like me to get into fights, by grade and gender (%)

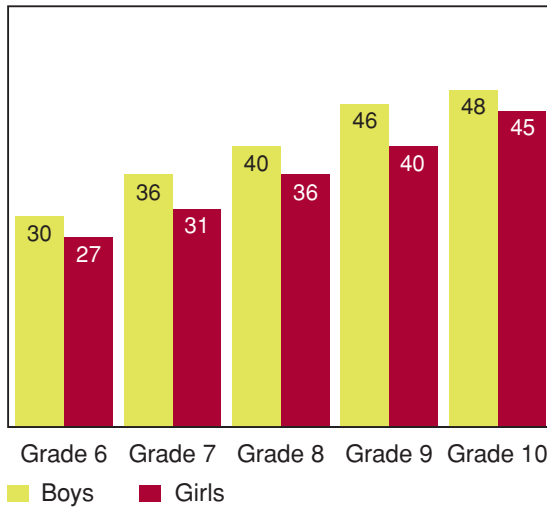


The illustrative item for behavioural problems is getting into fights (Figure 2.4), chosen for its higher frequency level than the other items. In considering those students who indicated that getting into fights was somewhat or definitely like them², there was a very low reported frequency. While the percentage of girls getting into fights ranged from 6% in Grade 6-8 to 4% in Grade 9-10, the pattern for boys was inconsistent. At each grade level, more boys than girls indicated they were likely to get into fights.



² The actual question has six points, anchored at one end by “definitely not like me” (1) and anchored at the other end by “definitely like me” (6). We gave the term “somewhat like me” to the responses of 5.

2.5 Students reporting high levels of behavioural problems, by grade and gender (%)



2.6 Students reporting high levels of behavioural problems by perceived wealth and living with both parents (%)

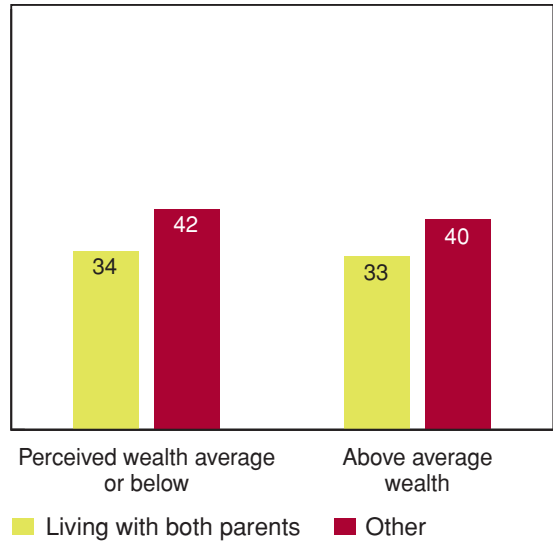


Figure 2.5 shows the small but consistent pattern for boys to be in the highest group for behavioural problems (differences between boys and girls ranging from 3-6%, by grade). For both girls and boys, there is a consistent increase in behavioural problems across grades with the lowest level for both being reported in Grade 6 (27%, girls; 30% boys) and the highest level in Grade 10 (45% girls; 48% boys).

There are almost no differences based on perceived wealth for behavioural problems (Figure 2.6). Family structure has a greater impact on behavioural problems than perceived wealth with 8% fewer behavioural problems for those students with lower perceived wealth living with both parents compared to students in other living arrangements and a 7% difference across family arrangements for students with higher perceived wealth.

“As you get older you get more responsibilities [and] the more responsible you become the more stress you feel.”

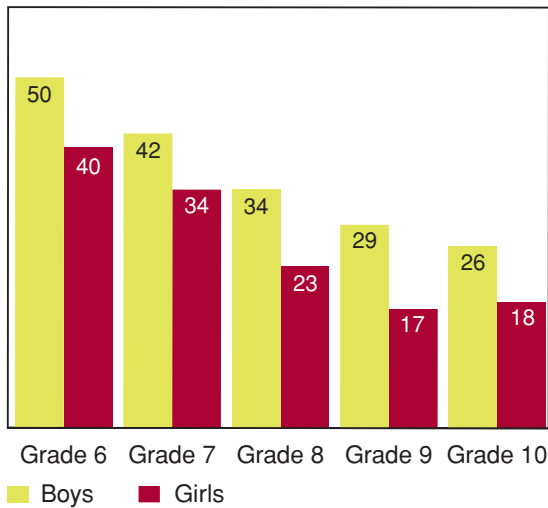
—Youth, Healthy Advice Workshop

Emotional well-being

Emotional well-being is measured with five items: two (happy home life and self-confidence) using agreement with the statement, and three (feeling fit and well, feeling full of energy, and having fun with one’s friends) using frequencies (Table 2.3). These indicators have a reliability of 0.73. When students were divided into three approximately equally sized groups with respect to emotional well-being, 36.9% of students were in the group reporting the highest level of well-being.

I have a happy home life	1=Strongly agree, 2=Agree,
I have confidence in myself	3=Neither agree nor disagree, 4=Disagree, 5=Strongly disagree
Have you felt fit and well?	1=Never, 2=Seldom,
Have you felt full of energy?	3=Quite often, 4=Very often, 5=Always
Have you had fun with your friends?	

2.7 Students who strongly agree they have confidence in themselves, by grade and gender (%)

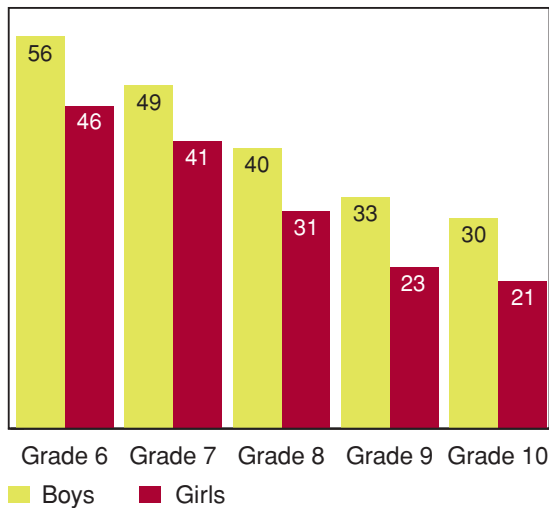


As shown in Figure 2.7, students’ self-confidence is influenced by both grade and gender. Fifty percent of boys in Grade 6 strongly agreed that they had confidence in themselves, but this level dropped fairly substantially in each advancing grade to just 29% in Grade 9 and 26% in Grade 10. The proportion of girls with self-confidence started off lower than that of boys in Grade 6 at 40% and declined in a similar fashion to just 17% in Grade 9 and 18% in Grade 10. The biggest drop in self-confidence for boys occurred between Grades 6 and 7 and again between Grades 7 and 8 (8%); for girls, the largest drop was between Grades 7 and 8 (11%).

“Being in a group makes me feel like I can do anything. Being away from my family, being able to contribute, gives me meaning.”

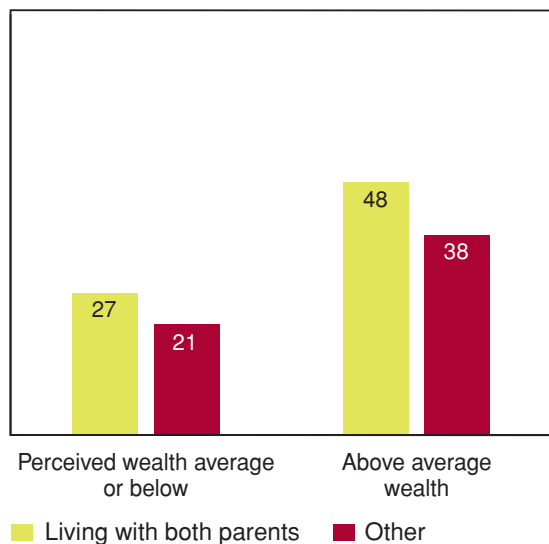
—Youth, Healthy Advice Workshop

2.8 Students reporting high levels of emotional well-being, by grade and gender (%)



The results for emotional well-being in **Figure 2.8** mirror those for self-confidence in the previous figure. Boys were consistently more likely than girls to be in the high group for emotional well-being. As grades increased, emotional well-being steadily decreased, with both boys and girls reporting the highest level in Grade 6 (56% and 46%, respectively) and the lowest level in Grade 10 (30% and 21%, respectively). For both genders, the smallest drop was between Grades 9 and 10 (3% for boys and 2% for girls) and the largest drop was between Grades 7 and 8 (9% for boys and 10% for girls).

2.9 Students reporting high levels of emotional well-being by perceived wealth and living with both parents (%)



Both perceived wealth and living arrangements were related to emotional well-being (**Figure 2.9**). Perceived wealth had the bigger influence in that there was a 21% increase in emotional well-being associated with wealth for students living with both parents (27% and 48%, respectively) and a 17% increase for students in other living arrangements (21% and 38%, respectively). While not as strong an influence, family structure contributed to better emotional well-being with a 6% increase for less wealthy students and a 10% increase for more wealthy students associated with living with both parents.

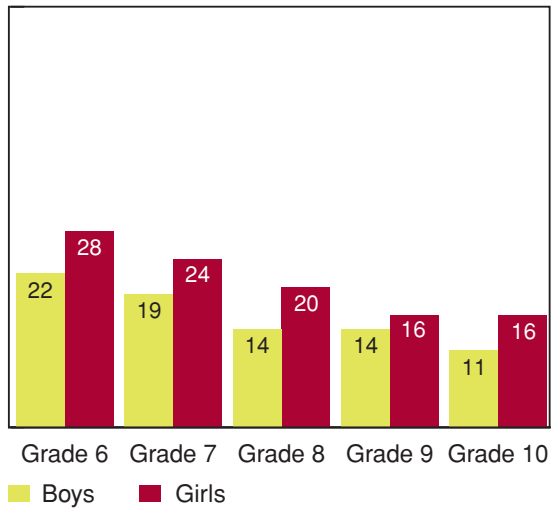
Prosocial behaviours

The five-item prosocial behaviours scale has a reliability of 0.85 (**Table 2.4**). Similar to the behavioural problems scale, each item is rated in terms of likeness to oneself. Prosocial behaviours are seen in terms of performing positive actions for people without being asked including doing favours, lending things, helping, complimenting, and sharing things. When students were divided into three approximately equally sized groups with respect to prosocial behaviours, 31.5% of students were in the highest group.

Table 2.4: Prosocial behaviours

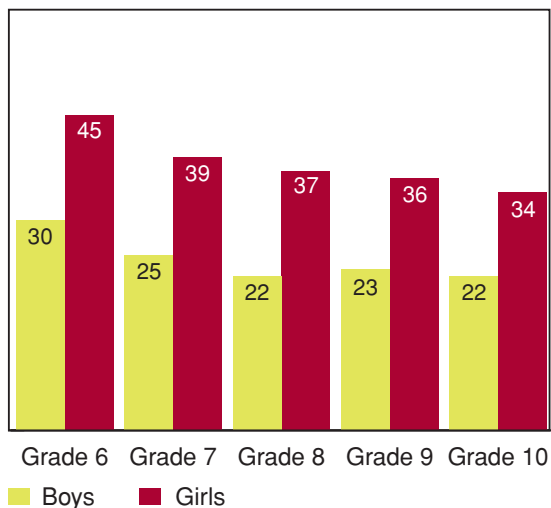
I often do favours for people without being asked	
I often lend things to people without being asked	1=Definitely not like me
I often help people without being asked	to
I often compliment people without being asked	6=Definitely like me
I often share things with people without being asked	

2.10 It is definitely like me to often help people without being asked, by grade and gender (%)



While girls were more likely than boys to report helping people without being asked when followed across all grades (**Figure 2.10**), the difference was quite small, ranging from 2% (Grade 9) to 6% (Grades 6 and 8). The decline over time was steady and pronounced with the boys dropping from 22% in Grade 6 to 11% in Grade 10, and the girls decreasing from 28% in Grade 6 to 16% in Grades 9 and 10.

2.11 Students reporting high levels of prosocial behaviour, by grade and gender (%)



As seen in **Figure 2.11**, the results on the prosocial behaviours scale are similar to those on helping people in one respect. At each grade level, girls were more likely than boys to report prosocial behaviours, consistently at 12-15% higher. However, unlike helping others, the only marked decline in prosocial behaviours occurred between Grade 6 and Grade 8 when both boys' and girls' reports decreased by 8%. The numbers stabilized from Grades 8-10 for both genders.

2.12 Students reporting high levels of prosocial behaviour by perceived wealth and living with both parents (%)

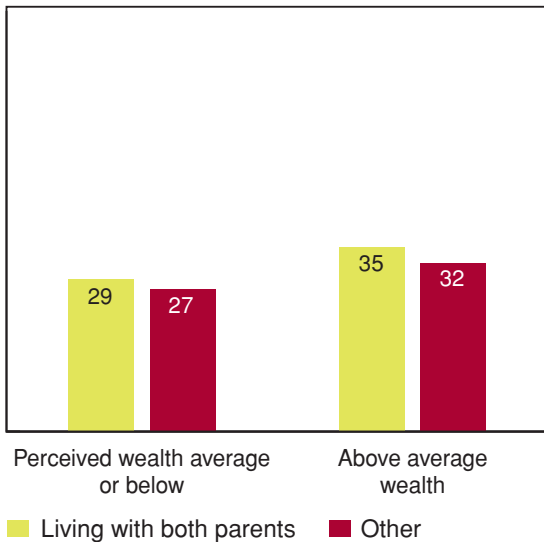


Figure 2.12 shows there is almost no difference between students in different family arrangements with respect to prosocial behaviours. In contrast, there is a difference related to perceived wealth (6% for both parents; 5% for other living arrangements), favouring those with greater perceived wealth.

Psychosomatic symptoms in Canadian students

Over the past several cycles of the HBSC national report, we have commented on a trio of psychosomatic symptoms. Two of these symptoms (backaches and being bad-tempered or irritable) are not part of any of the four scales we constructed for this report (scales based on factor analyses), while the third symptom (feeling depressed or low) is part of the emotional problems scale. To continue our trend analysis of these three symptoms, we include them here.

2.13 Having backaches at least once a month, by grade and gender (%)

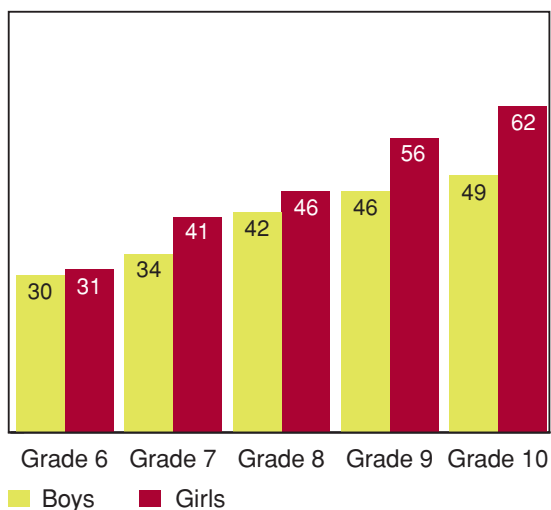
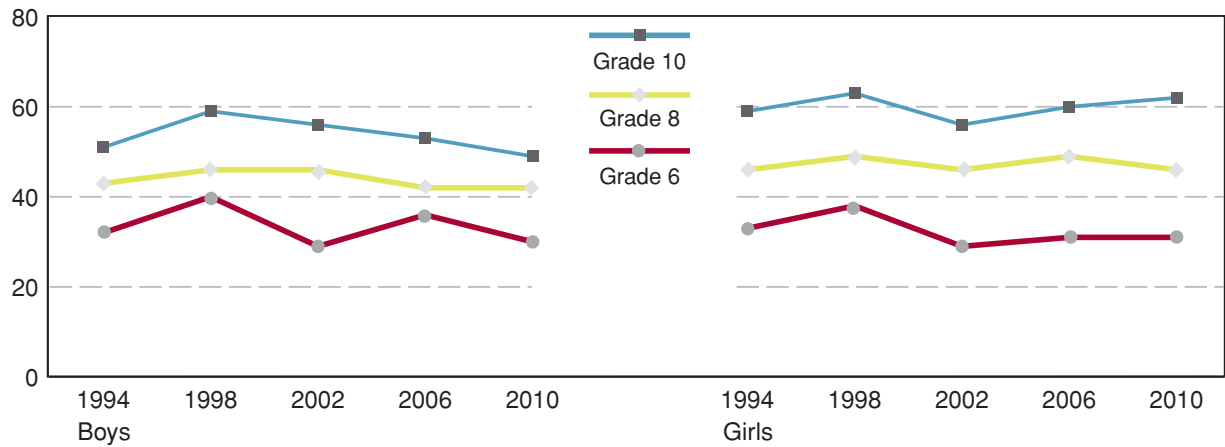


Figure 2.13 shows the percentage of students who reported having a backache at least once a month in the past six months. Proportions of young people who have backaches increased for both boys and girls over the grades, starting at 30% for boys and 31% for girls in Grade 6, growing to 49% and 62% by Grade 10, respectively. The increase was thus steeper for girls than it was for boys, such that the 1% difference in Grade 6 grew to a 13% difference in Grade 10. The largest increases for girls (at 10%) were between Grade 6 and 7 and between Grade 8 and 9. The largest increase for boys (8%) was between Grade 7 and 8.

2.14 Having backaches at least once a month, by grade, gender, and year of survey (%)

Two trends can be noted in the 2010 backache data in comparison with previous surveys (**Figure 2.14**). The greater number of boys than girls reporting backaches in Grade 6 for the 2006 survey has not continued in 2010, where, as in 1994, 1998, and 2002, the numbers for both sexes were almost the same. Similarly, there is no noticeable trend for Grade 8 students. However, the increasing differential between Grade 10 girls and boys with respect to backache noted in 2006 (60% and 53% respectively) has been further augmented in 2010 (62% and 49%). Thus, while Grade 10 boys' reports of backaches have consistently decreased since 1998 (after a sharp increase from 1994 to 1998), the Grade 10 girls' reported incidence remained virtually unchanged.

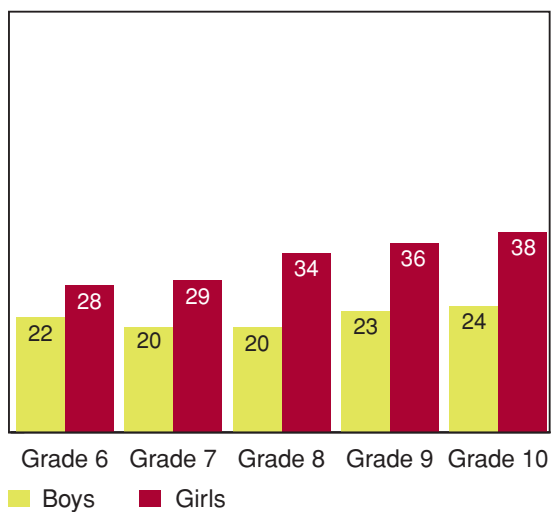
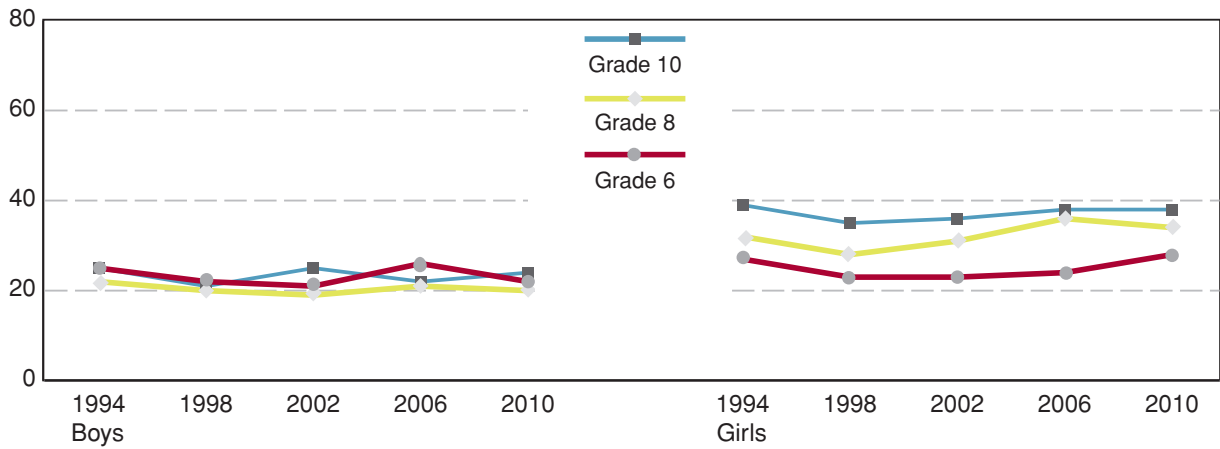
2.15 Feeling depressed or low at least once a week, by grade and gender (%)

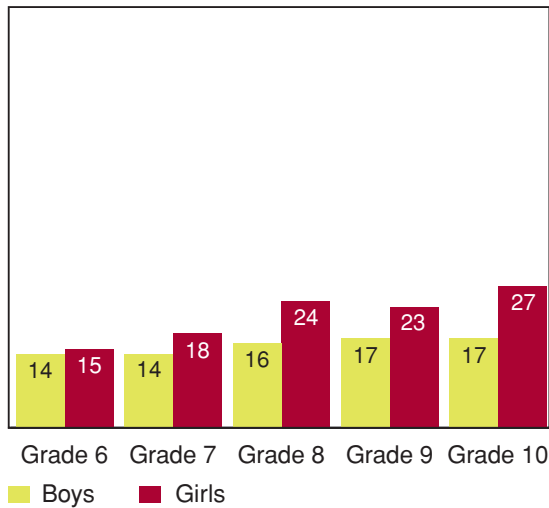
Figure 2.15 gives a picture of the percentage of students who felt depressed or low at least once a week in the past six months. For boys, the number was relatively stable across grades, ranging from 20% to 24%. In contrast, for girls, the number was lowest in Grade 6 (28%) and increased steadily to 38% in Grade 10. The gender gap was smallest in the two lowest grades (6% Grade 6; 9% Grade 7) and largest in the three highest grades (14% Grades 8 and 10; 13% Grade 9).

2.16 Feeling depressed or low at least once a month, by grade, gender, and year of survey (%)



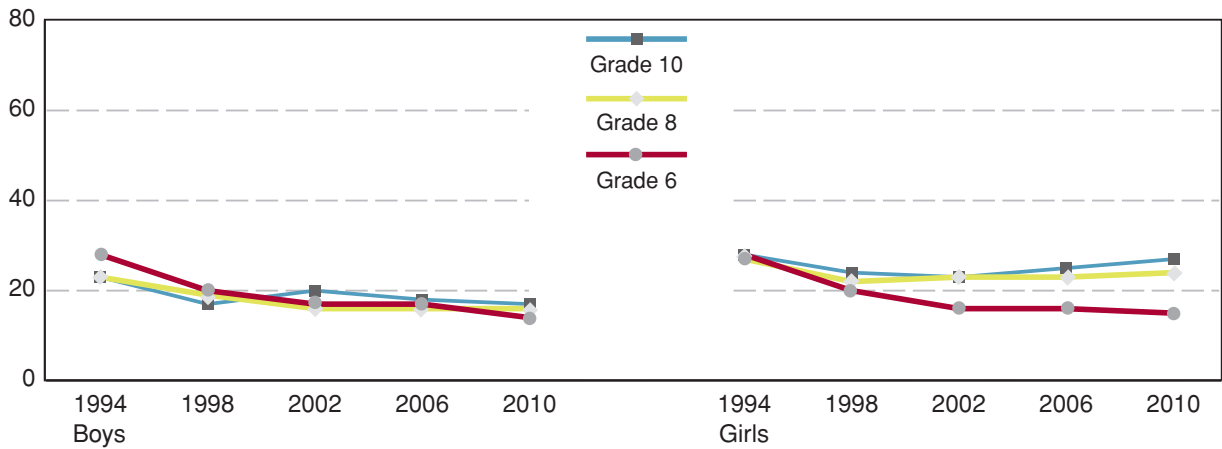
The pattern for feeling low or depressed by grade and gender varies little by survey year (Figure 2.16). In all surveys, the percentages for girls exceeded those for boys in Grades 8 and 10, as the symptom remains relatively constant for boys across grades while increasing steadily for girls. While there was virtually no gender gap in feeling depressed or low in the past four surveys for Grade 6 students, there was a Grade 6 gender gap in 2010.

2.17 Feeling bad tempered or irritable more than once a week, by grade and gender (%)



Similar to the other two psychosomatic symptoms reported, the pattern for being bad tempered or irritable more than once a week in the past six months showed gender differences that generally grew in older grades (Figure 2.17). The percentage of boys being in a bad mood/irritable remained constant across the grades, whereas the percentage of girls suffering from these conditions increased by grade, with the biggest jump between Grade 7 and Grade 8. Thus, while boys and girls had almost the same rate of being bad tempered/irritable in Grade 6, at 14% and 15% respectively, there was a gender gap in all the other grades, with girls reporting higher incidences of bad mood/irritability in each grade. The gap was widest in Grade 10 at 10%.

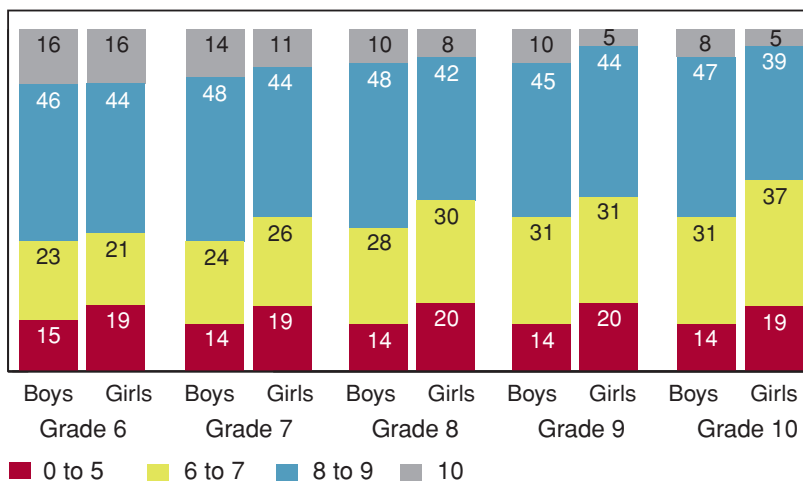
2.18 Feeling bad tempered or irritable more than once a week, by grade, gender, and year of survey (%)



The findings related to gender differences in bad temper and irritability were consistent with those from the surveys since 1998 (Figure 2.18). In each survey year since 1998, girls' reporting of bad temper/irritability spiked between Grades 6 and 8 but was quite steady between Grades 8 and 10, while the boys' reporting of the symptom showed little grade-related change. While there was a marked decrease in feeling bad tempered or irritable between the 1994 and 1998 surveys, the percentages within each grade-gender combination (Grade 6 boys and girls, Grade 8 boys and girls, Grade 10 boys and girls) have not changed substantially since 1998.

Life satisfaction among students

2.19 How students rate life out of 10, by grade and gender (%)



In Grade 6, 62% of boys and 60% of girls gave themselves a high score (between 8 and 10) on the life satisfaction ladder (Figure 2.19). This proportion for boys remained steady in Grade 7 but went down to 58% in Grade 8 and 55% in Grades 9 and 10. In contrast, the percentage of girls reporting high life satisfaction decreased sharply from Grade 6 (60%)

to Grade 7 (55%), to Grade 8 (50%). The ratings dropped to under 50% in Grades 9 and 10 (49% and 44%, respectively). As with many other measures of emotional health, there were limited gender differences in Grade 6 (2%), but marked gender differences in Grade 10 (11%).

Life satisfaction is a single-item indicator of emotional well-being. Using a scale from 0 ("worst possible life") to 10 ("best possible life"), students indicate how satisfied they are with their lives.

What young people thought about these findings

The major goal of the youth engagement workshop in March 2011 was to document the insights of a sample of young people from across Canada with respect to mental health and its determinants. As such, mental health was more prominent in the young people's minds than other aspects of health. More specifically, these young people were: (1) presented with core definitions of the four indicators of mental health being considered in this report (emotional well-being, prosocial behaviour, emotional problems, behavioural problems); (2) asked to provide insights into some of the basic patterns observed in these key indicators; (3) asked to provide additional interpretation of observed relationships among mental health, health behaviours, and environmental factors as outlined in subsequent chapters.

It is clear that young people can provide deep and meaningful insights into many of the patterns that emerged from the HBSC analyses. Many of these insights focused on the role of developmental and gender factors in shaping their emotions and feelings. Others focused on how various environments such as home, peer group, and school shaped their feelings and emotions, and how relationships in these environments were core determinants of mental health. For them, mental health transcended all aspects of their daily lives and affected them and their situation no matter where they were or what they were doing. The youth agreed with the current research that good mental health is not just about the absence of negative aspects but also about the presence of positive aspects, the assets in their lives. This balanced interpretation was appreciated.

It was clear from the workshop that there is value in asking young people directly about statistical patterns to get at deeper meanings and interpretations of research findings. This workshop was a trial of sorts for HBSC. The workshop format offered a novel approach to gaining richer perspective on statistical findings with the final report benefiting from the process.



Heather Kirby

“ We know stuff that you don't and you know stuff that we don't. We just need to work together. ”

—Youth, Healthy Advice Workshop

“**Emotional health is affected by a lot of things we do ...
If you have good emotional health you feel good inside, positive.**”

—Youth, Healthy Advice Workshop

Summary and implications

Key issues of concern

- 1 Regardless of the way that the emotional mental health indicators were examined, girls reported more negative outcomes, while boys reported more negative indicators for behavioural outcomes.
- 2 Mental health suffers as adolescents move through the grades, especially for girls, with positive indicators decreasing and negative indicators increasing.
- 3 About one-fifth of boys and one-third of girls feel depressed or low on a weekly basis or more often.

Key issues to celebrate

- 1 In averaging the responses of students from Grade 7 to 10, more than 50% of Canadian adolescents surveyed rated their life satisfaction as 8 or higher on a 10-point scale.
- 2 None of the individual behavioural problems was reported by greater than 10% of the adolescents surveyed as being “somewhat or definitely” like them (fighting, the illustrative item in this chapter, having been chosen as the most frequent).
- 3 Relatively few adolescents (about 25% for boys and 30% for girls) wish they were someone else.

Commentary

This chapter focuses on four types of mental health indicators, contrasted with respect to internalizing/emotional versus externalizing/behavioural, and positive versus negative outcomes. These indicators were examined with reference to grade, gender, perceived wealth, and family structure.

Regardless of the way internalizing/emotional outcomes were examined, girls reported more negative outcomes. They had higher levels of emotional problems and lower levels of emotional well-being and life satisfaction than boys. Girls, compared to boys, also indicated that they more often wished they were someone else. They also had lower self-confidence, a higher number of backaches, felt depressed or low more often, and more often felt bad-tempered or irritable. The trends on these last three variables indicate that the situation has not changed over time and, on the few occasions when it has, the gender gap seems to have worsened. Furthermore, while on many internalizing/emotional variables, boys' scores remained fairly consistent across grades, scores for girls consistently worsened.

In contrast, externalizing/behavioural outcomes favour girls, who reported fewer behavioural problems and more prosocial behaviours than boys, although the size of this gap was smaller than that for internalizing/emotional outcomes. However, for both boys and girls, externalizing/behavioural outcomes worsened across grades such that older students demonstrated more behavioural problems and showed fewer prosocial behaviours.

Perceived wealth is most related to internalizing/emotional indicators of mental health, most particularly emotional well-being, but minimally related to externalizing/behavioural indicators. Family structure has small but consistent relationships with all indicators of mental health, with students who live with both parents having the advantage.

One of the most intriguing findings, given the recent research literature, is the small difference in findings between positive and negative indicators of mental health. Specifically, one can arrive at the same determinants of mental health irrespective of whether one models positive or negative mental health outcomes. Thus the strong gender and perceived wealth effects were distinguished in terms of internalizing/emotional as opposed to externalizing/behavioural. They were unrelated to whether the measure was positive or negative mental health, although the two types of measures could be distinguishing different adolescents and different underlying causes.

While the gender and perceived wealth differences are a cause of concern, so too is the number of students whose mental health is not as strong as one would hope. Regardless of grade, gender, or year of survey, between 14% and 27% of students reported feeling irritable or bad-tempered more than once a week, and between 19% and 38% reported feeling depressed or low more than once a week. Regardless of survey year, almost half of Grade 8 students and more than half of Grade 10 students reported monthly back-aches. By Grades 9 and 10, only about 1 in 4 boys and 1 in 5 girls indicated they had high self-confidence, while just over 20% of boys and about 30% of girls across all grades often wished they were someone else. Furthermore, between 14% and 20% of students graded their life satisfaction as 5 or less on a 10-point scale. It is necessary to try to find ways to ameliorate gaps in mental health across gender, grade, perceived wealth, and family structure. It is even more necessary to address mental health comprehensively to help the significant minority of students who are struggling with mental health issues.



How might we reach this goal? We suggest a three-pronged approach. First, Canadians need to recognize the significance of mental health issues in our current society. They must understand that young people experience poor mental health and/or lack positive mental health at relatively young ages. It is not sufficient or prudent to wait until individuals reach adulthood or they reach a crisis situation before we take their mental health seriously. Second, Canadians need to understand that mental health is gender and age-related. It has positive and negative, internal and external aspects, with these distinctions especially important for better understanding how different people experience their lives. Finally and most critically, Canadians all need to take responsibility for the mental health of adolescents. Responsibility lies not just with schools, parents, or even just adults, but with all of us to actively listen to the voices and input of youth themselves.

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3

by Matthew King and
Carolyn Hoessler

Home

What is the home setting?

The home and family in the context of this report are specifically related to the parents or guardians of the students surveyed. Family relationships are characterized by relationships with mothers and fathers or their partners in the event students do not live with their birth parents. Although the family dynamic includes siblings and others in the home, these relationships are not captured in this report.



Why does the home setting matter?

The family provides the first socializing context in a young person's development. It is recognized as having the central role in socialization (Parke & Buriel, 2006). Children learn and develop values and norms based on those modeled, taught, and enforced within the family environment. Children who are exposed to a parenting style that combines warmth, control and affection throughout their childhood are more likely to be self-reliant, responsible, and friendly and achieve high academic standing at school (Kail & Barnfield, 2009). Parents also exercise key influence on youth choices. For example, research has found that strong parental support buffers the influence peers have on a child's engagement in risky behaviours such as substance abuse (Bremner et al., 2011).

Adolescence is typically a time when young people begin to challenge parental controls and values and also begin to be influenced by their peers (Collins & Steinberg, 2006). This growth in personal autonomy during the period of adolescence can result in varying degrees of conflict with parents. Relationships with parents, including communication and connectedness with family, are an important source of support throughout adolescence and have been demonstrated to be highly correlated to reduced delinquent behaviour, depression, and psychosomatic symptoms (Currie, 2008). Positive parenting

practices build protective factors for young people. Gribble et al. (1993) showed that strong parent-child relationships were associated with resilient outcomes among children exposed to major life stressors. Additionally, parental involvement and support greatly increases a teenager's self-esteem as well as other psychological indicators of well-being during adolescence (Bulanda & Majumdar, 2009).

Having a happy home life, characterized by open and respectful communication with parents and siblings, relates to better adolescent well-being and self-esteem and fewer emotional problems and delinquent behaviours.

—Gutman & Eccles, 2007

Possible effects of the home setting on mental health

Living with both parents is associated with a number of factors such as increased socio-economic status and decreased family disruption that are expected to be related to more positive mental health outcomes. When changes within the family take place, poorer mental health outcomes such as depression and anxiety can result (Nunes-Costa, Lamela, & Figueiredo, 2009). Young people who have positive relationships with parents that provide emotional support and encouragement, and with an absence of conflict, are expected to be more likely to have more positive outcomes on the mental health and well-being measures (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Steinberg, 2001). It is anticipated that parent relationships will be an important determinant of mental health.

What are we reporting in this chapter?

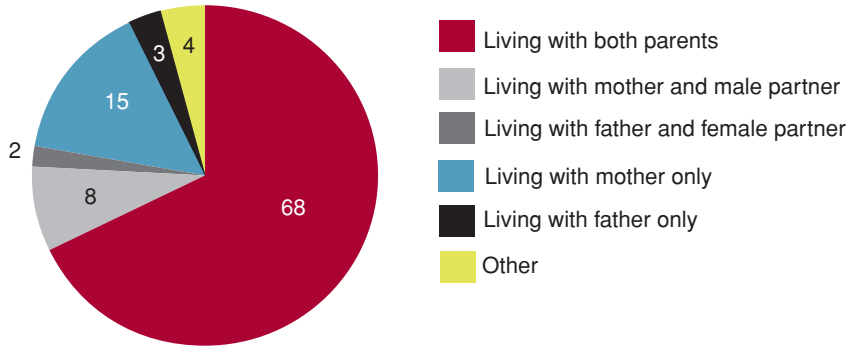
The 2010 survey asked participating students to identify who they lived with and whether or not they had a second home. From these data, a measure identifying family make-up was created. Students were asked specific questions about how well they could communicate with their parents about things that really bother them, to what extent they felt understood and trusted by their parents, attached importance to parental opinion, felt the weight of parental expectations, argued with parents, disobeyed their parents, and had thoughts of leaving home.

New in 2010, survey respondents were also asked how many days a week they sat down to dinner with their parents. This is a measure of family connectedness that is an important dimension of a protective home environment and contributes to adolescent resiliency, which in turn is related to a spectrum of health outcomes. Longitudinal studies of children and adolescents find that regularly having dinners together with the family each evening not only promotes better eating behaviours and physical health, but also relates to better cognitive, emotional, and social competencies (Weinstein, 2005; Woodruff & Hanning, 2009).

In this chapter we examine living with both parents, ease of communication with father and mother, whether students have a lot of arguments with their parents, and how often students eat dinner as a family in relation to the four mental health measures: (1) emotional well-being; (2) prosocial behaviours; (3) emotional problems; and (4) behavioural problems.

Living arrangements of Canadian students

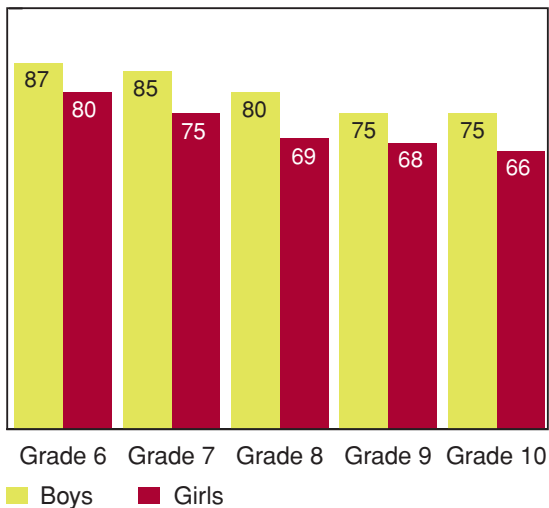
3.1 Family structure (%)



Approximately two out of every three students in Canada live with both parents (Figure 3.1). An additional 23% live with their mother only or their mother and a male partner. Whether or not students live with one or both parents does not necessarily impose a risk for poor mental health. There are however a number of associated factors, such as lower socioeconomic status, family conflict, parent availability and contact, shared custody issues, and other family disruptions that tend to be associated with poorer mental health outcomes.

Reports of happiness at home

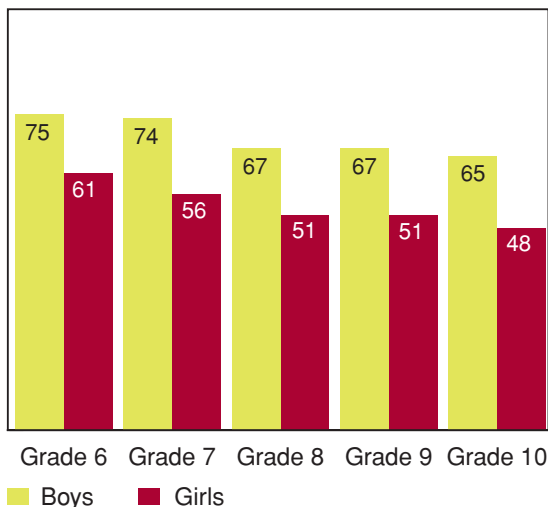
3.2 Students who report having a happy home life, by grade and gender (%)



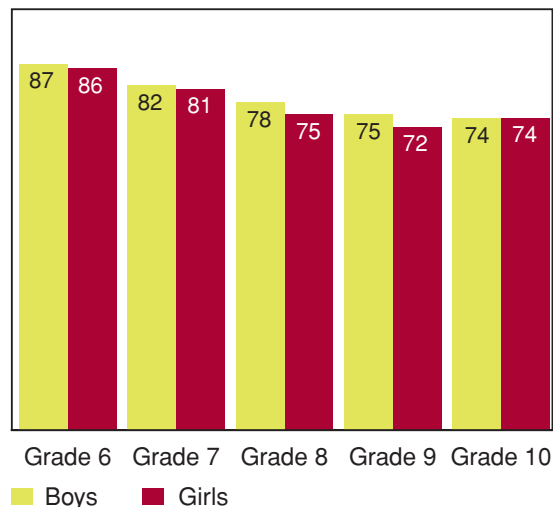
The vast majority of students reported that they had a happy home life (Figure 3.2). For both boys and girls however, there was a decrease in the proportions agreeing that they had a happy home life from Grade 6 to 10. Despite the decrease as students got older, 75% of Grade 10 boys and 66% of girls still reported they had a happy home life. Overall boys were much more likely than girls to feel this way.

Parental communication, understanding, and trust

3.3 Father is easy or very easy to talk to, by grade and gender (%)



3.4 Mother is easy or very easy to talk to, by grade and gender (%)

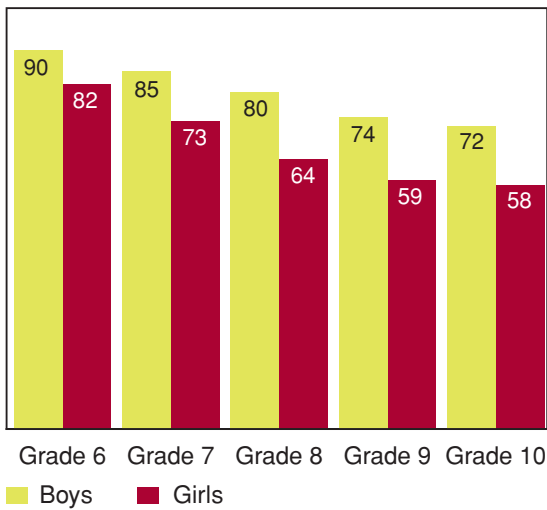


Students were asked how easy it was to talk to their mother and father about things that really bother them (**Figures 3.3** and **3.4**). Some interesting patterns in where young people go to for support were revealed. Overall, both boys and girls were more likely to find it easier to communicate with their mothers than their fathers about things that really bother them. Boys and girls were quite similar across the grades in finding it easy to talk to their mothers and there was an overall decrease in this comfort level for both boys and girls as students got older. Though boys were more likely to find it easy to talk to their mothers than their fathers, they were much more likely than girls to find it easy to talk to their fathers. For both boys and girls, ease of talking to their father decreased significantly as they got older.

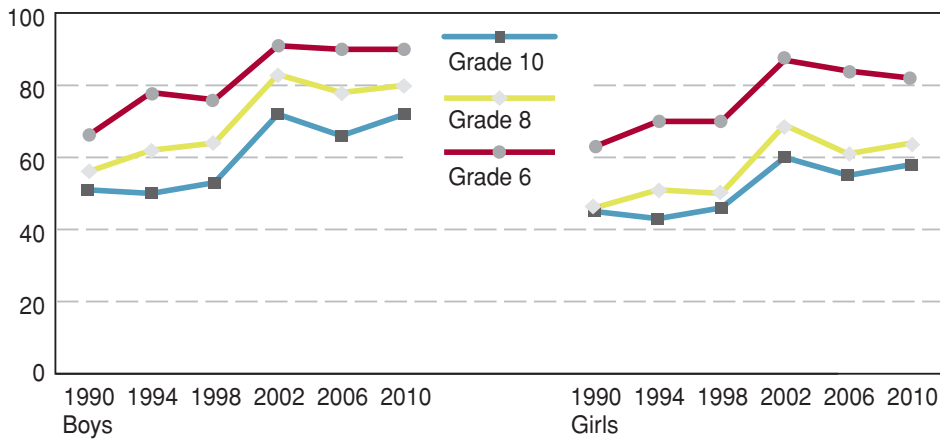


Younger students were much more likely than older students to feel understood by their parents, with 90% of Grade 6 boys and 82% of Grade 6 girls agreeing with the item “My parents understand me,” compared to 72% of boys and only 58% of girls by Grade 10 (Figure 3.5). Boys were substantially more likely than girls to agree that they were understood by their parents at all grades. These patterns have been consistent across the six cycles of data collection from 1990 to 2010 (Figure 3.6). Overall, the proportions of students indicating they felt understood by their parents rose steadily from 1990 to 2002, lowered from 2002 to 2006 and leveled off or increased slightly for each of the grade and gender groups in 2010. The increase in the proportions of young people feeling understood by their parents today relative to the early years of the survey is substantial and suggests that youth have much more positive relationships with their parents in recent years.

3.5 Students who report being understood by parents, by grade and gender (%)

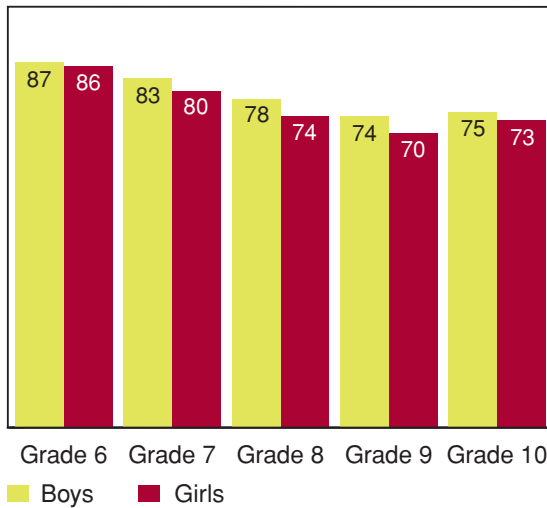


3.6 Students who report being understood by their parents, by grade, gender, and year of survey (%)

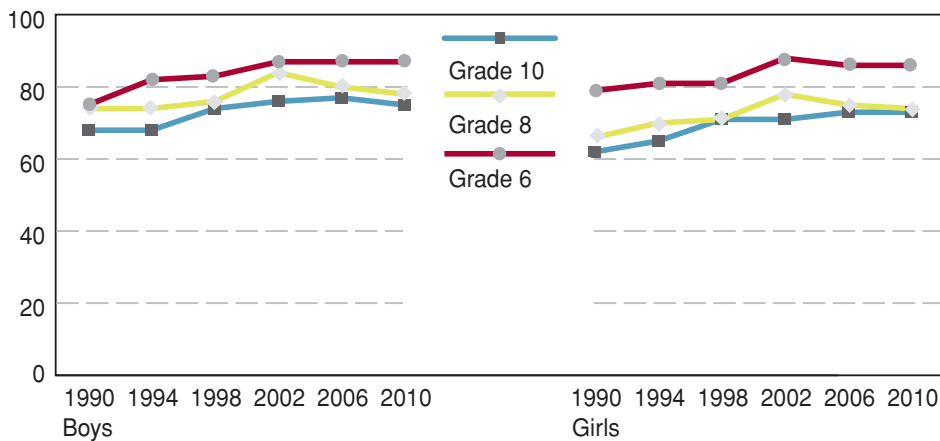


In contrast, the proportions of boys and girls agreeing that their parents trusted them were similar across the grades (Figure 3.7). Younger students were more likely than older students to indicate they felt trusted by their parents. The general trend over time was for the proportions of young people feeling trusted by their parents to increase from 1990 to 2002 and then to remain relatively unchanged from 2002 to 2010 (Figure 3.8). Compared to the time the first survey was taken in 1990, young people in 2010 were much more positive in this regard.

3.7 Students who report being trusted by parents, by grade and gender (%)

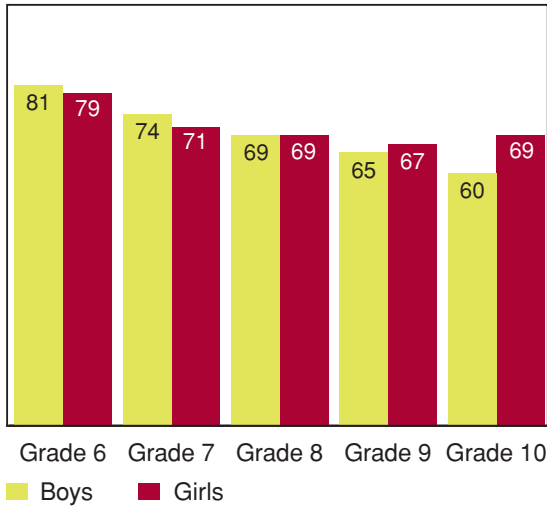


3.8 Students who report being trusted by their parents, by grade, gender, and year of survey (%)



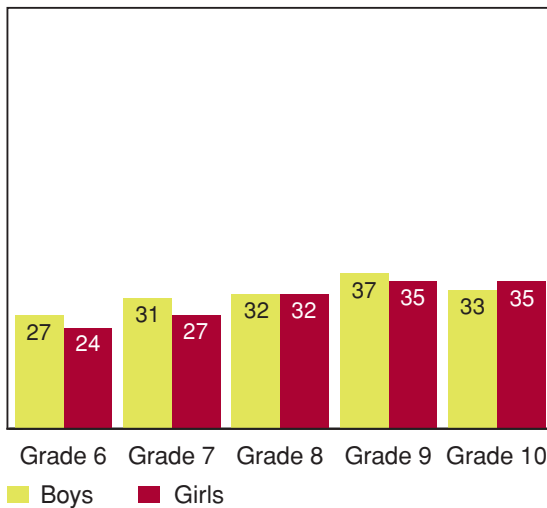
Parental opinion and expectations

3.9 Students who report that what their parents think of them is important, by grade and gender (%)



Four in five Grade 6 students agreed that what their parents thought of them was important (**Figure 3.9**). For girls, this proportion dropped at Grade 7 but varied little across Grades 7 to 10. For boys, the proportion indicating that parent approval was important to them steadily declined from Grade 6 through 10. Boys and girls are not dissimilar at any or the reported ages except at Grade 10 where more girls than boys valued their parents' approval.

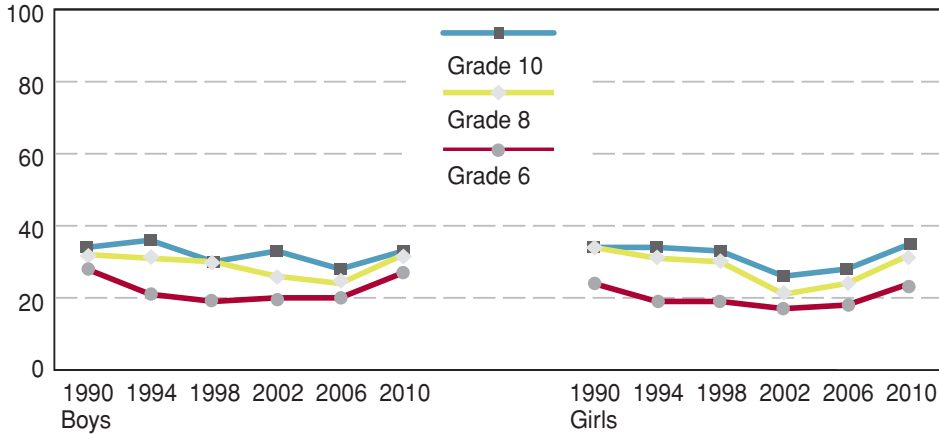
3.10 Students who think parents expect too much of them, by grade and gender (%)



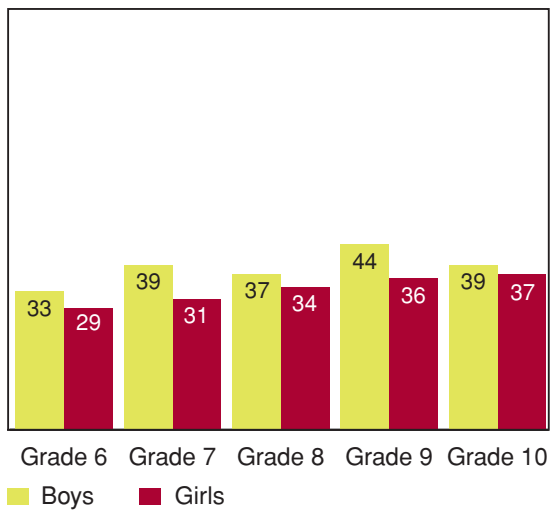
Students were asked to report on both parent expectations generally and parents' expectations related to school. Approximately one-third of the students surveyed indicated they felt their parents expected too much of them (**Figure 3.10**). Expectations generally increased from Grade 6 to Grade 9. Gender differences were small.

Higher proportions of students indicated their parents expected too much of them in 2010 than in 2006 (Figure 3.11). Compared to parents' expectations generally, higher proportions of students in all grades felt their parents expected too much of them at school (Figure 3.12). Boys felt more pressure than girls to do well at school. For girls there was a clear pattern of increasing pressure as they got older, while for boys the highest proportion agreeing that school pressure from parents was too great was 44% in Grade 9.

3.11 Students who think parents expect too much of them, by grade, gender and year of survey (%)



3.12 Students who think parents expect too much of them at school, by grade and gender (%)



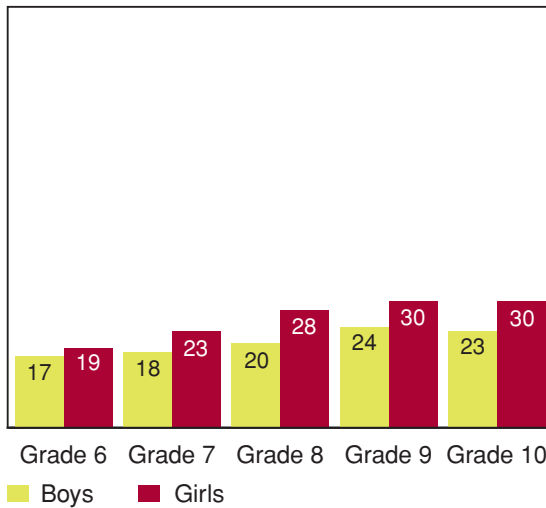
“ Sometimes it feels like parents are against you; don't let you learn from your own mistakes...but at the end of the day things are still ok... We can talk about problems, and reach an understanding. ”

—Youth, Healthy Advice Workshop

Conflict with parents

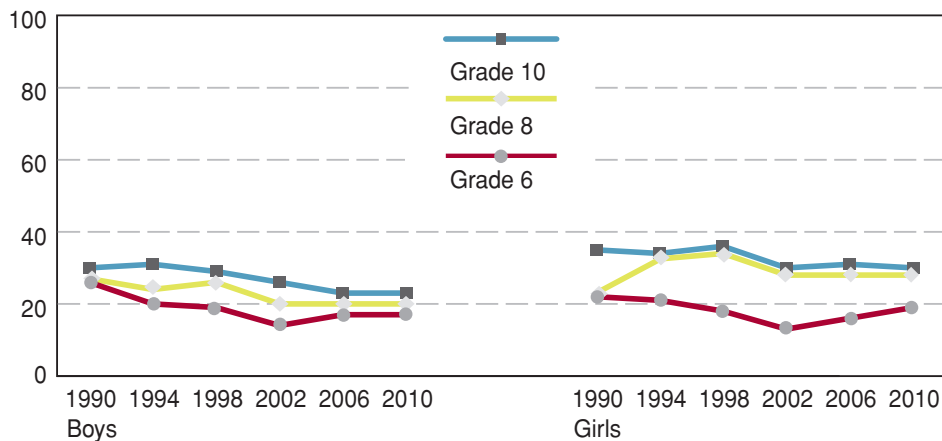
For Grade 6s, the trend has been for students to improve in this regard from 1990 to 2002, with boys changing little in the subsequent years and the proportion of girls having a lot of arguments with their parents increasing from 2002 to 2010. Grade 8 boys generally improved on this measure from 1990 to 2010, while girls have gone up and down on the measure before leveling out at 28% for each of the last three years. For Grade 10s, the percentages of both boys and girls remained about the same for the first three cycles of the survey, and lowered but remained consistent across the last three cycles three years of the survey.

3.13 Students who report having a lot of arguments with their parents, by grade and gender (%)



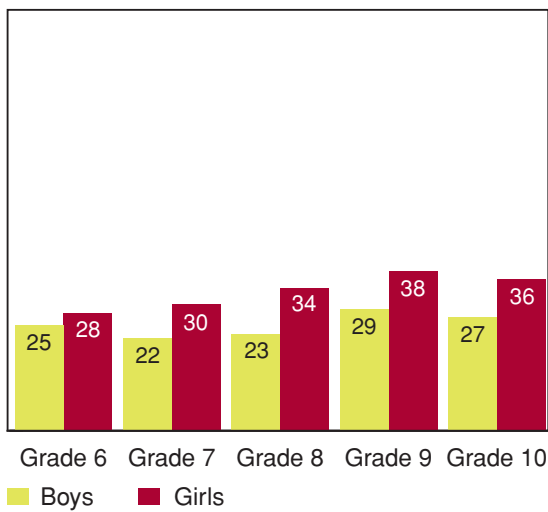
The pattern of students indicating they had a lot of arguments with their parents had an inverse relationship to the patterns related to feeling understood by their parents (Figure 3.13). Girls had more conflict with their parents than boys and there was an increase in the conflict between students and their parents as they got older, particularly for girls. Across the six cycles of the survey, the pattern of Grade 10 girls having more arguments with their parents than boys has been consistent (Figure 3.14).

3.14 Students who report having a lot of arguments with their parents, by grade, gender, and year of survey (%)

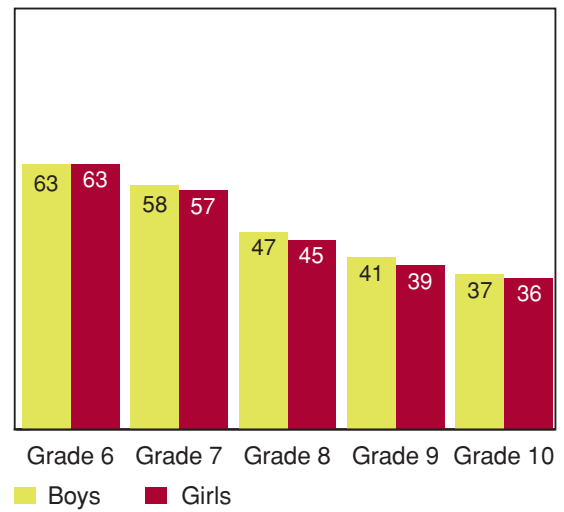


Between 22% and 38% of students across the grade and gender groups reported there were times they would like to leave home (Figure 3.15). Girls were much more likely to feel this way than boys and there was a general increase in the number who considered leaving home as students got older. Students were asked to respond to the item “I disobey my parents” using a six point scale with “definitely like me” at one end and “definitely not like me” at the other end (Figure 3.16). There was a very clear pattern of students indicating “definitely not like me” across the grade groups with a drop from 63% in Grade 6 to 36% in Grade 10. Boys and girls responded similarly to one another within each grade.

3.15 Students who report wanting to leave home at times, by grade and gender (%)

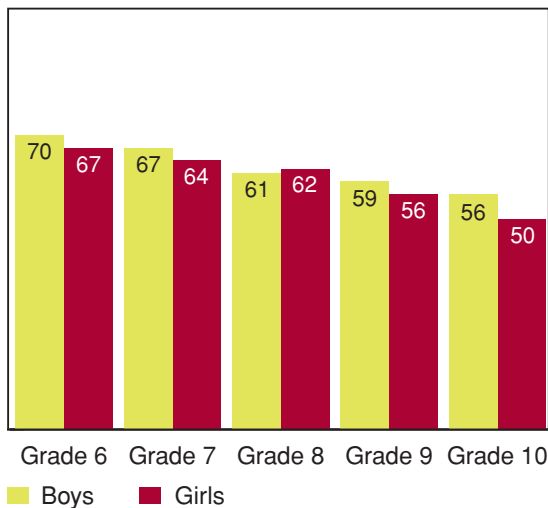


3.16 Students who respond “Definitely not like me,” to the statement “I disobey my parents,” by grade and gender (%)



Eating dinner with family

3.17 On average, your family sits down to dinner together five or more times per week, by grade and gender (%)

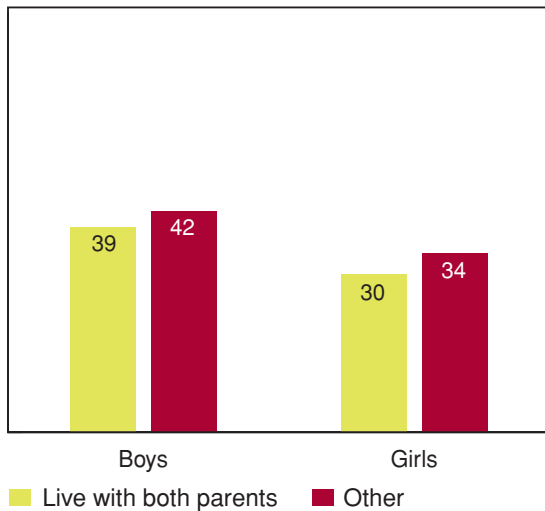


In Grade 6, over two-thirds of students indicated they sat down to dinner with their families on average five or more times a week (Figure 3.17). This percentage declined to just over half of Grade 10 students. Grade 10 girls were least likely to have dinner regularly with their families. Certainly involvement in various extracurricular activities can have an impact on this, but overall the measure is an important indicator of family dynamics. Sitting down to dinner as a family is indicative of a greater degree of family connectedness.

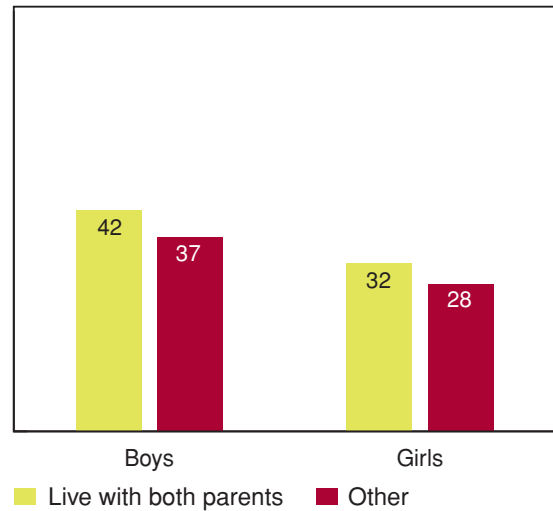
Relationships between home/parent relationships and mental health

In the introductory chapter, four measures of mental health are identified. Perhaps most illustrative of the strong relationship between the home and mental health is the fact that one of the individual items that makes up the emotional well-being scale is, do you agree or disagree with the statement “I have a happy home life”. Happiness at home is in itself a key dimension of emotional well-being.

3.18 Students reporting high levels of behavioural problems by live with both parents, by gender (%) *



3.19 Students reporting high levels of emotional well-being by live with both parents, by gender (%)



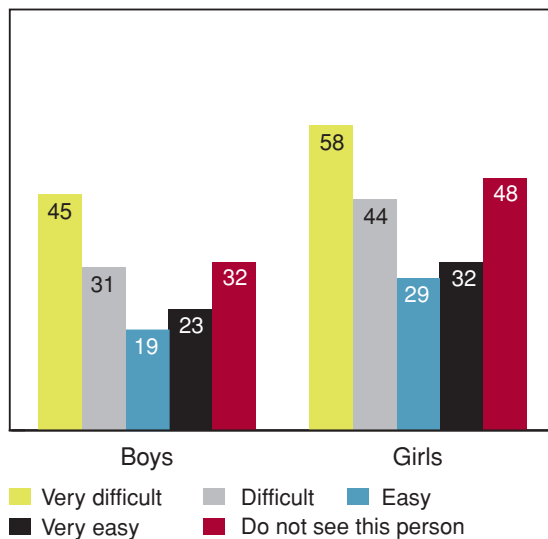
Though both boys and girls who lived with both parents were less likely to be in the highest group on the behavioural problems measure than those who didn't live with both parents, differences were small (**Figure 3.18**). Contrary to what one might expect, whether or not young people lived with both their parents was not a strong predictor of behavioural problems. It should be noted however, that this analysis controls for socio-economic status (SES). Emotional well-being was higher for those living with both their parents than for others (**Figure 3.19**).

“
Your life will be successful if your parents are by your side.
”
 —Youth, Healthy Advice Workshop

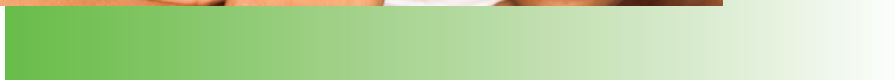
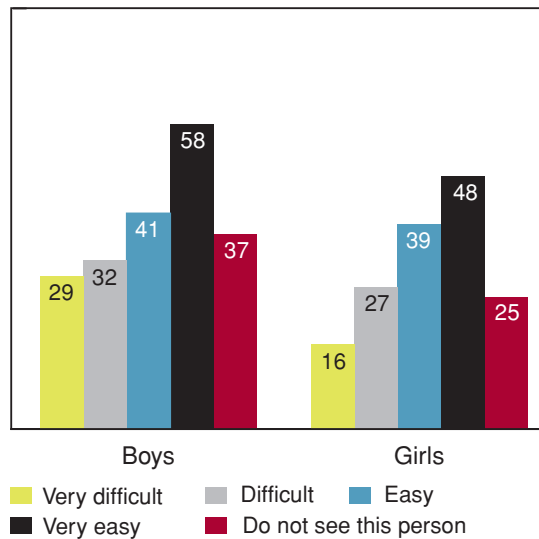
* 39% of boys who live with both parents report relatively high levels of behavioural problems, compared with 42% of boys who do not live with both parents. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

There was a very strong relationship between young people’s ease of talking to their father and being in the highest group on the emotional problems measure (Figure 3.20). Almost half of boys and over half of girls who found it very difficult to talk to their father had a high level of emotional problems compared to less than one-quarter of boys and less than one-third of girls who found it easy or very easy to talk to their father. Interestingly, both boys and girls who found it easy to talk to their father were less likely to have emotional problems than those who found it very easy to talk to their father. The easier students found it to talk to their father about things that bothered them, the more likely they were to be in the highest category on emotional well-being (Figure 3.21). Emotional problems were lower and emotional well-being was higher for those who didn’t have a father or didn’t see him than for those who did see their father, but found it very difficult to communicate with him.

3.20 Students reporting high levels of emotional problems by ease of talking to father, by gender (%)

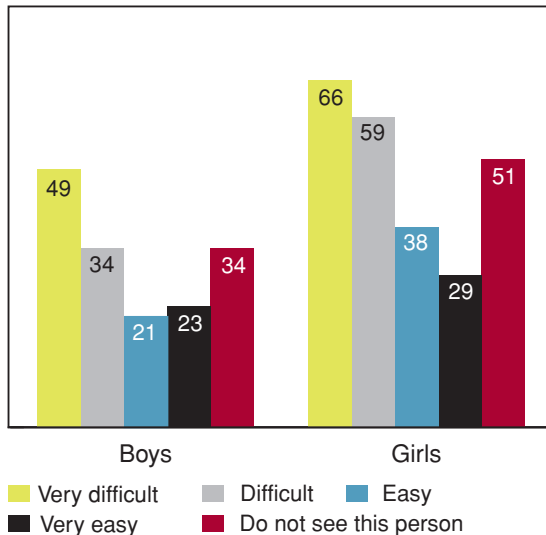


3.21 Students reporting high levels of emotional well-being by ease of talking to father, by gender (%)

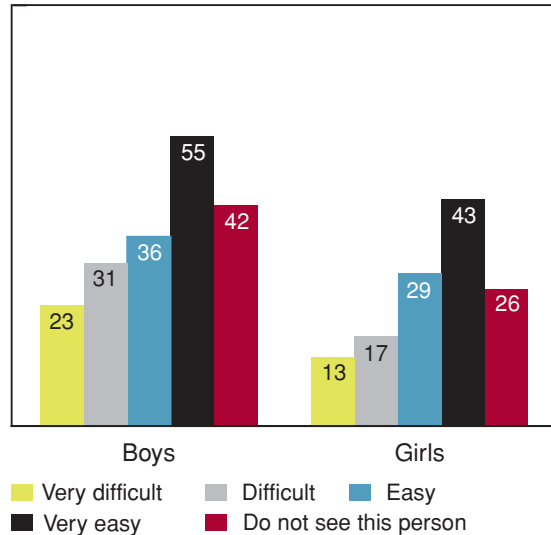


There was a powerful relationship between the ease of communicating with their mother around serious issues and all four mental health measures. For boys, those who found it very difficult to communicate with their mother were twice as likely as those who found it “easy” or “very easy” to have high levels of emotional problems (Figure 3.22). The differences for girls between the “very difficult” and “very easy” categories on the communication with mother item were even greater. It is noteworthy that half of the girls who didn’t have a mother or didn’t see their mother also indicated they had high levels of emotional problems. Inversely, both boys and girls who found it easy to talk to their mother were much more likely to report high levels of emotional well-being than those who found it difficult (Figure 3.23). Being able to communicate with their mother about problems is obviously a considerable asset in fostering positive emotional health and well-being for young people.

3.22 Students reporting high levels of emotional problems by ease of talking to mother, by gender (%)



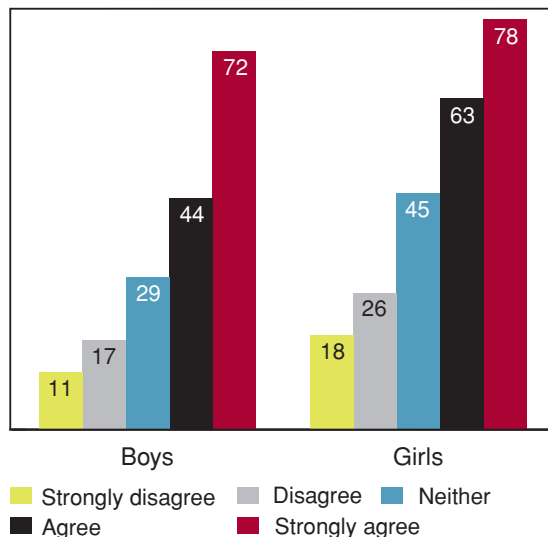
3.23 Students reporting high levels of emotional well-being by ease of talking to mother, by gender (%)



“Because I have support at home and my parents help me, I know how it feels when you have that, it feels good. Because I know how it feels I want to let others who may not have that support and parents who don’t help them get that good feeling of how it feels to have someone there. So in conclusion when you have a good relationship with your parents you tend to help others. That’s how I see it.”

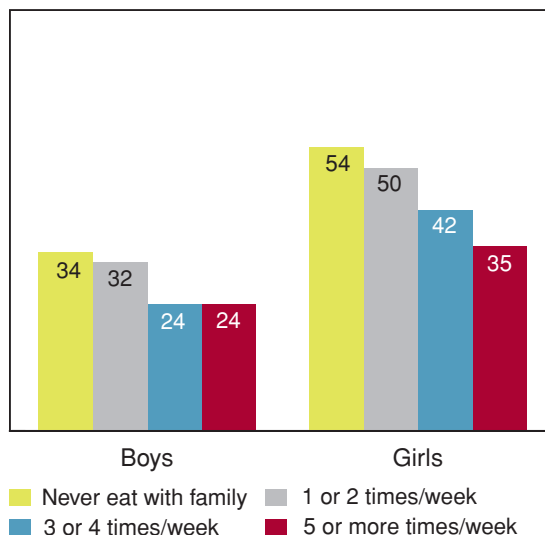
—Youth, Healthy Advice Workshop

3.24 Students reporting high levels of emotional problems by agreement to “I have lots of arguments with my parents”, by gender (%)



Students who had a home environment with conflict, where they had a lot of arguments with their parents, were much more likely to have emotional problems than those who didn't have such an environment (Figure 3.24). As with many of the interrelationships explored in this chapter, there is extremely powerful evidence to suggest this aspect of young people's relationships is critical to their mental health.

3.25 Students reporting high levels of emotional problems by “How often do you sit down to dinner with your family?”, by gender (%)

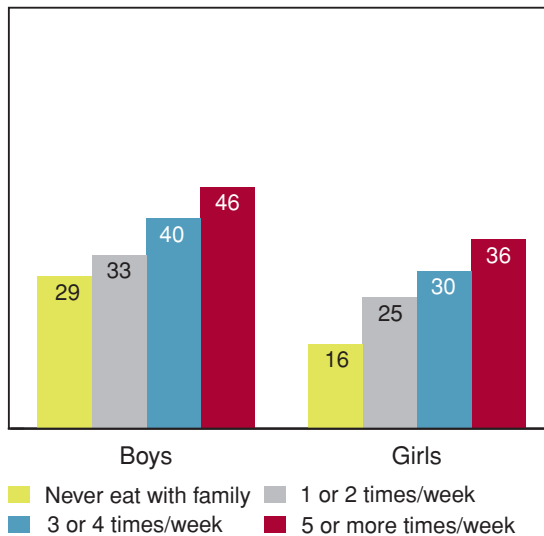


Students who reported sitting down to dinner together with their family more often were less likely to have emotional problems than those who didn't. This was true for both boys and girls, but the relationship was especially strong for girls (Figure 3.25). Students were also substantially more likely to report emotional well-being, with similar increases for both boys and girls, as the frequency of eating dinner as a family increased (Figure 3.26). Students eating dinner more regularly with their families were also more likely to respond positively on the prosocial behavior measure (Figure 3.27).

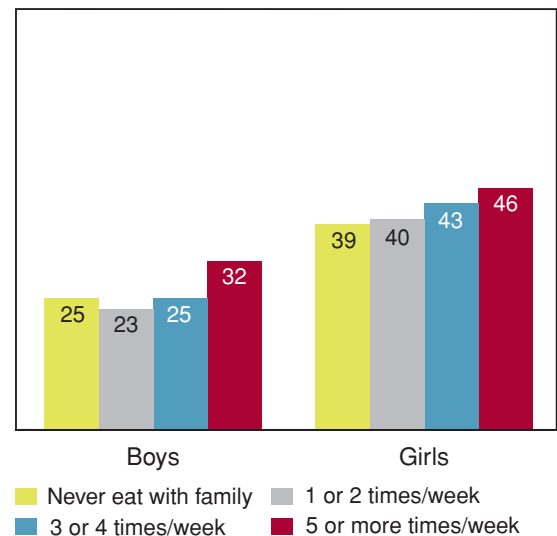
“Home is important. It provides security and makes me feel safe.”

—Youth, Healthy Advice Workshop

3.26 Students reporting high levels of emotional well-being by “How often do you sit down to dinner with your family?”, by gender (%)



3.27 Students reporting high levels of prosocial behaviour by “How often do you sit down to dinner with your family?”, by gender (%)



What young people thought about these findings

Contrary to all the apparent evidence of young people rebelling against parental control and influence over their lives, the youth attending the workshop were almost unanimous in their acknowledgement of the important roles that parents and positive home environments play in influencing the health and happiness of young people.

Youth attending the workshop provided examples from their own lives. They also talked about their peers, citing examples where they felt negative home environments were responsible for poor health choices and risky behaviour. The overriding theme, however, seemed to be how supportive parents, that young people could count on, were so very important to their mental health. Safety was a theme that some young people touched on. The fact that home could be a safe place, a refuge from life's problems, was a recurring idea.

The importance of having a parent or parents to confide in and go to for advice and consolation was also raised. The young people pointed out the importance of parents as role models, for how they conducted themselves, in shaping their personal morals and ethics, and influencing how they interacted with others in their formative years. There was a clear recognition that young people are the products of their home environments, good or bad, and the lessons they learn from their home environment are critical to their own life choices and behaviours. Perhaps somewhat surprisingly, there was a clear message of appreciation for parents and the value of a positive home environment as a critical foundation for their own health and well-being.

Summary and implications

Key issues of concern

- 1 About one-third of young people feel that their parents' expectations of them are too high both generally and at school.
- 2 Adolescent girls are less positive than boys on many of the measures of relationships with parents and a positive home life.
- 3 The strong relationship between mental health and a positive home life has clearer negative implications for the mental health of girls relative to that of boys.
- 4 Though boys and girls are equally likely to feel they can talk to their mother about things that really bother them, girls are much less likely to find it easy to talk to their father.

Key issues to celebrate

- 1 The vast majority of young Canadians have positive relationships with their parents and have a happy home life.
- 2 Three-quarters or more of both boys and girls in all grade groups find it easy to talk to their mother about things that really bother them.
- 3 There has been considerable improvement in students' relationships with their parents in the 2000s, compared to how students felt about these relationships from 1990 to 1998.
- 4 The vast majority of young people, and particularly boys, have a positive home life that contributes to positive mental health.

Commentary

The descriptive findings that appear in this chapter highlight that the majority of Canadian youth have positive home environments and relationships with their parents. On the general measure of “I have a happy home life”, the vast majority of boys, but fewer girls (between 7% and 11% less for each of the grade levels) agree with this statement. Students are less likely to indicate they have a happy home life as they get older.

Almost one-third of the students participating in the survey indicated that they were not living with both birth parents. It is perhaps not a great discovery that for young people not living with both parents, there can be negative implications for mental health. It is worth noting though, that when socio-economic status is controlled for, the negative implications are small.

This chapter reports on a number of specific aspects of relationships with parents. Being able to go to parents for advice and consolation around the problems young people face, and for communication around everyday issues, are each important facets of relationships with parents. The vast majority of young people find it easy to talk to at least one parent. This ease in communicating, like the sense of emotional well-being and prosocial behavior, diminishes as they get older. Students are more likely to find it easy to talk to their mother than their father and father/daughter communication is particularly difficult. Young people who find it easier to communicate with their father and mother are less likely to have emotional or behavioural problems and more likely have emotional well-being and report high levels of prosocial behavior. There is a clear connection between better mental health status and being able to communicate with parents.

Girls respond more negatively than boys on many of the measures of relationships with parents. For the items, having a happy home life, ease of talking to father, feeling understood by their parents, having a lot of arguments with their parents, and feeling they want to leave home at times, girls are much more likely than boys to respond negatively. There is also a tendency for the gap between boys and girls to increase with age.

The proportion of young people sitting down for dinner together with their families five or more days a week, is less than three-quarters for both boys and girls for all grades and decreases as they get older to the point where only half of Grade 10 girls and 56% of Grade 10 boys eat dinner as a family regularly. Eating dinner more regularly as a family has a strong positive relationship with young people's mental health across all four of the measures examined.

Supportive and caring parenting practices are crucial to the positive development of children and youth. Evidence shows that a strong and nurturing caregiver-child relationship supports the development of a child who is physically, psychologically, intellectually, and socially healthy and who is more resilient to determinants of ill health.

—Kail & Barnfield, 2009

Data are presented on trends over time for four parent relationship items. With one exception, the results are indicative of a general historical pattern where there was an increase in the positivity of student responses in 2002 over the years 1990 to 1998 and a leveling out over the last three cycles from 2002 to 2010. Student responses for 2010 are similar to how they felt about their relationships with parents in 2002 and 2006.

In summary, this chapter provides simple descriptive information on some of the key dimensions of the relationships young Canadians have with their parents, and examines how these relationships relate to mental health. The home environment is clearly a critical foundation for young people's mental health and is necessarily an important consideration in any strategy aimed at improving these aspects of young people's lives. In short, parenting and the quality of home environments are clearly of vital importance to the lives of young people in Canada.

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4

by Don Klinger, Adam Mills, and Allison Chapman

School

The importance of the school environment

Youth spend a lot of their time at school. Thus it is not surprising that their school-related experiences have a significant influence on their cognitive development, and their physical and mental health. Schools provide a “critical context for shaping children’s self-esteem, self-efficacy and sense of control over their lives” (Stewart, Sun, Patterson, Lemerle, & Hardie, 2004). As children move forward into their early and later teen years, schools become more important, and the support of teachers and peer connections within schools may have an even greater influence than their home context (Stewart, 2008; Stewart et al., 2004).



Kurtis Chen

Young people who feel connected with their school and have positive experiences with teachers and peers are more likely to develop strong emotional bonds and self-confidence. They are much less likely to engage in health-compromising activities or struggle with their mental health and emotional well-being (e.g., Wold, Samdal, Nutbeam, & Kannas, 1998). Young people need to make strong connections with their peers and these peers also influence each other’s school experiences and subsequent behaviours. Young people who feel less connected to school are more likely to search and connect with like-minded peers, and these peer groups tend to engage in high-risk activities (Bond et al., 2007). Similarly, young people who do not feel accepted by their peers or connected with school are the most likely to have lower levels of confidence and sense of self (King, Vidourek, Davis, & McLellan, 2002).

“**School is your second home because you spend so much time in it.**”

—Youth, Healthy Advice Workshop

Schools have an important role to play in supporting young people's learning of knowledge and skills. The social connections and experiences that occur in schools likely have a lasting influence on young people's lives and subsequent decisions.

—Bond et al., 2007; King et al, 2002

Young people who have positive perceptions of their classrooms and teachers also report more positive attitudes towards school and higher levels of achievement.

—Ma & Klinger, 2000; Wold, Samdal, Nutbeam, & Kannas, 1998

As we highlight throughout this report, there is an important population of children and youth who struggle with mental health. Our data indicate that these challenges are even more difficult if the school does not provide a safe and inviting refuge. In the long term, young people with mental health challenges are less likely to develop positive connections with teachers or their peers, are more likely to engage in risk behaviours, and have lower levels of education and social attainment (Bond, Butler, Thomas, Carlin, Glover, Bowes, & Patton, 2007; Osterman, 2000).

What are we reporting in this chapter?

In recognition of the important role that school plays in young people's lives, the HBSC study includes several measures that focus on academic achievement, school climate, and school-related interactions. On the survey items young people were asked to report on teachers' perceptions of their school performance, their most recent marks, feelings of school satisfaction, student participation and perceived fairness at the school, safety, belonging, acceptance by classmates, teachers' attitudes towards them as people, feelings of pressure, and availability of parental help and encouragement regarding school (Baker et al., 2003; Kunter et al., 2007; Midgley et al., 2000). New in 2010 was an item on the tendency for students to skip out of school or classes, a measure that is likely related to school connectivity, emotional well-being, and risk behaviour.

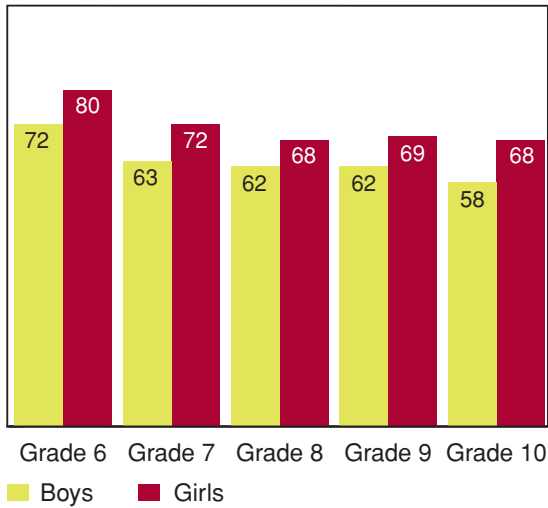
Of particular importance are those differences between boys and girls and the trends that occur across grades as students transition from elementary to secondary education. These differences provide us with a deeper understanding of the various perceptions of students across gender and grade, and may provide us with further insights into differences in health related measures that are reported in other chapters. Previous iterations of the HBSC survey also enable us to report on trends over time on measures of perceived achievement and school satisfaction. Once again, these trends can help us to better understand how student's perceptions of school and learning are changing over time, and the possible links between these changes and students' physical and mental health.

Lastly, given the likely links between school experiences and mental health, we report on the associations between these factors. We believe these associations will identify areas for further exploration and research and will have important implications for school practices and policies. Certainly, these associations suggest that students' experiences at school are closely related to their sense of self, confidence, and behaviour.

Young people's educational experiences

School achievement

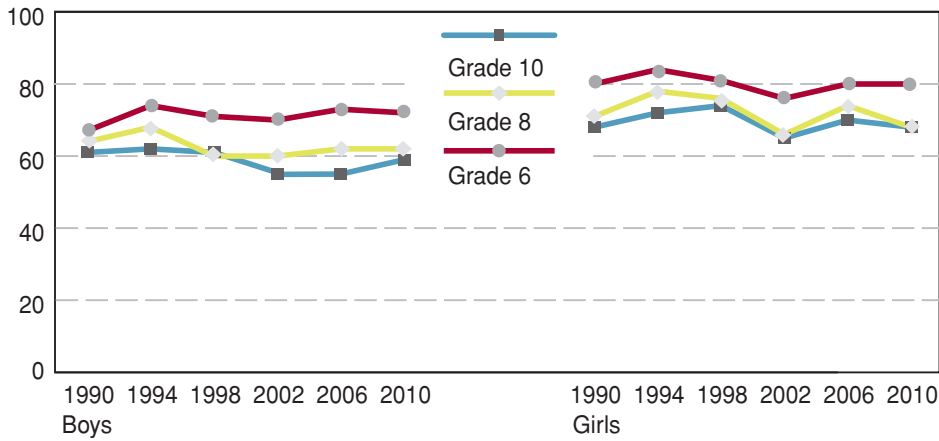
4.1 Students who report that teachers think their school work is good or very good, by grade and gender (%)



When asked about the quality of their school work, the majority of young people reported that teachers think their school work is good or very good (see **Figure 4.1**).

Nonetheless, two interesting findings emerged. First, there was a relatively large decrease in the reported numbers between Grade 6 and 7. In many Canadian jurisdictions, this represents the time when young people transition from elementary school to middle or secondary school. In contrast, there were few changes between Grade 8 and 10, the time that most young people are in early secondary school. The result is a 10 to 20% drop in the proportion of Grade 10 children who believed their teachers thought their school work was good in comparison to Grade 6 children. Second, and across all of the grades, girls were more likely to report that teachers thought their school work was good or very good as compared to boys. The gender differences ranged between 6 and 10%. These findings were consistent with other Canadian measures of school achievement that typically reported higher levels of achievement for girls or in the cases of science and mathematics, relatively similar levels of achievement (British Columbia Ministry of Education, 2010; Council of Ministers of Education, Canada, 2008; Education Quality and Accountability Office, 2010).

4.2 Students who report that teachers think their school work is good or very good, by grade, gender, and year of survey (%)

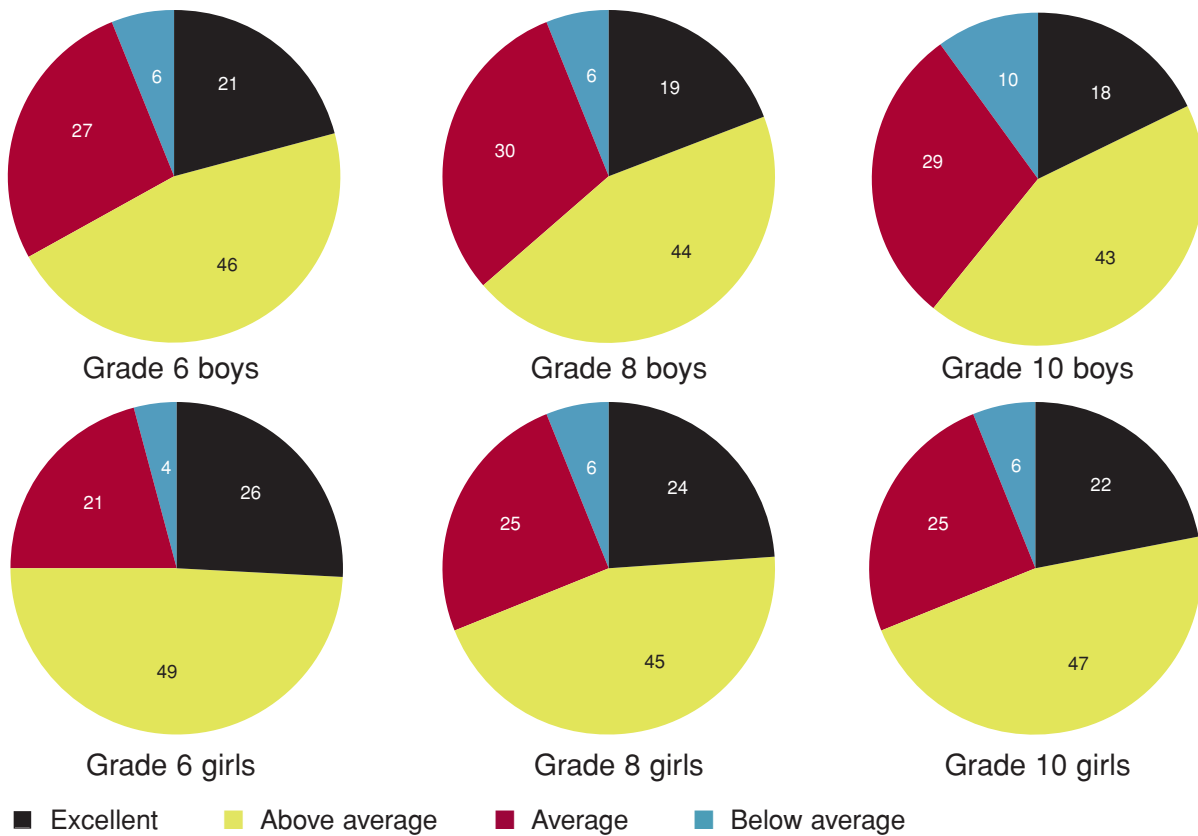


Perhaps even more interesting are the trends over time (**Figure 4.2**). The HBSC has tracked students' perceptions of what teachers think of their school work for 20 years. Throughout this time period, the decreases in academic achievement across subsequent grades, and the higher levels of achievement reported by girls have been consistent. Of potential interest is the lack of changes in the proportion of both boys and girls with positive perceptions of their academic success.



The HBSC survey also asked young people to provide an indication of their overall achievement by reporting their average level of achievement or grade on their last report card (**Figure 4.3**). The analyses of these data are somewhat challenging, because grading systems vary across the country. Nevertheless, the results do provide important patterns. As with the findings related to teachers' perceptions of school work, the results illustrated that reported levels of achievement decreased slightly from Grade 6 to Grade 10. Similarly, girls reported slightly higher levels of achievement at all grade levels, providing further evidence of the existence of a small but persistent gender gap in student achievement. Across the grades, 72% of girls reported above average or excellent levels of achievement in comparison to 64% of boys. Boys were also more likely to report below average or poor levels of achievement. By Grade 10, 10% of boys considered their achievement to be below average or poor, in comparison to 6% of girls. While these proportions were relatively small, the results indicated that a significant number of youth reported they were not meeting learning expectations, which is what young people typically considered to be the average level of achievement. And while boys may be reporting lower levels of achievement, the relatively small differences were consistent with provincial achievement results across the country, and did not indicate the existence of a crisis that is often reported in the media.

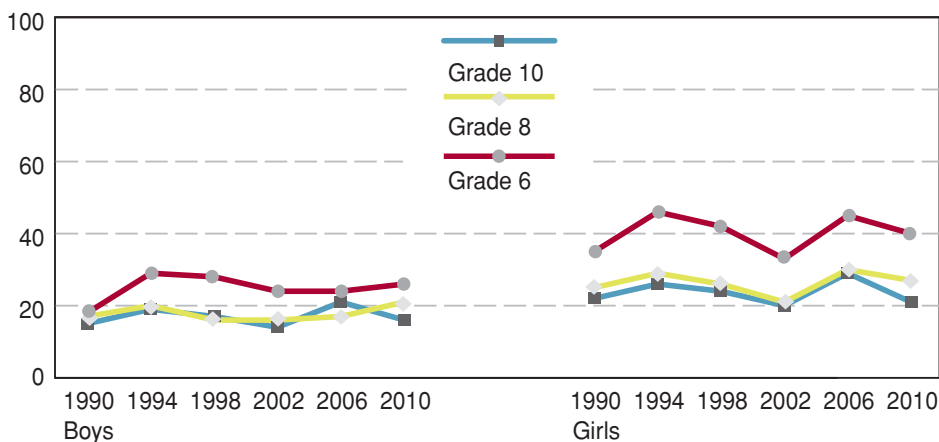
4.3 Academic achievement, by grade and gender (%)



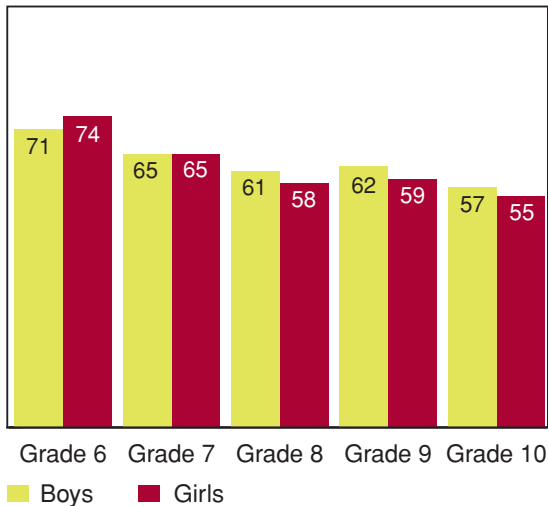
Feelings of satisfaction, belonging, and safety

The HBSC survey includes several items associated with school satisfaction and belonging that represent the perceived learning climate in the school. A school that is considered welcoming and safe provides a better climate for young people to develop their cognitive skills, confidence, and have positive interactions with peers and teachers. In this regard, the HBSC highlights a potential challenge for our young people. While they spend much of their time at school, only a minority reported that they liked school, and these percentages declined further in the later grades. Further, boys were even less likely than girls to report that they liked school a lot, although the differences declined in the later grades. As with the achievement findings, the largest decline occurred between Grade 6 and 8, coinciding with the transition to secondary and the shift from having a single teacher to having multiple teachers. However, since this transition is not consistent across the country, the decrease may actually be associated with other factors directly related to the young people themselves. The patterns across time are less clear, with drops in girls who reported liking school in 2002, and higher proportions of girls liking school in 2006.

4.4 Students who like school a lot, by grade, gender, and year of survey (%)



4.5 Students who agree and strongly agree with the statement "I feel I belong at this school," by grade and gender (%)

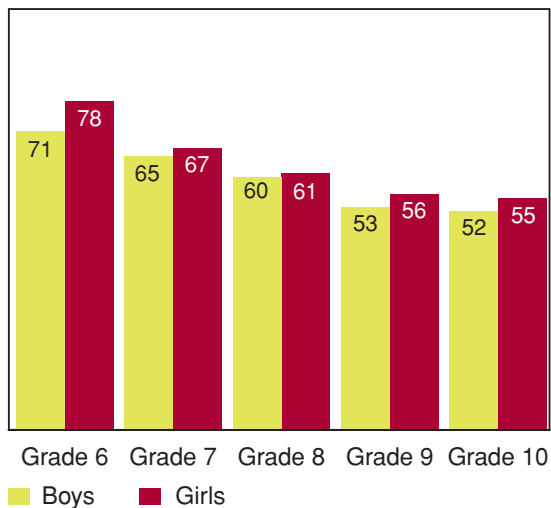
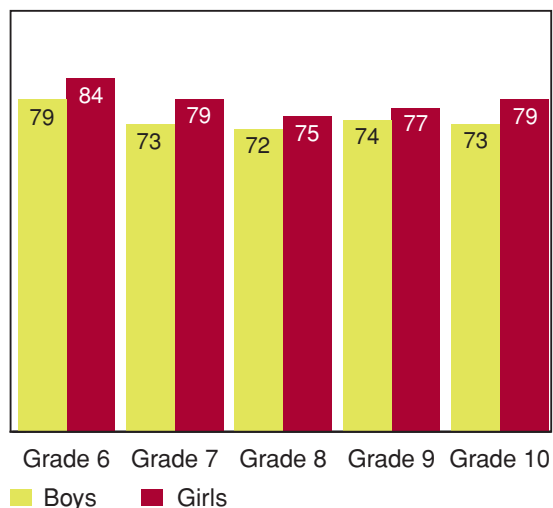


Another important perception measured by the HBSC survey is the extent to which young people reported that they felt they belonged at their school. From a positive perspective, the majority of students felt they belonged at their school (**Figure 4.5**), and thus they also had a sense of connection to the school.

Once again, there were relatively large drops from Grade 6 to Grade 7 and 8. The lowest reported sense of belonging was found among Grade 10 students. There was also an interesting shift in the later grades with girls reporting similar or even lower levels of belonging than the boys. Underlying these findings were the remaining 30 to 45% of young people who did not share this sense of school belonging. This points to another potential challenge for secondary schools across the country: finding ways to better connect with the young people who spend so much of their time in these environments.

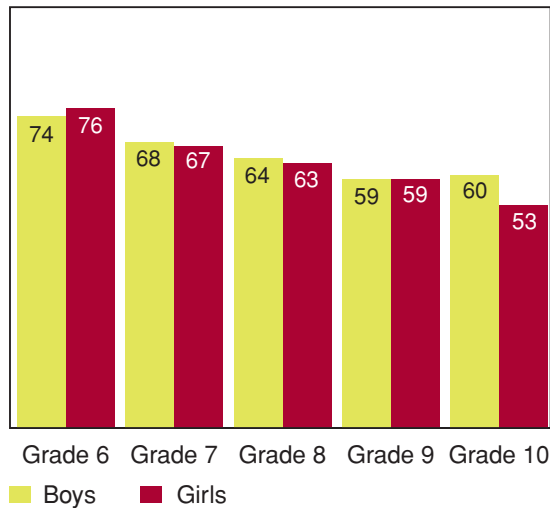
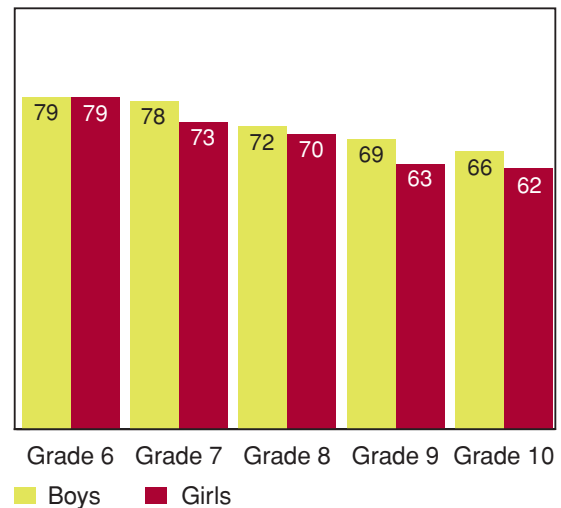
Together with the achievement results, these findings suggest that young people feel less connected to school as they progress from elementary to secondary school, and that these proportions may also be declining over time. Certainly, there are persistent gender differences, but it is not at all clear that specific efforts are required to address the needs of boys over the needs of girls. There were significant numbers of boys and girls who reported they did not have confidence in their learning, felt a dislike for school and/or a lack of school belonging.

Teachers and peers at school

4.6 I feel that my teachers care about me as a person, by grade and gender (%)**4.7** Students who think most of their teachers are friendly, by grade and gender (%)

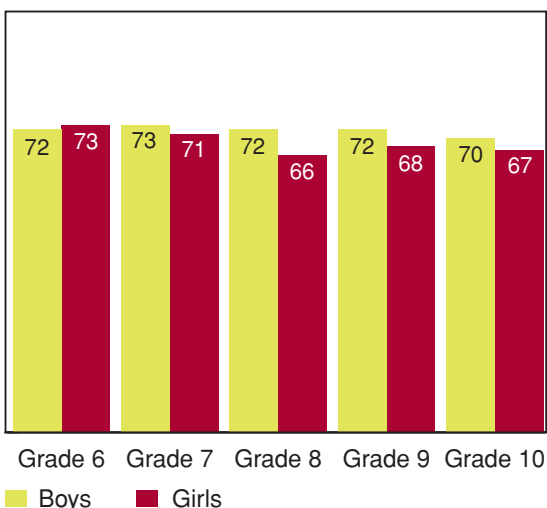
Teacher and peer interactions are important measures of young people's attitudes and behaviours. As presented in **Figure 4.6**, young people were less likely to believe "teachers care about me as a person" as they progressed through their schooling. While girls reported slightly more positive perceptions, the decreases were similar across grades, with both genders reporting approximately a 20% drop from Grade 6 through 10. By Grade 10, just over half of the students reported that they believed teachers cared about them as persons. In contrast, almost three-quarters of young people tended to think that their teachers were friendly, and these proportions were similar across all of the grades (**Figure 4.7**). Once again, girls were slightly more likely to report positive perceptions.



4.8 My teachers encourage me when I do school work, by grade and gender (%)**4.9** My teachers tell me how to do better on school tasks, by grade and gender (%)

The HBSC survey also examined young people's perceptions of teacher helpfulness (Figure 4.8 and 4.9). The majority of students agreed that teachers encouraged their school work, thus providing students with confidence to foster their learning. Yet these proportions declined across subsequent grades. While three-quarters of Grade 6 students reported being encouraged by teachers when they did their schoolwork, less than 60% of Grade 10 students reported the same. Generally, similar levels were found between boys and girls. Even greater proportions of young people reported that teachers provided feedback to help them do better (Figure 4.9). Once again, and similar to the results shown in Figure 4.8, the proportions dropped between Grade 6 and Grade 10, and the drop appeared to be slightly larger for girls. This may reflect the fact that less attention is being given to girls by their teachers because their levels of achievement are also reported as being higher. Together, these HBSC results provide evidence that in general, young people do believe their teachers want them to be successful and are providing the support and feedback that will support their learning. Nevertheless, there are areas of concern, as almost 25% of young people reported they did not have this positive support or feedback from their teachers.

4.10 Students who feel that other students accept them as they are, by grade and gender (%)



An important aspect of young peoples' lives at school is their interactions with their peers. In relation to school, one of the important questions on the survey asks if young people believe other students accept them as they are (Figure 4.10).

Overall, just under 75% of young people felt accepted by their peers. There were slight decreases across subsequent years, especially for girls. While the majority of young people reported feeling accepted, there were also a significant number who did not share these perceptions. What we do not know is the extent to which these students struggle with other aspects of their lives. Nevertheless, Baumeister and Leary (1995) suggest that feelings of rejection or exclusion can lead to significant negative emotions, and a review of the literature surrounding peer acceptance by Osterman (2000) indicates that failure to be accepted by one's peers at school can lead to negative experiences and outcomes in other spheres of a young person's life.

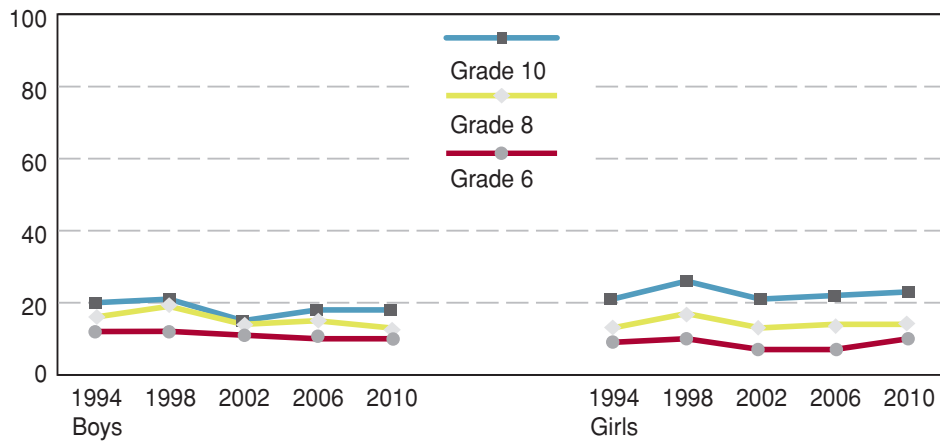
The pressures of school

Given the expectations of school, and the importance of academic achievement for future choices, it is not unexpected that a number of young people feel pressure to succeed in school. It is likely that school pressure is a complex factor. For young people who are struggling in school, it is likely that they are being pressured to improve their grades. For those who are successful, there may be ongoing pressure to maintain high levels of achievement to ensure greater academic choices through their secondary and post-secondary education.

“ Personally, we spend more time at school than at home and it is the place where we build most of our connections. Sometimes we cannot go to our homes or family for support and our peers are where we go. ”

—Youth, Healthy Advice Workshop

4.11 Students who feel a lot of pressure because of school work, by grade, gender and year of survey (%)



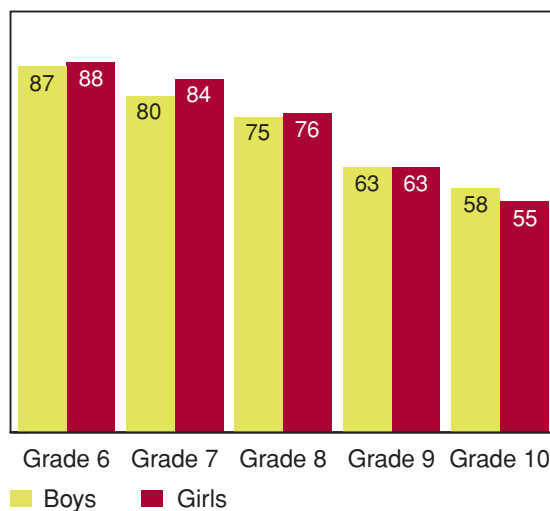
In Grade 6 boys, roughly 10% of young people reported feeling pressure because of school work, with a higher proportion of boys reporting this perceived pressure than girls (**Figure 4.11**).

The perceived pressure increased somewhat in Grade 8, with boys once again generally reporting greater pressure. In Grade 10, the percentages for both genders increased again, but there was a shift between the two genders with a much larger percentage of girls reporting feeling school pressure. We certainly expect this pressure to increase in the higher grades because secondary grades become more important for future choices and directions. Grade 10 is particularly important as this is a time when young people begin to choose more specific directions for their final two years of high school. As an example, achievement results and academic decisions will have important consequences for those young people who wish to pursue post-secondary education. Perhaps the increasing pressure reported by girls is related to the increasing proportions of girls who pursue university education, where they now outnumber boys. As **Figure 4.11** also illustrates, the findings appear to be relatively similar over time, especially in the years since the 1998 administration of the HBSC survey.



School attendance

4.12 Students reporting “It is definitely not like me to skip classes at school”, by grade and gender (%)



The 2010 HBSC survey added a new school-related item to its list of questions. This item asked young people to report on their propensity to skip out, skip school or cut classes (**Figure 4.12**). Not surprisingly, the tendency to skip out increased across subsequent grades.

There were few gender differences on this measure. Given that this is a new item in the survey, there may be a challenge in interpreting these results. It is unclear if young people who skipped once or twice would place themselves high on the continuum and report it is “definitely like me.” The surprisingly high percentages suggest that these results may reflect differing interpretations of the item. Perhaps what is surprising is that over 10% of Grade 6 children believe that skipping out of school is something they consider to be part of who they are; by Grade 10, it is over 40%.

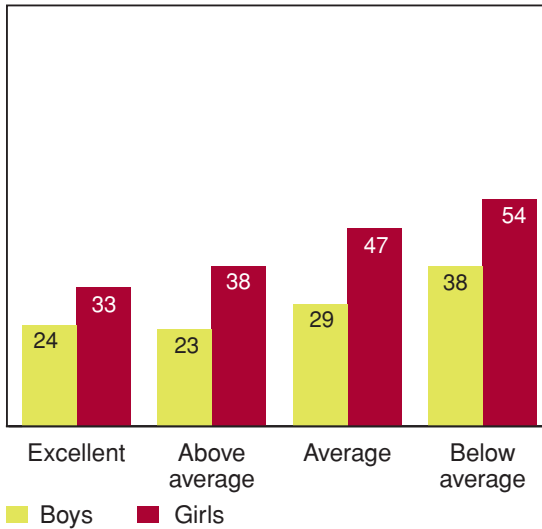
Relationships between the school experience and mental health

School is an important place in young peoples’ lives and their experiences at school directly and indirectly impact their mental health. Young people recognize the importance of their peers and the influence that peers have on their own sense of self and behaviours. What they may be less aware of are the impacts of other school-related factors. The following section explores the associations of these school-related factors with young people’s mental health, based on measures of emotional well-being, emotional problems, behavioural problems, and prosocial behaviour.

“**A lot of people that I care about go to school with me. I try to make sure I have good relationships with them.**”

—Youth, Healthy Advice Workshop

4.13 Students reporting high levels of emotional problems by achievement, by gender (%) *



While it is not surprising that academic achievement is associated with reduced behavioural problems and increased prosocial behaviour, we also found links with lower levels of achievement and an increased incidence of emotional problems (Figure 4.13). Girls and boys with below average levels of achievement were far more likely to report emotional problems, with girls consistently reporting higher occurrence of emotional problems.

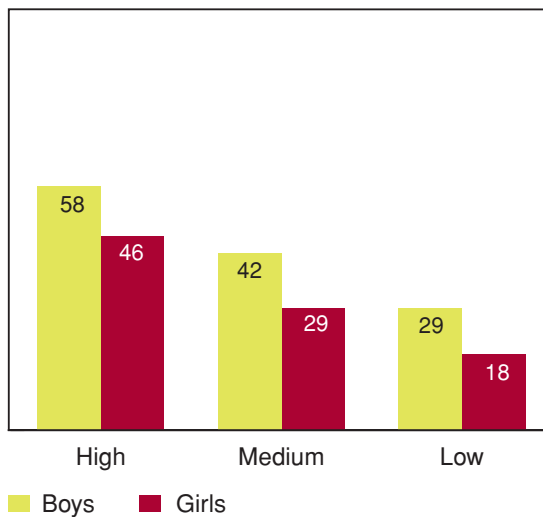
School Climate in the HBSC is a composite variable comprised of 8 items that measure aspects of school, including liking school, finding rules and teachers fair, a sense of belonging at school, feeling that school is a nice place to be, feeling encouraged to express their own views, feeling their teachers are interested in them as a person, and feeling their teachers are friendly.

“ If you have a bad school climate, you are more likely to have behavioural problems. ”

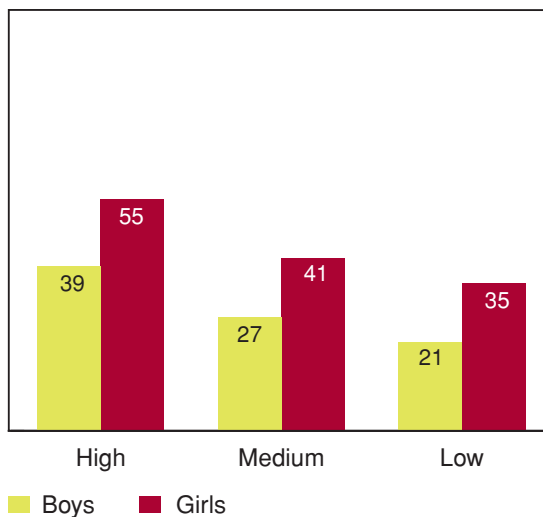
—Youth, Healthy Advice Workshop

* 24% of boys who report excellent marks in the past year (mostly As/above 85% /or level 4) report relatively high levels of emotional health problems, compared with 33% of girls who report excellent marks. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

4.14 Students reporting high levels of emotional well-being by school climate, by gender (%)



4.15 Students reporting high levels of prosocial behaviour by school climate, by gender (%)



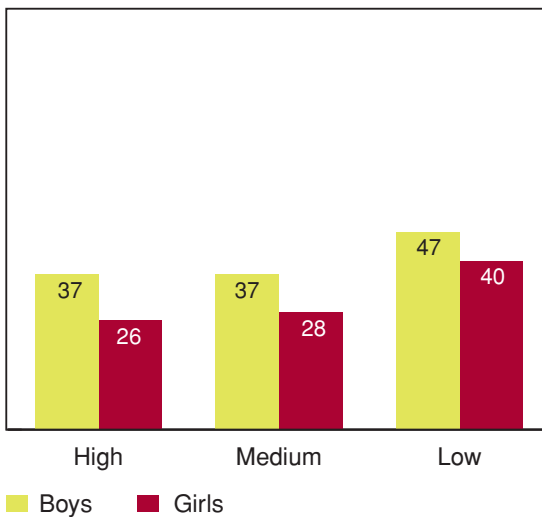
The HBSC survey provides us with an overall measure of school climate. Not surprisingly, a positive school climate provides several advantages to young people, and negative school climates create several challenges for young people (Ma & Klinger, 2000). Perhaps what is more surprising is the strong association with school climate, and students' emotional well-being (Figure 4.14) and prosocial behaviour (Figure 4.15). Boys and girls who reported being in a school with a positive school climate also reported high levels of emotional well-being. Similarly, boys who were in schools with a positive school climate reported levels of prosocial behaviour that were nearly twice as strong as those boys who reported being in schools with a negative school climate. The results for girls, who reported higher levels of prosocial behaviour regardless of school climate, followed the same pattern.

“**Schools with special programs, mini schools, [and] sports, create a better climate because you know people better and have more of a community.**”

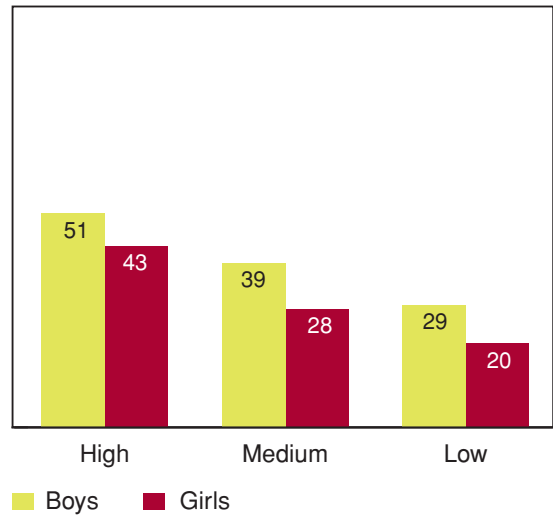
—Youth, Healthy Advice Workshop

As reported earlier, the majority of young people reported positive interactions with their teachers. Overall, young people felt their teachers supported them; however, there was a sizable minority of young people who did not share these feelings. And this lack of support was associated with higher levels of behavioural problems (Figure 4.16) and lower levels of emotional well-being (Figure 4.17). Regardless of the level of teacher support, boys reported greater levels of behavioural problems, while girls reported lower levels of emotional well-being. In the case of emotional well-being, there was a substantial drop in this percentage for both boys and girls in low teacher support environments.

4.16 Students reporting high levels of behavioural problems by teacher support, by gender (%)



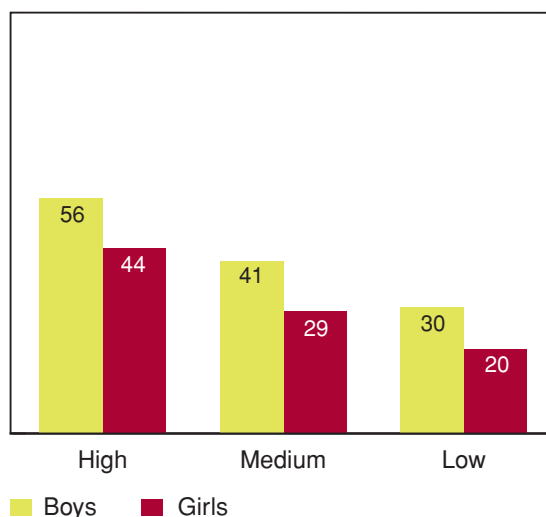
4.17 Students reporting high levels of emotional well-being by teacher support, by gender (%)



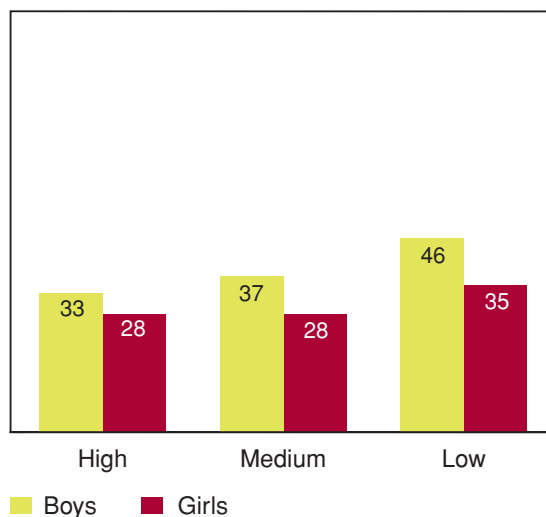
Kurtis Chen

“ School can influence who you are. ”
 —Youth, Healthy Advice Workshop

4.18 Students reporting high levels of emotional well-being by peer support, by gender (%)



4.19 Students reporting high levels of behavioural problems by peer support, by gender (%)



In recognition of the importance of peer support in young people's lives, we examined the associations between peer support and emotional well-being, and peer support and behavioural problems. Our findings mirror widely held views of the benefits of peer support on young people's mental health behaviour outcomes. The gender patterns for emotional well-being and behavioural problems were similar to those reported above, with boys reporting higher prevalences of behavioural problems and girls lower levels of emotional well-being where peer support was lacking. With a 26- to 24-point drop, the changes in emotional well-being (**Figure 4.18**) that occur with lower levels of peer support were similar for both boys and girls. Boys who reported low levels of peer support, also reported higher levels of behavioural problems (**Figure 4.19**). In contrast, there was a smaller association between peer support and behavioural problems for girls.

“**My friends are there for me to talk about my problems.**”

—Youth, Healthy Advice Workshop

What young people thought about these findings

Each school day, young people interact with their peers and teachers, and the school climate largely shapes these interactions. Young people are also affected by the quality of these interactions and it is likely that both the school climate and the interactions they have on a daily basis have impacts on their mental health. The HBSC survey findings and the students at the youth engagement workshop confirmed several observations surrounding school experiences and measures of mental health. Certainly, young people recognised the importance of school and the impact it has on their lives. The following paragraphs identify the prominent trends in our findings that speak to young people's experiences at school and the impact of these experiences on their health and well-being.

School is very important to these young people. Similar to the home environments parents create for their children, schools need to strive to create an inclusive, safe, and positive environment. Negative school climates are clearly associated with negative outcomes for young people, and lower reported levels of mental health. Young people who do not feel connected to school, whether they are boys or girls, are less likely to report comparable levels of mental health when measured against their peers who report being in schools with positive climates and high levels of teacher support. For young people, our findings illustrate the importance of schools with positive structures and policies that create a positive learning community.

Connections with peers may be a key factor in supporting mental health. Schools provide an important environment to create and build these connections. For many young people, school is also the place where they will interact most commonly and closely with their peers. Positive peer support is related to more positive emotional and behavioural outcomes, and may provide a mechanism to deal with the emotional and behavioural issues and problems that they will all face in their daily lives.

Summary and implications

Key issues of concern

- 1 School is not a positive place for an important proportion of Canadian youth.
- 2 Young people are increasingly reporting lower levels of achievement and satisfaction with school.
- 3 As young people progress through school, they are less connected to school, at a time when their emotional well-being is most vulnerable.

Key issues to celebrate

- 1 Positive school environments and higher levels of teacher support are associated with more positive levels of mental health and lower levels of behavioural problems in young people.
- 2 The majority of young people feel supported by their schools and have a sense of belonging in the school they are attending.
- 3 While there are gender differences in school-related measures, these differences are relatively small.

Commentary

The HBSC survey presents evidence of both the positive outcomes and challenges for Canadian youth in our schools. While school may not be a favourite place for young people, the majority of them report being successful at school. Most young people believe they are doing well in school, and they feel supported by teachers and their peers. Nonetheless, there are significant proportions of young people who do not report such positive school-related interactions, and these numbers appear to be increasing over time.

The grade associated patterns are also troubling. While it may not be surprising for adolescents to feel less connected to school than younger children, the different structures of schools in elementary and secondary programs may serve to reinforce this lack of connection. Certainly, the most significant decreases in young people's positive perceptions of school seem to occur in the transition from elementary to secondary school. These decreases then remain relatively constant until Grade 10.

While there may be relatively minor differences between boys and girls in terms of their learning in school, we did find larger differences in the associations between school-related factors and mental health. There are much larger negative mental health outcomes that occur for those boys and girls who report less positive school experiences. It is these youth that require society's focus and attention. Can we create school environments and supportive school climates that will build these young people's emotional well-being, while also limiting the onset of negative health outcomes?

Given the findings of the HBSC survey, it is important that we continue to examine the role of school in young people's lives, with particular focus on how schools can provide a climate that better supports the emotional well-being and development of our youth as they progress through each grade.

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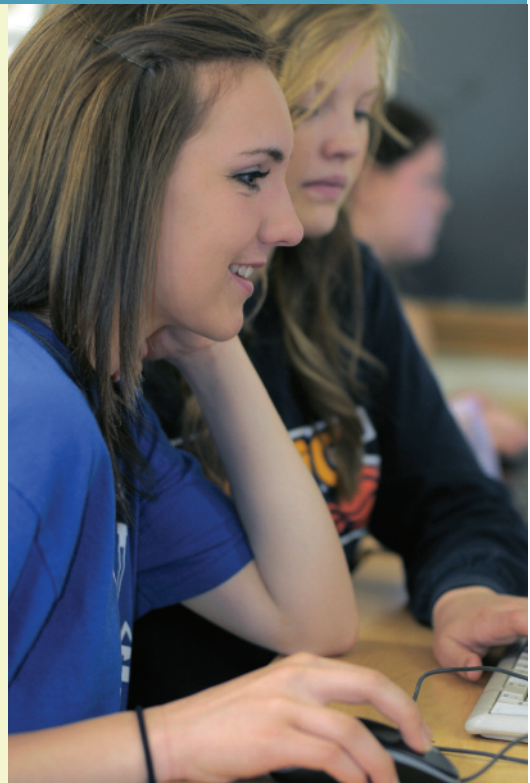
5

by Heather McCuaig Edge and
Wendy Craig

Peers

The importance of peers

From childhood to adolescence, peer relationships become increasingly significant sources of support, companionship, information and advice. Peers can have short- and long-term beneficial effects on social, cognitive and academic adjustment (Hartup, 1993; Savin-Williams & Berndt, 1990; Scholte & Van Aken, 2006). Having friends, and having supportive friendships, are associated with positive outcomes, such as feeling good about oneself, feeling connected with others, being positive in outlook, and contributing to successes in subsequent romantic relationships (Hartup, 1993). For young people who establish caring friendships and become members of supportive peer groups, peers can provide a positive context in which to develop (Brown, 1990).



Kurtis Chen

Young peoples' friendships are usually based on common interests and activities initially, but then develop further into more meaningful, intimate relationships based on commitment, loyalty, trust, and reciprocity (Hartup, 1993). Adolescents spend the majority of their time with friends, with contact among best friends occurring daily. These relationships consume several hours each day. Adolescents generally have one or two "best" friends, and several "close" or "good" friends, with whom they interact regularly (Hartup, 1993).

Peers provide young people with developmental opportunities and social possibilities that are not available through relationships with adults

—Scholte & Van Aken,
2006.

Young people tend to engage in both positive and negative behaviours with their friends and peer groups. Although having friends is essential to healthy psychological and social development, the quality of relationships, and the types of activities they engage in, are also important to consider when examining the health and well-being of young people (Berndt, 2004). For example, if friendships are based on shared interests such as drug use, weapon carrying, or delinquency, these can result in negative health outcomes, regardless of the benefits of having friends, whereas if friendships are based on shared interests such as sports and academic pursuits, these can result in more positive health outcomes.

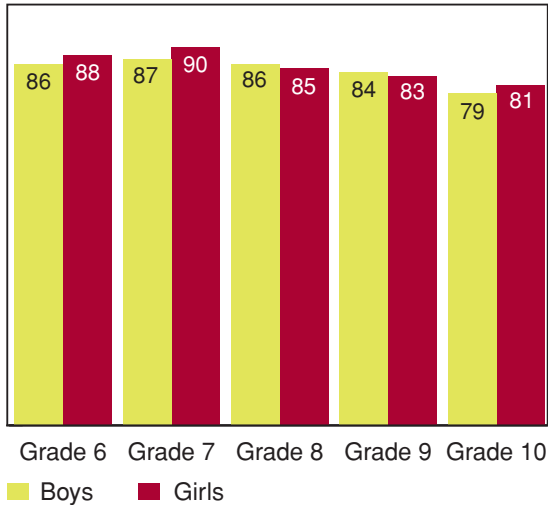
What are we reporting in this chapter?

The HBSC survey gathered information on the peer context by asking students a series of questions about the number of friendships they had with both genders, about spending time with friends, and the extent to which they were close to their friends in a way that allowed them to share matters of concern. In addition, the HBSC survey asked students to estimate how often the group of friends with whom they spent most of their leisure time engaged in a variety of positive and negative activities, such as participating in organized sport activities with others, or getting drunk.

In this chapter, we indicate the percentage of students with three or more same-sex friendships and data on students' ease of communication with these individuals. Similar information on opposite-sex friends is provided. We also report on ease of communication with best friends. Trend data on time spent with friends after school and in the evenings are reported and the percentages of young people who communicate with their friends by phone, text message, and email are presented. The proportion of activities of peers with whom the young person spends most of their leisure time is presented in terms of positive and negative activities. Finally, associations between emotional health outcomes and the following measures are discussed: ease of communication with same-sex friends; with opposite-sex friends; with best-friends; the amount of time spent with friends after school; and the sum of all positive and negative peer group activities.

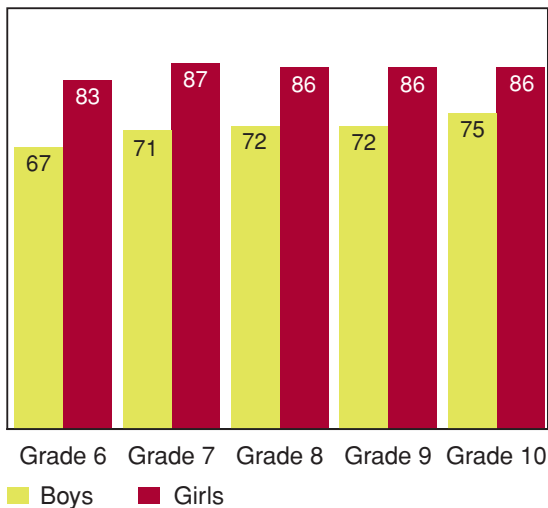
Same-sex friends

5.1 Students with three or more close same sex friends, by grade and gender (%)



Having friends and being able to share concerns with them is regarded by students as a safeguard or buffer against negative life experiences. The number of boys who reported having three or more same-sex friends remained fairly consistent across grades, with slight decreases in Grade 9 and 10 (Figure 5.1). The pattern for girls who reported having three or more close same-sex friends showed a steady decrease from 90% in Grade 7 to 81% in Grade 10. This might reflect developmental changes in peer and intimate relationships with age, where adolescents tend to increase in opposite-sex friendships as they advance from early to later adolescence (Connolly et al., 2000).

5.2 Students who find it easy or very easy to talk to same-sex friends about things that really bother them, by grade and gender (%)



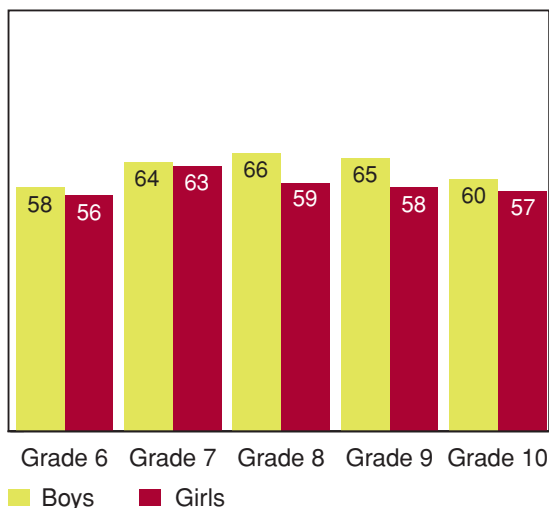
Girls, however, remained more comfortable than boys when talking to same-sex friends about things that really bother them, with a consistent and stable proportion of girls confiding in their same-sex friends, varying from 83% in Grade 6 to 86-87% in Grades 7 to 10 (Figure 5.2). The pattern for boys increased from Grade 6 to Grade 7, then remained consistent across the grades, then increased again between Grade 9 and 10, with over 70% of boys from Grade 7 on, reporting that they talk to their same-sex friends about things that really bother them.

Opposite-sex friends

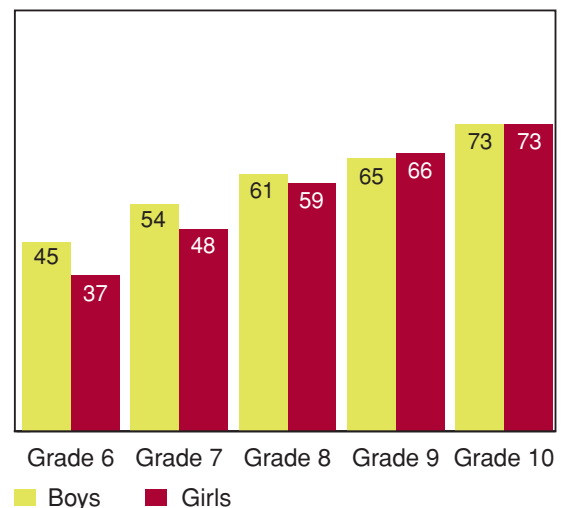
The proportion of students with three or more close opposite-sex friends remained relatively stable after Grade 7 for boys, but declined slightly in Grade 10. For girls, the proportion of students with three or more close opposite-sex friends remains fairly stable, save for a slight increase in Grade 7 to 63%. Boys seemed to have a higher proportion of three or more close opposite-sex friends than girls from Grade 6 through Grade 10. Young people, even those in Grade 10, were more comfortable having friends of the same sex (see **Figure 5.1**), rather than of the opposite-sex (**Figure 5.3**). This could be due to gender socialization expectations, which may characterize relationships with the opposite sex as being associated with physical attraction and romantic involvement rather than friendship (Poulin & Pedersen, 2007).

On the other hand, young people generally became more comfortable talking to their opposite-sex friends in Grade 10 (**Figure 5.4**), when around 73% of girls and boys reported talking about things that really bothered them to friends of the opposite sex. For both boys and girls, there was a steady increase in the proportion of students who are comfortable talking to opposite-sex friends from Grade 6 to Grade 10. Boys appeared to be more comfortable talking to opposite-sex friends earlier than girls. Finally, young people reported that it was easier to talk to girls than to boys about things that really bother them, likely because they perceive female friends as better sources of help than male friends (Schwartz et al., 2000). However, by Grade 10, both boys and girls reported being equally comfortable talking to opposite sex friends.

5.3 Students with three or more close opposite-sex friends, by grade and gender (%)

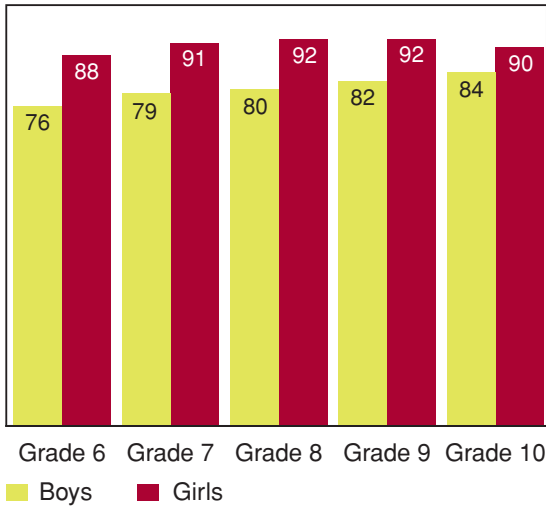


5.4 Students who find it easy or very easy to talk to opposite-sex friends about things that really bother them, by grade and gender (%)



Best friends

5.5 Students who find it easy or very easy to talk to a best friend about things that really bother them, by grade and gender (%)



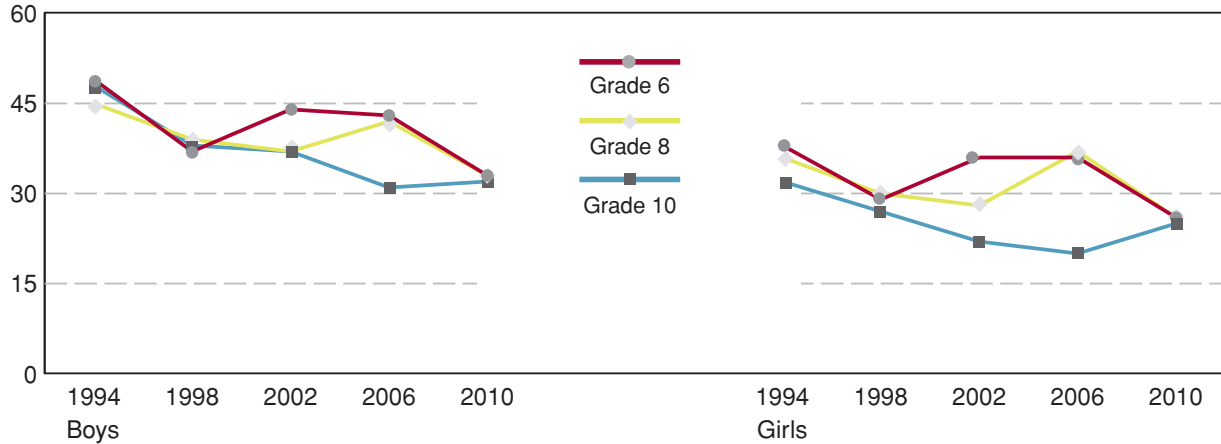
Confiding in one's best friend regarding things that are bothersome was very common for school-aged young people, particularly for girls across the five grades (**Figure 5.5**). This finding is not surprising, since a one-to-one relationship with a best friend is generally more intimate, with self-disclosure, than friendships that are within a peer group.

Further, in general, girls' friendships tend to be characterized more by intimacy, loyalty, and closeness than boys' friendships, which might explain why levels of ease of talking to a best friend were fairly consistent for girls across grades (Connolly et al., 2000; Poulin & Pederson, 2007). However, the increase for boys in ease of talking to a best friend across grades may also reflect consistent developmental changes in how and when boys interact with others (Bowker, 2004).



Interactions with friends

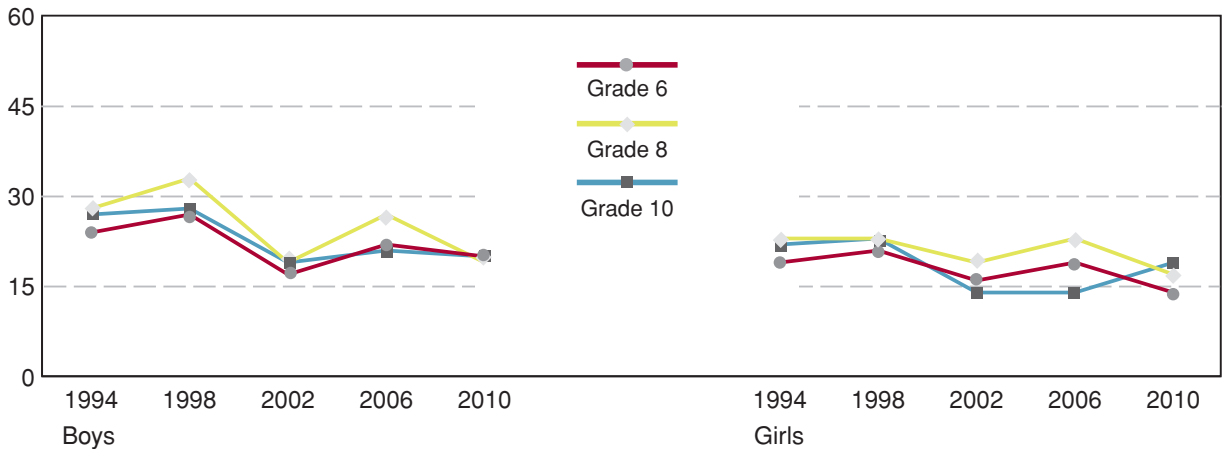
5.6 Students who spend four or five days a week with friends right after school, by grade, gender and year of survey (%)



Figures 5.6 and **5.7** present findings related to interacting with friends outside of school. A downward trend was noticeable for Grade 10 students over the past five HBSC survey cycles for youth who spend four to five days a week with friends right after school (**Figure 5.6**). For example, 32% of Grade 10 boys and 25% of Grade 10 girls reported spending time with friends four to five days a week right after school in 2010, compared to 48% of boys and 32% of girls in 1994. There was a slight increase for Grade 10 girls from 20% in 2006 to 25% in 2010. Possible explanations for this downward trend may be increased involvement in structured activities after school or increased communication with friends using social media (e.g., *Facebook*).



5.7 Students who spend five or more evenings a week with friends, by grade, gender and year of survey (%)

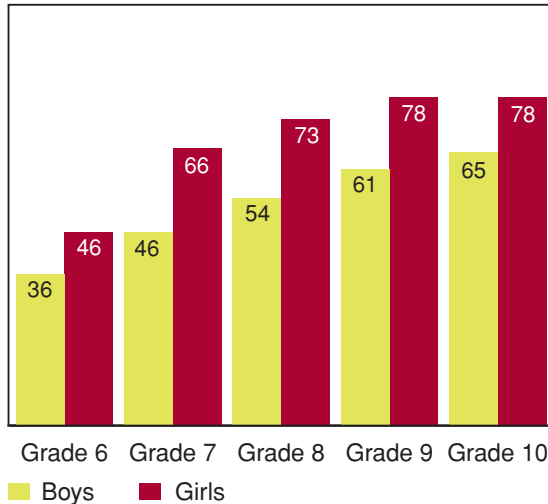


There was a similar decline across survey cycles in evenings spent out with friends for both boys and girls (**Figure 5.7**). In 2010, 20% of Grade 10 boys reported spending five or more evenings a week out with friends, compared to 27% of boys in 1994. For Grade 10 girls, there was an increase from 14% in 2006 to 19% in 2010, though this is less than the 22% of girls who spent five or more evenings a week out with friends in 1994.

Several reasons for the general decline over the past 16 years are possible, such as: increased percentages of youth who have part time jobs after school and on weekends; increased involvement in after school structured activities; or potentially increased electronic communication capacity that replaces the need for direct face-to-face contact among young people.



5.8 Talking to friends on the phone or sending them text or e-mail messages five or more times a week, by grade and gender (%)



We also asked students about their use of phones, texting, and e-mail to contact their friends. **Figure 5.8** illustrates that there was a steady increase in the use of these technologies to communicate with friends, with age. This might reflect increasing popularity and availability of cellular and *Smartphones* for older adolescents, who rely on these modes of communication for socializing with peers (Lenhart, Ling, Campbell, & Purcell, 2010; Li, 2007).

There was also a consistent increase in the use of technology for socializing with friends with increasing age for both boys and girls, although significantly more girls than boys were involved. For girls, staying connected to their friends was critically important, versus boys who tended to use the technology in order to make a plan (Sibrahmanyam & Greenfield, 2008).

Peer groups tend to develop norms and expectations for activities and behaviours of group members (Brown, 1990). As such, behaviours and activities of peer group members can influence the kinds of behavioural norms that young people internalize (Hartup, 1993).

Both boys and girls in Grade 9 and 10 reported that their peers participated in positive activities quite regularly. The majority of students reported that their peers did well at school, participated in organized sports with others, helped others in need, and got along well with their parents, with fewer students reporting that their peers participated in cultural activities other than sports and engaging in activities that involved caring for the environment. Grade 9 and 10 girls reported that their peers got along well with their parents, helped others in need, participated in cultural activities other than sports more, and cared for the environment more than boys.

Table 5.1: Positive peer group activities: percentages of Grades 9 and 10 students indicating that the group of friends with whom they spend most of their leisure time report the following activities “often” or “sometimes” (%)

Positive Peer Group Activities	Grade 9		Grade 10	
	Boys	Girls	Boys	Girls
Most of the friends in my group...				
do well at school	90	95	91	95
participate in organized sports activities with others	85	85	86	86
participate in cultural activities other than sports	50	53	49	53
get along well with their parents	80	86	82	89
care for the environment	59	71	62	72
help others in need	69	82	71	81

Both Grade 9 and 10 boys and girls reported similar levels of peer participation in negative group activities with the exception of weapon carrying, where 14% of boys and 7% of girls reported that their peers carried weapons often or sometimes. Approximately half of Grade 9 and 10 boys and girls reported that their group of friends regularly had sexual relationships, or got drunk, while 39% of boys and 37% of girls reported that their friends had used drugs to get stoned.

Table 5.2: Risky peer group activities: percentages of Grades 9 and 10 students indicating the group of friends with whom they spend most of their leisure time engage in the following activities “often” or “sometimes” (%)

Risky Peer Group Activities	Grade 9		Grade 10	
	Boys	Girls	Boys	Girls
Most of the friends in my group...				
smoke cigarettes	27	25	32	32
get drunk	47	50	64	63
have used drugs to get stoned	33	31	45	43
carry weapons	14	7	14	7
have sexual relationships	48	45	59	60

Relationships between peers and mental health

Friendships and mental health

Peers and friendships can have both positive and negative effects on mental health in young people. The quality of a friendship, and the ease with which one can speak to best friends, same sex friends, or opposite sex friends, may have a positive effect on emotional health outcomes, in that friends can provide a buffer from difficult life circumstances (Berndt, 2004), and can contribute to confidence and self-esteem, which leads to overall well-being and mental health.

On the other hand, not having friends on whom they can rely to talk about things that bother them, can have negative mental health outcomes, including emotional and behavioural adjustment difficulties (Waldrip, Malcolm, & Jensen-Campbell, 2008). Further, although having friends can have positive health outcomes, the quality of the friendships, and the types of activities that are engaged in with those friends, can lead to negative behavioural and emotional outcomes (Hartup, 1996).

“**Whoever you hang out with has a great impact on you.**”

—Youth, Healthy Advice Workshop

5.9 Students reporting high levels of emotional problems by ease of talking to best friend, by gender (%) *

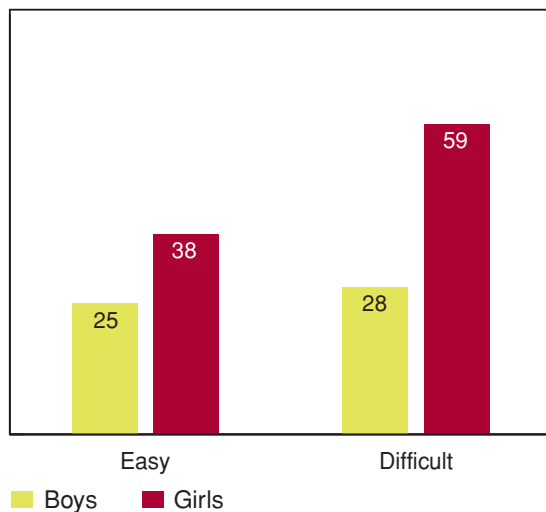
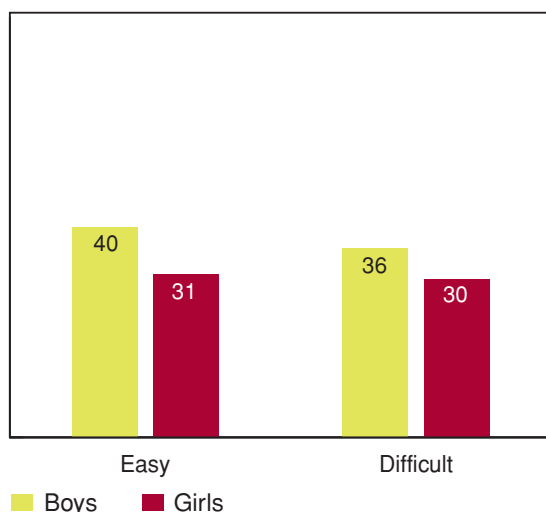


Figure 5.9 shows levels of emotional problems associated with the ease of talking to best friends. Young people who found it hard to talk to best friends about things that bothered them tended to have higher levels of emotional problems than young people who found it easier to talk to friends. This was especially true for girls. Substantially more girls than boys who reported difficulty in talking with friends scored higher on the emotional problems scale. Though this relationship was also apparent for boys, the relationship was not as strong as it was for girls.

5.10 Students reporting high levels of behavioural problems by ease of talking to best friend, by gender (%)



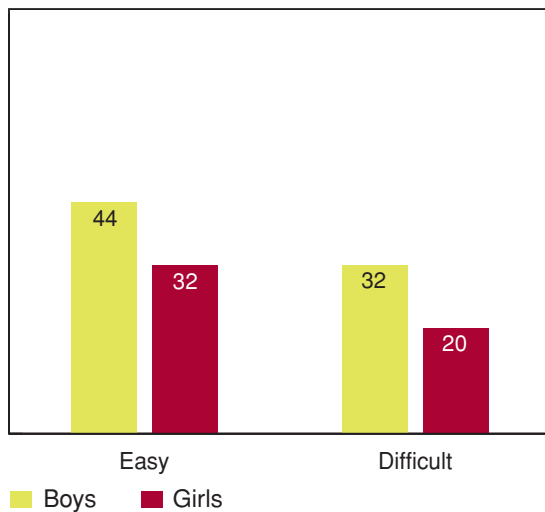
With respect to behavioural problems, a higher percentage of boys reported high levels of such problems among those who found it easy to talk to best friends, while no such association was identified for girls (**Figure 5.10**). More boys than girls reported behavioural problems in both groups.

“ If you don't have good relationships with your parents, you can always turn to your friends. It is really good to have good relationships with your peers or other adults if you don't have good relationships with your parents. Support is important. ”

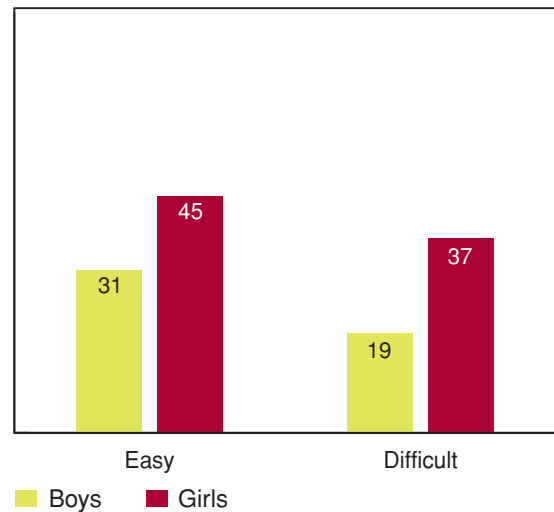
—Youth, Healthy Advice Workshop

* 25% of boys who find it easy or very easy to talk to their best friend about things that really bother them report relatively high levels of emotional health problems, compared with 38% of girls who find it easy or very easy to talk to their best friend about things that really bother them. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

5.11 Students reporting high levels of emotional well-being by ease of talking to best friend, by gender (%)



5.12 Students reporting high levels of prosocial behaviour by ease of talking to best friend, by gender (%)

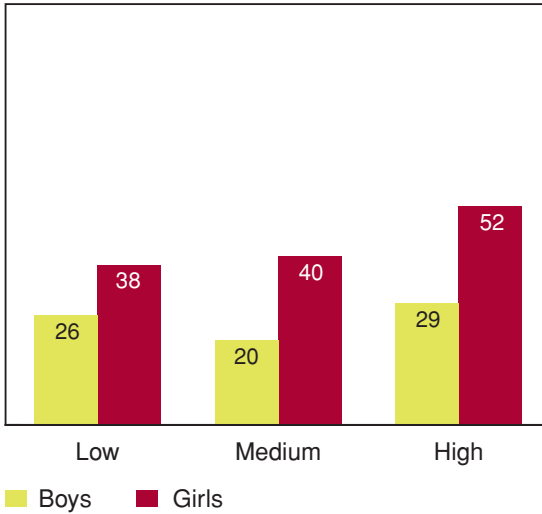


An alternative way of examining the association between ease of talking with best friends and mental health is from the perspective of positive mental health. Substantial increases in emotional well-being were reported by boys and girls if they found it easy versus difficult to talk with a best friend (**Figure 5.11**). The same general pattern was also observed for prosocial behaviours (**Figure 5.12**).

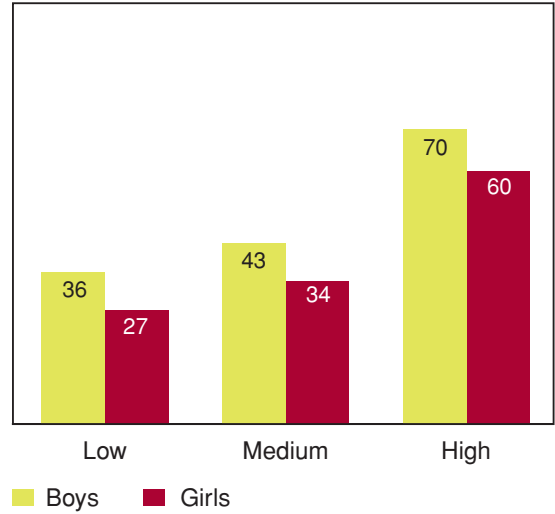
Associations between ease of talking with friends and the mental health indicators were repeated with two other indicators of peer relationships: (1) ease of talking to same sex friends about things that bother them; (2) ease of talking with opposite sex friends about things that bother them. The same general patterns emerged in all of these analyses. Reports that it was easy to talk with a friend were associated with lower levels of emotional problems and higher levels of emotional well-being and prosocial behaviours, especially among girls. One of the important functions of friends is intimacy and self-disclosure. Not having a friend who students are able to talk to freely may leave them isolated and increase the likelihood of having emotional problems. Having friends with whom young people can talk to easily is clearly associated with positive mental health. Reports that it was easy to speak with a friend were also associated with slightly higher levels of behavioural problems, especially among boys. Ease of talking to best friends may be associated with some aspects of behavioural problems.

Risky peer group activities and mental health

5.13 Students reporting high levels of emotional problems by risky peer group activities, by gender (%)



5.14 Students reporting high levels of behavioural problems by risky peer group activities, by gender (%)



Figures 5.13 and 5.14 depict negative mental health outcomes by risky peer group activities. Girls who reported that their peer group engaged in higher levels of negative peer group activities (e.g., smoking, drinking, drug use, carrying weapons, sexual relationships) also reported higher levels of emotional and behavioural problems. This was true for boys for behavioural problems only. Both boys and girls whose peers engaged in more negative activities also reported significantly higher levels of behavioural problems. This suggests that negative peer group activities are clearly related to indicators of mental health.

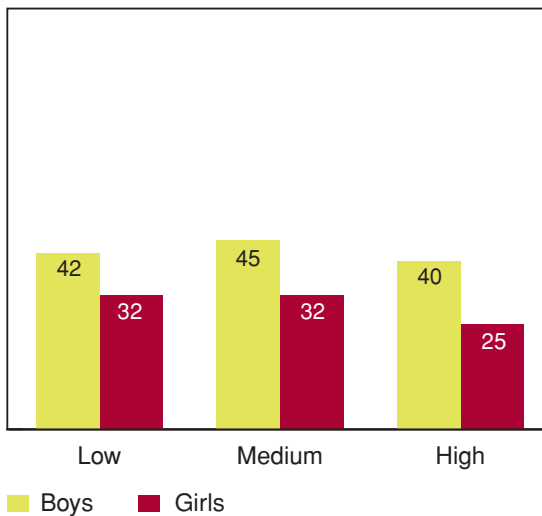
“ You want to have people who are also negative. Always positive, it’s too much. ”

—Youth, Healthy Advice Workshop

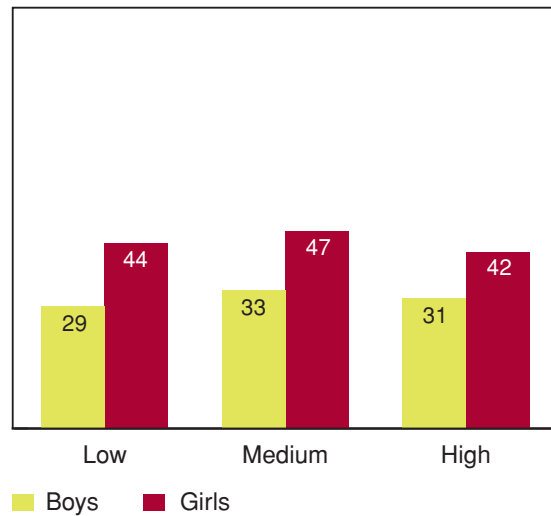


Kristin Buchanan

5.15 Students reporting high levels of emotional well-being by risky peer group activities, by gender (%)



5.16 Students reporting high levels of prosocial behaviour by risky peer group activities, by gender (%)



Again, an alternative approach to the examination of these relationships is to look at associations between risky peer group activities and positive indicators of mental health. For both boys and girls, young people who reported that their peer group engaged in higher levels of negative peer group activities also reported lower levels of emotional well-being (Figure 5.15) and prosocial behaviours (Figure 5.16). It appears that young people who reported that their peers engaged in medium levels of negative peer group activities were more associated with higher levels of emotional well-being and prosocial behaviours than low levels of negative peer group activities. This may be reflecting adolescent experimentation with “recklessness” (Arnett, 1992), or a desire to fit in with peers (Carroll, Houghton, Hattie, & Durkin, 1999).

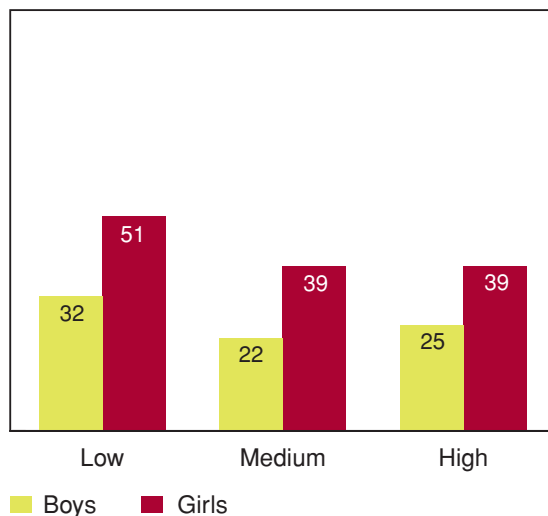
Nonetheless, young people who reported low levels of negative peer group activity also reported more emotional well-being than young people who reported high levels of negative peer group activity. This relationship was not the case for boys and prosocial behaviour, however, where boys who reported their friends engaged in low levels of negative activities also reported the lowest levels of prosocial behaviour. This suggests that the association between levels of negative peer group activities and positive outcomes is complicated and involves gender differences, as well as some levels of negative peer behaviours contributing to positive outcomes.

“People that take you to do things like tagging the school or using drugs can also be people that give you positive support.”

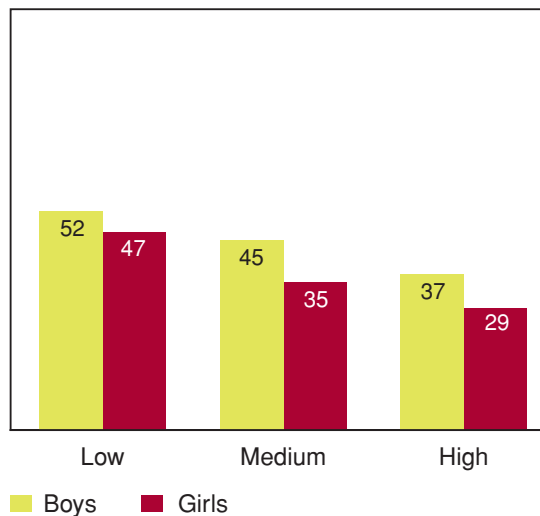
—Youth, Healthy Advice Workshop

Positive peer group activities and mental health

5.17 Students reporting high levels of emotional problems by positive peer group activities, by gender (%)

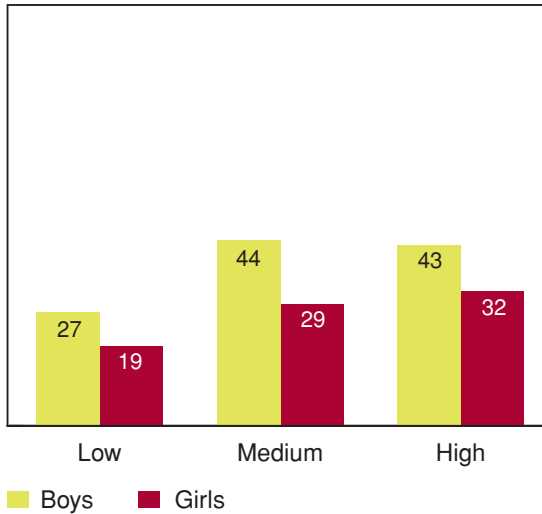


5.18 Students reporting high levels of behavioural problems by positive peer group activities, by gender (%)

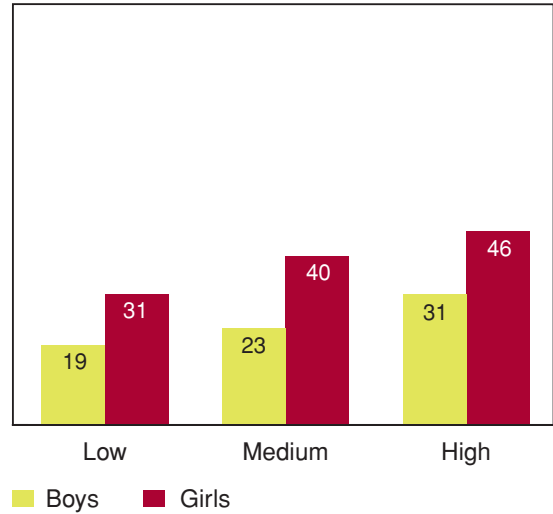


Boys and girls who reported that their peer group engaged in fewer positive peer group activities (e.g., doing well at school, helping others in need, participating in organized sports activities or other cultural activities, getting along well with parents, or caring for the environment) also reported higher levels of emotional and behavioural problems (Figures 5.17 and 5.18). There was a downward pattern in levels of negative outcomes as positive peer activities increased for both boys and girls. While in general girls reported more emotional problems than boys, as positive peer group activities increased, levels of emotional problems declined for both boys and girls. In general, boys reported slightly more behavioural problems than girls, and a similar decrease in levels of behavioural problems appeared as positive peer group activities increased. This suggests that positive peer group activities are associated with reduced levels of problematic mental health indicators.

5.19 Students reporting high levels of emotional well-being by positive peer group activities, by gender (%)



5.20 Students reporting high levels of prosocial behaviour by positive peer group activities, by gender (%)



Figures 5.19 and **5.20** depict the association between positive peer group activities and positive outcomes of emotional well-being and prosocial behaviour. Young people who reported that their peer group engaged in higher levels of positive peer group activities also reported higher levels of emotional well-being and prosocial behaviour than young people who reported lower levels of positive peer group activities. There was an upward pattern in levels of prosocial behaviour as positive peer activities increased for both boys and girls. For girls, an upward trend in levels of positive peer group activity was associated with higher levels of emotional well-being, while for boys, this pattern was not apparent. For boys, those who reported medium levels of positive peer group activities had slightly higher levels of emotional well-being than those who reported high levels of positive peer activities, though levels were fairly similar, and were significantly higher than for boys who reported low levels of positive peer group activities. In general, girls reported more prosocial behaviour than boys, while boys reported significantly more emotional well-being than girls at all levels of peer group activity. These results suggest that increasing levels of positive peer group activities are associated with higher levels of positive mental health outcomes for young people.

What young people thought about these findings

According to the students at the youth engagement workshop, the research results describe accurately the strengths and challenges associated with friendships for youth. On the one hand, friendships provide ongoing support and intimacy for youth to discuss their issues. On the other hand, while many of them have friends who engage in positive activities, there is a significant proportion of students who have friends who engage in risky behaviours. The students' thoughts reflect their mixed feelings about having friends who engage in both positive and negative behaviours. There is a critical need to support youth to engage in healthy activities with their friends and to reduce risky behaviour and activities.

Summary and implications

Key issues of concern

- 1 Many students report hanging around friends who engage in risky activities such as smoking, getting drunk, using drugs, and engaging in sexual activities.
- 2 Young people who report that they find it difficult to talk to their friends, are more likely to report emotional problems.
- 3 Having peers who engage in risky activities increases the risk for both emotional and behavioural problems and is related to reduced emotional well-being.
- 4 Young people who report that their peer group engages in higher levels of positive peer group activities also report higher levels of mental health.

Key issues to celebrate

- 1 A strong majority of students report having a best friend and being able to talk to their friends about things that are bothering them.
- 2 Students who have friends who engage in positive behaviours are more likely to be more prosocial and have higher levels of emotional well-being.
- 3 Over 85% of students report hanging out with friends who engage in positive activities such as sports, helping others, getting along with their parents, or doing well at school.

Commentary

This research confirms that peers are important socialization agents for children and youth. Two specific messages are apparent from the findings. First, young people need friends: they are a protective factor against emotional and behavioural problems, and having friends to talk to promotes emotional well-being. When students do not have friends or are not accepted in a peer group, they might miss opportunities for acquiring the important social skills and behaviours necessary for development. Without peer opportunities, the person could be disadvantaged because he or she is lacking opportunities for positive peer socialization and therefore is unable to develop the relationship competencies required to engage in healthy relationships. Thus, it is critical for adults who are responsible for youth to actively provide or structure opportunities in which peers interact with one another in order to facilitate the development of necessary skills for interpersonal interactions. This active structuring of youth's social environment is referred to as social architecture. If adults are not aware of the dynamics in young people's peer groups, natural peer processes will place some youth at risk for being isolated and without a peer group. In addition, it is important to discourage groupings of adolescents who are similarly aggressive and engage in aggressive and other risky behaviours together. When troubled young people are together, they reinforce each other's negative behaviors and help each other become even more aggressive and engage in more risky behaviours.

Second, it is also important for adults to monitor youths' social groups. Through their relationships, peers socialize one another by communicating social information regarding norms, standards, expectations and values for the culture in which the interactions occur, and by providing experiences and occasions for practicing skills and abilities (Wentzel, 2009). In addition, over the course of relationships and interactions, peers tend to become more similar to one another through the process of mutual socialization (Hartup, 1996). Through their interactions, both parties in the relationship tend to influence one another over time by reinforcing or validating common interests, attitudes, or behaviours, which can result in both parties converging to become more similar to one another than at the inception of the relationship. This socialization process likely occurs through modeling or reinforcement of behaviours, provision of opportunities to engage in various activities or experiences, peer pressure, antagonism, or providing assistance or instruction.

In this research, it is evident that youth socialize each other both positively and negatively. Those who have friends who engage in positive behaviours are less likely to experience emotional and behavioural problems. Those with friends who engage in negative behaviors are more likely to have emotional problems in particular. By monitoring and actively engaging in social architecture, adults can influence the socialization patterns and decrease the risk for emotional and behavioural problems. Social architecture can be undertaken by all adults who socialize youth: the teacher who arranges groups for projects or where students are sitting in the classroom; the coach who determines who plays with whom or who practises with whom on the team; the parent who can supervise and monitor the friends in the home and their activities, etc. Thus, adults need to actively support youth in their friendships to ensure that they have friends and that their friends are positively influencing them.

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6

by William Pickett, Ian Janssen,
and Andrei Rosu

Neighbourhoods

What is a neighbourhood?

A neighbourhood is a community within a larger city, town or other geographic area. The concept of a neighbourhood however, is not just a physical or geographic construct. Neighbourhoods are also social communities, where there is opportunity for people to come together on a regular basis. They therefore consist of settings and situations where people interact socially for the mutual benefit of all that are part of that community (Bernard et al., 1997; World Health Organization, 1998).



For the purposes of this report, HBSC has defined a neighbourhood as the local setting where individual students live and go to school. We were interested in exploring the possible effects of the physical, social and economic characteristics of these neighbourhoods on various aspects of mental health in populations of young Canadians. We did this using data available at various levels, including individual student questionnaires, the HBSC administrator's questionnaire, and linked information from geographic information systems.

Why are neighbourhoods important to health?

During the recent past, there has been an increasing interest in the effects of neighbourhoods on the health of populations. Researchers and policy-makers have come to understand that the characteristics of neighbourhoods, whether measured in terms of their physical, social or economic attributes, can have important impacts on people. Neighbourhoods represent key environmental settings for youth, as policies, physical spaces and structures, and cultural, social and interpersonal interactions that occur in these environments influence their subsequent behaviour, and ultimately their health experiences (Bernard et al., 2007; Green et al., 1996; Sallis & Owen, 2002). Good examples of this include factors such as the availability and quality of affordable housing (Krieger & Higgins, 2002), the extent of poverty or socio-economic advantage (Lynch et al., 2002), safety concerns related to the presence of crime or gangs (Kee et al., 2003; Wood, 2003), or the sense of warmth and cohesion in a well organized and socially-connected neighbourhood (Gidlow et al., 2010). Each of these can contribute to states of disease or wellness.

There are many child health behaviours and outcomes that are affected by neighbourhood characteristics. Examples include dietary patterns and physical activity (Sallis & Glantz, 2009), injury (Oliver & Kohen, 2009), and violence (Bell et al., 2009), as well as more global indicators of health status including mortality (Lemstra et al., 2006). Neighbourhoods can also affect various mental health indicators at the population level, which is the focus of this report.

Physical, social and economic factors are now considered to be classic “determinants of health” at the population level. Such determinants are worthy of study as independent contributors to the health of communities, or as factors that are likely to interact to produce various states of health and disease in affected populations (Public Health Agency of Canada, 2001).

Possible effects of neighbourhoods on mental health

Strong and cohesive neighbourhoods were hypothesized to be linked with better mental health outcomes. The latter can be measured in terms of specific and global measures of mental health status, including emotional problems and emotional well-being, and behaviour problems. A cohesive neighbourhood with strong social support may provide tangible and intangible benefits to its residents, not the least of which is an improved sense of emotional well-being. A dangerous or highly negative neighbourhood environment can be very detrimental to health, and result in several different types of health problems, and even mortality.

Geographic information

New in 2010, school addresses for each of the participating HBSC schools were “geo-coded” and put into a geographic information system. Using this technology, measures were taken of the physical, social and economic environments in a one kilometre circular area or buffer that surrounded each HBSC school. While researchers have used buffers of varying sizes and dimensions (e.g., circular, or an area that can

be travelled in a fixed time period) to characterize school neighbourhoods and their characteristics, observations made using a one to five km circular buffer have been found to be reliable for constructs such as neighbourhood socio-economic status. (Simpson et al., 2005) Neighbourhood measures taken within these buffers were either abstracted from electronic records from the 2006 Canada Census of Population (Statistics Canada, 2006), or from ArcGIS version 9.3 geographic information systems (GIS) software and the CanMap GIS database (DMTI Spatial Inc., Markham, ON). Additional neighbourhood measures were taken from the 2010 HBSC School Administrator Survey.

What are we reporting in this chapter?

In this chapter, we report on physical, social and economic factors that characterize the neighbourhoods surrounding the schools that participated in the 2010 HBSC survey. We provide summaries of these characteristics for schools that serve different grade levels (Grade 6 to 8 and lower, Grade 9 and higher, and *mixed* – schools that cover a larger range of grade levels). While there are examples of *mixed schools* in all provinces and territories, and one can find them located in both highly urban and highly rural/remote communities, they do tend to be unique. For example, 59% of the sampled schools in the three Northern Territories were mixed schools, compared with 21% of the schools sampled within the eight participating provinces. Approximately 38% of the schools sampled from rural and remote communities were mixed schools, compared with 19% of schools from suburban and 23% of schools from urban areas.

Physical factors that were measured included characteristics of housing, traffic, and land use, and accessibility to parks and recreational facilities in the 1 kilometre neighbourhood surrounding each participating school. Some data on physical factors were collected from school administrators in the 2010 HBSC survey. Other data were obtained using the geographic information systems.

Social factors included measures of the social climates of school neighbourhoods. These were reported by school administrators, who summarized their perceptions of crime, racial and religious tensions, the presence of gangs, the aesthetics of the buildings, streets, roads and land, and the presence of drugs and alcohol in the neighbourhoods that surrounded their schools.

Economic factors that were measured in school neighbourhoods included standard indicators of formal education, total household income levels, and housing ownership. These were measured using 2006 data from the Canada Census of Population (Statistics Canada, 2006).

We also examined neighbourhood characteristics in relation to the four indicators of mental health: (1) emotional well-being; (2) prosocial behaviours; (3) emotional problems; and (4) behavioural problems.

Physical characteristics of school neighbourhoods

Housing and land use

6.1 Leading types of housing in the 1 km buffer surrounding Canadian schools, by school type (%)

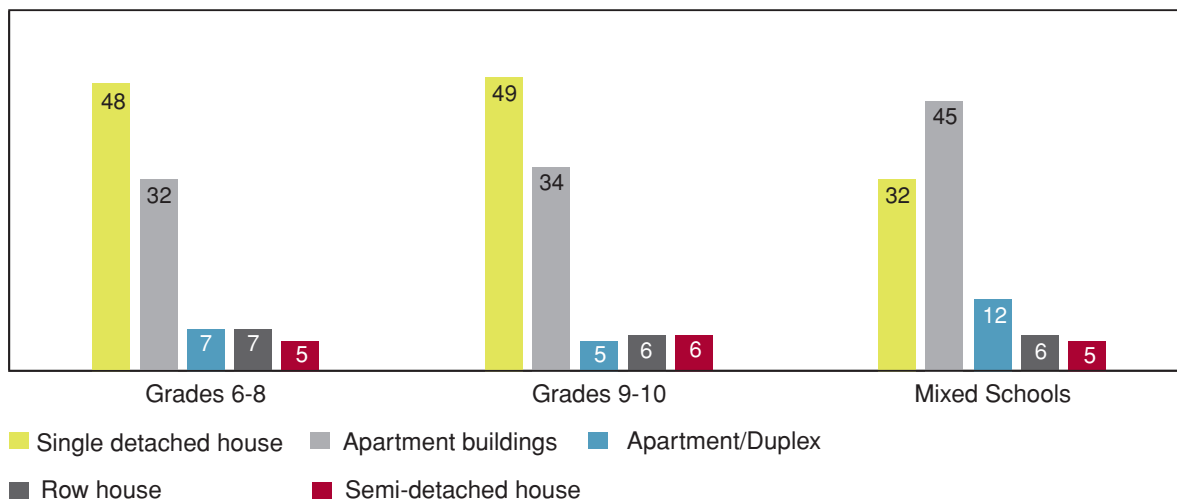
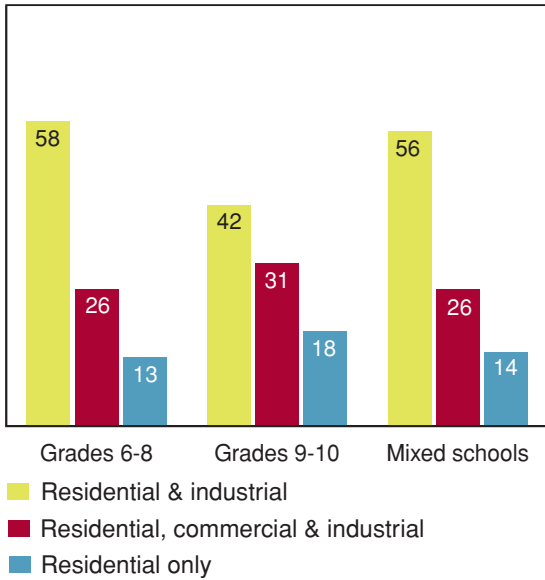


Figure 6.1 shows the types of housing that characterize the neighbourhoods surrounding the 436 Canadian schools that participated in the 2010 HBSC survey. These are divided into the types of schools that serve Grade 6 to 8 (or lower), Grade 9 to 10 (and higher), and “mixed grade” student populations. Single detached houses and various types of apartment buildings were the leading types of housing for each of the three categories of schools. Mixed schools had a different mix of housing types. These were consistent with housing types in rural and Northern centres in the three Territories, as well as communities in parts of some provinces (e.g., Quebec, Alberta) that employ mixed grade school systems.



6.2 Leading types of land use mix in the 1 km buffer surrounding Canadian schools, by school type (%)

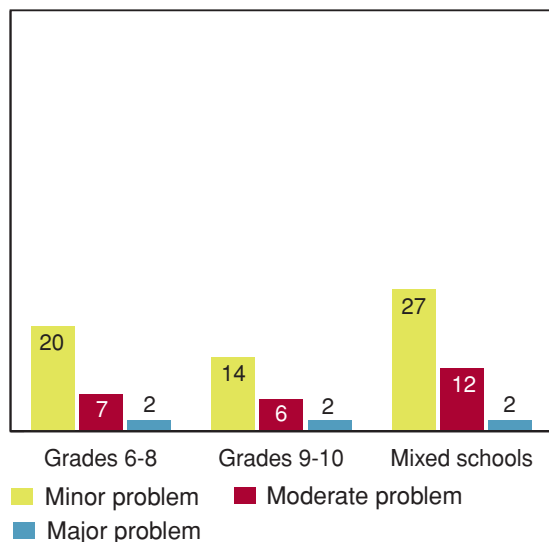


The majority of participating schools were situated in neighbourhoods with a mixture of different types of land use. Fewer schools were situated in neighbourhoods that were exclusively residential (Figure 6.2).

Large proportions of young people are exposed to non-residential neighbourhood environments when travelling to or from school, or during recess and other school breaks. This can have both positive and negative effects on health. Non-residential environments may expose students to: physical hazards that endanger their safety, access to businesses such as fast food outlets that may affect poor nutritional choices, and vehicular traffic that limits the opportunity for active transportation to school (Sallis & Glantz, 2009). On the other hand, residential-commercial land use mixes can facilitate participation in physical activity, in that young people can walk to local stores and food outlets. Hence, land use can have several different influences on both the health and safety of young people, and is an important neighbourhood characteristic.



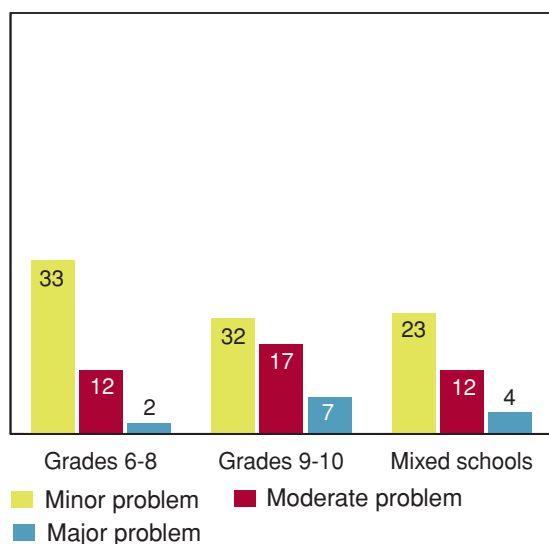
6.3 Vacant or shabby houses and buildings are a problem in the neighbourhood where the school is located, by school type (%)



Vacant or shabby housing in the school neighbourhood was perceived by school administrators to be at least a minor problem in 29% of the elementary schools, 22% of high schools, and 40% of the schools serving mixed grades (**Figure 6.3**). The peak surrounding mixed schools is important, as it reflects lower socio-economic conditions surrounding those school communities that are required to combine school grades. This is consistent with the more challenging economic conditions in many Northern and remote communities.

Traffic

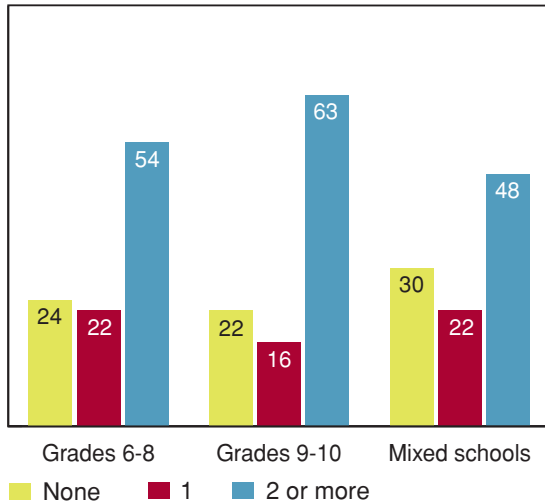
6.4 Heavy traffic is a problem in the neighbourhood where the school is located, by school type (%)



Approximately one-half of the school administrators that served Grade 6 to 8 students reported heavy traffic as a problem, with 14% reporting heavy traffic to be a moderate or major problem (**Figure 6.4**). This percentage rose to 24% in high schools (Grade 9-10), and was 16% in schools that served mixed grade levels. The presence of heavy traffic may be a factor that influences the health of young people. First, heavy traffic is a cause of child pedestrian injury (Oliver & Kohen, 2009). Second, due to such threats to safety, heavy traffic may influence parental and student decisions to walk or bicycle to school, or to engage in physical activity in school neighbourhoods.

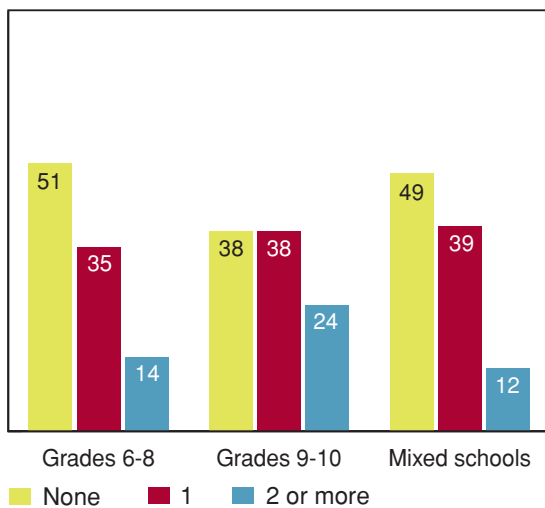
Parks and recreational facilities

6.5 Parks located in the 1 km buffer surrounding Canadian schools, by school type (%)



A strong majority of the schools serving each of the different grade levels were located within 1 kilometre of at least one public park (Figure 6.5). During favorable weather conditions, this distance is considered to be accessible by most young people in ten minutes or less. Access to public parks offers one potential opportunity for young people to engage in physical activity, although safety concerns may limit their use in some Canadian settings (Nichol et al., 2010).

6.6 Recreational facilities located in the 1 km buffer surrounding Canadian schools, by school type (%)



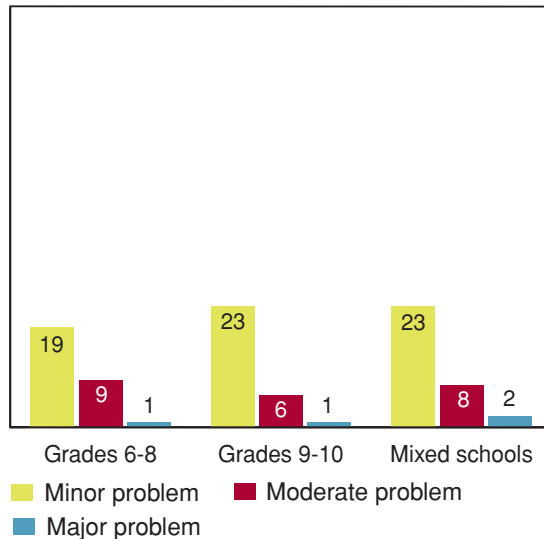
There was more limited access to public recreational facilities, with 38% (Grade 9-10) to 51% (Grade 6-8) of schools reporting no such facilities within the 1 kilometre circular buffer (Figure 6.6).

“Parks aren’t always used some young people are scared to go to parks, because they are in bad neighbourhoods and they feel unsafe.”

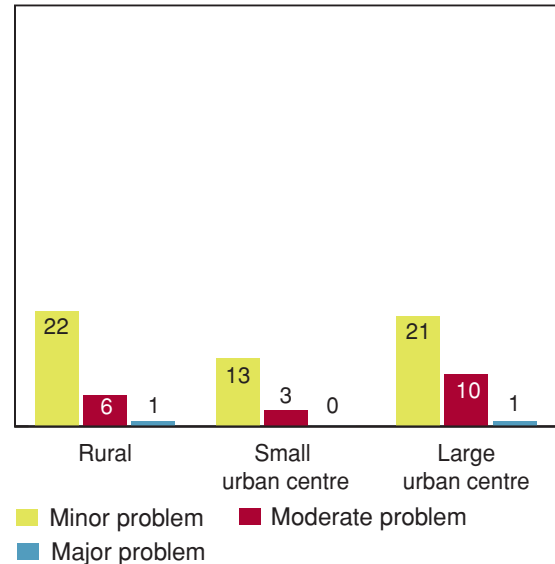
—Youth, Healthy Advice Workshop

Social characteristics of school neighbourhoods

6.7 Tensions based on racial, ethnic, or religious differences are a problem in the neighbourhood where school is located, by school type (%)



6.8 Tensions based on racial, ethnic, or religious differences are a problem in the neighbourhood where school is located, by community type (%)

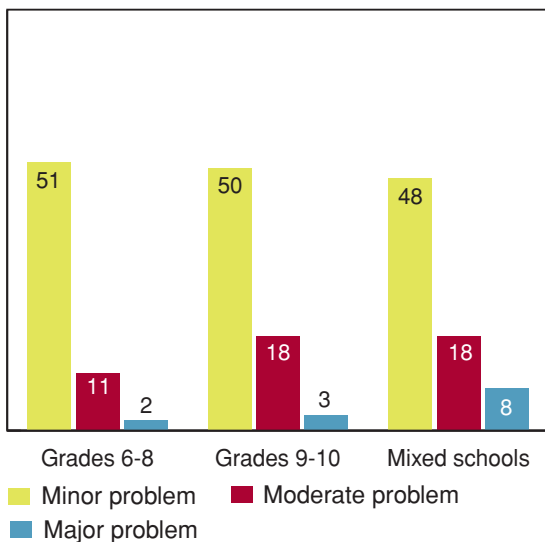


The HBSC School Administrator survey contained a series of items used to describe the social climate of neighbourhoods that surround participating Canadian schools. Perceived tensions surrounding racial, ethnic, or religious differences were identified as at least a “minor problem” in about 30% of the schools (Figure 6.7). The proportions of school administrators who viewed these tensions as at least “moderate” problems did not vary strikingly by school type. Schools in rural centres and large urban centres experienced the most problems of this type (Figure 6.8).

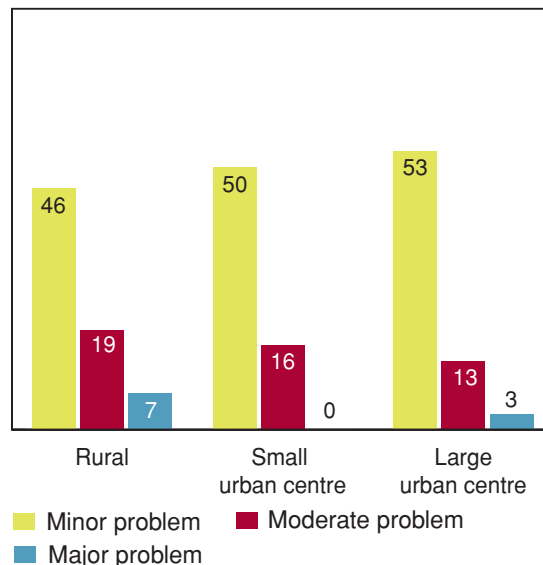
“**What you experience when you are out in your own neighbourhood, including neighbourhood tensions, can have an effect on your own behaviours and health.**”

—Youth, Healthy Advice Workshop

6.9 Garbage, litter, or broken glass in the street or road, on the sidewalks, or in yards are a problem in the neighbourhood where school is located, by school type (%)



6.10 Garbage, litter, or broken glass in the street or road, on the sidewalks, or in yards are a problem in the neighbourhood where school is located, by community type (%)

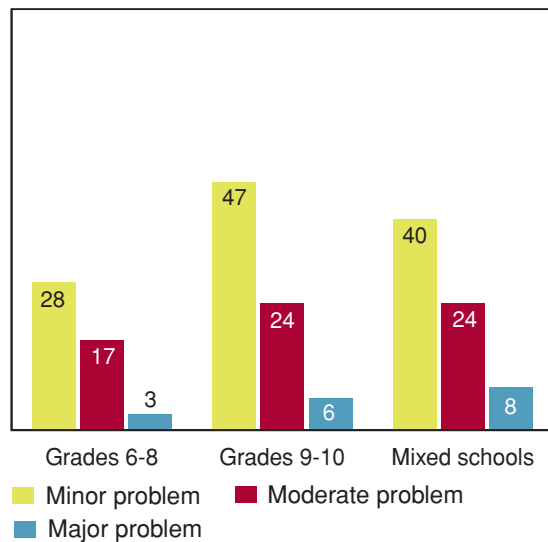


The physical appearance of streets, roads and sidewalks is a common social indicator used to describe the quality of a school neighbourhood. The majority of school administrators reported such aesthetics to be at least a minor problem (Figure 6.9). However, such factors were considered to be more of a problem in high schools and schools serving mixed grades, as well as in schools located in rural communities (Figure 6.10). This may be attributed to socio-economic challenges in some of these more remote settings.

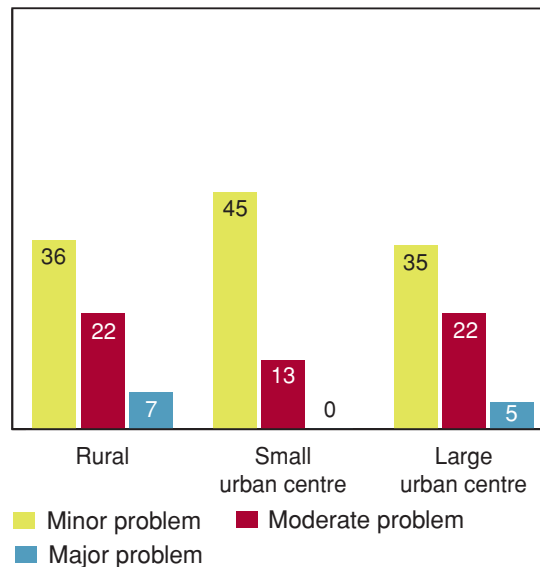
In this report, large urban centres are defined as communities with an urban metropolitan core of at least 100,000 population, including municipalities that border on a metropolitan area. Small urban centres are communities with a population of at least 1000 persons and a population density of at least 400 persons per square kilometre, but that are smaller than a large urban centre. Rural centres are defined as all areas of the country not falling into either the large urban centre or small urban centre categories.

—Statistics Canada, 2006

6.11 Selling or using drugs or excessive drinking are problems in the neighbourhood where school is located, by school type (%)

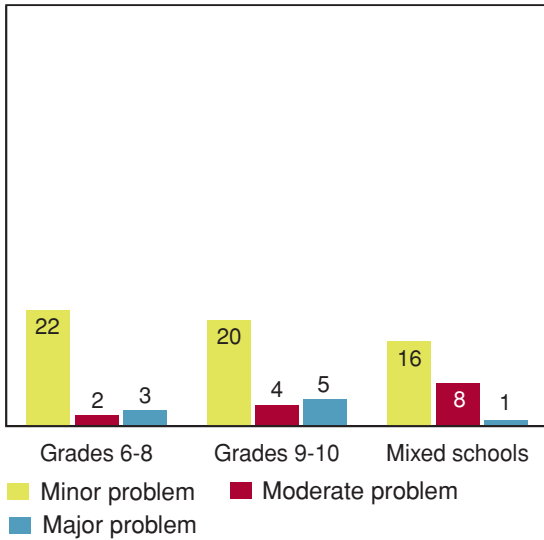


6.12 Selling or using drugs or excessive drinking are problems in the neighbourhood where school is located, by community type (%)

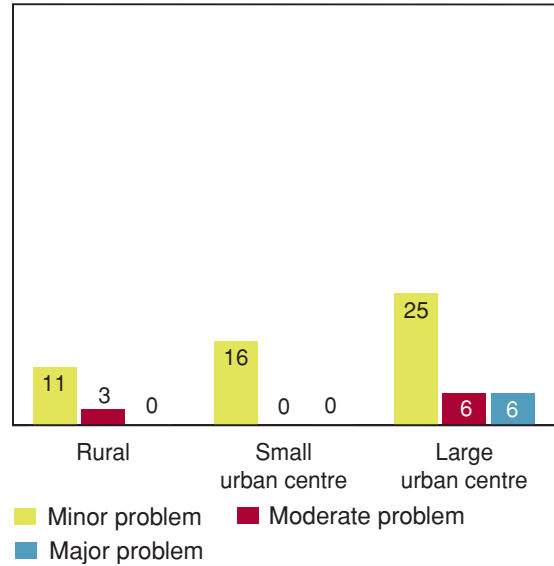


Illicit drug use and excessive drinking were identified as major problems for the neighbourhoods surrounding 6% of the high schools, and 8% of the schools that served mixed grade levels (**Figure 6.11**). Administrators in about 20% of the schools serving Grade 6 to 8 reported that selling or using drugs or excessive drinking were problems in their immediate neighbourhoods. These were only identified as major problems in the neighbourhoods of schools in rural and large urban centres (**Figure 6.12**).

6.13 Gangs are a problem in the neighbourhood where school is located, by school type (%)

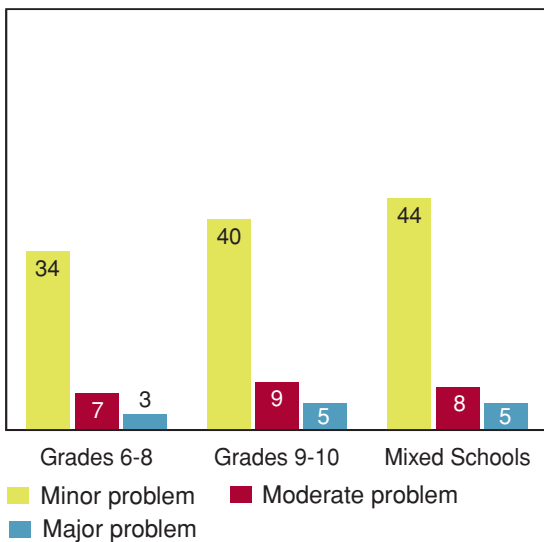


6.14 Gangs are a problem in the neighbourhood where school is located, by community type (%)



Gangs were not perceived to be a problem in the neighbourhoods surrounding most participating schools, with less than 10% reporting gangs as a moderate or major problem (Figure 6.13). Gangs were reported to be a major problem in 5% of the participating high schools. These problems were most notable for school neighbourhoods in large urban centres (Figure 6.14).

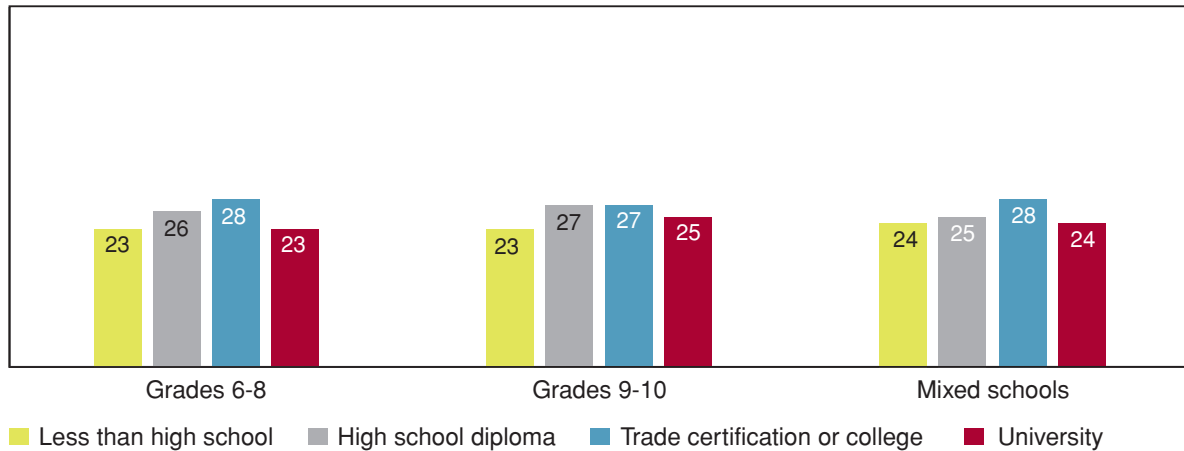
6.15 Crime is a problem in the neighbourhood where school is located, by school type (%)



Larger percentages of school administrators reported neighbourhood crime as a problem, with the highest prevalence levels indicated for high schools and schools serving mixed grade levels (Figure 6.15). The fact that the percentages of schools where crime was reported as a problem exceeded reports of gangs, suggests that much of the perceived crime is not related to gang activity.

Economic characteristics of school neighbourhoods

6.16 Education of population aged 15 and over in the 1 km buffer surrounding Canadian schools, by school type (%)



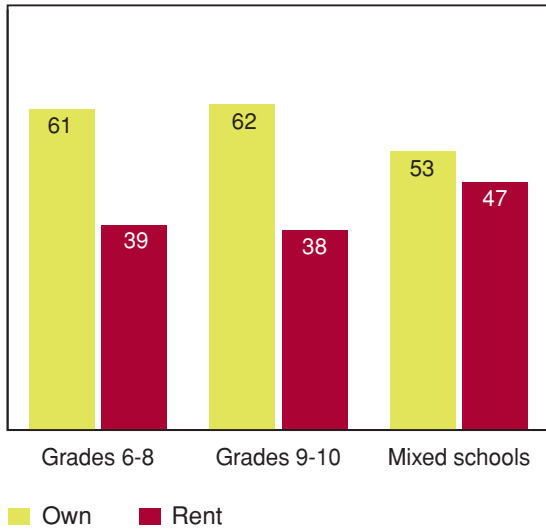
Levels of formal education provide one standard indicator used to describe socio-economic status and how it varies between populations. Distributions of observed education levels were roughly equivalent in the neighbourhoods of schools defined by school types (**Figure 6.16**). Roughly one-quarter of the population in school neighbourhoods had achieved each of four categories of education: university, college or an apprenticeship or trade, high school, or less than high school education.

Similarly, no substantial differences in the levels of total household income were observed in the three different school types (**Table 6.1**). The most common level of household income was less than \$40,000.

Table 6.1: Total household income in the 1 km buffer surrounding Canadian schools, by school type (%)

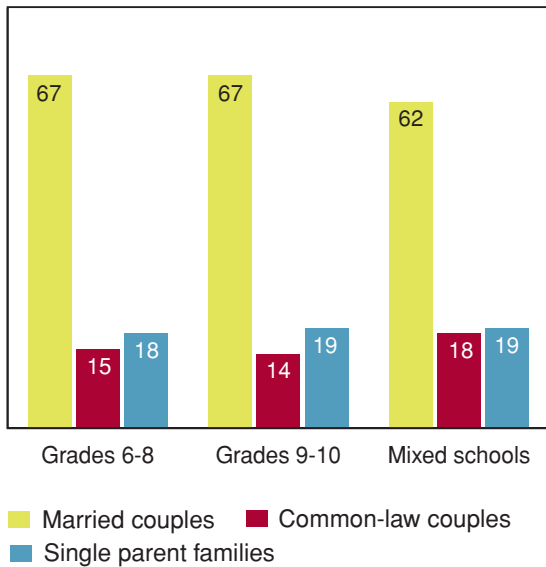
Household Income Range	Grades 6-8	Grades 9-10	Mixed
\$0 - \$39,999	39.3	39.2	41.9
\$40,000 - \$69,999	26.3	26.3	27.3
\$70,000 - \$99,999	16.6	15.9	15.3
\$100,000 and over	17.8	18.6	15.5

6.17 Ownership arrangements for housing in the 1 km buffer surrounding Canadian schools, by school type (%)



The housing observed in the neighbourhoods of participating schools was primarily owned or rented, with lower observed percentages of ownership surrounding the schools serving mixed grade levels (**Figure 6.17**).

6.18 Family structure of population in the 1 km buffer surrounding Canadian schools, by school type (%)



Finally, the percentage of single parent families is often used as a standard indicator of lower socio-economic status for neighbourhoods and communities. Approximately one in five families in the school neighbourhoods reported such family structures (**Figure 6.18**).

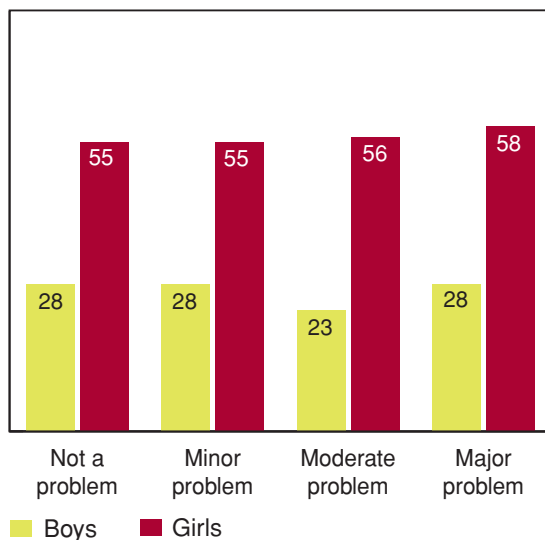
Relationships between neighbourhood characteristics and mental health

It is plausible that young people from advantaged and disadvantaged school neighbourhoods may also report different types of health outcomes, both positive and negative. A neighbourhood that is well planned, socially cohesive, and economically affluent would be expected to contribute to better health. This argument might extend to indicators of mental health in populations of young people.

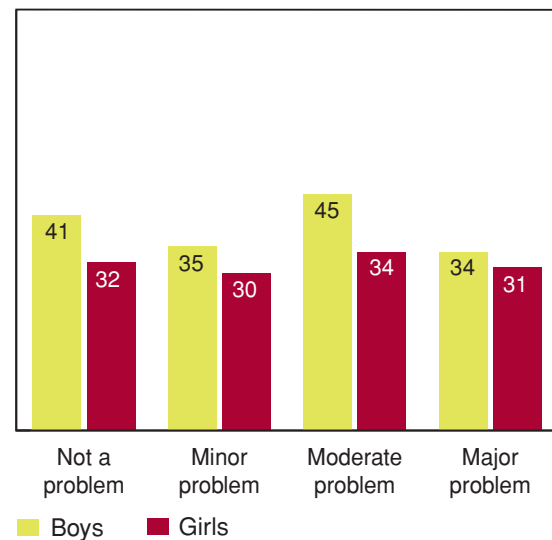
While some evidence of possible neighbourhood effects on emotional health were found, in general the analysis of these associations did not turn up consistent or clear patterns.

For example, **Figure 6.19** relates reports of high levels of emotional problems to the housing conditions that surround school neighbourhoods. There is little evidence of a strong association between this measure of neighbourhood disadvantage and the mental health of young people, although a modest association was observed among girls, who generally report higher levels of emotional problems. Behavioural problems did not appear to increase with increasing levels of perceived housing problems among either gender (**Figure 6.20**).

6.19 Students reporting high levels of emotional problems, by the presence of vacant and shabby housing in their neighbourhood, by gender (%) *



6.20 Students reporting high levels of behavioural problems, by the presence of vacant and shabby housing in their neighbourhood, by gender (%)

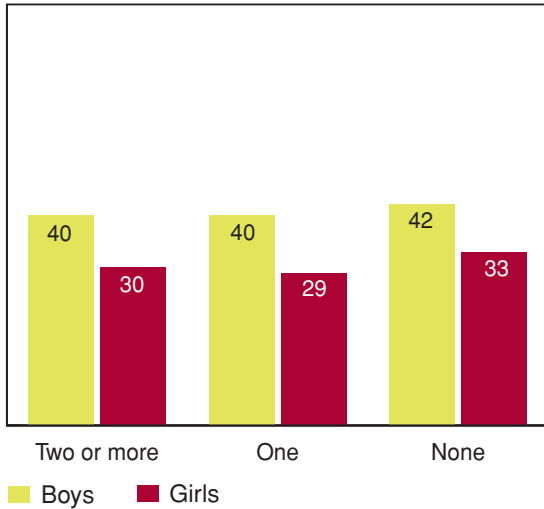


“What you experience in your own neighbourhood can sometimes affect your own behaviours and feelings.”

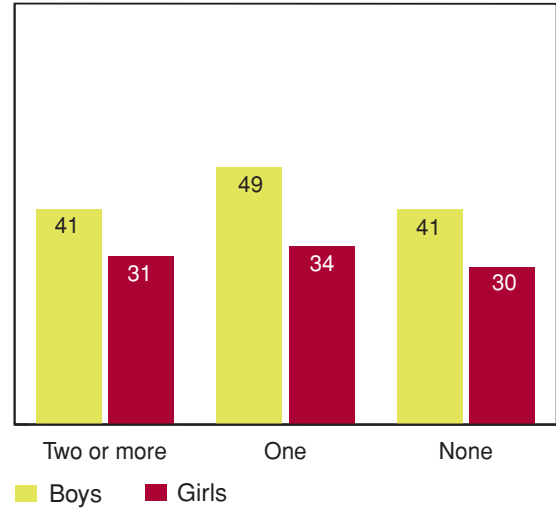
—Youth, Healthy Advice Workshop

* 28% of boys who feel that vacant or shabby housing in their neighbourhood are not a problem report relatively high levels of emotional health problems, compared with 55% of girls who feel that vacant or shabby housing in their neighbourhood are not a problem. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

6.21 Students reporting high levels of emotional well-being, by the presence of recreational facilities in their neighbourhood, by gender (%)

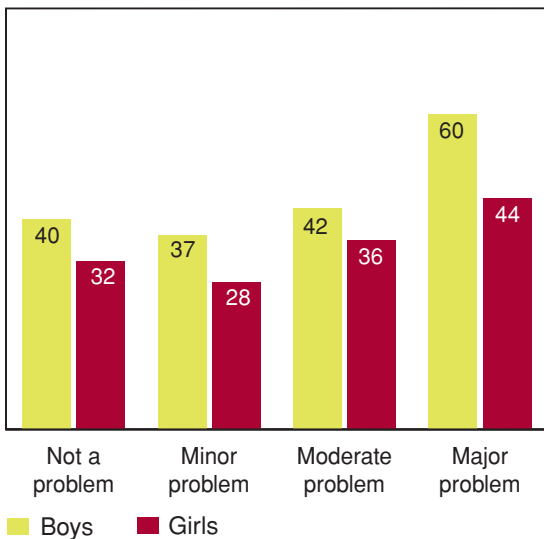


6.22 Students reporting high levels of emotional well-being, by the presence of parks in their neighbourhood, by gender (%)



Similar regression analyses were used to examine positive outcomes such as emotional well-being. There was a similar lack of consistency in these associations. For example, there did not appear to be an association between access to recreational facilities and emotional well-being (Figure 6.21). Increased access to parks was inconsistently related to higher levels of emotional well-being (Figure 6.22).

6.23 Students reporting high levels of behavioural problems, by the presence of racial, ethnic or religious tensions in their neighbourhood, by gender (%)



There was some evidence that relationships between neighbourhood factors and mental health can occur in the expected direction of more neighbourhood problems coinciding with more mental health problems. Figure 6.23 shows that neighbourhoods with high reported levels of social tension also contained larger numbers of students with behavioural problems. While these relationships are not necessarily causal, it is clear that suboptimal social environments and problem behaviours do coexist, and this is very pronounced in some Canadian school communities.

What young people thought about these findings

Based upon the youth engagement workshop, young people clearly recognize the importance of the environments that surround them as possible determinants of health. They understand that many positive and negative health behaviours are developed within the context of local neighbourhood settings. They understand that safe and socially cohesive environments may contribute to healthy choices and behaviours, while neighbourhoods that endanger their safety can have the opposite effect, and put the health of young people at risk.

During the workshop, the young people and adults in attendance (mostly researchers and government representatives) were given four choices of environments to select from as being “most influential to their ongoing health”. These four choices were home, school, peers and neighbourhood and would provide priorities for policy development at the government level. The students were asked to stand by a pillar that represented their decision.

At the start of the exercise, everyone in the room seemed to acknowledge that all settings were important for government action. As things continued, everyone was urged to make a single choice. A few students and adults clustered around the “school environment” and “peer” pillars. Quite a number of adults but only one student selected “neighbourhoods” as their initial choice. A few students remained standing in the middle of the room, and stated that all of these environments were of importance to their health, including mental health outcomes, and they did not wish to make a single choice. But by far the majority of students stood together at the “home” pillar part of the room. The lesson to be taken from this exercise was that, while students recognize the importance of all contextual environments as determinants of health, the home remained, by far, the most influential in their opinion. Neighbourhoods, while an obvious focus of government policy and recent research efforts, remained a lower priority for the students in attendance.



Summary and implications

Key issues of concern

- 1 Important proportions of school administrators, particularly those from mixed grade schools and from rural and remote communities, documented social tensions and safety issues as problems in the neighbourhoods where schools are located.
- 2 While the majority of HBSC schools are within walking distance to parks, young people may not always use such facilities.
- 3 Young people who go to schools in neighbourhoods troubled by social tensions are more likely to report higher levels of behavioural problems themselves.

Key issues to celebrate

- 1 Physical characteristics of school neighbourhoods do not appear to be related to the mental health status of young people.
- 2 Similarly, economic characteristics do not appear to be related to indicators of mental health.
- 3 While tensions based upon ethnic, racial, or religious differences are reported within some school communities, the vast majority of young people in Canada are not exposed to such tensions to the point that they are perceived as a major problem.

Commentary

Neighbourhoods can and do have an important influence on the health of populations, including young people. For this reason, it was felt that an exploration of the physical, social and economic environments surrounding Canadian schools would be of value. This chapter therefore profiles the selected characteristics of school neighbourhoods, and subsequently relates specific characteristics to indicators of mental health reported by students. Two major highlights emerged from this exploratory analysis.

First, it is clear that location matters. Schools in highly urban areas have different neighbourhood influences than schools in rural and remote regions of Canada. This is particularly true for social indicators of neighbourhood climate, such as tensions related to racial, ethnic or religious differences, or the presence of gangs or problems with crime.

Second, whether assumed causal or not, it was striking that the physical and economic factors measured around schools appeared to have little influence on student perceptions of their mental health. Emotional problems and behavioural problems did not vary significantly with the perceived quality of local housing. Proximity of schools to recreational facilities was not associated with emotional well-being, and emotional health actually appeared to decline in neighbourhoods with greater access to park facilities. Such findings were supported by student perceptions reported at the national workshop, where other factors such as the home environment were perceived as being more important

determinants of mental health. These determinants are complex, and go far beyond simplistic explanations that attempt to tie neighbourhood factors to specific health outcomes in simple causal models. The linkage of HBSC survey data with population health data from other sources provides tremendous opportunity to further explore these complex models.

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7

Injury

by William Pickett

What is injury?

Injury is defined as any physical harm to the body caused typically by an external force. The most common causes of injury are physical forces, and in young people these often happen while playing sports, during motor vehicle collisions, while cycling, or during physical fights (Molcho et al., 2006). Injuries can also include poisoning and ingestions, as well as burns.



Why does injury matter?

Injury is recognized as a leading public health issue in populations of young people around the world (Peden et al., 2008). This is certainly the case in Canada. Injuries are also costly to society in terms of health care expenditures and time lost from productive activities for both adolescents and the adults who care for them when they are injured (Ameratunga, 2009; Leitch, 2007; Peden et al., 2008).

Because of the enormous burden of injuries in terms of pain and suffering, permanent disability and even death, the Government of Canada has identified injury as a major prevention priority.

—Leitch, 2007; Public Health Agency of Canada, 2009

Possible relationships between injury and mental health

While injuries may cause obvious physical health effects such as pain and disability, the extent to which injuries may relate to mental health is not well known. This is a relatively new area of research. Recovery from injury can be a challenging process. Not only may injured youth experience ongoing pain and inconvenience, they may be prevented from engaging in their usual activities such as sports, music, and other recreational activities. These life changes are not trivial, and they may take a significant emotional toll. It is also possible that a young person's mental health status may impact risks for injury, (i.e., those who are suffering from emotional problems may be more prone to injury through a variety of risk-taking and other mechanisms). For these reasons, it is important to examine associations between various types of injury and mental health.

What are we reporting in this chapter?

In this chapter, we report on the percentage of students who experience at least one injury in a year, on the percentage of those who experience multiple injuries, and on the seriousness of these injuries. We define injuries as any injury event reported in the last 12 months that resulted in treatment by a doctor or nurse. One year represents the standard time period over which it is believed that young people can recall their injury experiences accurately (Harel et al., 1994). We define serious injuries as those that resulted in significant medical treatment such as the placement of a cast, stitches or an overnight admission to hospital. We also describe injuries leading to at least five days missed from school or usual activities. We describe patterns of injury by grade level and gender, and whether the serious injury problem appears to be getting better or worse compared with past HBSC surveys. Common activities and locations of injury are highlighted. Finally, the burden of injuries is reported in terms of time lost from school or other usual activities. We also examine some key behaviours that are known to protect young people from injury, or alternatively, cause great harm. Key protective behaviours include bicycle helmet use, and helmet use while operating ATVs, snowmobiles, and dirt bikes. The key risk behaviours examined were riding in a car or other motor vehicle operated by someone who had been drinking or using drugs, or alternatively driving a car or other motor vehicle under the same conditions. Finally, we examine injury in relation to the four standard indicators of mental health.

Description of the injury problem

The size of the injury problem in Canada

7.1 Students reporting an injury requiring medical treatment, by grade and gender (%)

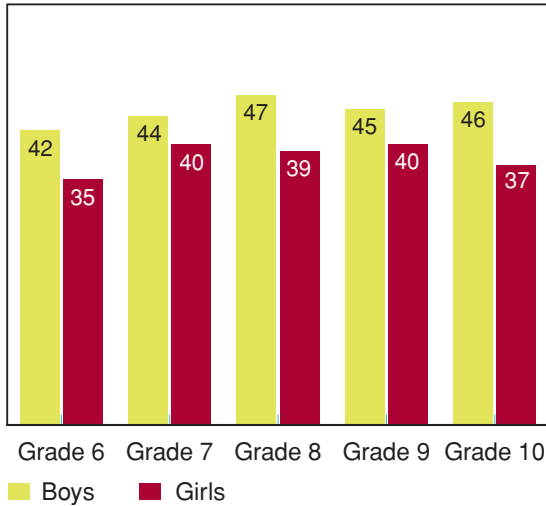
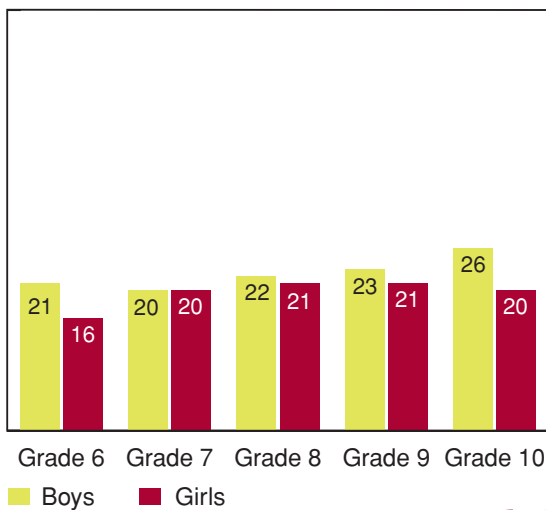


Figure 7.1 shows the overall proportions of students who reported at least one injury in the past 12 months. Across the grades, 42 to 47% of boys reported experiencing at least one injury requiring medical treatment, compared to 35 to 40% of girls. In every grade, boys reported more injuries than girls. There was no strong observable pattern in the occurrence of injuries across the five grades.

7.2 Students reporting multiple injuries, by grade and gender (%)



Some young people reported experiencing more than one injury over the course of a year, and this is shown in **Figure 7.2**. Reports of multiple injuries ranged from 20 to 26% for boys and 16 to 21% for girls. In general, there were no strong increases or decreases in the occurrence of injury across the different grades. These patterns were quite similar to past cycles (e.g., 2006) of the HBSC.

“Injuries happen, they are part of life, part of growing up. I don’t want to give up playing soccer or basketball or hanging out just because I might get hurt. But I do understand the need to be careful ... to be smart about the risks that I take.”

—Youth, Healthy Advice Workshop

7.3 Students reporting one or more serious injuries requiring significant medical treatment, by grade and gender (%)

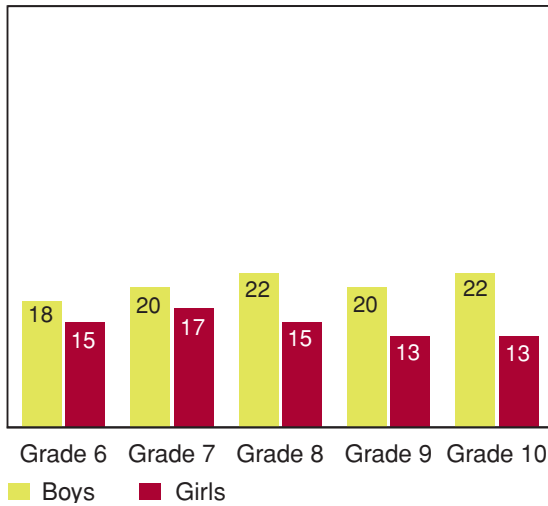
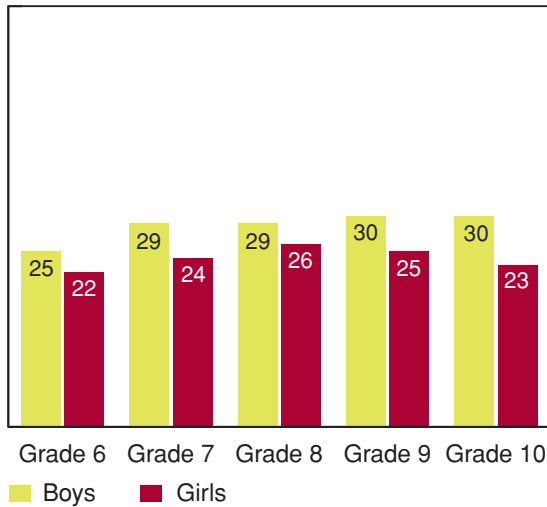


Figure 7.3 shows that at each grade level, a greater proportion of boys (18 to 22%) compared to girls (13 to 17%) reported a serious injury requiring placement of a cast, stitches, surgery, or an overnight admission to hospital in the past 12 months.

Impact of injury on young people's lives

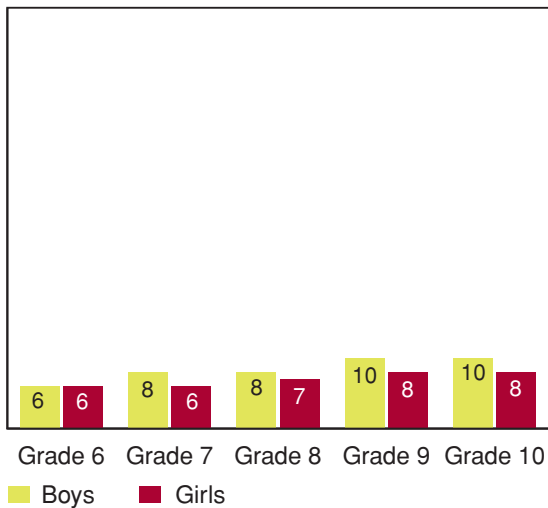
7.4 Missing one or more days from school or usual activities due to an injury, by grade and gender (%)



The impact of students' injuries extends beyond their immediate physical consequences. In 2010, about 1 in 4 students typically missed one or more days of school or other usual activities due to an injury, with slightly higher percentages reported by boys in the older grades (**Figure 7.4**). There were no strong age-related patterns observed for girls.



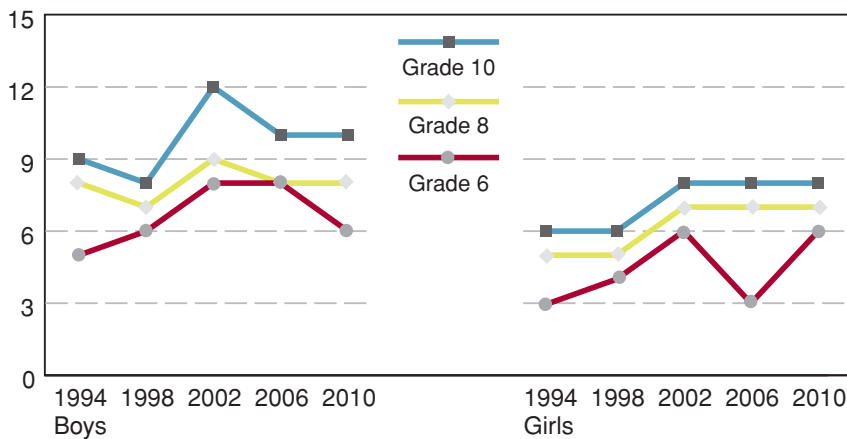
7.5 Missing five or more days of school or usual activities due to an injury, by grade and gender (%)



Between 6 to 10% of students reported missing a week or more of school or usual activities due to an injury (**Figure 7.5**).

Trends in injury over time

7.6 Injuries resulting in five or more days lost from school or usual activities reported over the last five cycles of the HBSC Survey, by grade and gender (%)



Trends in the occurrence of serious injuries reported by young people are summarized in **Figure 7.6**. There was no clear trend in the occurrence of reported injuries across the five HBSC survey cycles representing 16 years. This is despite the fact that injury has been recognized as an important public health issue in Canada, and considerable resources have been put into prevention efforts. This is of obvious concern to public health officials in Canada.



7.7 Total days missed of school or usual activities due to an injury per 1000 students per year, by grade and gender

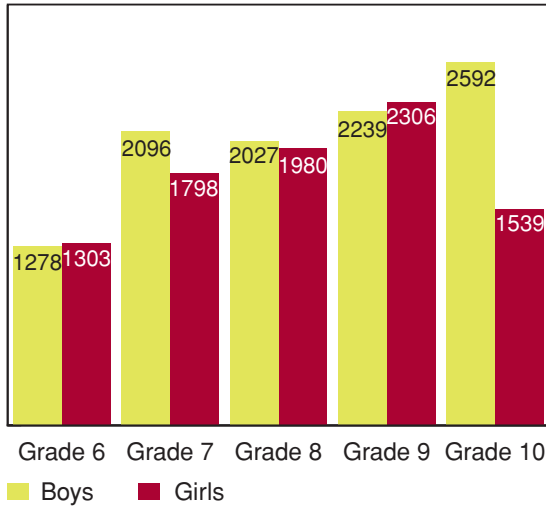
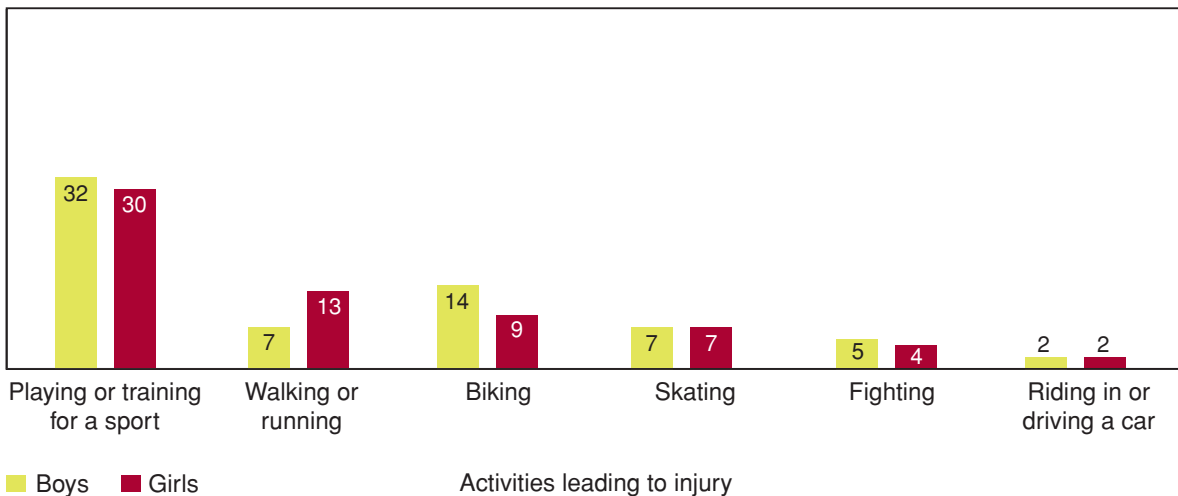


Figure 7.7 describes the burden of injury in the HBSC sample, estimated per 1000 participating students. Cumulatively, these injury events resulted in an enormous amount of time lost to students in all grades.

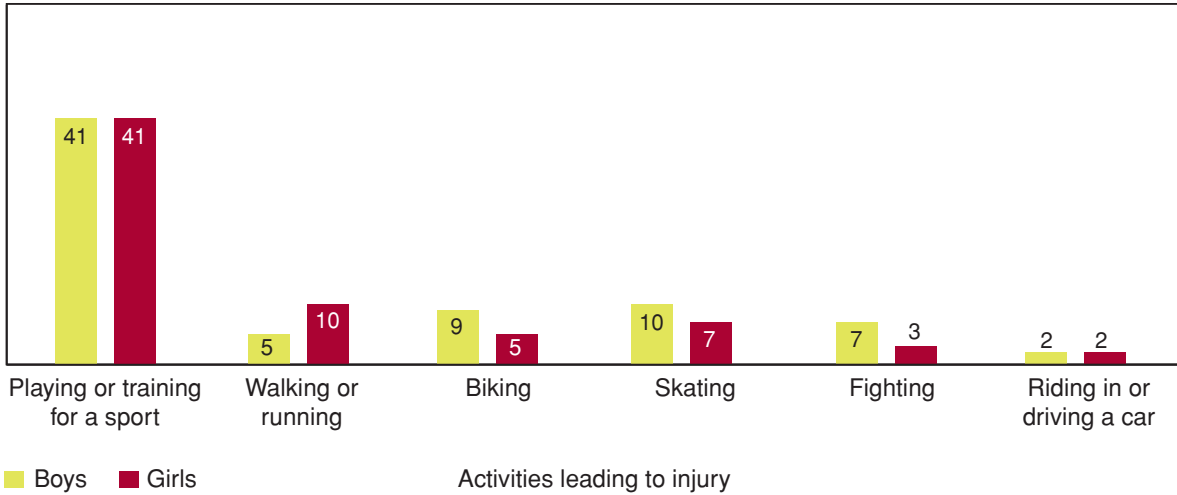
How are young people injured?

Injuries to young people occurred during many different activities. Figures 7.8 to 7.10 show that sports and recreational activities including walking or running, biking and skating are leading causes of injury. While fighting injuries are less common, the effects of violence on mental health will likely be more serious than the effect of recreational injuries due to the emotional impact of the violent event. Similarly, while motor vehicle injuries and occupational injuries account for smaller percentages in all age groups, they are still notable because they can be traumatic and disabling, thereby affecting the mental health of the victim.

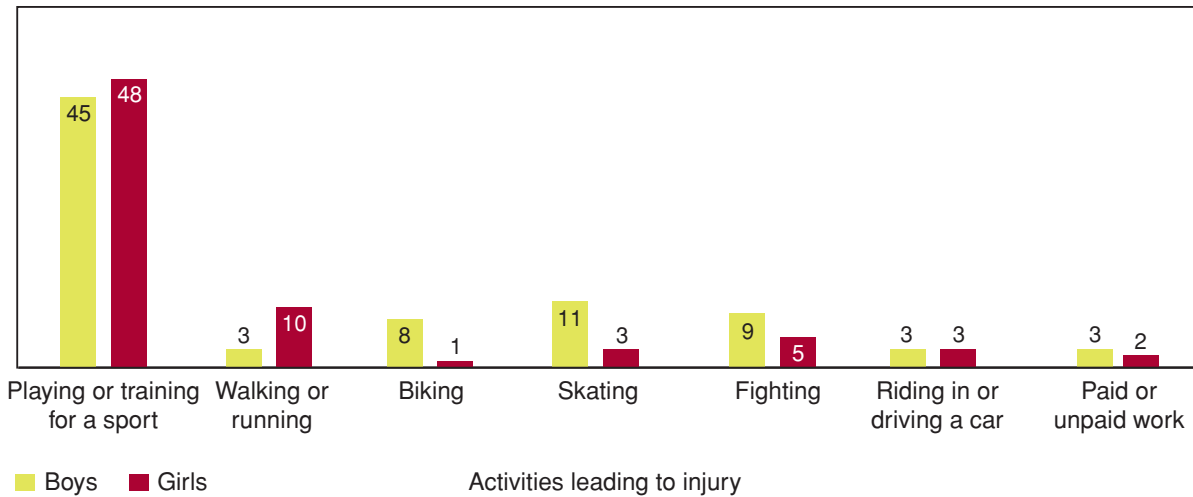
7.8 Leading activities that result in injury to Grade 6 students, by gender (% of all activities; note: percentages do not add to 100%)



7.9 Leading activities that result in injury to Grade 8 students, by gender
(% of all activities; note: percentages do not add to 100%)



7.10 Leading activities that result in injury to Grade 10 students, by gender
(% of all activities; note: percentages do not add to 100%)



Where are young people injured?

Table 7.1 shows that the leading places where injuries to young people occurred include sports facilities or fields (21 to 41%), and at school during regular hours (12 to 19%). Injuries at sports facilities appeared to increase in older grades, while injuries that happened at home or in schools declined with age.

Table 7.1 Locations where injuries happen, by grade and gender (column %)

	Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Home or yard	27	36	27	27	18	26	18	25	15	22
Sports facility or field	27	21	31	27	39	30	39	37	41	36
School during school hours	19	19	15	16	13	18	14	12	12	13
School outside hours	3	3	3	5	4	5	5	4	5	7
Street or parking lot	6	4	7	7	9	6	9	7	9	5
Other	17	17	18	17	17	15	16	15	19	17

Which activities lead to the most serious injuries?

7.11 Injuries requiring significant medical treatment, by activity (%)

Figure 7.11 shows that the types of injury-causing activities most likely to lead to significant medical treatment (any of placement of a cast, stitches, or an overnight admission to hospital) include motor vehicle injuries, cycling injuries, and fighting. This is consistent with what is known about major causes of adolescent injury that result in death and hospitalization. While less common than sports injuries, these types of injury are important due to their relative severity.

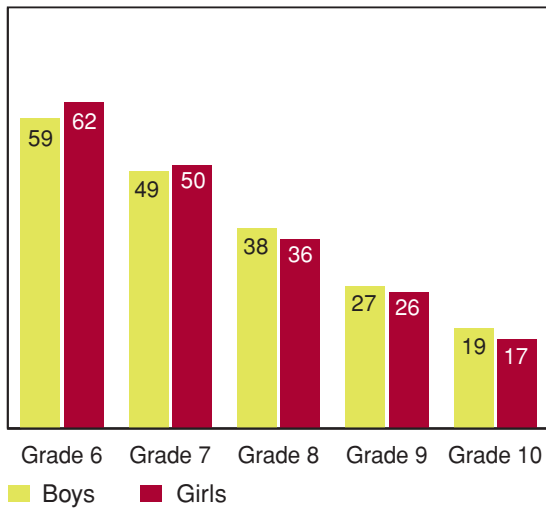


Risk and protective factors

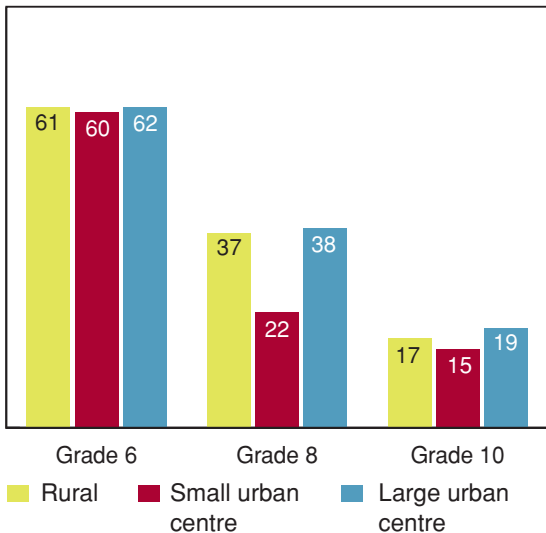
Helmet use

There were large differences observed in the use of helmets while cycling (**Figure 7.12**). While about 60% of Grade 6 cyclists wore a helmet most or all of the time, less than 20% of Grade 10 students reported this protective behaviour. Percentages of adolescents reporting bicycle helmet use were roughly equivalent between boys and girls in all age groups. **Figure 7.13** suggests that while proportions of young people reporting helmet use were generally consistent between populations from urban and rural areas, lower proportions of reported use were observed in smaller urban centres among Grade 8 participants.

7.12 Students wearing a bicycle helmet most or all of the time when cycling in the last 12 months, by grade and gender (%)

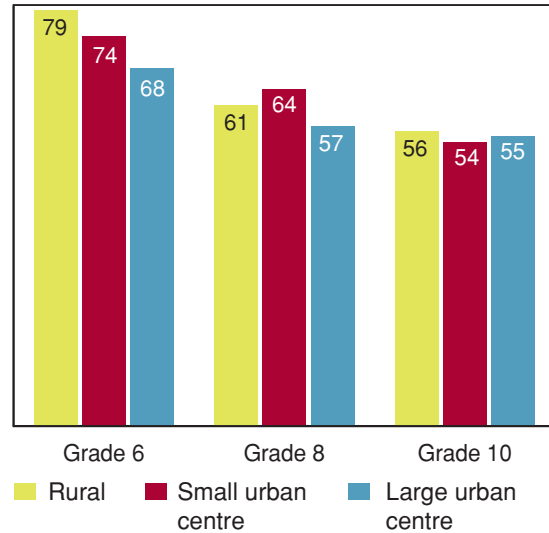


7.13 Students wearing a bicycle helmet most or all of the time when cycling in the last 12 months, urban vs. rural schools (%)



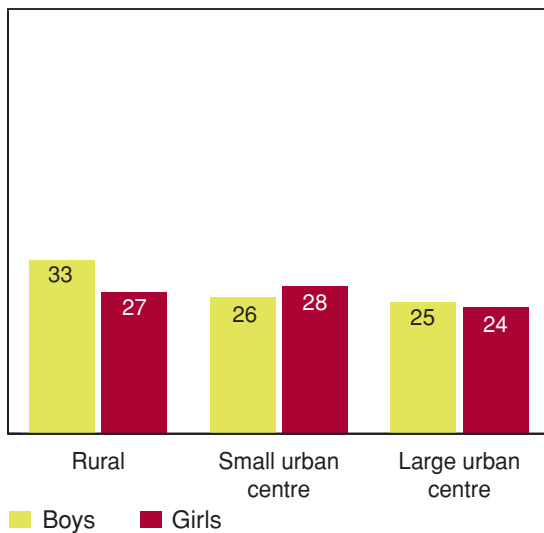
7.14 Students wearing a helmet most or all of the time when riding other vehicles (e.g., snowmobile, ATV, dirt bike) in the last 12 months, urban vs. rural schools, by grade (%)

Figure 7.14 shows that the majority of young people reported use of a helmet most or all of the time when they were riding motorized vehicles such as snowmobiles, dirt bikes, and all-terrain vehicles. However, substantial proportions of these students (21-46%) did not report helmet use and this risk behaviour increased in the older age groups. This pattern was similar for boys and girls. The pattern of responses to this question were quite similar in urban versus rural respondents.



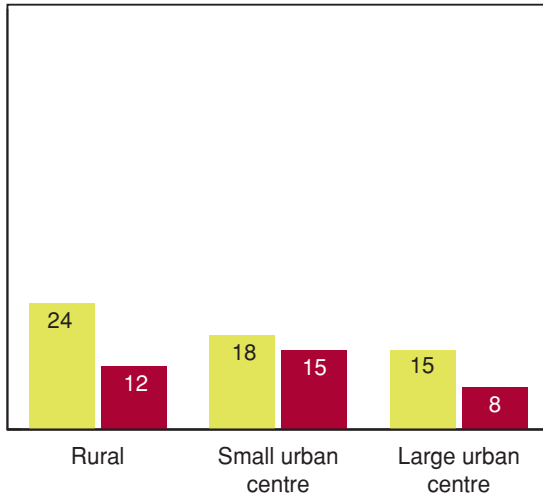
Drinking, drug use and driving

7.15 Students reporting riding in a car or other vehicle driven by someone who had been drinking alcohol or using drugs in the past 30 days, (% of Grade 9 and 10 students)



Driving a motor vehicle while under the influence of alcohol or drugs is an obvious and serious cause of major injury in Canada. Therefore, it is disturbing to see that substantial proportions of boys and girls reported riding in a motor vehicle driven by someone who had been using drugs or alcohol in the past 30 days. Figure 7.15 presents the percentages for Grade 9 and 10 students, who reported this behavior most frequently. This was especially a problem in rural student populations.

7.16 Grades 9 and 10 students reporting driving a vehicle after drinking alcohol or using drugs in the past 30 days, urban vs. rural schools, by gender (%)



Equally disturbing are the proportions of Grade 9 and 10 students who reported driving a motor vehicle when they had been drinking alcohol or using drugs. Again, the highest reports of this behaviour were observed among boys in rural areas (Figure 7.16). However, 15% of girls from small urban centres also reported this behaviour, which was considerably higher than those from large urban centres.

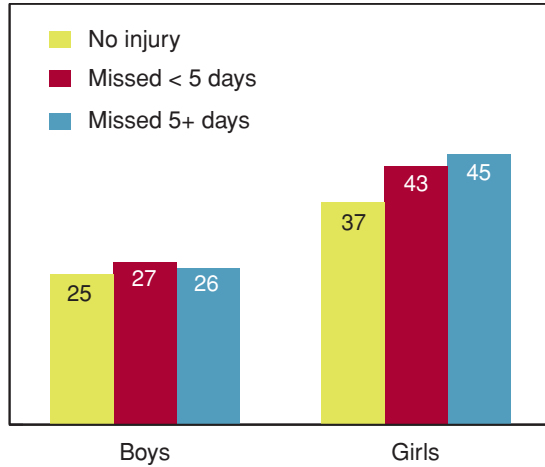
Injury and mental health

For many different reasons, it is possible that young people who report injuries may also report different types of mental health experiences, both positive and negative. On the one hand, injuries can cause pain and suffering. Prolonged experiences with pain can take a toll, and potentially have consequences in terms of poorer levels of mental health. On the other hand, relationships between specific types of injury and the mental health indicators are affected by the context in which the injury occurred.

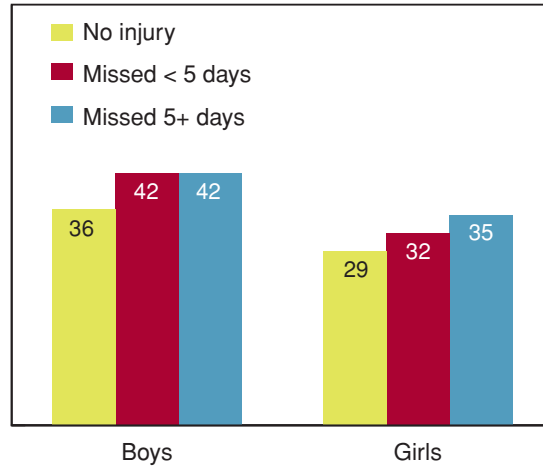
An injury that occurred during a fight or other act of violence will have obvious detrimental effects on a young person's mental health. This may, however, be an artifact of the violent encounter, and not necessarily the injury itself. On the other hand, an injury that occurred during physical activity (including sports) may have positive relations with mental health outcomes, as the positive effects of this activity may outweigh any negative consequences of the injury itself.

Figure 7.17 demonstrates that girls reporting injuries also reported increases in the most negative responses on the emotional problem scale. Both boys and girls reporting injuries also reported higher scores on the behavioural problem scale (Figure 7.18). This suggests that overall, injury experiences are associated with some negative aspects of mental health.

7.17 Students reporting high levels of emotional problems, by days missed due to injury, by gender (%) *



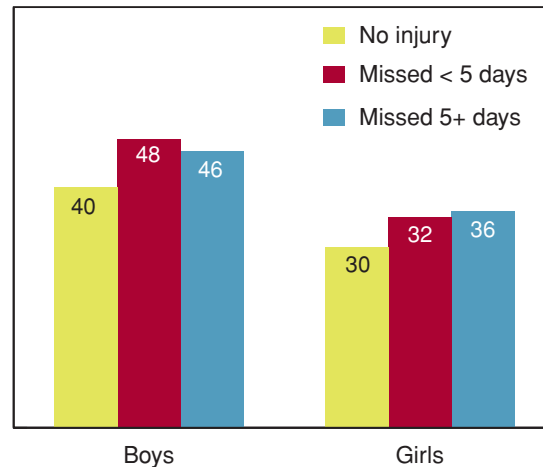
7.18 Students reporting high levels of behavioural problems by days missed due to injury, by gender (%)



When these relationships are broken down for specific types of injury, quite a different pattern emerges.

Higher rates of emotional well-being are associated with the reporting of a physical activity injury (Figure 7.19), most likely attributable to the benefits of exercise and participation in sports.

7.19 Students reporting high levels of emotional well-being by days missed due to physical activity injury, by gender (%)



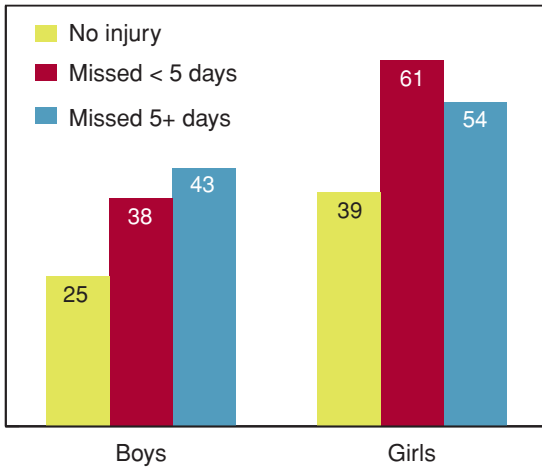
“ If you get in a fight and are seriously injured, you might be in trouble with your parents, which can really have an impact on your emotional health. ”

—Youth, Healthy Advice Workshop

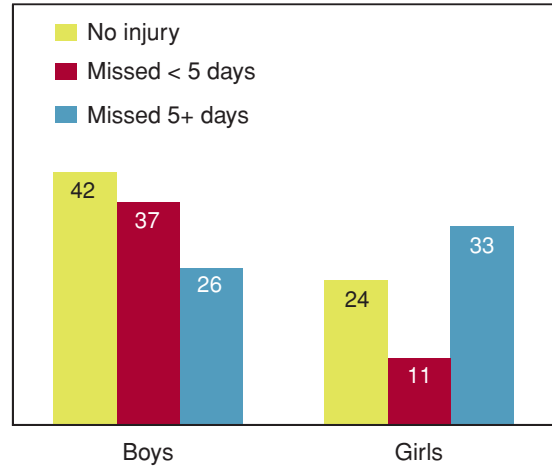
* 25% of boys who did not see a doctor or nurse for an injury in the past 12 months report relatively high levels of behavioural problems, compared with 27% of boys who saw a doctor or nurse for an injury in the last 12 months, but missed fewer than 5 days of school or other usual activities due to the injury. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

When injuries caused by fighting were examined (**Figure 7.20**), strong relationships were observed between boys with injuries caused by fighting and higher scores on the emotional problem scale, while the pattern observed among girls was less consistent. Emotional well-being also appeared to decline in association with reports of fighting injuries among boys, whereas no such pattern appeared among girls (**Figure 7.21**).

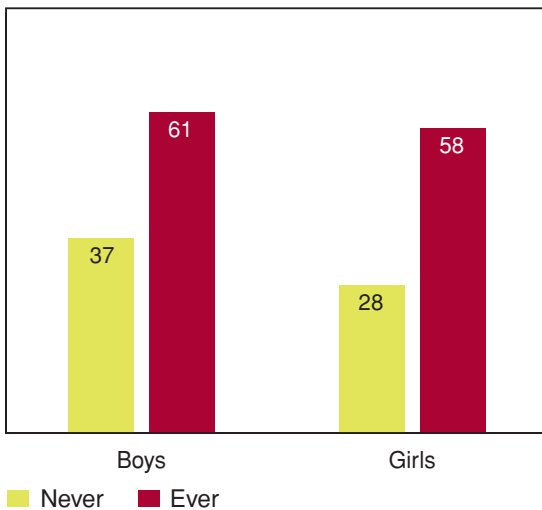
7.20 Students reporting high levels of emotional problems by days missed due to fighting injury, by gender (%)



7.21 Students reporting high levels of emotional well-being by days missed from school or usual activities due to fighting injury, by gender (%)



7.22 Students reporting high levels of behavioural problems by whether they have ridden in a car with an impaired operator, by gender (%)



Finally, it is clear that some indicators of negative mental health, such as the behavioural problem scale, can be linked with risk-taking behaviours that have very serious consequences. For example, strong relationships were observed between those with a high score on the behavioural problem scale and drinking and driving behaviours, such as riding in a car or other vehicle while the operator was impaired (**Figure 7.22**).

What young people thought about these findings

While young people appreciated the importance of injury as a public health problem, their views on its relative importance might vary somewhat from adults, especially adult professionals who are responsible for the development of injury prevention programs. The immediate consequences of injuries in terms of pain, suffering, and inconvenience seem to be understood, at least conceptually. Nevertheless, the long-term costs of injury in terms of its effects on society, or even its immediate effects on mental health, are less well understood. As a priority, it seemed that many youth attending the workshop ranked injury behind other leading public health issues (e.g., obesity, physical inactivity, violence), in terms of the need for urgent government action.

In addition, there are many obvious and well-established risk-taking behaviours that can lead to injury. Some of these include drinking and driving or riding in a vehicle with an impaired driver. Others include non-use of helmets while riding bicycles or other recreational vehicles such as snowmobiles, ATVs, and dirtbikes. Many young people that responded to the HBSC in Canada reported recent engagement in such risky behaviours, despite what is known about such risks and their effects on injury. There is a consequent need to redouble efforts to educate young people about the importance of preventing injury in their young lives, and how to manage and prevent the overt risk-taking that can lead to trauma.



Summary and implications

Key issues of concern

- 1 Injury remains a leading cause of ill-health in all HBSC age groups.
- 2 Important percentages of young people report engagement in known risk-taking behaviours that can lead to major injury, despite widespread knowledge of the potential consequences of these behaviours.
- 3 Emotional problems, and lower emotional well-being are each strongly associated with the occurrence of fighting injury.

Key issues to celebrate

- 1 Helmet use appears to be a normative behaviour among a majority of younger (Grade 6) children.
- 2 The leading activity associated with the occurrence of injury to young people remains “playing or training for a sport”. Injuries are a negative side effect of a group of activities that generally have positive effects on the health of young people.

Commentary

The descriptive findings that appear in this chapter mirror those found in previous HBSC cycles and reports. Injury remains a leading public health priority in terms of the prevalence of injury events reported, and the extent and consistency of the problem observed in groups of young people across the country. Injury also exacts a significant toll in terms of the numbers of young people who seek formal medical care from the health care system, and in terms of the extensive amount of time lost to school or other usual activities. These facts are well understood by Canadian authorities, including the Public Health Agency of Canada which has identified injury as one of its leading priority health issues during recent years (Leitch, 2007; Public Health Agency of Canada, 2009).

What is new in the 2010 HBSC Study is the documentation on a population basis of some key risk-taking behaviours that have the potential to result in major injury. Substantial proportions of students in Grade 9 and 10 (e.g., up to 25% of rural boys) report the recent operation of a car or other vehicle after consuming alcohol. Even higher proportions (25% to 33%) of young people report riding in a car or other vehicle driven by someone who had been drinking or using drugs. While the majority (about 60%) of Grade 6 children report wearing a helmet while cycling at least most of time, this drops to only 20% by the time young people enter Grade 10. And about 45% of Grade 10's report at least some non-use of helmets while riding on other recreational vehicles such as ATVs or snowmobiles. All populations of young people seemed to share in these risks. Efforts to prevent young people from engaging in these known and obvious risks remain a leading priority for the prevention of major injury in Canada.

While some forms of injury may take an important toll on the mental health of young people, it is also clear that the causal relationship between injuries and mental health outcomes is not always straightforward. Injury can lead to poor mental health outcomes. Poor mental health outcomes can also lead some young people to take increased risks leading to injury. Exploratory analyses of these relationships, such as those presented in this chapter, require confirmation in longitudinal studies to sort out the correct temporal sequence. It is also clear that context plays a role in the nature and effects of these relationships. Injuries that occur in different settings and contexts might have very different effects on standard indicators of mental health. These do not represent clear-cut relationships, and the context in which the injury occurred seems to matter.

In summary, injury remains a leading public health priority among populations of young people in Canada. This chapter provides simple descriptive insights into the ongoing nature of this problem in our country. It also points to some obvious priorities for prevention that were documented during the 2010 HBSC cycle.

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8

by Ian Janssen, Mariane Héroux,
and Valerie Carson

Healthy living

What is healthy living?

Healthy living refers to the engagement in behaviours that are consistent with supporting, improving, maintaining, and/or enhancing health. This chapter will focus on physical activity, sedentary behaviours, and healthy eating. Other negative aspects of healthy living, such as smoking, alcohol, and drug use are covered in Chapter 10.



Nicolette McGraw

What is physical activity?

In its simplest sense, physical activity is defined as any bodily movement produced by the muscles that result in an increase in energy expenditure. Physical activity therefore includes non-vigorous tasks, such as light walking, and moderate or vigorous tasks, such as brisk walking, jogging/running, bicycling, playing soccer, and playing basketball. In general, physical activities of moderate-to-vigorous intensity will make the individual breathe more deeply and rapidly and increase his or her body temperature (e.g., make them feel warm and sweat).

In young people, physical activity needs to be of at least a moderate intensity to generate health benefits.

—Janssen & LeBlanc, 2010.

Although routine engagement in physical activity has numerous health benefits, these benefits do not motivate young people to be physically active. Rather, young people participate in physical activity for fun and enjoyment, and for social reasons. However, parents, health-care practitioners, and policy-makers are interested in the health benefits that young people receive when they engage in an appropriate amount of physical

activity. The physical health benefits of regular physical activity in young people include improved fitness, and the development of healthy and strong bones, as well as the regulation of body weight and chronic-disease risk factors (e.g., high blood pressure, elevated blood cholesterol, Janssen & LeBlanc, 2010). For more information on the appropriate volume, intensity, and types of physical activity needed for health benefits, please refer to Canada's new Physical Activity Guidelines for Children and Youth at the following web address: <http://www.csep.ca/english/view.asp?x=804>.

What is sedentary behaviour?

Sedentary behaviour is different from physical activity and consists of activities in which there is little movement or energy expenditure (Tremblay, Colley et al., 2010). These activities include watching television, playing video games, using the computer, doing homework, reading, and motorized travel. It is impossible for anyone to be physically active during all waking hours. Thus, the goal is not to eliminate all sedentary behaviour, but rather to keep young people's sedentary behaviour to a reasonable and healthy level. Increased time spent engaging in sedentary behaviour, especially screen-time activities, such as watching television, using the computer, and playing video games, has been linked to several negative health outcomes. For example, obesity, unhealthy eating, decreased fitness, and substance use and abuse are all thought to be associated with excessive screen time (Tremblay, Colley et al., 2010). It is important to note that sedentary behaviours are related to these health outcomes independent of moderate-to-vigorous physical activity levels (Tremblay, Colley et al., 2010). Many people who engage in a considerable amount of sedentary behaviour also engage in moderate-to-vigorous activity (Tremblay, Colley et al., 2010). Refer to Canada's new Sedentary Behaviour Guidelines for Children and Youth at the following web address for more information: <http://www.csep.ca/english/view.asp?x=804>.

Healthy eating

Food frequency. Food frequency refers to the number of times a person eats a given food item over a period of time (e.g., day, week, month). Healthy and nutritious food items need to be part of a healthy eating pattern. Eating Well with Canada's Food Guide describes what amount of food people need and what type of food is part of a healthy eating pattern. Following the eating pattern in Canada's Food Guide will help children two years and older get the nutrients and calories they need for healthy growth and development. An important step towards better health and a healthy body weight is to eat the recommended amount and type of food each day and to limit the consumption of unhealthy foods and beverages that are high in calories, fat, sugar or salt.

Eating behaviours. Eating behaviours refer to the habits of when, what, where, and why one eats. Excessive snacking while watching TV or while playing video games, should be avoided as the foods eaten during these activities tend to be high in fat, sugar, and salt, and can contribute to excessive weight gain and obesity (Gore, Foster et al., 2003). Youth should also avoid frequently eating at fast food restaurants, as most of the foods sold at these establishments, while affordable, are high in calories and linked to obesity and poor health (Bowman, Gortmaker et al., 2004).

What are we reporting in this chapter?

We asked students to indicate how many days in a typical week they were physically active at a moderate-to-vigorous intensity for at least 60 minutes. Young people who reported 60 minutes or more of physical activity seven days of the week were considered to be physically active, while those participating in lesser amounts were considered to be physically inactive (Janssen & LeBlanc, 2010). Students also reported the number of hours in a typical week in which they exercised or were physically active during class time at school, during free time at school, and during free time outside of school hours. Information about the frequency of exercise in free time outside of school hours was also gathered. Also, a new item was added to the 2010 HBSC regarding students' primary mode of transportation to school. Active transportation (e.g., walking or cycling) to school provides an additional opportunity, outside of sport and play, for young people to accumulate physical activity during their day.

A series of questions was used to determine how many hours in an average day young people engaged in the following sedentary behaviours: watching television (including videos and DVDs), playing video games on a computer or console (Playstation, Xbox, GameCube, etc.), and using a computer in free time (including doing homework, chatting online, internet browsing, emailing, etc.). Two hours or more per day for each of these screen-time activities was considered excessive (Canadian Paediatric Society, 2003).

Students were asked to report how frequently they consumed a number of foods and beverages. For each food or beverage, response options ranged from as low as 'never' to as high as 'more than once per day'. Within the HBSC study, young people who consumed a given food or beverage once per day or more often were considered to be high consumers.

To assess eating behaviours, three questions were included for the first time in the 2010 HBSC. Two of these questions assessed how often youth eat while watching TV and while using a computer or video game console. The third question asked was how frequently they eat at fast food restaurants.

Effects of healthy living on mental health

Along with several benefits to a young person's physical health, engagement in healthy living behaviours has numerous mental health benefits. For example, regular physical activity in young people is associated with improved self-efficacy and self-image and a decrease in depression symptoms (Janssen & LeBlanc, 2010). Excessive sedentary behaviour on the other hand is associated with violent and aggressive behaviours, body image issues, and poor self-esteem (Tremblay, Colley et al., 2010). Food choices and eating behaviours can also impact mental health, although the causal direction of these relationships is not always clear. For instance, eating unhealthy foods may contribute to the development of mental health issues, and mental health issues may also impact the food choices and eating behaviours a young person makes.

Physical activity

Physical activity levels of young Canadians

8.1 Students who are physically active daily during a typical week for at least 60 minutes per day, by grade and gender (%)

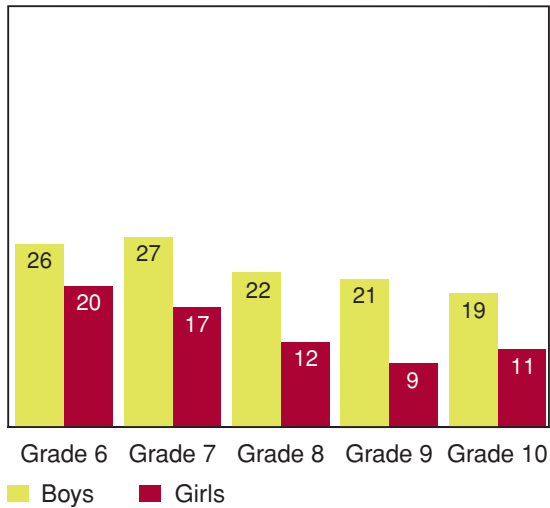
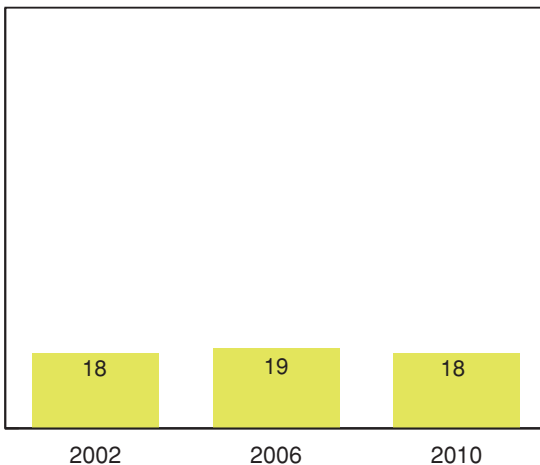


Figure 8.1 shows that between 19 and 27% of boys are physically active for at least 60 minutes on a daily basis. Only 9 to 20% of girls achieve this level of activity. The proportion of students who were physically active at this level declined between Grade 6 and Grade 10 for both boys and girls.

8.2 Students who are physically active daily during a typical week for at least 60 minutes per day, in 2002, 2006 and 2010 (%)



The proportion of students who accumulated 60 minutes of physical activity on a daily basis remained stable (within 1 percentage point) between the 2002, 2006, and 2010 HBSC surveys (**Figure 8.2**).



8.3 Spending four or more hours per week doing physical activities in class time at school, by grade and gender (%)

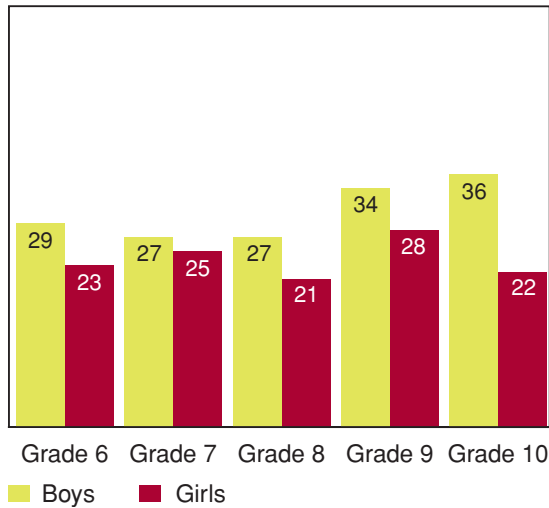
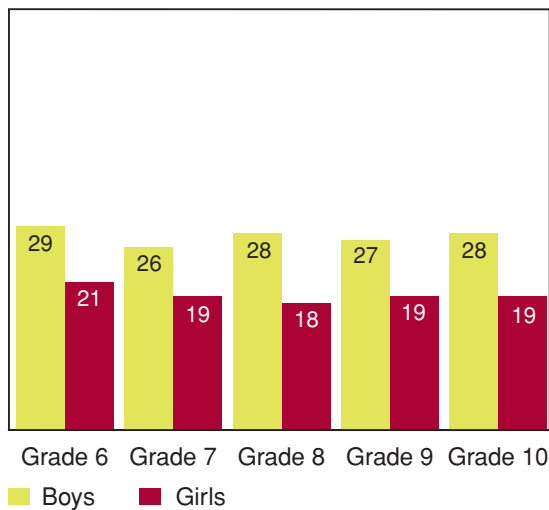


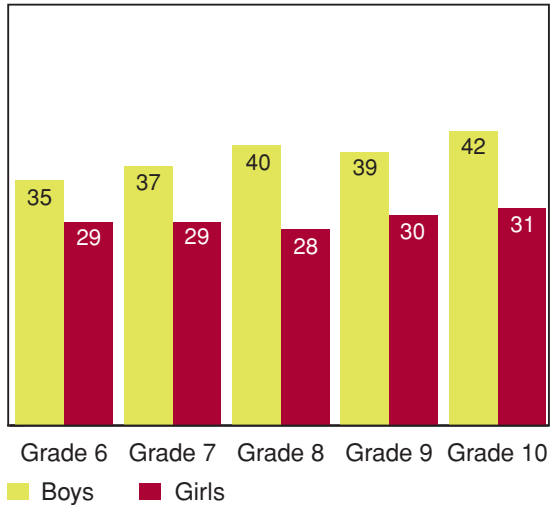
Figure 8.3 shows that 27-36% of boys and 21-28% of girls reported participating in four or more hours of moderate-to-vigorous physical activities in the past week during class time at school. Boys were more likely than girls to accumulate four or more hours of physical activity in class time at school in all grades.

8.4 Spending four or more hours per week doing physical activities in free time at school, by grade and gender (%)



On average, 28% of boys and 19% of girls reported participating in four or more hours of moderate-to-vigorous physical activities in the past week in their free time at school (**Figure 8.4**). Boys were more likely than girls to accumulate four or more hours per week of physical activity in free time at school in all grades. Physical activity participation rates in free time at school remained relatively stable (within 3 percentage points) from Grade 6 to Grade 10 for both boys and girls.

8.5 Spending four or more hours per week doing physical activities outside of school hours, by grade and gender (%)



From 35 to 42% of boys across the grades and approximately 30% of girls reported participating in four or more hours of moderate-to-vigorous physical activities in the past week outside of school hours (**Figure 8.5**). As with physical activity at school, rates of physical activity participation outside of school were higher for boys than for girls in all grades.

8.6 Transportation to school, by grade and gender (%)

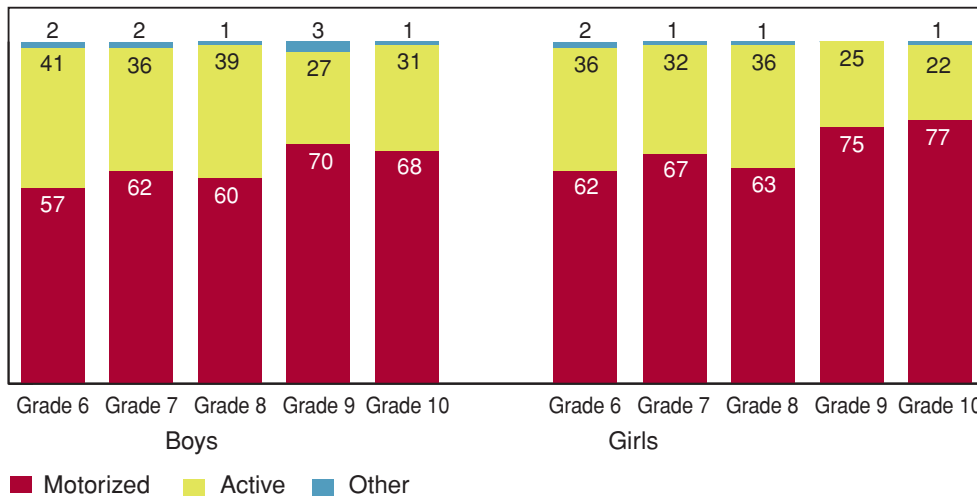


Figure 8.6 shows that 57 to 77% of boys and girls across grades used motorized transport for the main part of their journey to school. Only 27 to 41% of boys and 22 to 36% of girls used active transport (e.g., walking or bicycling) for the main part of their journey to school.

Sedentary behaviours of Canadian young people

8.7 Watching two or more hours of television per day, by grade and gender (%)

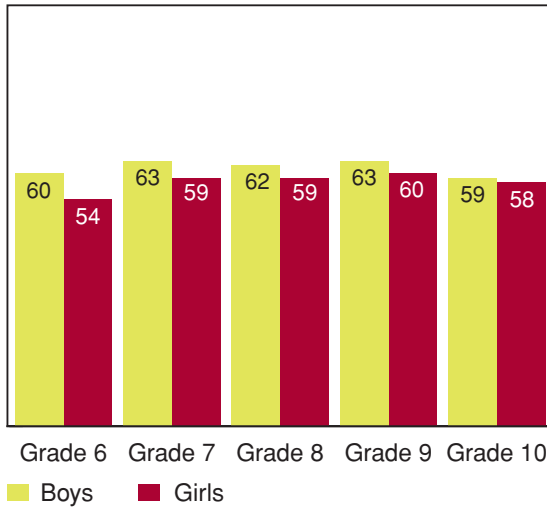
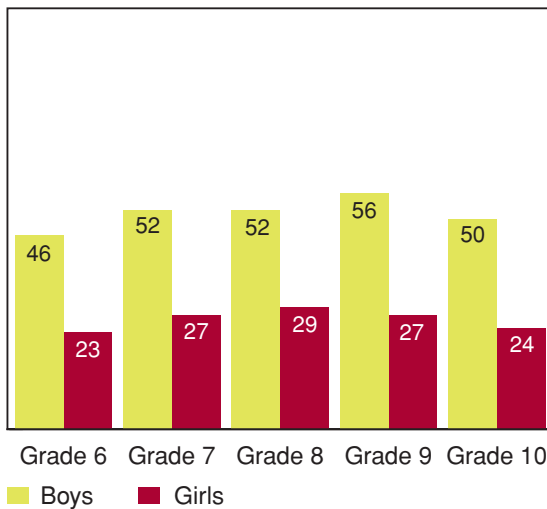


Figure 8.7 illustrates that more than 50% of young people across gender and grade categories reported watching two or more hours of television per day. Slightly more boys than girls watch two or more hours of television per day.

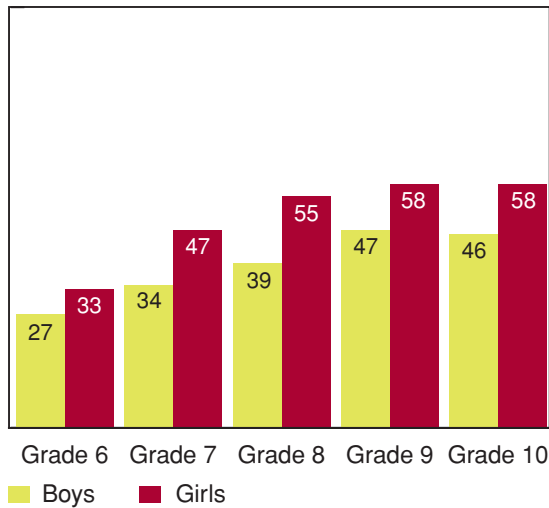
8.8 Playing video games for two hours or more per day, by grade and gender (%)



About one-half of boys and one-quarter of girls play video games for two hours or more per day on average (**Figure 8.8**). Approximately twice as many boys than girls play video games for two or more hours per day, irrespective of grade.



8.9 Using the computer in free time for two hours or more per day, by grade and gender (%)



As illustrated in **Figure 8.9**, the percentage of students using the computer in their free time for two or more hours per day, on average, was higher in girls (up to 58%) than in boys (up to 47%). The percentage of students using the computer in their free time for two or more hours per day increased by 25% between Grade 6 and Grade 10 in girls, and by 19% between Grade 6 and Grade 10 in boys.

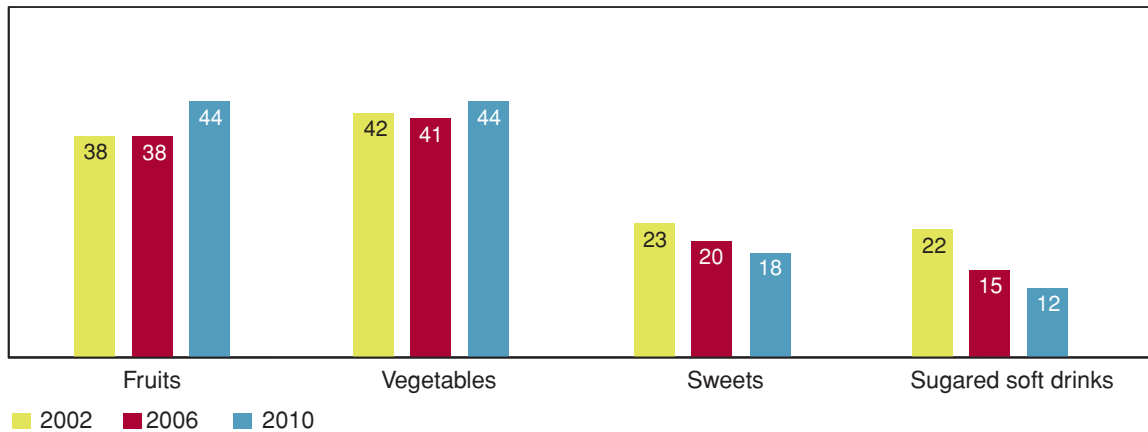
Food frequency patterns in Canadian young people

Table 8.1 lists the percentage of students who consume various food and beverage items once or more per day. Compared to boys, a higher percentage of girls consume fruits and vegetables at least once daily. In all gender and grade categories, 53% or fewer of the students surveyed indicated that they consumed fruits or vegetables at least once a day (Table 8.1). Although food frequency rates do not provide information on portion sizes and the total number of servings, the fact that only half of Canadian young people report eating fruits and vegetables at least once a day is of concern given that Canada's Food Guide recommends that children and teens (between 9 and 18 years of age) eat between six and eight servings of fruits and vegetables per day. Canada's Food Guide may be found at the following web address: www.healthcanada.gc.ca/foodguide.



Table 8.1: Proportion of students consuming food or beverage items once per day or more often, by grade and gender (%)

Food Item	Gender	Grade				
		Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Fruits	Boys	44	41	40	36	37
	Girls	53	50	47	43	46
Fruit juice	Boys	41	39	39	36	36
	Girls	44	41	42	38	39
Vegetables	Boys	40	39	40	38	39
	Girls	50	47	48	46	49
Dark green vegetables (broccoli, spinach, chard, etc.)	Boys	15	14	14	11	13
	Girls	17	16	17	14	16
Orange vegetables (carrots, squash, sweet potato, etc.)	Boys	20	15	15	12	13
	Girls	21	17	16	13	16
Whole grain breads or cereals (oatmeal, muesli, etc.)	Boys	43	42	42	37	37
	Girls	43	38	40	38	40
Meat alternatives (beans, lentils, tofu, eggs, peanut butter, etc.)	Boys	29	33	33	32	31
	Girls	35	37	37	31	30
Game from hunting (moose, caribou, venison, etc.)	Boys	5	5	4	5	5
	Girls	3	2	2	3	3
Sweets (candy or chocolate)	Boys	17	16	18	21	20
	Girls	13	19	19	18	20
Cakes, pastries or donuts	Boys	4	5	6	6	7
	Girls	2	4	4	3	5
Potato chips	Boys	4	5	6	7	5
	Girls	3	5	4	4	3
French fries	Boys	3	3	4	4	3
	Girls	1	3	2	1	1
Coke or other soft drinks that contain sugar	Boys	10	14	16	19	17
	Girls	6	9	10	10	12
Diet Coke or diet soft drinks	Boys	3	4	5	5	6
	Girls	3	4	3	4	3
Energy drinks	Boys	2	3	4	4	3
	Girls	1	2	3	1	2
Sport drinks	Boys	7	8	8	8	6
	Girls	3	4	3	2	2

8.10 Eating fruits, vegetables, sweets, and sugared soft drinks once per day or more often, by year of survey (%)

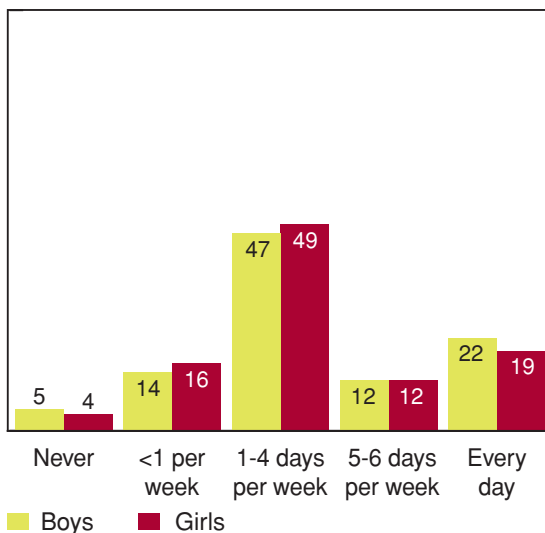
Vegetable consumption was fairly stable from the 2002, 2006, and 2010 survey years (**Figure 8.10**). There was a positive trend in the proportion of students who ate fruit at least once a day between the 2006 and 2010 HBSC surveys (**Figure 8.10**).

Approximately 40% of young people reported eating whole grain breads and cereals at least once per day (**Table 8.1**). Although this rate does not provide direct information on total servings of these food items, the 40% rate of young people who reported eating whole grain breads and cereals at least once daily is quite low since Canada's Food Guide recommends that children and teens consume between 6 and 7 servings of grain products per day, with at least half coming from whole grains.

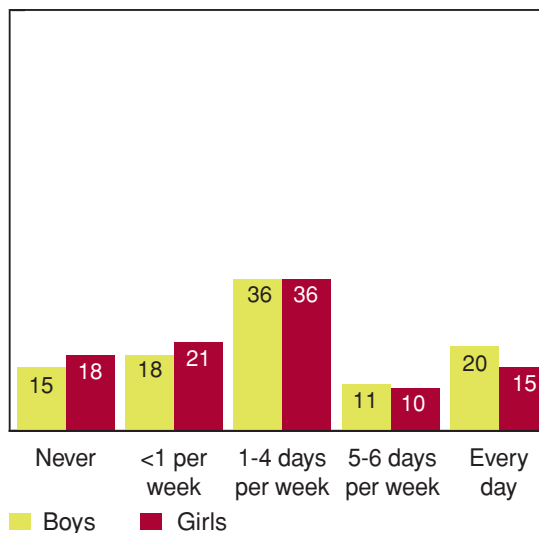
Regarding the unhealthy food and beverages (e.g., those high in calories and/or low in nutrients) reported in Table 8.1, 13 to 21% of students reported consuming sweets (candy or chocolate) once or more per day, with consumption rates being about the same for boys and girls, but increasing from Grade 6 to Grade 10. Sugared soft drink consumption is higher for boys than girls and higher for Grade 10 students than Grade 6 students. The percentage of students eating potato chips, cakes/pastries, and french fries once or more per day is 10% or lower. Furthermore, the percentage of students drinking diet soft drinks, energy drinks and sports drinks at least once per day is also below 10% in all gender and grade groups. It is encouraging that the percentage of frequent consumers of candy and sugared soft drinks has decreased between the 2002 and 2010 HBSC cycles (**Figure 8.10**).

Eating behaviours in Canadian young people

8.11 Snacking while watching TV (including videos and DVDs), by gender (%)

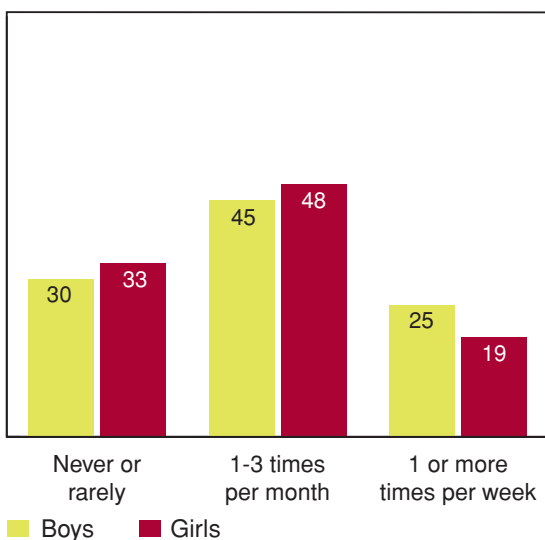


8.12 Snacking while working or playing on a computer or video games console, by gender (%)



Approximately eight in ten Canadian youth snack while watching TV at least once a week, and about one in four do so on a daily basis (Figure 8.11). These proportions are similar in boys and girls. Approximately six in ten Canadian youth snack while playing on the computer or a games console at least once a week, and slightly less than one in four do so on a daily basis (Figure 8.12). Proportions are similar between boys and girls.

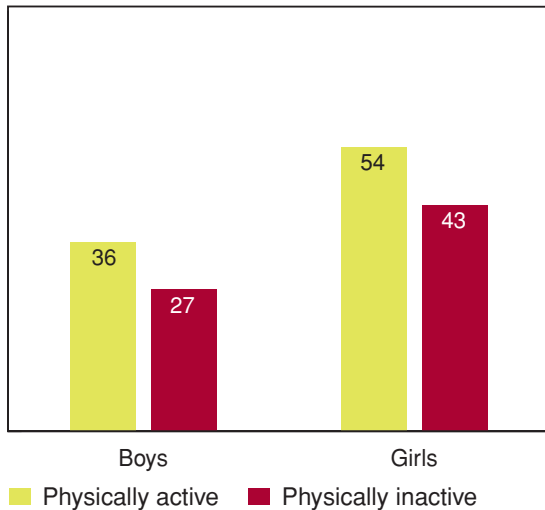
8.13 How often do you eat in a fast food restaurant, by gender (%)



Approximately seven in ten Canadian youth eat in a fast food restaurant at least once a month, and about one in four do so at least once a week (Figure 8.13). More boys than girls eat in a fast food restaurant at least once a week.

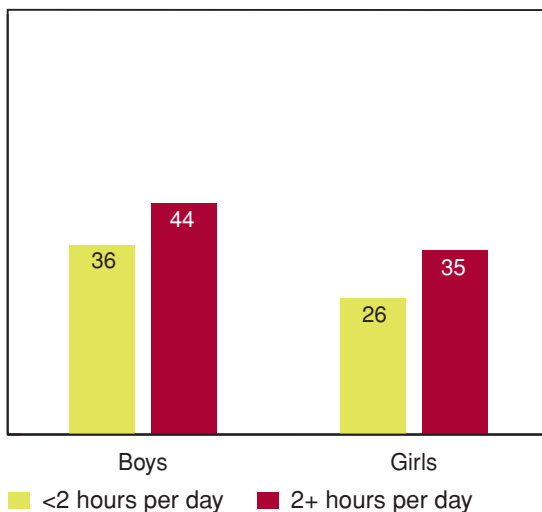
Relations between healthy living and mental health

8.14 Students reporting high levels of prosocial behaviour by physical activity level, by gender (%) *



Engagement in moderate-to-vigorous physical activity was related to all four of the mental health outcomes. An example describing the relationship between physical activity and prosocial behaviour in Canadian boys and girls is shown in **Figure 8.14**. The proportion of physically active youth who had high prosocial behaviour scores was 9-11% higher than the proportion of physically inactive youth who had high prosocial behaviour scores.

8.15 Students reporting high levels of behavioural problems by computer use in free-time, by gender (%)



The three sedentary behaviour measures (T.V., computer, video games) were also related to most of the mental health variables. An example of the relationship between computer use (in free time) and behavioural problems is shown in **Figure 8.15**. The proportion of youth who used the computer for less than two hours a day who had high behaviour problem scores was 8-9% lower than the proportion of youth who used the computer for two or more hours a day.

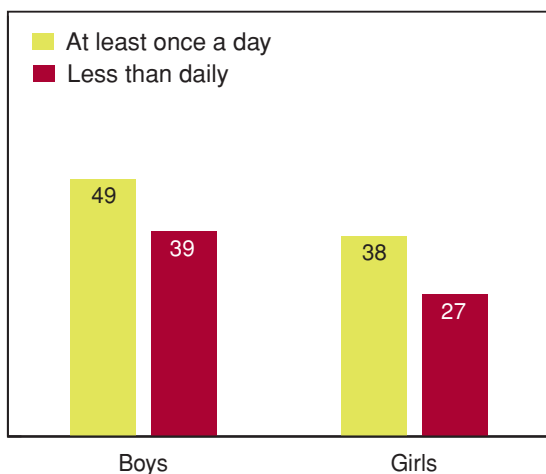
“When we are active and in shape we are also healthy and happy. When we sit in the living room watching television all the time we are unhealthy, tired, and impatient with others.”

—Youth, Healthy Advice Workshop

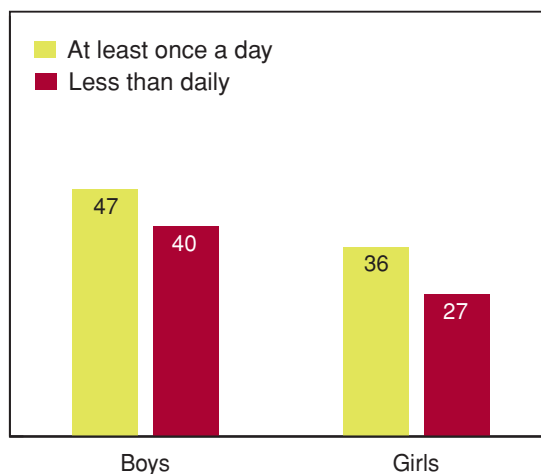
* 36% of boys who are physically active report relatively high levels of prosocial behaviour, compared with 27% of boys who are physically inactive. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

Relationships were also observed between the food frequency and eating behaviour variables and the mental health variables. Youth who ate fruit (Figure 8.16) and vegetables (Figure 8.17) at least once a day were more likely to have high emotional well-being scores in comparison to youth who ate fruit and vegetables less frequently. The frequencies of drinking sugared soft drinks (Figure 8.18) and eating in fast food restaurants (Figure 8.19) were associated with behavioural problems, in that frequent soft drink and fast food consumers were more likely to have high behavioural problem scores.

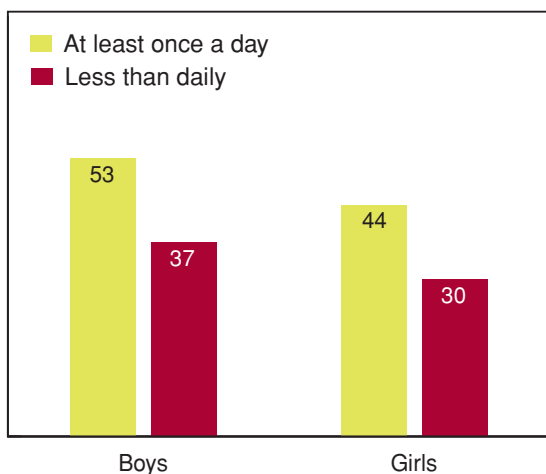
8.16 Students reporting high levels of emotional well-being by frequency of eating fruit, by gender (%)



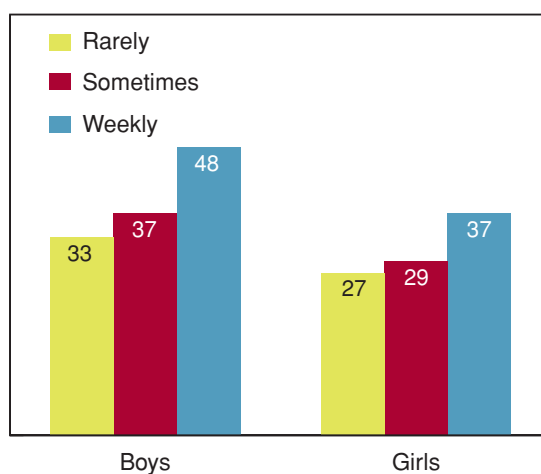
8.17 Students reporting high levels of emotional well-being by frequency of eating vegetables, by gender (%)



8.18 Students reporting high levels of behavioural problems by frequency of drinking sugared soft drinks, by gender (%)



8.19 Students reporting high levels of behavioural problems by frequency of eating in a fast food restaurant, by gender (%)



When we eat fruits and vegetables we feel better inside than when we eat fast food and junk food.

—Youth, Healthy Advice Workshop

What young people thought about these findings

A diverse group of Canadian youth participated in the workshop where the key findings of the 2010 HBSC were presented and discussed. One of the goals of this workshop was to gain young people's perspectives on the relations that were observed between healthy living behaviours and mental health variables.

The young people that attended the workshop recognized that a lack of physical activity, too much screen time, and unhealthy eating (e.g., eating too much high calorie, low nutrient foods and not enough nutritious foods) can all have a negative influence on their mental health. The young people in attendance also recognized that playing sports can help them make social connections, and they felt that this was a key way that physical activity influences their mental health. Conversely, they felt that young people who spend too much free time on the computer, playing video games, or watching TV tend to have poor social relationships and more mental health problems.

The youth workshop participants pondered the directionality of the relationships between the healthy living variables with the mental health variables. They asked three critical questions. Does a lack of physical activity, too much screen time, and unhealthy eating lead to poor mental health? Does poor mental health lead to a sedentary lifestyle and unhealthy eating? Or, are both situations possible?

Summary and implications

Key issues of concern

- 1 Less than one in five Canadian youth accumulate enough physical activity to meet Canada's new physical activity guidelines (i.e., 60 minutes of moderate-to-vigorous intensity physical activity every day).
- 2 Screen time levels are extremely high, particularly within high school boys. More than half of these boys watch TV at least two hours per day, use the computer in their free time for at least two hours per day, and play video games for at least two hours per day.
- 3 In all gender and grade categories, 53% or fewer students report that they consume fruits or vegetables at least once a day.

Key issues to celebrate

- 1 There have been some notable improvements in the food consumption patterns between the 2002 and 2010 cycles of the HBSC.
- 2 The frequency of fruit consumption has gone up while the frequency of candy and sugared soft drink consumption has gone down.
- 3 While many Canadian young people eat at fast food restaurants regularly, about one in three do so rarely or never.

Commentary



Catherine Stoyles

The descriptive findings that appear in this chapter highlight that the majority of Canadian youth do not engage in appropriate or sufficient healthy living behaviours. This includes their lack of participation in moderate-to-vigorous intensity physical activity, coupled with excessive levels of screen time, their lack of consumption of the foods recommended in Canada's Food Guide, and their consumption of many unhealthy foods and/or beverages. These unhealthy lifestyle behaviours are likely contributors to the weight and obesity problems that are discussed in Chapter 9 of this report.

Data collected for the first time in the 2010 HBSC survey provide new information on how children travel to school and their eating behaviours, such as snacking at the TV or computer and eating at fast food restaurants. The new data indicate that only one in three Canadian youth travel to school in an active way such as walking or biking. The rest get there by car or bus, and this represents a lost opportunity for many young people to accumulate some physical activity. The new data also indicate that approximately one in five young people snack while watching TV or while using the computer on a daily basis, and that approximately one in five eat at a fast food restaurant at least once a week. These particular eating behaviours are associated with unhealthy food choices and can contribute to obesity and reduced mental health.



Indeed, as shown in this chapter, young people who frequently eat at fast food restaurants have more mental health problems than young people who never or rarely eat at fast food restaurants. Conversely, young people who eat fruits and vegetables more frequently have better mental health scores. Although food item and eating behaviours are related to mental health, it is important to recognize that the causal direction of these relationships is not always known. This is also true for the relationships observed between physical activity and screen time with mental health.

In summary, this chapter provides simple descriptive information on the healthy living behaviours of young Canadians, and examines how these behaviours relate to mental health. Despite their appreciated health benefits, the majority of Canadian youth do not engage in the appropriate healthy living behaviours. Physical activity and healthy eating are obvious public health priorities within Canada.

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9

by Ian Janssen

Healthy weights

What is a healthy weight?

The main focus of this chapter is on healthy weights, excess body weight, and obesity. A healthy weight is a weight that is appropriate for a person's height and promotes good health and well-being. Simply defined, the terms overweight and obesity represent a state where an individual has excess body weight and fat to the extent that it affects his or her health in a negative way (World Health Organization, 1998).



Obesity is a more severe form of excess weight and fat than being overweight. Being overweight or obese results from a long-term imbalance, in which the number calories (energy) consumed in the diet exceeds the amount of energy that the body expends in physical activity. Over time, limited levels of physical activity, too much time spent in sedentary behaviours such as watching television and surfing the web, and/or overconsumption of foods, particularly those that are high in sugars and fats, can lead to excessive weight and obesity (World Health Organization, 1998). This chapter looks at indicators of body weight, weight loss, and body image.

Body image

Dangerous and unrealistic cultural ideals of slimness (particularly in females) and muscularity (particularly in males) have filtered down to the child and adolescent population. Young people often feel dissatisfied with their body weight and size (Abbott, Lee et al. 2010; Duncan, Duncan et al. 2011). In many situations body image issues are reported by young people with a healthy weight (Abbott, Lee et al. 2010; Duncan, Duncan et al., 2011).

Why do body weight and body image matter?

Excess weight and obesity among young people are leading public health issues in Canada. Weight issues are associated with several health problems in children and youth. These problems include elevated risk factors for heart disease and diabetes (e.g., increased blood cholesterol, blood pressure, and blood sugar levels), problems with the bones and joints, and poor mental health (Reilly, Methven et al. 2003). Furthermore, excess weight and obesity in adolescence tend to carry on into adulthood (Singh, Mulder et al., 2008). Thus, most obese young people will continue to struggle with weight-related issues when they are adults.

Having a poor body image is highly related to low self-esteem and, in some situations, can lead to eating disorders, such as bulimia or anorexia (Westerberg-Jacobson, Edlund et al. 2010). Although properly monitored and regulated weight-control practices may be appropriate for obese young people (Plourde 2006), extreme weight control and weight loss practices may negatively affect a young person's physical and mental health (Lock, Reisel et al., 2001).

What are we reporting in this chapter?

In this chapter, we report on the proportion of students with a healthy weight and the proportion that are overweight or obese. We asked students to report their height and weight. These values were used to calculate their body mass index (BMI). BMI is calculated as an individual's body weight divided by the square of the individual's height. The standard international unit is kg/m^2 . International age- and gender-specific BMI standards for children and youth were used to classify the students as being a healthy weight, overweight, or obese (Cole, Bellizzi et al. 2000). It is important to recognize that BMI values derived from self-reported height and weights, such as in the HBSC study, are lower than the BMI values that are derived from physical measurements of height and weight obtained using a scale and tape measure (Elgar & Stewart, 2008). Consequently, estimates of excess weight and obesity from self-reported heights and weights yield lower rates of being overweight and obesity than estimates that are based on physical measurements (Elgar & Stewart, 2008).

We also describe the body image perceptions and weight-loss practices of Canadian youth. We asked students if they felt their body was much too thin, a bit too thin, about the right size, a bit too fat, or much too fat. And we asked if they were currently dieting or doing something else (e.g., exercising) in an attempt to lose weight.

Possible effects of being overweight or obese on mental health

The physical health effects of being overweight or obese for people of all ages have been well studied and are well appreciated. A linkage has also been made between body weight and mental health. Overweight and obese people face numerous social prejudices and biases, and this can take a toll on their mental health (Puhl & Latner 2007). Dissatisfaction with one's body (e.g., thinking you are too thin or too fat) can also have a negative impact on mental health.

Healthy weights, overweight, and obesity

Proportions of young Canadians who are a healthy weight, overweight or obese

9.1 Students who are a healthy weight, overweight, or obese, by grade and gender (%)

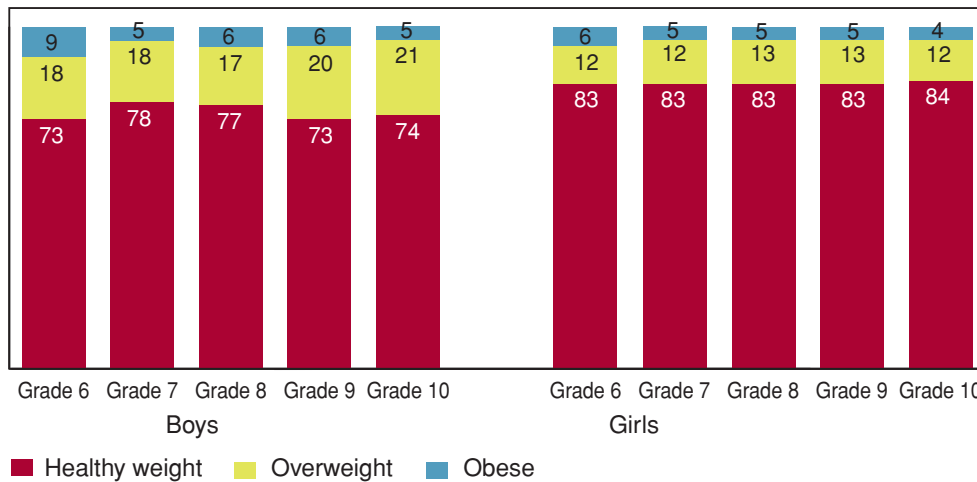
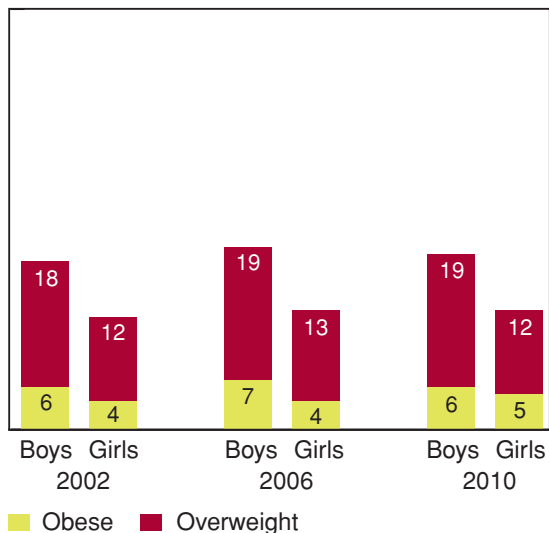


Figure 9.1 illustrates the proportion of young people that are a healthy weight and the proportion that are overweight or obese. Twelve to 21% of students are overweight and 4 to 9% are obese, with the proportions reporting excess weight being higher in boys than in girls. In total, approximately one in four boys is either overweight or obese and approximately one in six girls is either overweight or obese.

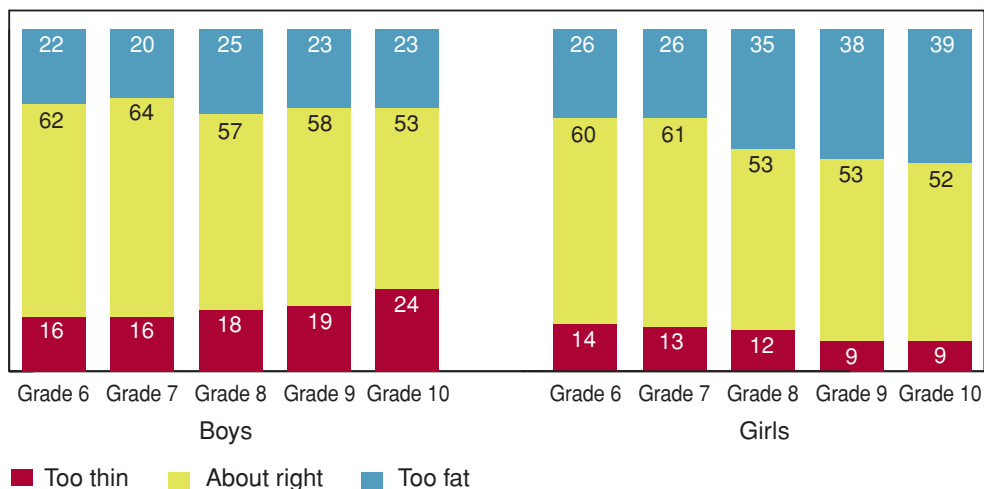
9.2 Students classified as overweight and obese, by gender and year of survey (%)



The prevalence of overweight and obese young people, based on self-reported measures of height and weight, was relatively stable between 2002 and 2010 (Figure 9.2). This was the case for both boys and girls. In 2002, 24% of boys and 16% of boys were overweight or obese. In 2010, 25% of boys and 17% of girls were overweight or obese.

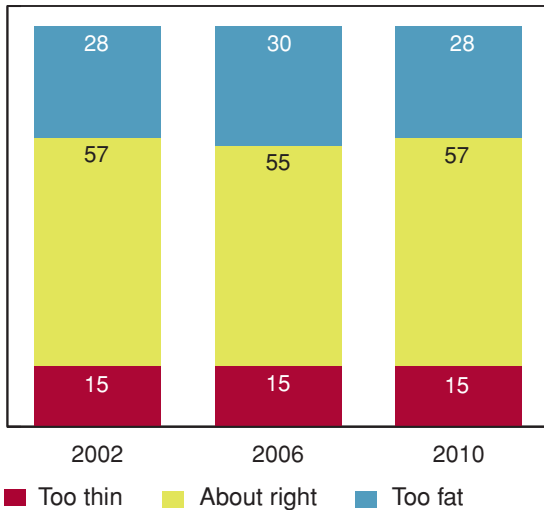
Body image and weight-loss practices of Canadian students

9.3 Students who think their body is too thin, about the right size, or too fat, by grade and gender (%)



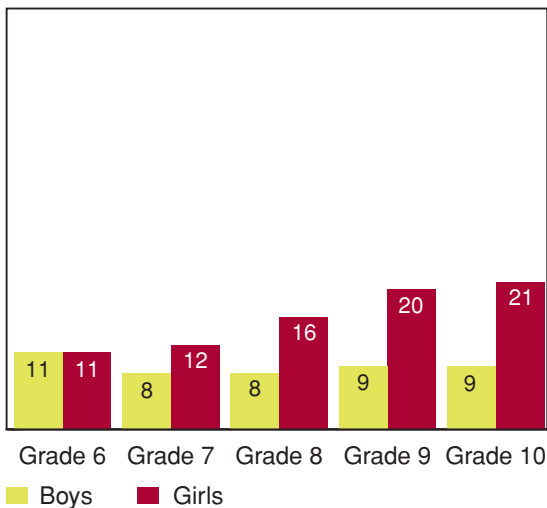
According to the 2010 HBSC findings, 16 to 24% of boys and 9 to 14% of girls believed that their body was too thin (Figure 9.3). Within boys these rates increased by 8 percentage points from Grade 6 to 10, but for girls the rates decreased by 5 percentage points from Grade 6 to Grade 10. More girls than boys believed that their body was too fat. Rates with advancing grades remained relatively stable in boys (within 5 percentage points) but increased sharply in girls (rising 13 percentage points from 26% in Grade 6 to 39% in Grade 10). The percentage of girls who believed their body was too fat (Figure 9.3) was far greater than the percentage of girls who are actually overweight or obese (Figure 9.1).

9.4 Students who think their body is too thin, about the right size, or too fat, 2002, 2006 and 2010 (%)



Young people’s body image perceptions have not changed very much from 2002 to 2010 (Figure 9.4). In fact, the percentage of students who thought that their body was too thin, about right, and too fat was almost identical in the 2002, 2006, and 2010 HBSC cycles. This observation is consistent with the observation that the percentage of students who were overweight or obese has remained stable since 2002 (Figure 9.2).

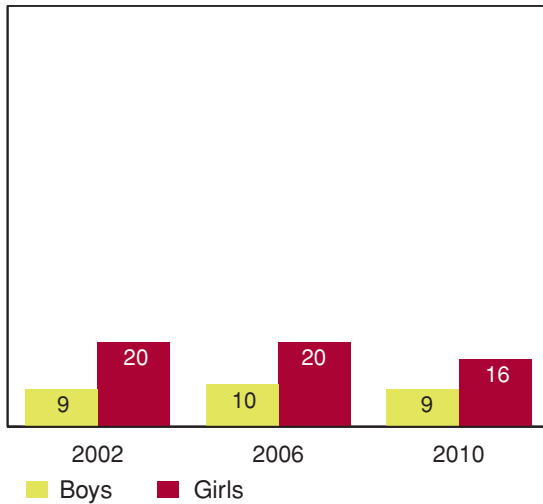
9.5 Students who report doing something to lose weight, by grade and gender (%)



At every grade level except for Grade 6, more girls than boys were doing something to lose weight (Figure 9.5). The percentage of students trying to lose weight remained stable (within 3 percentage points) between Grade 6 and Grade 10 in boys, but increased by 10 percentage points in girls.



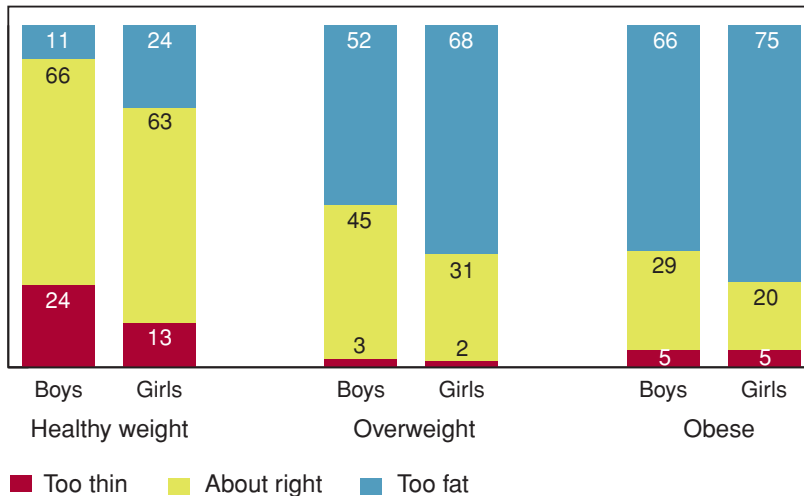
9.6 Students who report doing something to lose weight, in 2002, 2006 and 2010 (%)



As illustrated in **Figure 9.6**, the proportion of Grade 6 to 10 boys trying to lose weight remained relatively stable (within 1%) from 2002 to 2010. There was a slight decrease in the proportion of Grade 6 to 10 girls who were trying to lose weight. This decreased from a high of 20% in 2002 to a low of 16% in 2010. In all 3 HBSC cycle years, the proportion of students trying to lose weight (9% to 20%, **Figure 9.6**) was noticeably lower than the proportion of students who thought their body was too fat (28% to 30%, **Figure 9.4**).

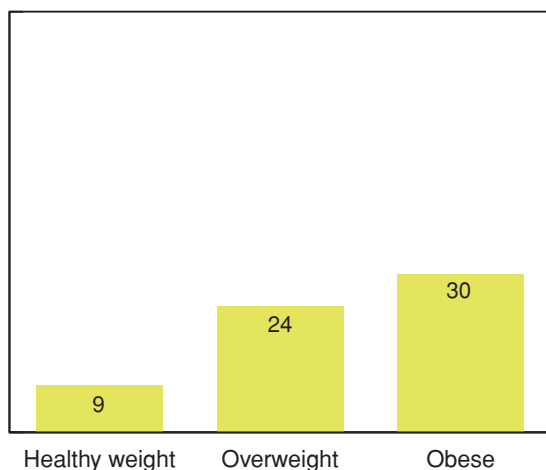
Relations between healthy weight, body image, and weight loss practices

9.7 Students who think their body is too thin, about the right size, or too fat, by BMI category, by gender (%)



Within both boys and girls, there was a strong relation between body weight (BMI) and body image (**Figure 9.7**) such that more overweight (52% of boys, 68% of girls) and obese (66% of boys, 75% of girls) students felt that their body was too fat by comparison to students with a healthy weight (11% of boys, 24% of girls). It is a cause for concern, however, that only two-thirds (66% of boys, 63% of girls) of young people with a healthy weight felt that their body was about the right size. In all BMI categories, more girls than boys thought their body was too fat. In the healthy weight BMI category, fewer girls than boys thought their body was too thin.

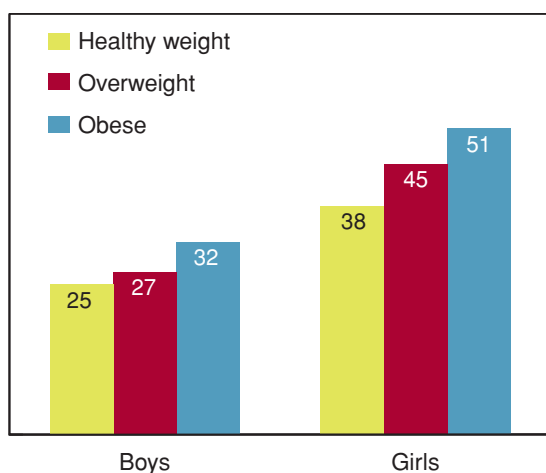
9.8 Students who report doing something to lose weight, by BMI category (%)



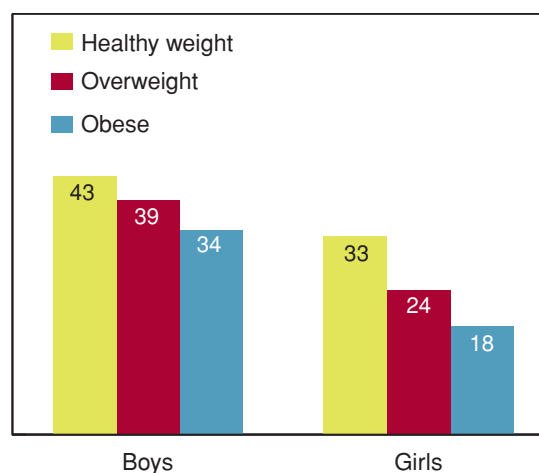
There was a strong relation between weight-loss practices and body weight (BMI), such that 30% and 24% of obese and overweight students, respectively, were trying to lose weight, compared to 9% of those with a healthy weight (Figure 9.8).

Relations between healthy weight and mental health

9.9 Students reporting high levels of emotional problems by BMI category, by gender (%) *



9.10 Students reporting high levels of emotional well-being by BMI category, by gender (%)



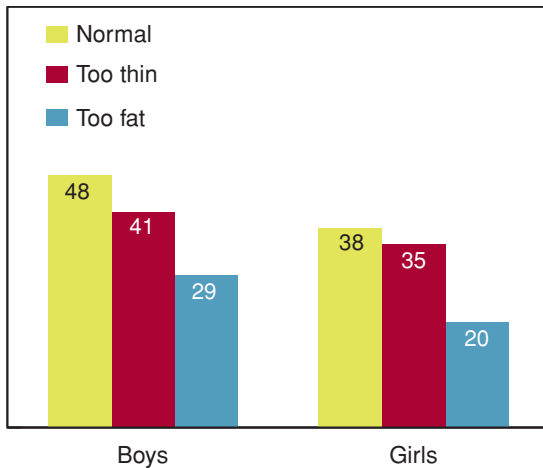
BMI is related to emotional problems and emotional well-being. Overweight and obese students were more likely to have high emotional problem scores than students with a healthy weight (Figure 9.9). Conversely, overweight and obese students were less likely to have high emotional well-being scores than students with a healthy weight (Figure 9.10). The relationships between BMI, emotional problems, and emotional well-being were stronger in girls than in boys.

“ Friends don’t accept girls when they are overweight and guys aren’t interested in them. Both hurt. ”

—Youth, Healthy Advice Workshop

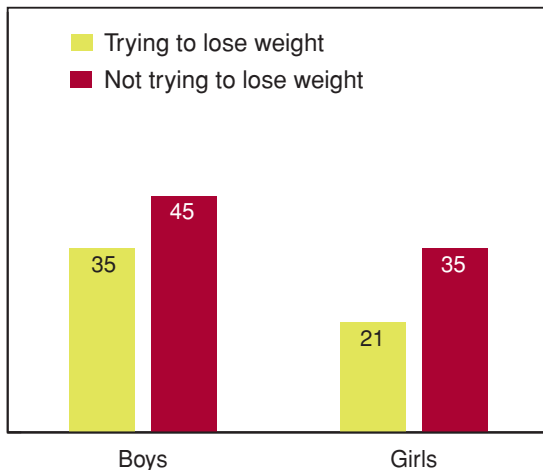
* 25% of boys who are a healthy weight report relatively high levels of emotional problems, compared with 27% of boys who are overweight. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

9.11 Students reporting high levels of emotional well-being by body image perception, by gender (%)



As with BMI, body image perception and weight loss practices were also related to emotional well-being (**Figure 9.11**). A smaller proportion of boys who thought their body was too fat (29%) or too thin (41%) had high emotional well-being scores in comparison to boys who thought their body weight was normal (48%). Similarly a smaller proportion of girls who thought their body was too fat (20%) had high emotional well-being scores in comparison to girls who thought their body was too thin (35%) or normal (38%).

9.12 Students reporting high levels of emotional well-being by doing something to lose weight, by gender (%)



Weight loss practices were also related to emotional well-being scores, irrespective of gender (**Figure 9.12**), such that students who were trying to lose weight had poorer scores than students who were not trying to lose weight. Within boys, there was a 10% point difference between those who were trying to lose weight versus those who were not. Within girls, there was a 14% point difference between those who were trying to lose weight versus those who were not.



Guys see each other as being muscular when they're overweight, while girls see each other as being big when they're overweight.

—Youth, Healthy Advice Workshop

What young people thought about these findings

A diverse group of Canadian youth participated in a workshop where the key findings of the 2010 HBSC Study were presented and discussed. One of the goals of this workshop was to gain young peoples' perspectives on the relations that were observed between BMI and the mental health variables.

The youth participating in the workshop appreciated that being overweight or obese relates to mental health in young people. They felt that these relations were particularly salient for young girls. The participants also recognized that the relationship between excess weight and mental health can be caused by many factors. One of the factors that they felt was very important was the image the media portrays of how people should look. Another of the factors that became apparent in the group discussions was the perception among some of the young people that it was the person's own fault if they were overweight or obese. For example, the belief that all obese people are too lazy to exercise and cannot control what they eat was expressed. Not all of the young people at the workshop appreciated that a person's body weight is impacted by several factors that are beyond his or her own control, such as their genetics, family wealth (e.g., healthy foods are often more expensive), and the structure and characteristics of different neighbourhoods. (e.g., availability of safe parks to use for physical activity).

Summary and implications

Key issues of concern

- 1 Approximately one in four boys is either overweight or obese and approximately one in six girls is either overweight or obese as determined from self-reported heights and weights.
- 2 Only two-thirds of young people with a healthy weight feel that their body is about the right size.
- 3 Overweight and obese young people, particularly young girls, are more likely to have mental health problems than young people with a healthy weight.

Key issues to celebrate

- 1 The prevalence of obesity did not increase between the 2006 and 2010 HBSC Studies, suggesting that the increase in obesity observed over the past three decades may be peaking.
- 2 A significant proportion of overweight (24%) and obese (30%) youth report that they are doing something to lose weight.

Commentary

Excess weight and obesity are leading public health issues in Canadian youth. Despite the awareness of the obesity epidemic and the significant investments that have been made in recent years into healthy weights initiatives and programs, the proportion of Canadian youth who are overweight or obese remains high. In fact, there has been no change in the proportion of Canadian youth who are obese since the 2006 HBSC cycle, suggesting that rates of obesity may have peaked.

The fact that there are still so many overweight and obese Canadian young people is of concern because these conditions have many immediate and long term health, social, and economic implications. Among these implications is the impact that being overweight or obese has on mental health, particularly for girls. For instance, findings in this chapter indicate that obese girls are only half as likely to have high levels of emotional well-being by comparison to girls with a healthy weight.

In summary, the proportion of Canadian youth who are overweight or obese remains high. Increased efforts and investments are needed at all levels (e.g., local, provincial, national) and by all sectors (e.g., government, industry, research) to address this important public health issue.

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10

Substance use and risky behaviour

by Frank Elgar and
William Pickett

Why are health risk behaviours important?

Adolescence is a formative stage of child development. During the adolescent years many lifelong health habits are established. It is also a period of experimentation with smoking, alcohol, drugs and other risky behaviours (Chassin, Pitts & Prost, 2002). For most adolescents, these behaviours are occasional in nature and a common part of growing up (Nell, 2002). However, for some adolescents these behaviours escalate and become serious problems. Several risky behaviours tend to co-occur with other health problems in youth, such as injuries (Collin, 2006), cognitive and psychomotor impairment (Squeglia, Jacobus & Tapert, 2009), social and emotional problems (Elgar, Knight, Worrall & Sherman, 2003), and academic difficulties (Suhrcke & de Paz Nieves, 2011).



Characteristics of the social environment affect the likelihood that youth choose to engage in substance use and risky behaviour. Risk factors include the quality of parenting and supervision in the home, peers who engage in risky behaviours, academic problems and negative perceptions of the school environment, social norms about smoking, alcohol, and drug use, and the availability of alcohol and drugs in the community (Hawkins, Catalano & Killer, 1992; Simons-Morton & Chen, 2006). The cumulative number of environmental risk factors and not any specific risk factor per se increases the likelihood that youth engage in these behaviours (Canadian Centre on Substance Abuse, 2007).

Early experimentation with alcohol and drugs, substance misuse, early sexual debut, and having unprotected sex might coexist with emotional or behavioural problems. These behaviours in turn might affect emotional well-being (Deas & Thomas, 2002; Langille, Asbridge, Flowerdew & Allen, 2009; Reinherz, Giaconia, Hauf, Wasserman & Paradis, 2000). Education about the negative consequences of substance use and risky behaviours

and strategies that delay their initiation among youth hold some promise to minimise their harm to public health (Canadian Centre on Substance Abuse, 2007).

Evidence surrounding the initiation and ongoing engagement in such risky behaviours is important, as it informs the development of prevention strategies. Similarly, it is important to examine trends in the occurrence of these behaviours over time. Substance use and risky behaviour prevention strategies must continually adapt to changing behavioural patterns and trends to stay relevant to populations of young people.

What are we reporting in this chapter?

The HBSC study contains modules that examine four major categories of risky behaviour: (1) smoking tobacco; (2) alcohol use; (3) substance use, and (4) sexual activity.

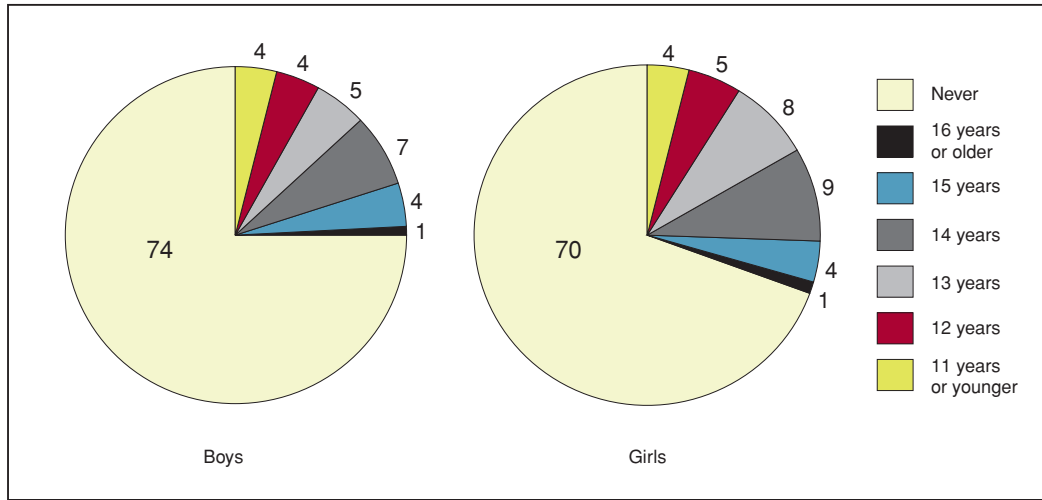
Students were asked how old they were when they first smoked a cigarette and how frequently they smoked presently. Next, they were asked when they first drank alcohol and how frequently they drank alcohol currently. They were asked about the kinds of alcohol that they drank and how often they recalled drinking so much that they “felt drunk.” As well, they were asked about “binge drinking”: boys were asked how often they recalled drinking five or more drinks on a single occasion in the past 12 months and girls how often they recalled drinking four or more drinks on a single occasion in the same time period. These commonly used measures of “binge drinking” take into account biological differences between the sexes in how the body reacts to alcohol.

Older students (Grade 9 and 10) were asked some additional questions about their use of cannabis and other illicit drugs. The latter included ecstasy, amphetamines (speed), methamphetamines/crystal methamphetamine (ice), opiates (heroin, junk, smack), cocaine (coke, crack), glue or solvents (e.g., gasoline, happy gas), LSD and other hallucinogens (e.g., PCP, magic mushrooms, mescaline, peyote), and salvia (Sally D, Divine Sage, Magic Mint). They were further asked about misusing three types of medical drugs to get high: pain relievers (e.g., Percodan, Demerol, Oxycontin, Codeine), stimulants (e.g., Ritalin, Concerta, Adderall), and sedatives/tranquillizers (e.g., Valium, Ativan, Xanax). Finally, Grade 9 and 10 students were asked whether or not they had ever had sexual intercourse, at what age they first had intercourse, and what form of contraception they used the last time they had intercourse.

In addition to reporting on the current levels of engagement in substance use and other risky behaviours, this chapter examines trends in these behaviours over different cycles of the HBSC surveys. The chapter also examines links between mental health and four of these risk-taking behaviours: smoking, binge drinking, cannabis use, and sexual activity. In each of these outcomes, the data indicate large differences in mental health between youth who engage in these behaviours and youth who do not.

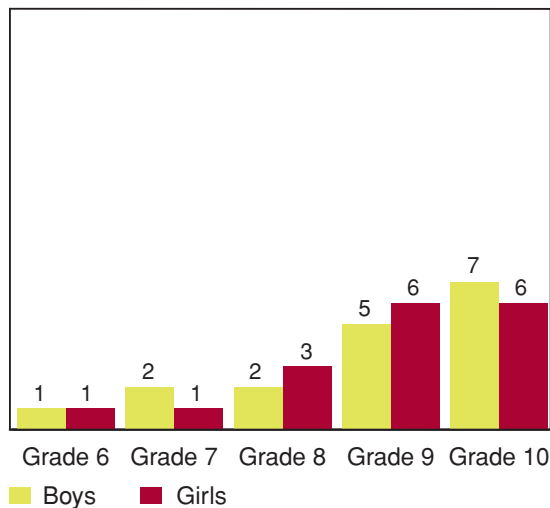
Smoking

10.1 Age at which students in Grade 9 and 10 first tried smoking, by gender (%)



Approximately three-quarters of Grade 9 and 10 students indicated that they have never smoked a cigarette (Figure 10.1). Of those who have ever smoked (26% of boys; 30% of girls), the median age for initiation of smoking was 13 years. (Note: this median should be interpreted with some caution as an unknown number of adolescents will start smoking after Grade 10). However, among students in Grade 9 and 10, 13% of boys and 17% of girls first smoked a cigarette at 13 years or younger.

10.2 Smoking daily, by grade and gender (%)



With regard to daily smoking, 1% of Grade 6 students smoke daily with the rate increasing to 6-7% in Grade 10. There are no important differences between boys and girls with respect to daily smoking.



10.3 Daily smoking, by grade, gender, and year of survey (%)

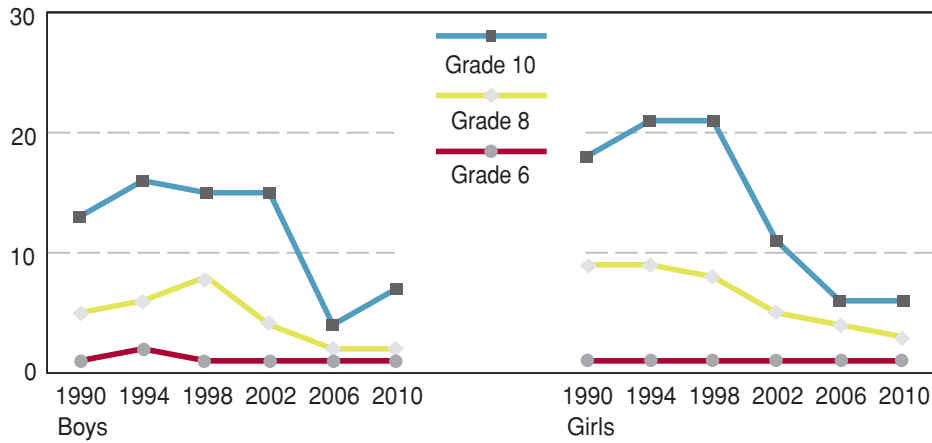
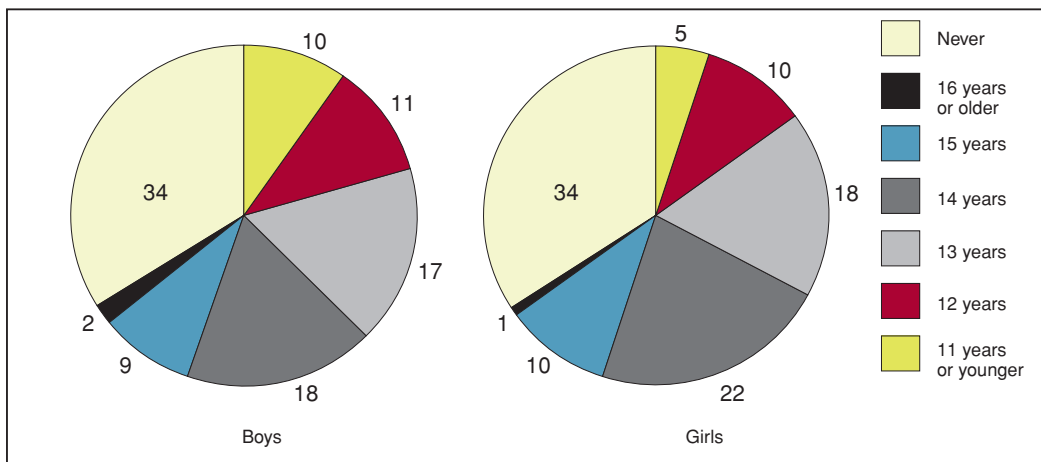


Figure 10.3 shows the percentage of daily smokers by grade in the six Canadian HBSC cycles from 1990 to 2010. Overall there were downward trends in smoking for both boys and girls since 1990. In 2010, 7% of Grade 10 boys and 6% of Grade 10 girls reported smoking daily, as compared to 13% of boys and 18% of girls in 1990. These declines coincided with extensive public health interventions aimed at youth smoking in Canada implemented during that time period.

Alcohol

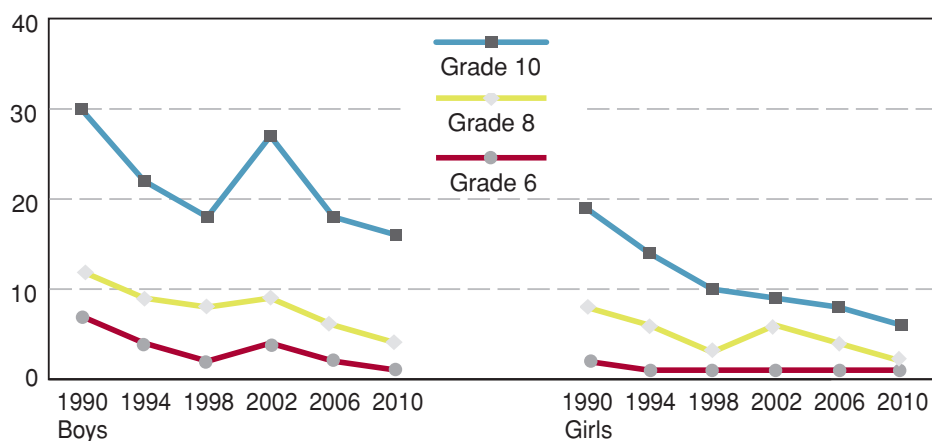
10.4 Age at which students in Grade 9 and 10 first tried alcohol, by gender (%)



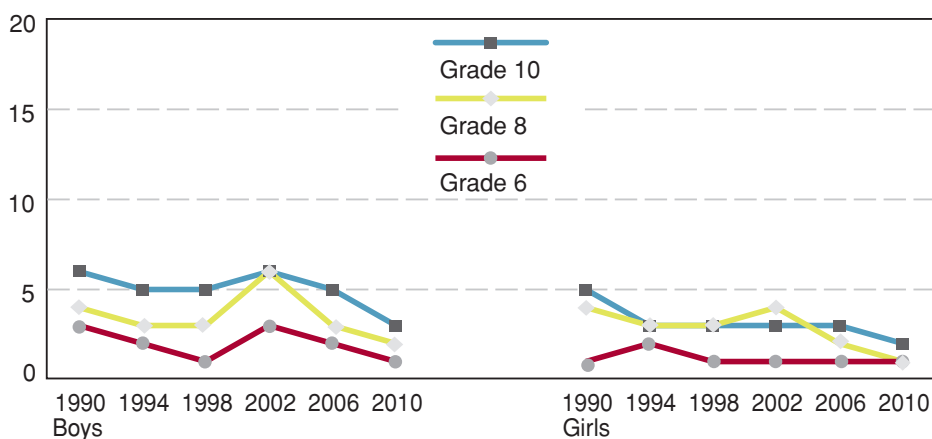
Alcohol remains the most commonly used substance reported by Canadian students. As shown in **Figure 10.4**, two-thirds of Grade 9 and 10 students (66%) reported having tried alcohol at least once. Twice as many boys as girls reported trying alcohol at 11 years of age or younger. About half (46% of boys and 50% of girls) reported trying alcohol for the first time between the ages of 12 and 14.

Trends in the reported use of alcohol are reported in the next series of figures. Overall, there was a decline in the percentage of students who reported drinking beer at least once a week between 1990 and 2010 (Figure 10.5). This decline was evident for all grade levels among boys, and in the older grades (Grade 8 and 10) for girls.

10.5 Drinking beer at least once a week, by grade, gender, and year of survey (%)



10.6 Drinking wine at least once a week, by grade, gender, and year of survey (%)



Drinking wine was less commonly reported than drinking beer in all six cycles of the HBSC. In 2010, the rates of drinking wine at least once a week were 3% in boys and 2% in girls (Figure 10.6).

10.7 Drinking liquor at least once a week, by grade, gender, and year of survey (%)

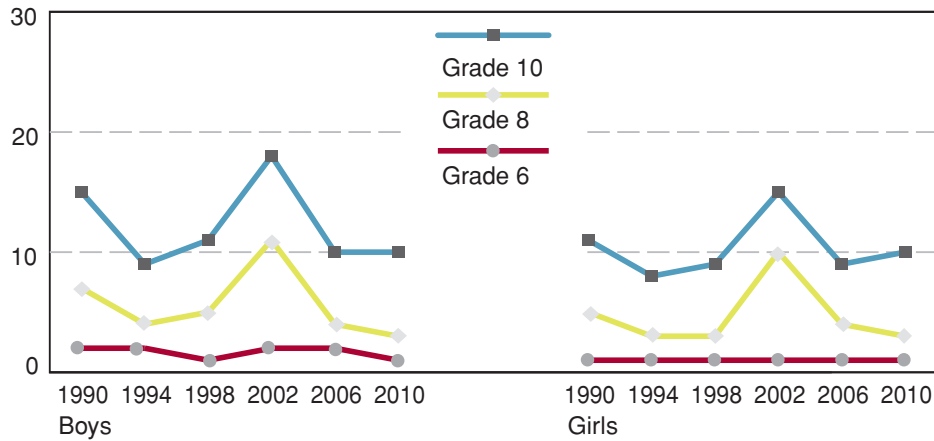
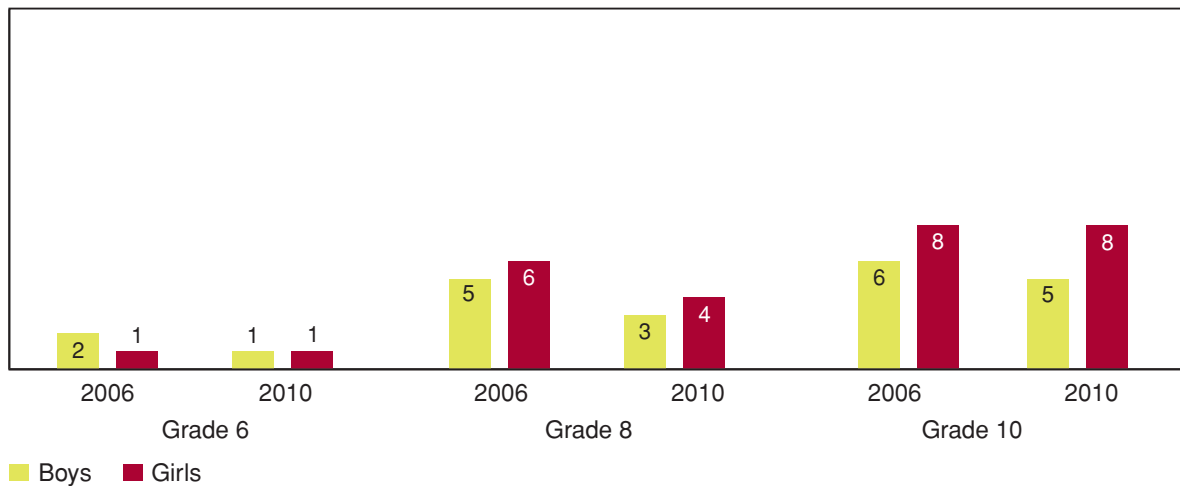


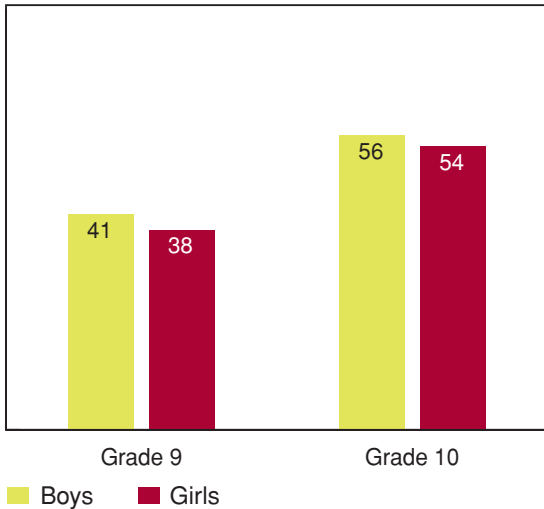
Figure 10.7 describes rates of drinking liquor or spirits at least once a week by grade level and survey year. The reported percentages from the 2010 survey were among the lowest for liquor consumption since 1990. There does not appear to be either an upward or a downward trend in the use of these types of alcohol across the six HBSC cycles.

Drinking coolers was added to the HBSC survey in 2006. In 2010, similar percentages of girls and boys in Grade 6 and 8 reported drinking coolers at least once a week (**Figure 10.8**). In 2010, by Grade 10 there were 5% of boys and 8% of girls reporting drinking coolers on a weekly basis.

10.8 Drinking coolers at least once a week, by grade and gender in 2006 and 2010 (%)



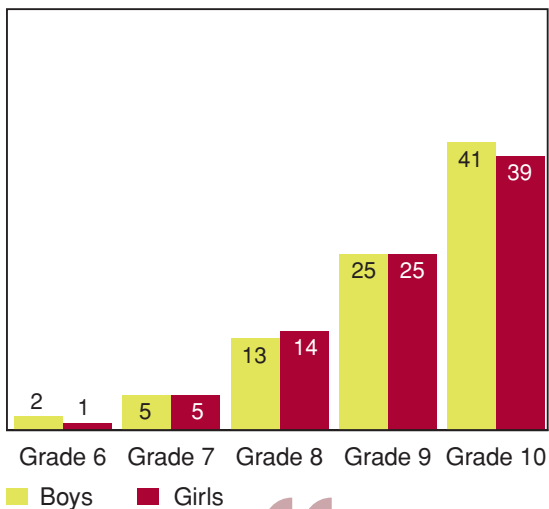
10.9 Students who have had 5 or more drinks (4 or more for females) in the past 12 months on one occasion, by grade and gender (%)



In 2010, the HBSC study measured episodes of “binge drinking” as described earlier in the chapter. More than half of Grade 10 students reported such behaviour during the previous 12 months.



10.10 Students who report having ever been “really drunk” at least twice, by grade and gender (%)

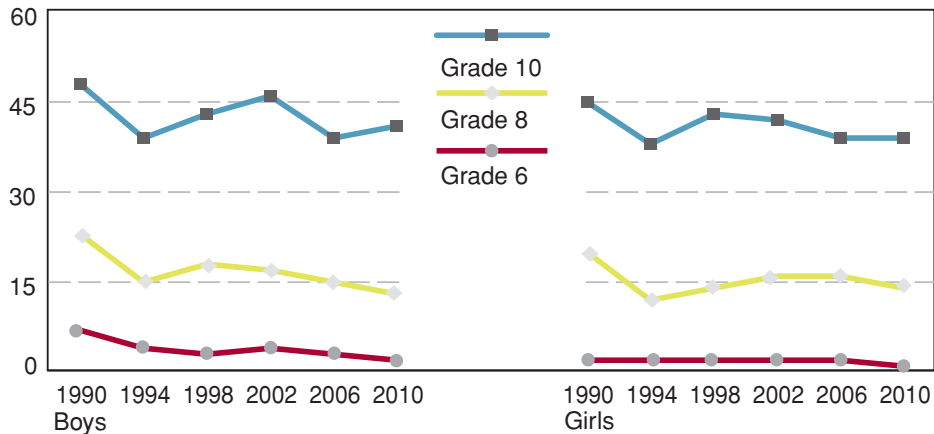


Next, the percentage of students who reported having been “really drunk” on two or more occasions is shown. This indicator of alcohol misuse has been used in international HBSC reports (Currie et al., 2006) because it is thought to represent a behaviour that moves beyond simple experimentation on a single occasion. In 2010, the percentage of students who reported having been “really drunk” at least twice in their lifetime was similar for both boys and girls and increased steadily by grade (Figure 10.10).

“Drinking seems to be more socially acceptable than smoking cannabis.”

—Youth, Healthy Advice Workshop

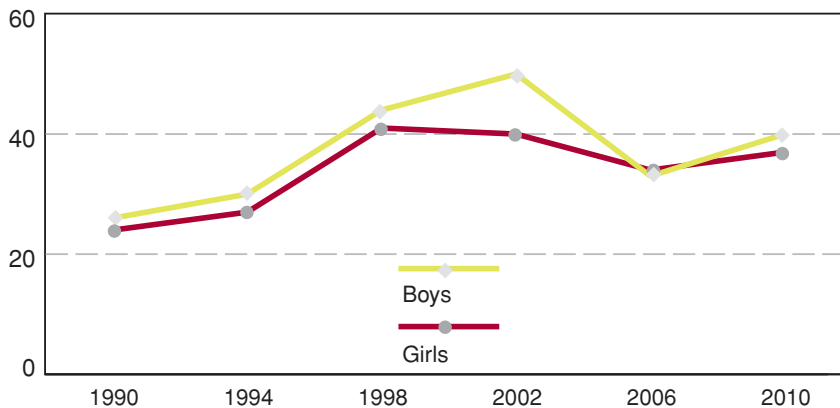
10.11 Students who report having been “really drunk” at least twice, by grade, gender, and year of survey (%)



Because this item has been included in every HBSC cycle since 1990, it is possible to explore trends in this indicator of perceived “drunkenness” between 1990 and 2010 (Figure 10.11). Percentages of students reporting this indicator of perceived “drunkenness” were relatively consistent between 1990 and 2010. Among Grade 10 students, for instance, having been really drunk on two or more occasions was most common in 1990, and then was stable between 1994 and 2010.

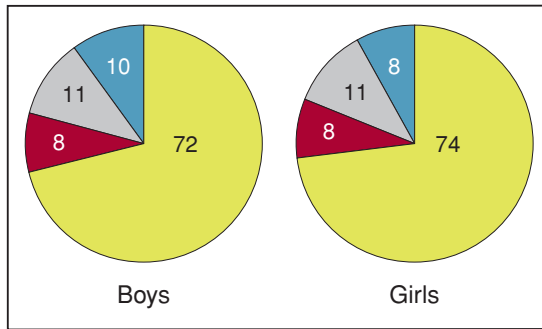
Cannabis use

10.12 Grade 10 students who have ever tried cannabis, by gender and year of survey (%)



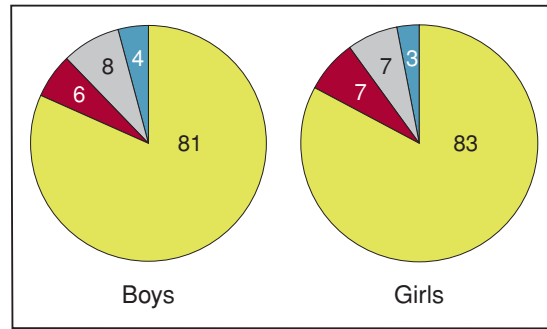
The percentages of students reporting ever using cannabis have increased between 1990 and 2002, with slightly lower rates from the 2002 peak reported in the last two HBSC cycles (Figure 10.12). In 1990, approximately one in four students in Grade 10 had used cannabis at some point in their lifetime. By 2002, the rate of cannabis use doubled in boys and increased to two-fifths of girls. Rates of cannabis use have since declined to 40% in boys and 37% of girls in 2010.

10.13 Grade 9 and 10 students using cannabis in the past 12 months, by gender (%)



■ Never
 ■ 1 or 2 times
 ■ 3 to 19 times
 ■ 20 times or more

10.14 Grade 9 and 10 students using cannabis in the past 30 days, by gender (%)



■ Never
 ■ 1 or 2 times
 ■ 3 to 19 times
 ■ 20 times or more

Approximately one in four students in Grade 9 and 10 reported using cannabis in the past 12 months (**Figure 10.13**) with no significant differences between boys and girls. Frequent cannabis use was measured by asking students how often they used the drug in the past 30 days (**Figure 10.14**). In 2010, fewer than one in five students reported using cannabis during this time interval. Of these, 12% of boys and 10% of girls reported using cannabis three or more times in the past 30 days, indicative of regular consumption.



10.15 Percentages of Grade 9 and 10 students using illicit drugs and misusing medical drugs to get high in the last 12 months by gender (%)

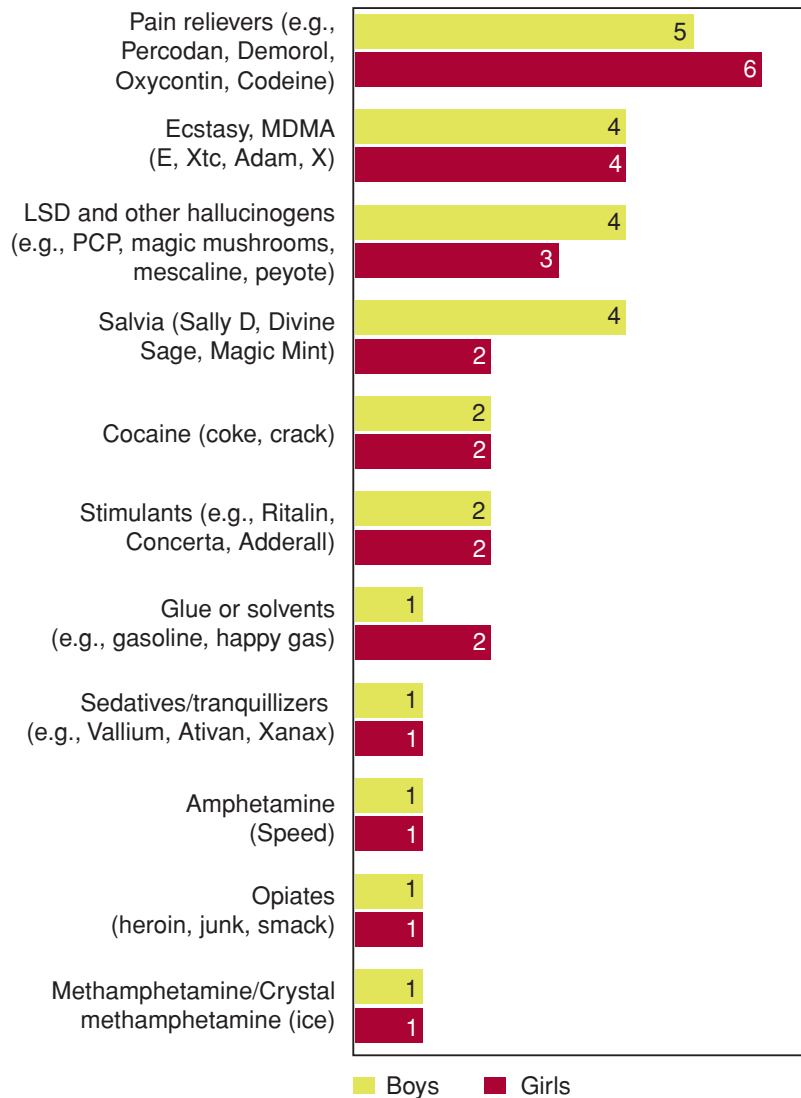


Figure 10.15 describes the percentages of Grade 9 and 10 English speaking students reporting use of illicit drugs or taking medical drugs to get high (note: these figures represent approximately 88% of the 10,000 Grade 9 and 10 students in the 2010 HBSC sample; the wording in the French surveys was altered slightly and thus the results are not comparable).

Reported percentages of illicit drug use were lower than reported levels of cannabis use. Substances for which the highest proportions of Grade 9 and 10 students reported use were: pain relievers, ecstasy, LSD and other hallucinogens, and salvia. The least commonly used substances were amphetamine, methamphetamine, opiates, glue or solvent sniffing, and sedatives.

Perceived risks of substance use

The 2010 HBSC questionnaire also requested student perceptions about potential health risks associated with smoking, alcohol use, and substance use. As shown in **Table 10.1**, when asked about occasional use of these substances (“once in a while”), substantial portions of the students reported that they believed there were “slight or no risks” to the use of these substances. For example, two in five students indicated that smoking cigarettes once in a while posed “no risk” or “only a slight risk” to health, with some variations observed by grade level and gender. Among Grade 9 and 10 students, 39% of boys and 31% of girls reported slight risks of occasional cannabis use. For the alcohol measures, about two-thirds of students perceived slight or no risks to health associated with occasional alcohol use. Perceptions of “slight or no risks” to health for regularly smoking cigarettes, smoking cannabis, and consuming alcohol were much lower than perceptions of “slight or no risks” for occasional use of the same substances.

Perceptions surrounding the health risks associated with the use of illicit drugs other than cannabis, or misusing medical drugs to get high, were also measured in Grade 9 and 10 students. Percentages of students who perceived “slight or no health risks” of occasional use of Ecstasy, LSD or other hallucinogens, glue or solvents, or pain relievers, tranquilizers or stimulants were modest (**Table 10.1**). Few students (<10%) suggested that regular use of these substances had minimal risks to health.

Table 10.1 Students indicating risky behaviours pose “slight” or “no risk” to health, by grade and gender (%)

	Grades	Male	Female
Smoking cigarettes once in a while	6 to 8	39	37
	9 and 10	44	43
Smoking cigarettes on a regular basis	6 to 8	11	9
	9 and 10	9	6
Smoking marijuana once in a while	6 to 8	23	18
	9 and 10	39	31
Smoking marijuana on a regular basis	6 to 8	12	9
	9 and 10	19	11
Drinking alcohol once in a while	6 to 8	62	59
	9 and 10	64	66
Drinking alcohol on a regular basis	6 to 8	20	13
	9 and 10	19	12
Use Ecstasy once in a while	9 and 10	15	13
Use Ecstasy on a regular basis	9 and 10	7	4
Use hallucinogens, LSD or PCP once in a while	9 and 10	12	9
Use hallucinogens, LSD or PCP on a regular basis	9 and 10	7	4
Use glue or solvents once in a while	9 and 10	16	13
Use glue or solvents on a regular basis	9 and 10	8	5
Use pain relievers, tranquilizers or stimulants once in a while	9 and 10	15	13
Use pain relievers, tranquilizers or stimulants on a regular basis	9 and 10	8	5

Sexual activity

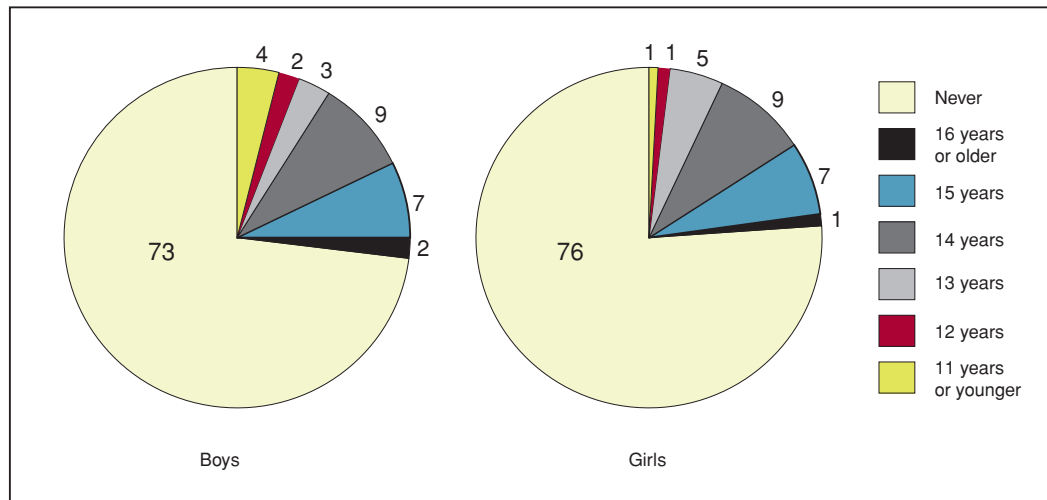
We had permission to ask the following general question on sexual intercourse: “Have you ever had sexual intercourse (sometimes this is called “making love,” “having sex,” or “going all the way”)?” In answering subsequent items related to sexual intercourse, students were expected to consider this definition. We were precluded from asking more specific detail on sexual practices (e.g., oral sex, anal intercourse, vaginal intercourse). These limits to HBSC questions were caused by international protocol requirements, and realities surrounding gaining permission to survey students in classrooms across the country.

“**Sometimes the harder they enforce... the more kids want to do it.**”

—Youth, Healthy Advice Workshop

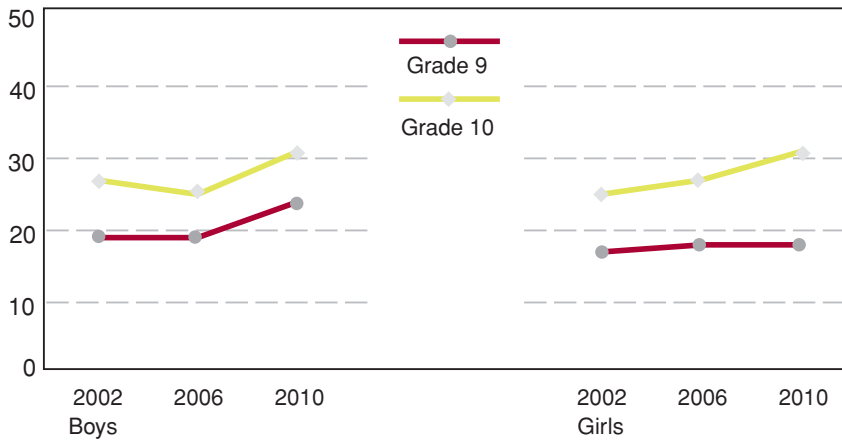


10.16 Age at which students in Grade 9 and 10 first had sexual intercourse, by gender (%)



Twenty-seven per cent of boys and 24% of girls in Grade 9 and 10 reported ever having had sexual intercourse (Figure 10.16). Among these Grade 9 and 10 students, 6% percent of boys and 2% of girls reported first having sexual intercourse when they were 12 years old or younger.

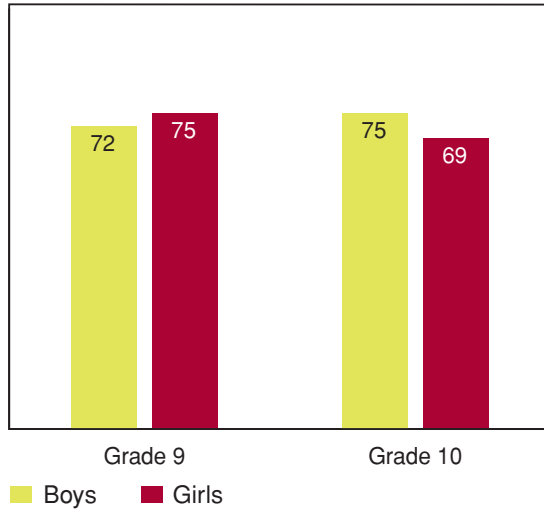
10.17 Grade 9 and 10 students who report having had sexual intercourse, by gender in 2002, 2006 and 2010 (%)



The percentage of students in Grade 9 and 10 who reported engaging in sexual intercourse increased slightly from 2002 to 2010 (Figure 10.17). Among Grade 10 students, the percentage of boys who reported having had sexual intercourse was 27% in 2002 and 31% in 2010, with the percentage of girls being 25% in 2002 and 31% in 2010.

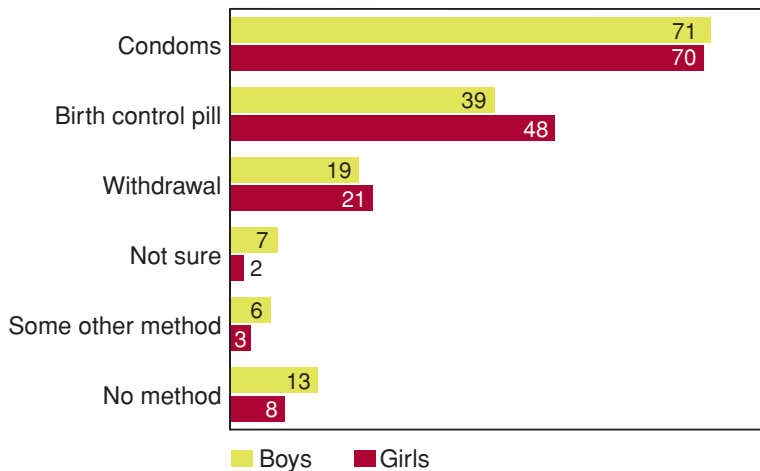


10.18 Grade 9 and 10 students who report they or their partner used a condom the last time they had sexual intercourse, by gender (%)



Within the minority of students who reported sexual intercourse, approximately three in every four students in Grade 9 and 10 reported that they or their partner used a condom when they last had sexual intercourse (**Figure 10.18**). Slightly lower percentages were reported for Grade 10 versus Grade 9 girls.

10.19 Contraceptive measures used by sexually active Grade 9 and 10 students the last time they had intercourse, by gender (%)



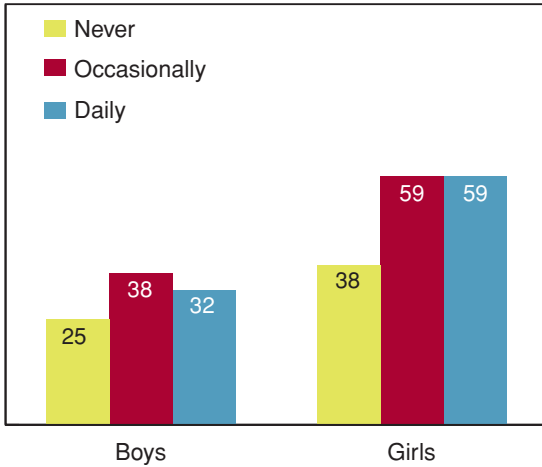
Students in Grade 9 and 10 were asked to indicate the methods of contraception they and their partner used the last time they had sexual intercourse. Substantial numbers of respondents indicated they used more than one method. Condoms were the most commonly used contraceptive method, with 71% of boys and 70% of girls indicating that a condom was used the last time they had sexual intercourse

(**Figure 10.19**). The use of birth control pills was the second most commonly used method of contraceptive, with 39% of boys and 48% of girls reporting that they or their partner used birth control pills the last time they had intercourse. As was found in the 2002 and 2006 surveys (not shown), withdrawal was practiced by students in both grades, with 19% of boys and 21% of girls reporting the use of this method.

Substance use and risky behaviours in relation to mental health

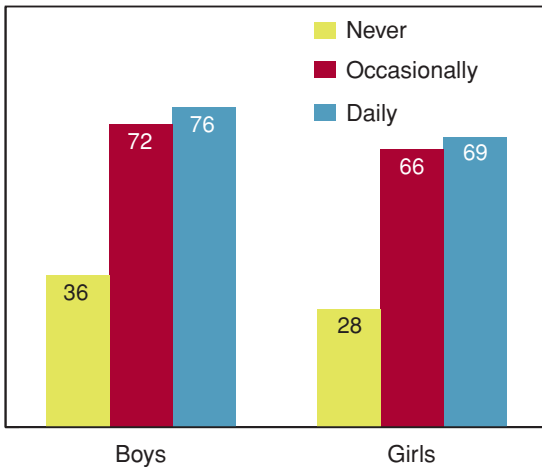
Smoking

10.20 Students reporting high levels of emotional problems, by how often they smoke cigarettes, by gender (%) *

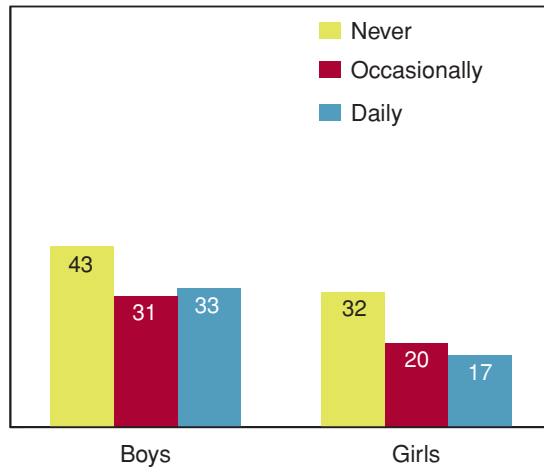


For both boys and girls, reports of occasional and daily smoking were related to higher levels of emotional problems (Figure 10.20) and also higher levels of behavioural problems (Figure 10.21). The percentage of young people reporting high levels of behavioural problems was more than twice the rate among smokers than among non-smokers. These findings correspond with research that has found that smoking has both emotional and behavioural effects (Kollins, McClernon & Fuemmeler, 2005). In Figure 10.22, we see an expected relationship between not smoking and positive emotional well-being.

10.21 Students reporting high levels of behavioural problems, by how often they smoke cigarettes, by gender (%)



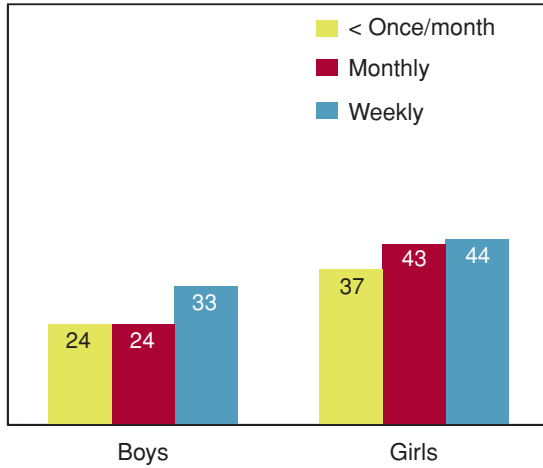
10.22 Young people reporting high levels of emotional well-being by how often they smoke cigarettes, by gender (%)



* 25% of boys who never smoke cigarettes report relatively high levels of emotional health problems, compared with 38% of boys who smoke occasionally. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

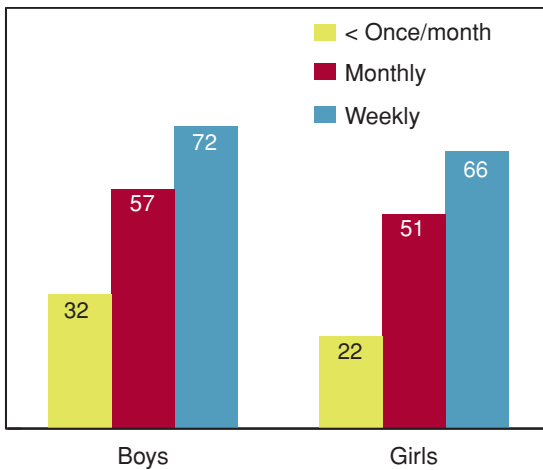
Binge drinking

10.23 Students reporting high levels of emotional problems, by binge drinking in the past 12 months, by gender (%)

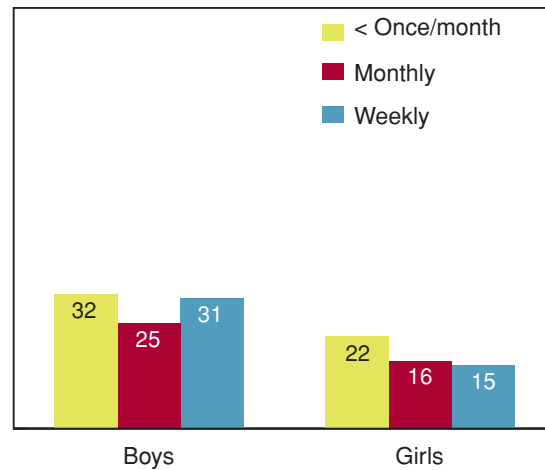


As is the case with smoking, binge drinking during the previous 12 months corresponded with high levels of both emotional (Figure 10.23) and behavioural problems (Figure 10.24). Students who reported binge drinking every week were more likely to report emotional problems and about twice as likely to report behavioural problems as compared to students who binge drank less than once a month or not at all. Binge drinking was negatively related to high emotional well-being in girls but not in boys (Figure 10.25), which is consistent with research that has found that excessive drinking as a means to cope with negative feelings is more common with girls than boys (Chalder, Elgar & Bennett, 2006).

10.24 Students reporting high levels of behavioural problems by binge drinking in the past 12 months, by gender (%)

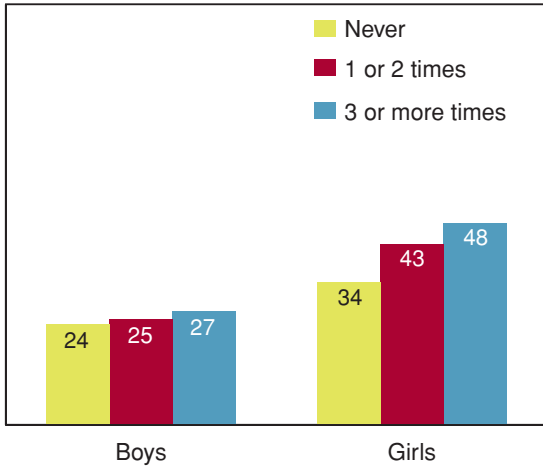


10.25 Students reporting high levels of emotional well-being by binge drinking in the past 12 months, by gender (%)

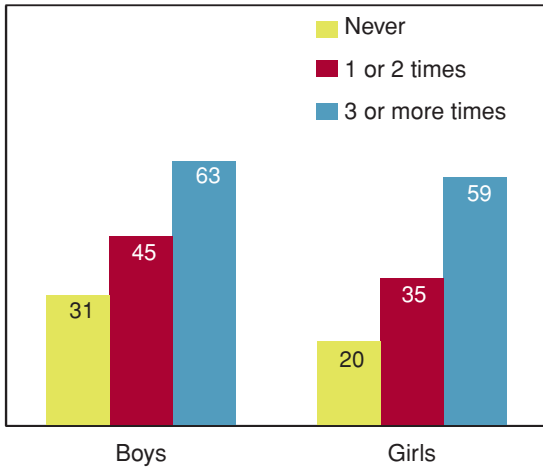


Cannabis use

10.26 Students reporting high levels of emotional problems, by frequency of cannabis use during lifetime, by gender (%)



10.27 Students reporting high levels of behavioural problems, by frequency of cannabis use during lifetime, by gender (%)

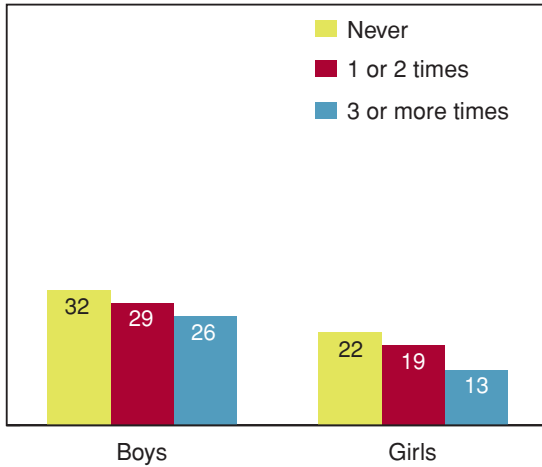


Associations between youth’s lifetime use of cannabis and each of the four mental health indicators (**Figures 10.26 to 10.29**) suggest that the frequency of cannabis use is associated with high emotional problems in girls and with behavioural problems in both genders. **Figure 10.26** shows associations with emotional problems and frequency of cannabis use in both genders, although differences are slight in boys. It is unclear whether cannabis use is an antecedent or a consequence of emotional problems in girls or whether they tend to co-occur due to other factors. **Figure 10.29** shows an association between cannabis use and prosocial behaviour in girls but not in boys.

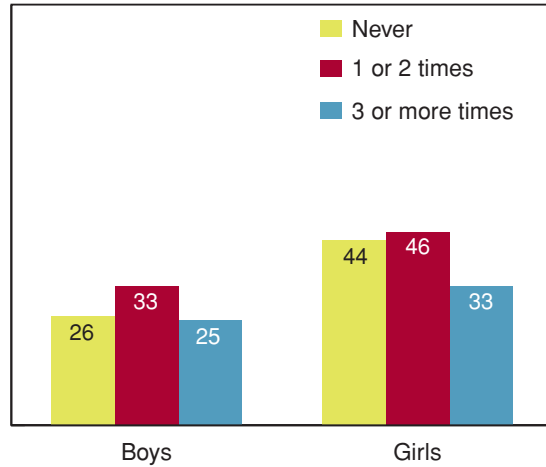
“**[Cannabis] is everywhere — even being rolled and smoked on the bus.**”

—Youth, Healthy Advice Workshop

10.28 Students reporting high levels of emotional well-being, by frequency of cannabis use during lifetime, by gender (%)



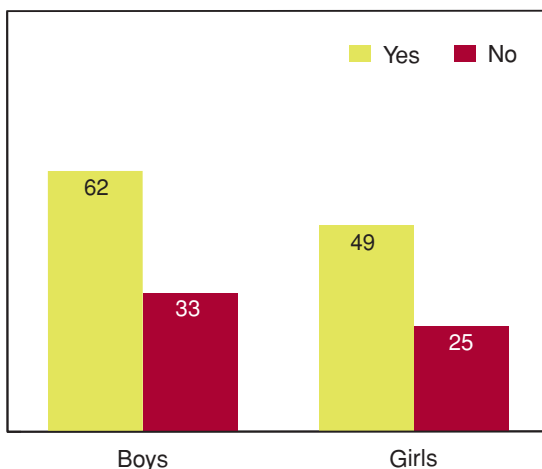
10.29 Students reporting high levels of prosocial behaviour, by frequency of cannabis use during lifetime, by gender (%)



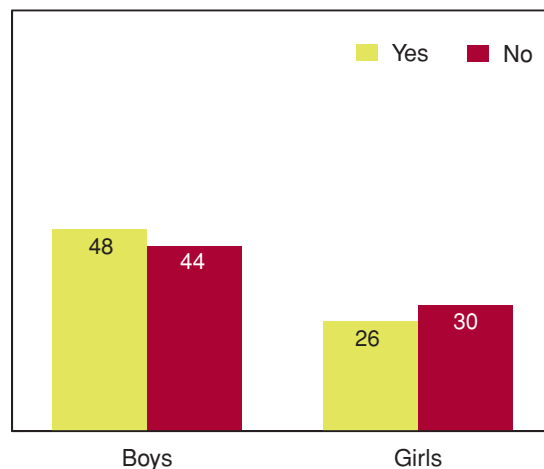
Sexual activity

Having ever had sexual intercourse relates to behavioural problems in the same pattern seen on the three other risky behaviour measures. Although most boys and girls have not had sexual intercourse, those who have are *much more likely* to report high levels of behavioural problems (**Figure 10.30**). Boys who have had sex, however, are also more likely to show high levels of emotional well-being compared to boys who have not had sex (**Figure 10.31**). This pattern is reversed for girls, for whom having had sex has a negative impact on emotional well-being. Though these differences are not large, the inverse pattern for boys and girls is noteworthy.

10.30 Students reporting high levels of behavioural problems by whether or not they have had sex, by gender (%)



10.31 Students reporting high levels of emotional well-being by whether or not they have had sex, by gender (%)



What young people thought about these findings

The youth engagement workshop was used to gain perspective from a diverse group of young Canadians on the issues that affect young people positively and negatively with respect to mental health. The students examined patterns of risk-taking reported by young people, and then interpreted how those patterns related to the four standard indicators of mental health.

The young people who were present spoke openly about their exposures to risk-taking, whether that was smoking, use of cannabis or other drugs, or alcohol use or misuse. It was clear that they understood that such behaviours were commonplace in their schools and communities.

It was also clear that the young people at the workshop understood the potential links between these behaviours and mental health outcomes, including the higher levels of both emotional and behavioural problems reported in this chapter among youth who smoke, use cannabis, and engage in binge drinking. They appreciated the apparent positive associations between choosing not to engage in such risk-taking behaviours and positive measures of emotional well-being. However, it was less clear whether they viewed these behaviours as positive or negative, as an inevitable part of growing up, or whether such behaviours were solely a product of the social influences that surrounded them.

The implications of the workshop observations for families, schools, and communities point to the importance of educating young people about the consequences of smoking, alcohol misuse, illicit drug use, misusing medical drugs, and unsafe sexual behaviours. Left unchecked, these behaviours may form part of a trajectory that leads to many negative consequences later in life (Due et al., 2011). Strategies to minimize active engagement in adolescent risk-taking behaviours should be coupled with positive information. This information would emphasize opportunities that promote positive mental health and social skills training that empower youth to avoid engaging in these risky behaviours.

Summary and implications

Key issues of concern

- 1 Alcohol and cannabis are the most commonly used substances among Canadian youth. A significant percentage of students have used alcohol and cannabis at least once by the time they reach Grade 10.
- 2 Between 1990 and 2010, the lifetime prevalence of cannabis use among Grade 9 and 10 students increased from 25% to 38%.
- 3 Engagement in substance use and risky behaviours relates to emotional and behavioural problems.

Key issues to celebrate

- 1 Rates of smoking among Canadian youth are at historical lows. In 2010, only 7% of boys and 6% of girls in Grade 10 reported smoking cigarettes every day.
- 2 Most young people appreciate the health risks associated with substance use and risky behaviour.
- 3 Although many youth have tried using cannabis, less than 20% of students in Grade 9 and 10 reported using cannabis in the last 30 days.

Commentary

The reported decline in the prevalence of smoking among Canadian youth is a very positive finding. Reductions in rates of daily smoking may reflect a change in attitudes towards smoking among young people. This attitudinal shift may be attributable in large part to aggressive policy initiatives (e.g., banning smoking from public spaces) and anti-smoking campaigns targeting youth, including interventions developed in school environments (Thomas, 2002).

While weekly consumption of beer and wine has declined since 1990, approximately two-thirds of students in Grades 9 and 10 still reported having tried alcohol. Additionally, 25% of Grade 9 students and 40% of Grade 10 students indicated they had been really drunk at least twice. Although the decrease in weekly consumption provides some indication that health promotion efforts have had an effect on youth drinking, there clearly is a need for continued work in this area, especially given the significant minority of students who have been drunk on more than one occasion.



Cannabis use is also reported by a significant minority of students with approximately two in five students stating they had tried cannabis and one in four using it in the past year. These levels have remained fairly consistent since 1998 after having increased from 1990 to 1998. Equally troubling from a health promotion perspective is that many Canadian adolescents, especially in Grades 9-10 as compared to Grades 6-8, believed that smoking cannabis on an occasional basis posed only a “slight risk” or “no risk” to their health. These adolescents also saw regular smoking of cannabis as less risky than regular smoking of cigarettes. These figures suggest that the same cross-sectoral attention that has been paid to tobacco must now be applied equally to cannabis.

Approximately one-quarter of the respondents to the survey indicated they had had sexual intercourse. Of these students, about one-quarter did not use a condom the last time they had sexual intercourse. While having sex is not unhealthy in and of itself, early onset of sexual activity has been connected to negative consequences in adulthood including increased number of recent sexual partners, increased number of recent risky sexual partners, greater history of sexually transmitted infections (STIs), having sex while intoxicated, and (for males) increased sexual dysfunction (Sandfort, Orr, Hirsch, & Santelli, 2008). Furthermore, adolescents are at relatively high risk for STIs (Weinstock, Berman, & Cates, 2004), which could be greatly lessened through consistent use of condoms.

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11

Bullying

by Wendy Craig and
Heather McCuaig Edge

and fighting

What is bullying?

Bullying is a relationship problem. It is a form of repeated aggression where there is an imbalance of power between the young person who is bullying and the young person who is victimized. Power can be achieved through physical, psychological, social, or systemic advantage, or by knowing another's vulnerability (e.g., obesity, learning problem, sexual orientation, family background) and using that knowledge to cause distress. As a relationship problem, the young people who bully learn to use power and aggression to control others, and the young people who are victimized become increasingly powerless and find themselves in a relationship where they are being abused. With each repeated bullying incident, the young person who is bullying increases in power and the young person who is being victimized finds their power reduced.



Why do bullying and fighting matter?

Bullying puts young people at immediate and long-term risk for many emotional, behavioural and relationship problems. These risks affect young people who bully others, young people who are victimized, and young people who both bully others and are victimized. Lessons of power and aggression learned through childhood bullying can lead to sexual harassment (McMaster et al., 2002) and dating aggression (Pepler et al., 2008) and may later extend to workplace harassment, as well as marital, child, and elder abuse perpetrated in other types of relationships. Victimized youth may also carry the hurt and fear from bullying forward into adult relationships. Perhaps the highest costs arise from the destructive dynamics found in bullying relationships, because relationships are the foundation for healthy development and well-being throughout the lifespan. Furthermore, research on bullying has identified an intergenerational link: parents who bully in childhood are likely to have children who also bully their peers (Farrington, 1993).

Being safe in relationships is a fundamental human right (UNICEF, 2007). Every child and youth has the right to be safe and free from involvement in bullying. Bullying affects the safety and welfare of children and youth who are bullied, those who bully others, and those who know it is going on. Negative effects for all parties involved (i.e., those who bully others, those who are bullied, and those who know it's going on) include a lack of confidence in oneself and in others, which hurts relationships across the lifespan, thereby increasing risk for mental disorder, poor academic and vocational achievement, and criminality. Further, victimized young people are at risk for anxiety, depression, and physical symptoms (Due et al., 2005). There is also reason to be concerned for young people who perpetrate bullying and harassment. Research has shown that these young people are at risk for long-term problems such as antisocial behaviour, gang involvement, and substance use (Farrington et al., 2011; Pepler et al., 2008). To prevent these negative long-term outcomes, we need to support youths' healthy development and protect their welfare.

Similarly, fighting is an aggressive behaviour that puts young people at significant risk for harm. Fighting can often lead to physical injuries requiring medical treatment. Some researchers suggest that fighting represents a problem behaviour that is related to later delinquency and antisocial behaviour (Centers for Disease Control, 2010).

What are we reporting in this chapter?

To assess bullying and victimization, we provided a definition of bullying for students. The definition stated that bullying occurs when another student, or a group of students, says or does nasty and unpleasant things to a student. It was also considered bullying when a student was teased repeatedly in a way he or she did not like or when he or she was deliberately left out of things. But it was clarified that it was not bullying when two students of about the same strength or power argued or fought. It was also not bullying when the teasing was done in a friendly and playful way.

Students were asked to indicate how many times they had been bullied at school in the past two months and how often they had taken part in bullying another student(s) at school during the same time period. Possible responses were: never, once or twice, two or three times a month, about once a week, or several times a week. Those who reported being bullied once or twice were classified as victims of bullying. Those who reported taking part in bullying once or twice were classified as perpetrators. Those who reported both experiences were classified as bully-victims.

In addition, there were questions about the types of victimization experienced by students. There were seven distinct types of bullying assessed. (1) *physical*: have you been hit, kicked, pushed, shoved around, or locked indoors? (2) *verbal*: have you been called mean names, made fun of, or teased in a hurtful way? (3) *indirect*: have you been left out of things on purpose, excluded from a group of friends, or completely ignored? (4) *sexual harassment*: have other students made sexual jokes, comments, or gestures to you?; (5) *racial*: have other students made fun of your race or colour; (6) *religious*: have other students made fun of your religion?; and (7) *electronic*: have you been teased using a computer or e-mail messages or a mobile phone?

To explore fighting behaviours, students were asked: “During the past 12 months, how many times were you in a physical fight?” and “with whom did you fight?” Students were also asked: “During the past 30 days, on how many days did you carry a weapon, such as a gun, knife or club?” and “what type of weapon was it?”

In this chapter we report the percentage of students involved in three mutually exclusive categories of bullying for 2010: youth who bullied others; youth who were victimized; and youth who both bullied others and were victimized. These responses were aggregated into three categories: once or twice, once or twice a month, or once a week or more. We also report the patterns in types of bullying among students who were victimized, the frequency of fights, and the associations between mental health measures (emotional well-being, prosocial behaviours, emotional problems, behavioural problems) and bullying others, being victimized, and fighting. We try to avoid using labels such as: bully, victim, and bully/victim. Bullying unfolds within the context of relationships, in part, as a function of group dynamics, rather than arising solely from an individual's personal characteristics.

The bullying problem in Canada

11.1 Involvement of students in the three categories of bullying in 2002, 2006 and 2010 (%)

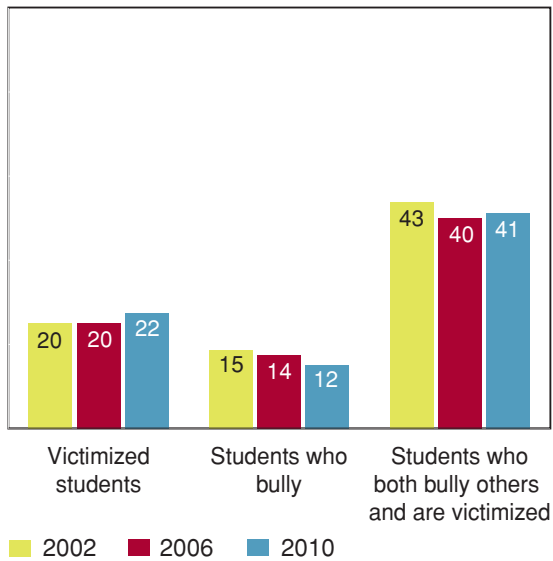


Figure 11.1 represents the overall prevalence of Canadian students with involvement in bullying in 2002, 2006, and 2010. The percentages reporting that they have been bullied, that they bully others, or that they both bully and are bullied remain largely unchanged across cycles. Having approximately 40% of adolescents with bully-victim status is concerning as these adolescents are at the highest risk for negative emotional, physical, and behavioural outcomes. It should be noted that these categories of children are mutually exclusive and represent all students surveyed.

11.2 Students who are victimized by grade, gender, and frequency (%)

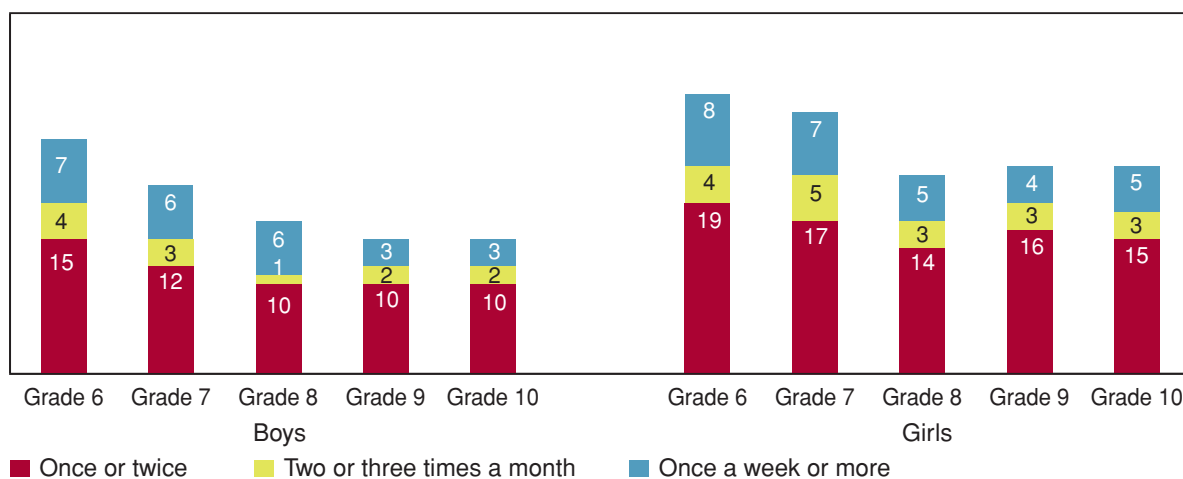
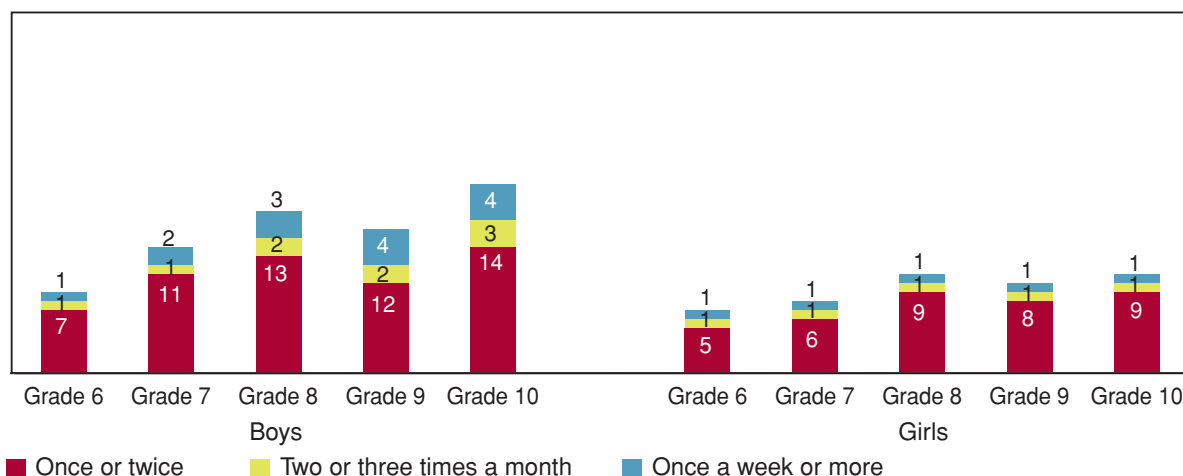


Figure 11.2 presents a general decline in reported victimization from Grade 6 to 10, among both boys and girls. A fairly consistent proportion of students across grades reported being occasionally victimized (about once or twice in the past couple of months). Notably, more girls than boys reported occasional victimization across all grades, while the prevalence of frequent victimization (once a week or more) was relatively similar for boys and girls. Between 3 and 8% of students reported being victimized once a week or more, with higher proportions of frequent victimization in younger grades than older grades.

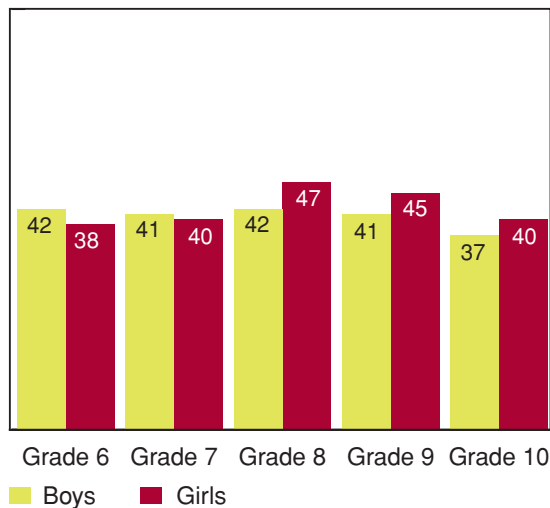
11.3 Students who bully by grade, gender, and frequency (%)



There was an increase in the reporting of bullying others from Grade 6 to Grade 10 (**Figure 11.3**). Boys reported bullying others more than girls reported bullying, and this was equally true for occasional bullying and frequent bullying. For boys, the prevalence of bullying others peaked in Grade 10 at 21%, while it rose and stayed relatively consistent for girls, peaking in Grade 8 at 11%, and remaining at that level in Grade 9 and 10. Similar to the victimization results, the majority of students indicated that they engaged in bullying behaviour occasionally. A small minority (1 to 4%) of students who participated, however, reported bullying others frequently, once a week or more.

The pattern associated with increasing levels of reporting bullying others and decreasing levels of reporting victimization across middle and high school is consistent with other literature (Due et al., 2005; Smith, Madsen, & Moody, 1999). Younger students tended to report higher levels of victimization than older adolescents (Brown, Birch, & Kancherla, 2005), while different forms of bullying emerged as young people underwent puberty, school changes, and the development of social skills, all of which can provide the opportunity for both positive and negative interactions (Smith et al., 1999).

11.4 Students who both bully others and are victimized, by grade and gender (%)



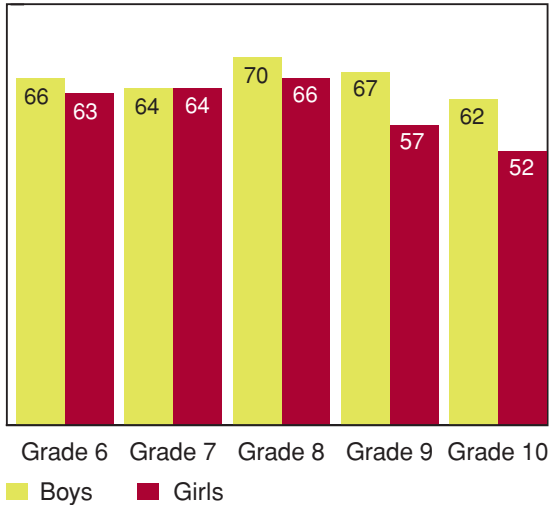
A substantial number of students in the HBSC sample reported that they both bully others and are victimized (Figure 11.4).

For boys, the prevalence of students engaging in both bullying others and being victimized was fairly consistent across grades, with a slight decrease in Grade 10 and an average level of both bullying others and being victimized across grades for boys of 40.6%. For girls, the prevalence of bullying others and being victimized by others peaked in Grade 8 (at 47%), and then consistently declined in Grade 9 and 10. In Grade 6, the prevalence of bully-victim status was higher for boys than girls; however, in the upper grades (8, 9, and 10), girls reported a higher prevalence of being both bullies and victims than boys.

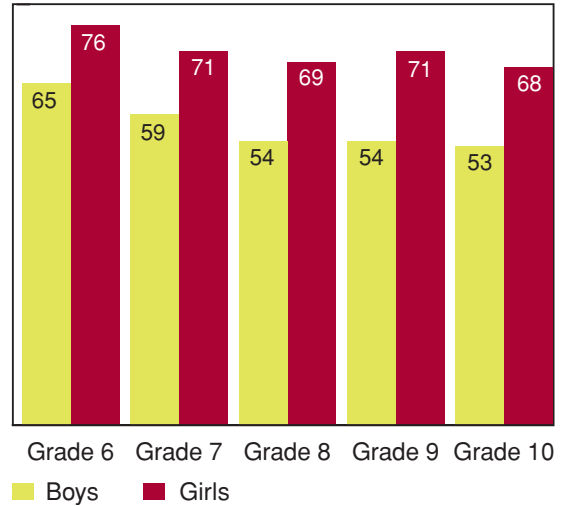
How young people are victimized

Figures 11.5 to 11.11 display data only for students who reported being victims.

11.5 Teasing in victimized students, by grade and gender (%)



11.6 Indirect bullying in victimized students, by grade and gender (%)



Bullying takes many forms, with the two most common forms being teasing (**Figure 11.5**) and indirect bullying such as excluding or spreading lies about the victim (**Figure 11.6**). More boys than girls reported being teased in 2010, especially in older grades; but, overall, more than half of victimized boys and girls in all grades reported being teased. In contrast, more girls reported being victimized by indirect bullying (Figure 11.6). Indirect bullying decreased for girls from Grade 6 to 7 (from 76% to 71%), and then remained relatively stable through to Grade 10 (68-71%). In contrast, indirect bullying decreased for boys from Grade 6 to 10, from 65% in Grade 6 to 53% of Grade 10 boys reporting experiencing it. Thus, for boys, this form of bullying is decreasing with age.



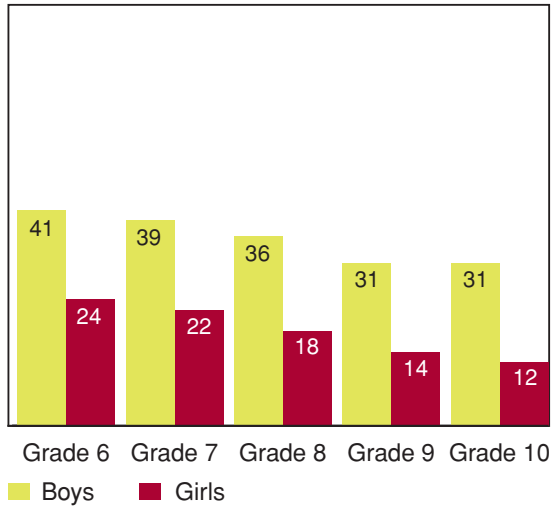
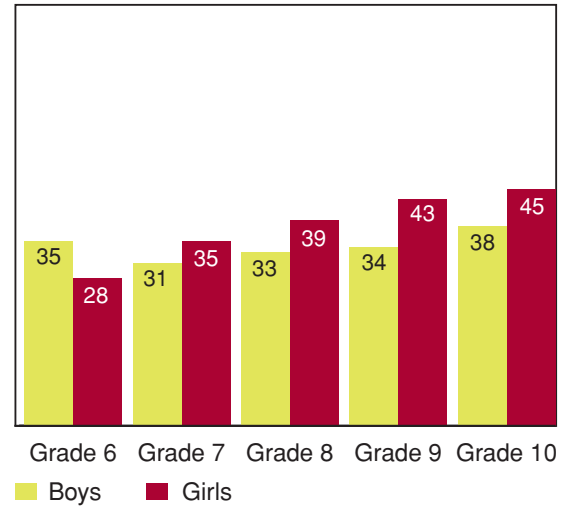
11.7 Physical bullying in victimized students, by grade and gender (%)

Figure 11.7 shows that more boys who were victims of bullying reported physical victimization (up to 41%) in 2010. Among both boys and girls, there was a decline in physical victimization from Grade 6 to Grade 10.

11.8 Sexual harassment in victimized students, by grade and gender (%)

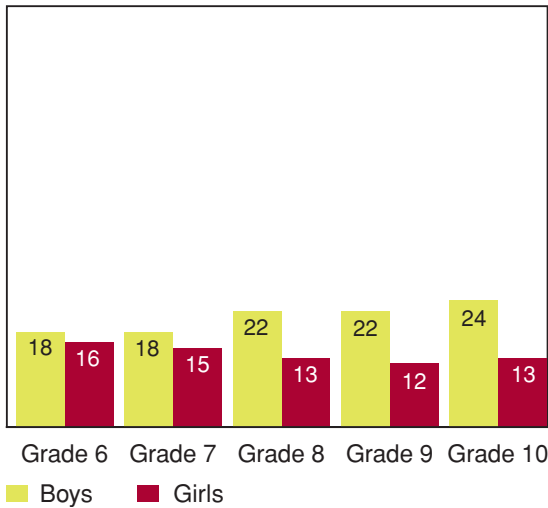
Reports of sexual harassment increased with age for girls from 28% in Grade 6 to 45% in Grade 10, while there was a slight increase for boys from 31% in Grade 7 to 38% in Grade 10. Girls reported significantly more sexual harassment in all grades, except in Grade 6, where more boys than girls reported being sexually harassed.

“

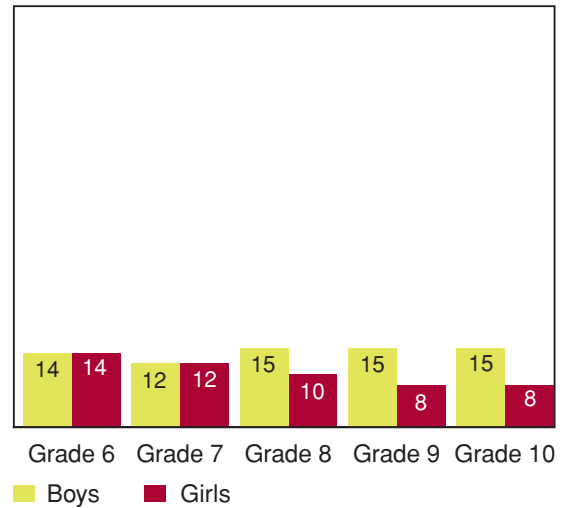
I think the most dominant form of bullying right now is cyber bullying, because youth think that they won't get caught.”

—Youth, Healthy Advice Workshop

11.9 Racial bullying in victimized students, by grade and gender (%)

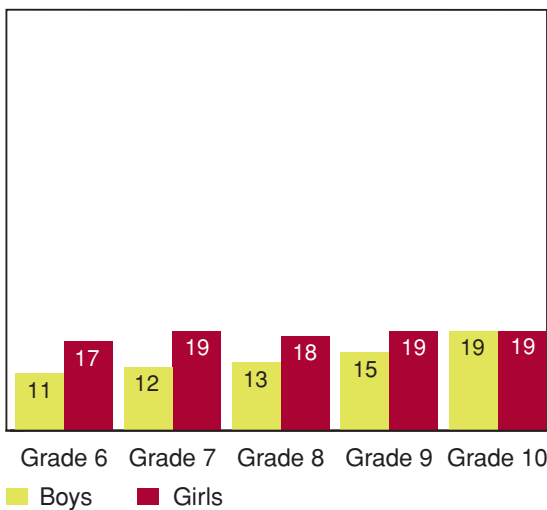


11.10 Religious bullying in victimized students, by grade and gender (%)



Racial or religious bullying occurred less frequently than all the other types of bullying (Figures 11.9 and 11.10), ranging from 8% to 24%. Boys in all grades reported more racial bullying compared to girls, and substantially more religious bullying than girls in Grade 8 through 10. Racial bullying for boys increased from 18% in Grade 6 to 24% in Grade 10, while racial victimization appeared to decrease for girls from 16% in Grade 6 to 13% in Grade 10. Across all grades, reports of religious bullying among boys remained fairly consistent, while for girls, this type of victimization decreased from 14% in Grade 6 to 8% in Grade 10.

11.11 Electronic bullying in victimized students, by grade and gender (%)

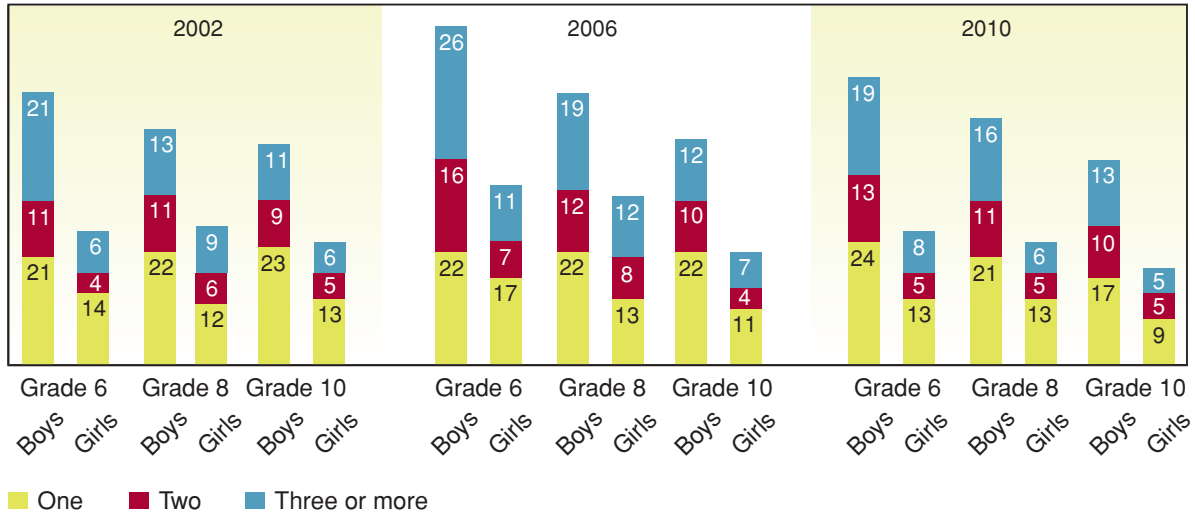


The HBSC survey asked students about electronic, or cyber-bullying, including computer postings (e.g., on social networking sites), emails, digital photos, or cell phone harassment. Although rates of reported electronic bullying were low in both boys and girls across grades, girls reported that they experienced more cyber-bullying than boys in Grades 6 to 9 (Figure 11.11). Rates of reported electronic bullying remained fairly consistent across grades (between 17% and 19%) for girls, but increased slightly for boys from 11% in Grade 6 to 19% in Grade 10.

Fighting

Frequency of fights among Canadian students

11.12 Number of physical fights in the past 12 months, by grade and gender in 2002, 2006 and 2010 (%)



Physical fighting, like bullying, is an extreme form of aggression and merits serious attention. **Figure 11.12** shows that involvement in physical fights appeared to peak in 2006, though rates in 2010 were still higher than in 2002. Substantially more boys than girls in all grades reported physical fighting behaviour. For boys, fighting behaviour decreased with age, while girls' fighting was more consistent across grades. Despite the decreasing levels of physical fighting across grades in 2010, substantial proportions of students were involved in physical fights over the past 12 months.

“ People who are fighting can get hurt in many different ways. ”

—Youth, Healthy Advice Workshop



Bullying and mental health

Bullying and victimization are related to several indicators of mental health for all parties involved in bullying, including young people who bully, those who are victimized, or both. As bullying takes on several forms, consequences of bullying can involve physical injuries, but can also involve social and emotional injuries that may lead to poorer mental health across the lifespan.

Young people who were involved in both bullying others and being victimized tended to have elevated levels of both emotional problems (34% of boys and 51% of girls; **Figure 11.13**) and behavioural problems (47% of boys and 39% of girls; **Figure 11.14**), with this group of young people having the highest levels of emotional problems and the second highest level of behavioural problems. This suggests that negative outcomes are differentially associated with types of bullying involvement, with young people who both bully others and are bullied being at a particularly high risk for emotional and behavioural problems.

11.13 Students reporting high levels of emotional problems by bullying involvement, by gender (%) *

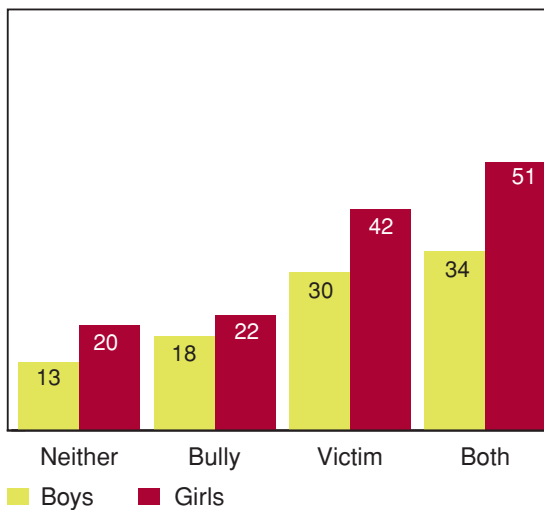


Figure 11.13 depicts emotional problems associated with different types of bullying involvement. Across genders, young people who neither bully nor are victimized have the lowest levels of emotional problems. In general, girls have more emotional problems than boys. Young people who are victimized tend to have high levels of emotional problems (30% of boys and 42% of girls). Bullying is clearly related to these emotional health problems.

* 13% of boys who are neither bullies nor victims report relatively high levels of emotional health problems, compared with 20% of girls who are neither bullies nor victims. A full explanation of how to interpret the figures that relate to mental health is provided in Chapter 1.

11.14 Students reporting high levels of behavioural problems by bullying involvement, by gender (%)

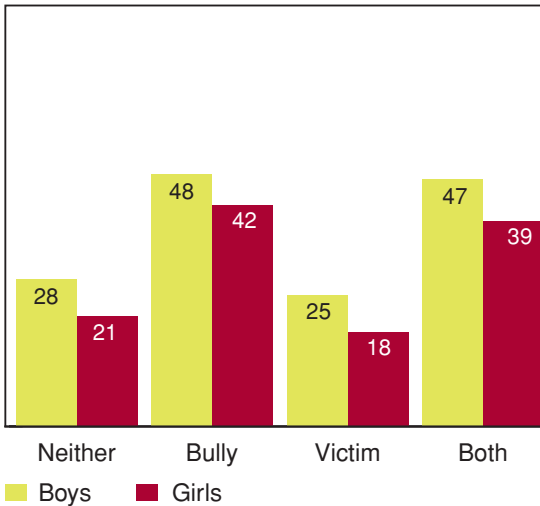
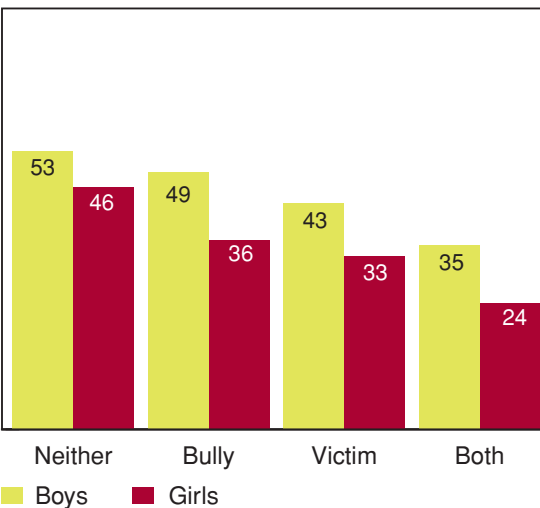


Figure 11.14 describes behavioural problems associated with different types of bullying involvement. Young people who neither bullied nor were victimized reported the lowest levels of behavioural problems, while those who bullied tended to report the highest levels (48% of boys and 42% of girls). Boys reported more behavioural problems than girls.

11.15 Students reporting high levels of emotional well-being by bullying involvement, by gender (%)

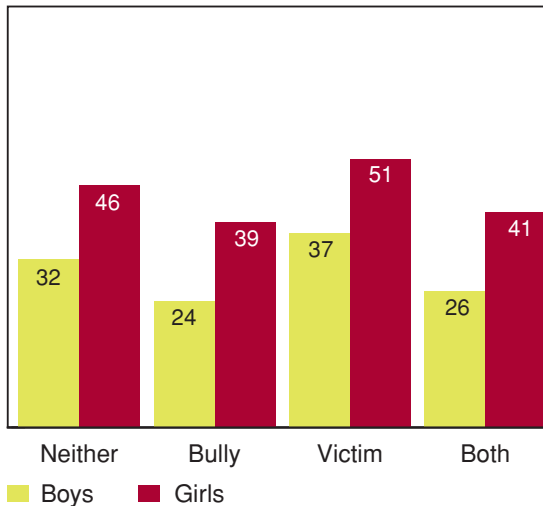


“**Being bullied makes you feel useless, you’re consuming what the bully tells you ... can lead to suicide.**”

—Youth, Healthy Advice Workshop

From a positive mental health perspective, young people who were not involved in bullying or victimization reported the highest levels of emotional well-being of all groups across both genders (**Figure 11.15**). Young people who bullied others tended to also have higher levels of emotional well-being than young people who were victimized or who were both bullies and victimized. Young people who bullied others and were victimized tended to have the lowest levels of emotional well-being of all groups across genders. In general, girls had lower levels of emotional well-being than boys across all groups. This suggests that there is an association between victimization and reduced emotional well-being, with an amplified effect when young people engage in both bullying and victimization.

11.16 Students reporting high levels of prosocial behaviour by bullying involvement, by gender (%)



The two groups of young people who engaged in high levels of prosocial behaviour were young people who were not involved in bullying, and young people who were victimized, with the highest levels reported by girls (Figure 11.16). Young people who were victimized exhibited the greatest levels of prosocial behaviour of those young people involved in bullying. Young people who bullied and young people who both bullied and were victimized engaged in the lowest amount of prosocial behaviour.

Although prosocial behaviour was high in young people who did not bully or who were not victimized, the highest level of prosocial behaviour was reported by those who were victimized. It may be that these young people tend to act more prosocially towards others because they know what it feels like to be victimized, or it may be that their prosocial behaviour unfortunately makes them vulnerable to bullying and harassment. There is clearly an association between positive outcomes and bullying involvement, with prosocial behaviours engaged in least by those who perpetrate bullying.

Fighting and mental health

11.17 Students reporting high levels of emotional problems by frequency of fighting, by gender (%)

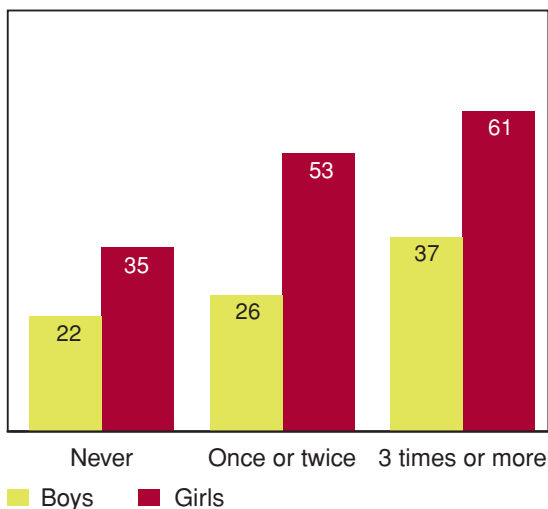
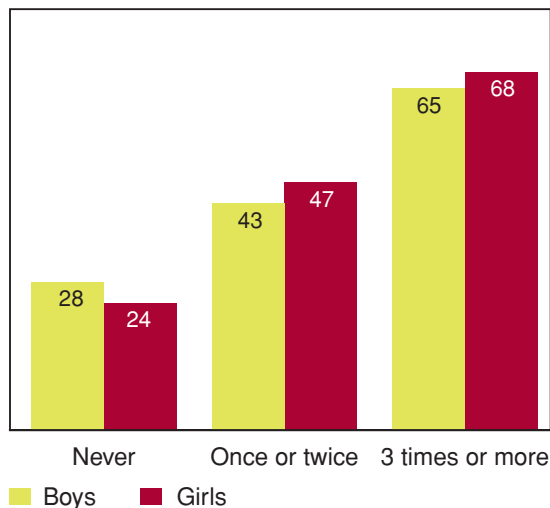


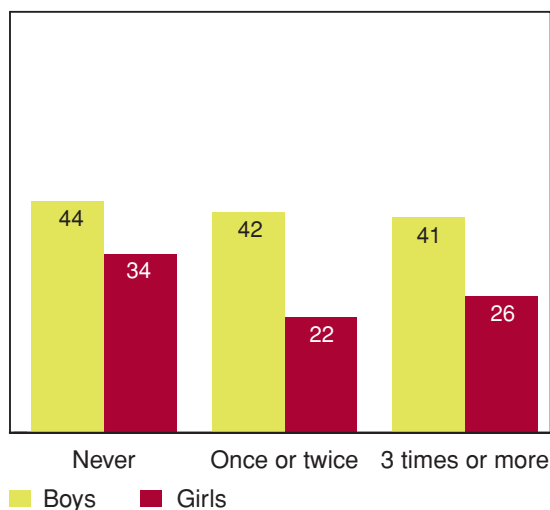
Figure 11.17 describes reports of emotional problems associated with frequency of fighting in young people. There was an increase in high levels of emotional problems as the frequency of fights increased for both boys and girls. As with bullying, girls reported more emotional problems than boys regardless of the frequency of fighting.

11.18 Students reporting high levels of behavioural problems by frequency of fighting, by gender (%)



Higher levels of behavioural problems were strongly associated with increased frequency of fighting in the last 12 months (Figure 11.18). Proportionally more girls than boys who were involved in one or more fights reported high levels of behavioural problems.

11.19 Students reporting high levels of emotional well-being by frequency of fighting, by gender (%)

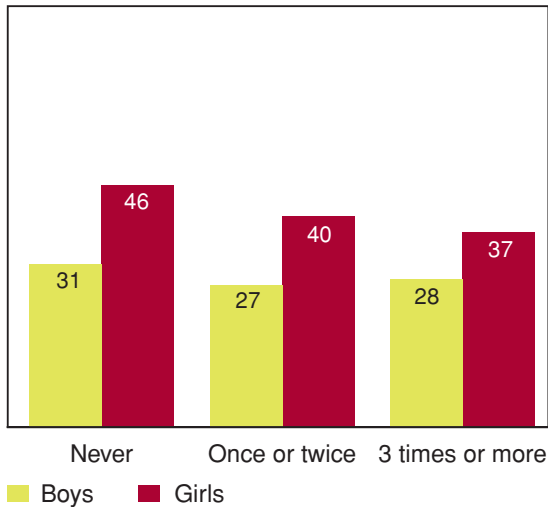


“People who are fighting aren’t doing well in school, don’t have good friend ... not living their life right.”

—Youth, Healthy Advice Workshop

Echoing the results in the bullying section of this chapter, young people who did not engage in fighting behaviour tended to have more positive indications of mental health overall than young people who got into one or more fights (Figure 11.19). Levels of emotional well-being were relatively stable for all boys (from 44% for boys who never fought to 41% for boys who got into three or more fights). At the same time, girls who did not engage in fighting had the highest levels of emotional well-being (though lower overall than for all boys), followed by girls who engaged in three or more fights, followed by girls who engaged in one or two fights. This suggests that the relationship between emotional well-being and fighting is not as straightforward for girls as it is for boys.

11.20 Students reporting high levels of prosocial behaviour by frequency of fighting, by gender (%)



Regarding prosocial behaviour, a pattern in levels of prosocial behaviours appeared for girls. As girls engaged in more fighting behaviours, levels of prosocial behaviour decreased (**Figure 11.20**). Boys did not show this same relationship. Instead, boys who engaged in the most fighting had higher levels of prosocial behaviour than boys who only engaged in one or two fights. Levels of prosocial behaviour were relatively even for all boys (from 31% for boys who never engaged in fighting to 28% for boys who engaged in 3 or more fights), suggesting that prosocial behaviour is not as closely associated with fighting for boys as it might be for girls.

What young people thought about these findings

Comments that were recorded at the youth engagement workshop reflected that young people had an understanding of the consequences of being victimized, bullying others and/or engaging in fighting behaviours. The youth communicated well that these aggressive and antisocial forms of behaviours have significant consequences on mental health, academic success, the ability to engage in successful relationships, as well as increasing the risk of future problems or injury.

Acknowledgement by youth of the significant consequences of involvement in bullying and fighting is important. First, it conveys their perceived understanding of the potentially long lasting effects of bullying (Farrington & Ttofi, 2011; Pepler et al., 2008). Second, it highlights the need to address bullying and fighting more effectively than we currently do. Bullying is a relationship problem, characterized by a power imbalance. Youth require sustained support from adults to address this power imbalance and to ensure that the bullying has stopped, thereby preventing the potential negative consequences. Third, youths' understanding of the problem does not match their current actions as bystanders when bullying happens. Thus, given youths' concern and understanding of the problem, we need to more effectively engage them in addressing bullying because they are present when it happens (Craig & Pepler, 1997) and they are effective when they do intervene (Hawkins et al., 2001). Youth engagement in the prevention of bullying and fighting may enhance our effectiveness in eliminating these behaviours.

Summary and implications

Key issues of concern

- 1 The prevalence of peer victimization due to bullying is on the rise.
- 2 Bullying is associated with increased behavioural problems, while peer victimization is associated with increased emotional problems.
- 3 Being a bully-victim is associated with both emotional and behavioural problems.
- 4 Increased fighting behaviour is associated with increased emotional and behavioural problems.

Key issues to celebrate

- 1 The trends indicate that the prevalence of children reporting bullying others is decreasing.
- 2 The prevalence of fighting has decreased since 2006.

Commentary

The trends for bullying since 2002 indicate that bullying and victimization are significant problems for Canadian children and youth. While the number of children who report bullying others is decreasing, the number of children who are victimized remains at about one in four students. Furthermore, 41% of students report both bullying others and being victimized.

Bullying is an early marker for significant mental health problems throughout the life-span. The consequences of failing to protect children from bullying and support them in developing healthy relationships are costly and lifelong (Centers for Disease Control, 2010). From these data, it is evident that children involved in fighting, bullying others, being bullied, or both, are reporting higher levels of emotional and behavioural problems and lower levels of emotional well-being. Bullying at age 14 predicts violent convictions at age 15 to 20, violence at age 15 to 18, low job status at age 18, drug use at age 27 to 32, and an unsuccessful life at age 48 (Farrington & Ttofi, 2011). Bullying, violence, mental and physical health problems, substance abuse, school drop-out, and unemployment are all outcomes rooted in experiences within violent relationships (Centers for Disease Control, 2010). Poor social relationships are as big a contributor to early death as smoking, drinking, and obesity (Holt-Lunstead et al., 2010). By preventing violence and promoting relationships, we can optimize children's physical and mental health.

In order to effectively address bullying and fighting, we need to ensure that the evidence-based knowledge, strategies, and programs are reaching those adults who are responsible for youth where they live, learn, work, and play. Current scientific knowledge is not getting into the hands of the right people – those involved in young peoples' lives such as parents, teachers, recreation leaders, and youths themselves. Adults are the primary socialization agents for children and youth, shaping their development through moment-to-moment interactions as well as through programs in homes, schools, and communities. For adults to be effective in preventing violence, they require evidence-based knowledge about: healthy and unhealthy development and relationships, how development varies by age and gender, how to identify risks for youth violence, and what to do to support young people who are developing behaviours that may lead to violence. Similarly, in order to effectively address bullying and fighting behaviours, we need to engage youth themselves, as they are frequently witness to these aggressive interactions. Peers require knowledge and training to prevent violence and promote healthy relationships (e.g., respectful communication, positive use of power in relationships, intervention strategies, and non-violent problem solving).

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Summary

by John Freeman and
William Pickett

and conclusion

The final chapter of this report provides an overview of key findings from the 2010 national HBSC survey. It begins by summarizing key messages about core indicators of mental health in young Canadians, as this was the major focus of the current report.

New findings about topics that are known priorities for adolescent health in our country are also presented. These priorities include injury, healthy living, healthy weights, risk behaviours, bullying, and fighting. Relationships between priority health indicators and selected mental health outcomes are summarized.

Key messages about the various contexts that influence the health of young people (homes, schools, peers, and neighbourhoods) are summarized. This section is followed by a brief review of report findings surrounding relationships between these contexts and the mental health of young people.

Finally, one of the most novel components of this HBSC report was the engagement of youth in the interpretation of the key report findings. Some reflection is provided about the value of this experience in terms of provision of more informed interpretations of key patterns and findings.



Mental health status of young people in Canada

Two important findings emerge from this national HBSC report with respect to mental health. First, mental health varies strikingly by gender. Girls, compared to boys, reported higher levels of emotional problems and lower levels of emotional well-being in many different parts of the survey. In contrast, boys indicated having higher levels of behavioural problems and lower levels of prosocial behaviour, although gender differences were not as pronounced with behavioural indicators of mental health as they were with emotional indicators. Furthermore, while behavioural indicators worsened for both genders in later grades, emotional indicators worsened only for girls.

Second, spurred by recent research that supports the complementary but distinct existence of both positive and negative aspects of mental health (Keyes, Dhingra & Simoes, 2010; Strauss, 2007), there has been a shift in focus toward positive mental health in the public health arena. This study indicates that both the positive and negative dimensions of mental health identify that the same basic groups of young people require special attention. Therefore, there is continued need for a comprehensive understanding of mental health, rather than a limited focus on any single aspect of it.

Key report findings

Many mental health issues are gender specific.

Whether one views mental health with a positive or negative lens, the same basic groups of young people requiring special attention are identified.

Other indicators of health status among young Canadians

Beyond the mental health indicators, a number of additional findings emerged from this report. These focus on public health problems that are clear priorities for adolescent health in Canada.



The report highlights that *injury* remains a leading cause of poor health in young Canadians. Yet major causes and patterns of injury mirrored past reports and seem to have remained stable over time. These facts are well understood by much of the Canadian public health community. What is new in this HBSC report is its documentation of overt risk-taking activities that can directly lead to injury. Substantial proportions of young people choose to engage in risks that vary from acts of omission like failing to use a helmet while riding a bicycle, to more serious

behaviours such as operating a motorized vehicle after drinking or using substances. But not all news is bad or negative. For example, it is helpful to observe that the vast majority of young people do not take such risks, offering hope for the choices that they make in the future. These findings provide direction for the content and delivery of prevention programs.

Key report findings

Injury remains a leading cause of poor health in young Canadians.

Substantial proportions of young Canadians report engaging in known risk behaviours that can lead to major injuries.



Bullying and physical fighting represent two other major foci of the HBSC survey. While it was encouraging to note that fewer young people reported engagement in bullying and physical fighting than was reported in previous HBSC cycles, higher proportions of the survey participants reported being victims of such behaviours. Chapter authors point to lifelong effects of bullying and physical fighting, and societal needs to redouble efforts to implement evidence-based strategies to prevent these behaviours, aimed at responsible authorities, in home, school and community settings, as well as at youth themselves.

Key report finding

While fewer young people report engagement in bullying and physical fighting, higher proportions of young Canadians report being bullied.



The *healthy living* and *healthy weights* chapters of this report focus upon obesity and its determinants – another major priority for adolescent health in Canada. While public health authorities can take some solace in the fact that levels of obesity stabilized between 2006 and 2010, there is still much work to be done. One in four boys and one in six girls in our country reported a BMI level that is considered overweight or obese, and less than 20% meet or exceed national physical activity guidelines. At the same time, the majority of young people in Canada report challenges with perceived body image. Findings of a more positive nature include the larger proportions of young people reporting healthier diets, but the epidemic of unhealthy weights continues to be driven by physical inactivity, large amounts of screen time, and poor nutritional choices.

Key report finding

While young people report healthier eating habits, many still face major challenges with respect to the maintenance of healthy weights as well as participation in regular physical activity.



Both positive and negative findings were noted in the *risk behaviour* chapter. Large proportions of young people in Canada experiment with and use cannabis on an ongoing basis, although the proportions reporting regular use seem to have declined slightly from a peak in 2002. With respect to smoking, proportions of young people reporting daily use of cigarettes are at historical lows. More stable proportions of various indicators of the use and misuse of alcohol were documented, with increases in binge drinking being a reported concern. Finally, while larger proportions of Grade 9 and 10 students are reporting engagement in sexual activity, high levels of at least some form of protection were also reported. Still, up to one-quarter of students who reported engagement in sexual intercourse also reported using no or unreliable methods of contraception the last time they had sex, which is of obvious concern assuming pregnancy is not intended.

Key report findings

The proportion of young people reporting daily use of cigarettes is at an all-time low.

Cannabis use remains a critical issue for the health of Canadian youth.

Behavioural factors related to mental health

The relationship between health behaviours and mental health can be described using two kinds of patterns. In the first pattern, the health behaviour demonstrates similar connections to mental health for both genders. Physical activity injury, for instance, is related to better emotional well-being for girls and boys, likely attributable to the activities as opposed to the injury events.

Healthy living factors consistently connect to mental health, with better results for young people who engage in physical activity and consume fruits and vegetables, and with poorer results reported for those who engage in sedentary activity, drinking sugared soft drinks, and eating at fast food restaurants. Adolescents who see themselves as too fat or too thin and adolescents who are trying to lose weight have lower levels of emotional well-being. Smoking and being involved in bullying link to greater behavioural and emotional problems; being involved in bullying is also a risk factor for poorer emotional well-being. Adolescents who both bully and are victims of bullying are clearly at greatest risk.



Kristin Buchanan

Often, however, the patterns that underlie these relationships are complex and, again, gender-specific in nature. For example, reports of injuries are related to behavioural problems for both genders but the connection between injuries and emotional problems is significant only for girls. Fighting injuries connect negatively to emotional problems and emotional well-being for boys. This relationship is inconsistent for girls. Measures of unhealthy weights relate much more strongly with emotional problems and emotional well-being for girls than they do for boys. Similarly, binge drinking and cannabis use have stronger negative relationships with mental health for girls than for boys, while having had sex links to poorer emotional well-being only in girls.

An obvious complication surrounding the interpretation of these relationships is the issue of causality. It is unclear in many situations whether the health behaviour leads to the mental health outcome or the mental health outcome leads to the health behaviour. Most likely, there is reciprocal causation with regard to health behaviours and mental health. Reciprocal causation suggests the need for a multi-pronged approach to the issue, so that neither health behaviour nor mental health outcome are ignored under the likely false hypothesis that ameliorating one will necessarily have positive effects on the other.

Key report findings

It is clear that states of mental health in young people, either positive or negative, have many different potential causes. While the report findings cannot infer causal relationships, a diverse number of environmental factors and health behaviours were found to be associated with the four mental health outcomes of interest.

Positive mental health outcomes are associated with environments that are supportive, with good communication with adults and peers in those environments. Positive mental health outcomes also coincide with healthy choices in terms of risk behaviours, whether measured in individual young people or their peers.

Negative mental health outcomes are associated with environments that are non-supportive or disadvantaged socially, and with poor levels of communication. Negative mental health outcomes also coincide with poor health behaviour choices.

Overall, while relationships vary, the quality of social settings, behavioural choices and norms, and the quality of relationships matter a great deal in the occurrence of both positive and negative mental health outcomes.

Context and health in young Canadians

The HBSC Study is built upon underlying population health theory that suggests that the health of young people is in part determined by the contextual factors of home, school, peers and neighbourhoods.

With respect to *home* environments, the majority of young people in Canada reported being in happy homes, with positive relationships and communication with at least one parent in their lives. Relationships with parents seem to be improving relative to historical norms. A more negative finding was the high levels of pressure that young people felt in terms of expectations that are placed upon them. Further, young girls appeared to be especially vulnerable to this pressure, with more reported negative feelings about their home environments.

Key report finding

Most young people report positive home environments, although they also perceive increased levels of pressure from home that come with expectations.

Schools represent a second context that has a significant potential impact on the health of young people. The vast majority of young people report solid levels of support from their school environments, and a sense that they belong in these schools. A smaller but important minority of young people report feelings of alienation. Again, an increased sense of poor achievement was noted, consistent with academic pressures that students perceive from home environments. Satisfaction with school may ameliorate some of the effects of these increased pressures.

Key report finding

Most young feel positive about their schools, although a small minority report ongoing feelings of alienation.

Peer influences were also an important determinant of health noted by survey responses. To illustrate, peers who engaged in multiple risk behaviours were reported by the majority of respondents, and these negative influences can have a strong effect on risk-taking behaviours. It was positive to note that most respondents report one or more close friendships that are reinforced by some of the more modern forms of communication. Chapter authors emphasized the need for vigilance and monitoring of peer relationships by responsible adults, to ensure choices that are optimal for young people's mental health and well-being.

Key report finding

There is a need for vigilance by adults in the monitoring of peer relationships, to ensure the health of the developing child.

The report also provides a unique new look at *neighbourhood* factors that could influence the health of young people. Two major messages emerged from these findings. First, "location matters," in that both highly urban environments and highly rural or remote environments contain unique challenges to healthy growth and development. Second, crime and safety concerns, even in the presence of an aesthetically pleasing environment, are a recognized determinant of health choices that may be compromising.

Key report finding

Location matters. Highly urban and highly rural or remote environments pose unique challenges to the health of young people.

Taken together, the report provides a comprehensive overview of the many contextual factors that influence health and health behaviours in young people. There is a need to understand the relative importance of each context as a determinant of health. Perceptions of the youth engagement workshop participants were that home influences drive many of the choices that young people make, although the effects of these environments should optimally not be considered in isolation.

Contextual factors and mental health

In examining the connections between contextual factors and mental health, one key theme emerges: *interpersonal relationships make a difference*. No matter how mental health is measured and no matter what interpersonal relationship is the focus, adolescents with positive interpersonal relationships tend to fare better in terms of mental health. At home, ease of communicating with father and with mother, having relatively few arguments with parents, and sitting down to eat as a family are all linked with improved mental health. At school, crucial elements related to mental health include: academic achievement, school climate, teacher support, and peer support. With peers, engaging in positive activities is a protective factor for mental health, while engaging in negative activities is a risk factor. Ease of talking to friends proves a “double-edged sword,” with positive connections to emotional problems but negative connections to behavioural problems.

Perhaps surprisingly, structural features of environments seem to matter far less than the relationships within these environments. The negative implications of not living with both parents (once socio-economic status is controlled statistically), for example, are minimal. The presence of recreational facilities and parks in the neighbourhoods surrounding schools likewise has no consistent connection with any of the mental health outcomes, positive or negative, internalizing or externalizing.

Key report finding

When it comes to mental health outcomes in young people, interpersonal relationships make a difference.

Is there a dominant environment with respect to mental health, one environment where policy measures should be concentrated? Many youth at the workshop thought home was the most critical for fostering mental health. However, the youth who stood in the middle and declared that all environments shared responsibility in helping shape adolescents are probably more closely aligned with current research. As Mueller (2009) states, “adolescents, both gifted and non-gifted, benefit from strong and healthy attachments to those close to them, including friends, family, and teachers”. A comprehensive approach to mental health needs to target all three groups.

The HBSC youth engagement workshop

The HBSC Youth Engagement Workshop represents an advance in the process used for the development of the national HBSC report. The insights that were provided by young people, who participated with both passion and clarity, provide additional substance to the statistics that form the main body of this document. The chapter authors have attempted to respect these students' thoughts and insights, by integrating both essential commentaries that emerged from discussions, as well as direct quotations from workshop participants. The latter were included to highlight the key themes that emerged from workshop proceedings.

The efforts made to integrate the perspectives of young people directly into this report were driven by a philosophy that the opinions and insights of youth matter. *The United Nations Convention on the Rights of the Child* supports this idea. In Article 12, the Convention states that countries shall “assure to the child who is capable of forming his or her own views, the right to express those views freely in all matters affecting the child” (UNICEF, 1999). Inclusion of the opinions of young people in this report is in keeping with the spirit of this convention.

Key report finding

Children have the right to be heard on issues that affect them, and adults should take these opinions seriously.

How one approaches the process of obtaining such opinions and insights is also important. The Directors and staff at the *Students Commission* are well versed in this science, and provided both vision and leadership for the national workshop. The report authors are indebted to these professionals and this Centre, as well as the young people who gave of their time and talents to assist with this important process.



Conclusion

The 2010 HBSC Study involved a national survey of over 26,000 young Canadians. As well as providing contemporary estimates of a wide variety of indicators of health behaviours and health experiences among young people, the 2010 cycle developed a unique focus on mental health outcomes.

Findings from this report fill a recognized void in the Canadian adolescent health literature, in that they provide novel information about mental health and its correlates in a robust sample of young people from across the country.

The development of interventions, at both the population level and the individual level, to address leading health issues in Canadian youth requires reliable evidence. The HBSC Study represents one potential source for such basic evidence. With its general focus on the current health status of young people, and its specific focus on mental health, it is hoped that this sixth Canadian HBSC report adds concrete knowledge that will assist in the planning of health promotion efforts.

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