Health Behaviour
in **School-aged Children**
(HBSC) in Canada

FOCUS ON
RELATIONSHIPS

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Public Health
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Foreword

We are pleased to present the 2014 National Report, *Health Behaviour in School-aged Children (HBSC) in Canada: A Focus on Relationships*, a national survey that is entering its 26th year in Canada.
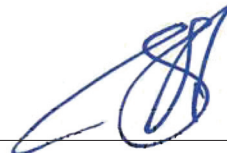
Healthy relationships are key in the transition to adulthood, in developing resiliency, and in protecting against illness. The 2014 Report examines how family support, school climate, community, and peer support influence youth health outcomes. Promoting healthy relationships is linked to children's positive development in terms of physical, emotional, behavioural, and cognitive competencies – all of which underpin the overall wellbeing of youth.

This is consistent with the Public Health Agency of Canada's mission to promote and protect the health of Canadians through leadership, partnership, innovation, and action in public health.

We would like to extend our deepest gratitude to school administrators and teachers across Canada, and above all, to the over 29,000 young Canadians who contributed their views and insights to make this survey possible. As a result of this valuable evidence, we will be supporting a brighter, healthier future for all children in Canada.

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President

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Acknowledgements

Executive Summary

THE 2014 SURVEY

The Health Behaviour in School-aged Children (HBSC) study is a continuing cross-national research project conducted in collaboration with the World Health Organization Regional Office for Europe. Its aim is to contribute new knowledge about health, well-being, and associated behaviours among young people aged 11-15 years. In 2014, the 7th cycle of HBSC in Canada, the student survey was administered to 29,784 young people in 377 Canadian schools.

HBSC in Canada is unique because of its particular focus on early adolescence, a stage of development that is not covered in detail by other Canadian surveys. HBSC has also evolved over recent years to represent a very unique collaboration and research opportunity. Its research team is intentional about honouring the student voice in survey development and the interpretation of study findings. The study team draws on the considerable expertise of a wide range of Canadian academics, policy makers, health and educational professionals, and youth.

The 2014 Report differs from the previous 2010 Report in three significant respects. First, unlike the previous report, in which no young people from New Brunswick and Prince Edward Island participated, this survey includes data from all 10 Canadian provinces and all three Canadian territories. Second, this report includes information about a broader range of topics, such as sleep health, spiritual health, use of social media, and chronic conditions. Finally, whereas the previous report focused on mental health, the 2014 Report uses support from contexts (home, school, peers, and community) as its lens to answer the question: Do relationships matter? (The answer certainly appears to be yes.)

This executive summary is organized around 18 key findings. The first four findings (#1-#4) concern the relationships of the four types of support to health outcomes, the theme of the 2014 Report. The next four findings (#5-#8) relate to the four contexts themselves. The final 10 findings (#9-#18) relate to health behaviours and outcomes, one key finding per each of Chapters 6-15 finding aligned exactly with the title of the chapter. Key findings may represent areas of concern, encouraging findings, a synthesis across the two, or interesting data patterns.

KEY FINDINGS: SUPPORTS

Key Finding #1: Family Support

Family support was critical for better health outcomes.

With the exception of reports of serious injury and of drinking non-diet soft drinks, where there was no relationship, students with positive outcomes were more likely to be in the high family support group. Family support was most strongly related to spiritual health and life satisfaction, with students with better spiritual health and greater life satisfaction being much more likely to be in the high family support group.

Key Finding #2: School Climate

School climate was particularly important for reducing bullying and fighting among adolescents.

School climate correlated to all evaluated outcomes, with the exception of physical activity for boys and BMI for both genders, such that students with positive outcomes were more likely to be in the high school climate group. School climate was most strongly related to bullying and fighting and more strongly related to these outcomes than were any of the other three contexts. There was a high representation of students who reported never having been bullied nor having bullied others and never having been in a fight during the past year in the high school climate group.

Key Finding #3: Friend Support

The nature of friend support may be more important than the level of friend support.

The effect of friend support on healthy outcomes was complicated. Students who engaged in more positive health behaviours, felt better about themselves and were more spiritually healthy were more likely to be in the high friend support group. However, friend support had mixed and gender-differentiated relationships with negative health behaviours. These findings suggest that the type of friends may well be key in determining the effects of friend support. Friends who engage in risky health behaviours can still provide support but might also increase the likelihood of young people engaging in those same behaviours.

Key Finding #4: Community Support

Community support had consistent but relatively weak associations with positive health outcomes.

Community support had consistent associations with positive health outcomes. These relationships tended to be weaker than those between family support and health outcomes and those between school climate and health outcomes. The associations also extended over a narrower range of health outcomes than those of family support and school climate, but a broader range than those of friend support.

Summary of Key Findings on Support

While all four types of support tended to have connections to a range of health outcomes, the strength and breadth of the connections varied across supports. While family support tended to be most strongly related to health outcomes, particularly those outcomes related to mental and spiritual health, school climate had the greatest range of outcomes. Community support was generally a weaker predictor of health outcomes than either family support or school climate. Friend support was the most complicated, linking to positive health outcomes as expected but not as a deterrent to risky health behaviours.

KEY FINDINGS: CONTEXTS

Key Finding #5: Home and Family

Boys reported greater ease in communicating with their parents than did girls.

While greater than two thirds of all students reported that they could talk about important things with their family, boys were more likely than girls to report this finding. Grade 6-8 students, regardless of gender, generally found it easy or very easy to talk to their mother (by grade level, this level of ease was reported by three quarters or more of both boys and girls). In the older grades, boys consistently reported greater ease of communicating with their mother (e.g., for Grade 10 students: 73% boys; 68% girls) as well as with their father (e.g., 62% boys; 48% girls).

Key Finding #6: School

Young people in Canada reported positively about their school experience.

Across grades, the majority of children reported positive perceptions about their teachers. Almost 80% of Grade 6 students, three quarters of Grade 7 students, and two thirds of Grade 8 students agreed or strongly agreed that their teachers cared about them as a person. Similarly, students reported high levels of academic support from their teachers. Over 80% of students felt that they could get help from their teachers when needed. Nearly three quarters of Grade 6-8 students reported their school was a nice place to be. Almost two thirds of Grade 9-10 boys, and three fifths of Grade 9-10 girls agreed or strongly agreed about their school being a nice place.

Key Finding #7: Peers

The majority of Canadian youth reported high levels of support from friends.

Regardless of age, on average, two thirds of boys and three quarters of girls were happy with the support that they received from their friends. Similarly, most Canadian adolescents were able to count on their friends in times of need, and had friends with whom they could talk about their problems and share their joys and sorrows. By Grade 10, approximately two thirds of students reported ease of communication with opposite-sex friends.

Key Finding #8: Community

Reported distrust of neighbourhoods has increased in some groups over the last several cycles of HBSC, especially among girls.

Descriptions of neighbourhoods as being untrustworthy have increased in some groups over the last several cycles of HBSC, with about 1 in 6 young people reporting that most people in their neighbourhood would try to take advantage of them if they had the chance. In 2014, boys (e.g., 21% in Grade 10) reported this feeling more often than did girls (e.g., 16% in Grade 10). Among girls, the percentage of students who reported such neighbourhood distrust increased for all grade levels between 2002 and 2014. Among boys, this increase was most evident for Grade 10 boys between 2006 and 2014.

KEY FINDINGS: HEALTH BEHAVIOURS AND OUTCOMES

Key Finding #9: Physical Activity and Sedentary Behaviour

Only a minority of young people met the Canadian guidelines for physical activity and sedentary behaviours.

There were few students, irrespective of grade and gender, who reported getting enough physical activity to satisfy the physical activity recommendations for health benefit of 60 minutes of moderate to vigorous physical activity every day of the week. Overall, only 1 in 5 young Canadians met these guidelines. With respect to sedentary behaviour, only 1 in 10 adolescents adhered to Canadian sedentary behaviour guidelines of less than 2 hours per day of screen time for recreational purposes. These evidence-based guidelines were established to help parents, clinicians, educators, and young people to achieve a lifestyle where the risks for obesity and associated chronic disease are minimized. Failure to meet these guidelines consistently is an important public health concern.

Key Finding #10: Sleep Health

Most young people reported that they received sufficient sleep.

For the first time in the history of the HBSC in Canada, data on durations and quality of sleep were collected. Reported sleep durations were mainly consistent with the guidelines of the National Sleep Foundation in the United States of 9-11 hours per night for those in Grade 8 and lower, and 8-10 hours per night for older grades. Across grades, the average reported nightly sleep duration fell within these recommended ranges for 64%-78% of boys and 65%-82% of girls, with a further 17%-26% of boys and 13%-24% of girls with reported sleep durations that might be appropriate.

Key Finding #11: Healthy Eating

While some concerning dietary habits were reported, there were also some positive findings with respect to healthy eating.

Almost half (46%) of boys and more than one third (37%) of girls reported eating neither vegetables nor fruits once per day or more, while 34% of boys and 42% of girls reported eating both fruits and vegetables once per day or more. Some of these behaviours may be attributable to the food environments that surround young people and the availability and affordability of fruits and vegetables. More positively, reports of soft drink and candy consumption have decreased over time, and reported daily consumption of potato chips, diet soft drinks, and energy drinks was quite low. This lower frequency of consumption was consistent with the Canada Food Guide recommendations on reducing the intake of foods high in fats, sugar, sodium, or calories.

Key Finding #12: Healthy Weights

The epidemic of overweight and obesity is not declining in young Canadians.

Approximately 1 in 3 boys and approximately 1 in 4 girls were classified as overweight or obese by Body Mass Index (BMI; calculated from self-reported height and weight). Up to 23% of girls and 10% of boys were, or thought they should be, on a diet to lose weight. The percentage of young people who perceived that their body was too fat remained quite stable from 2002 to 2014. Despite ongoing public health efforts, the prevalence of youth obesity, and the behaviours and feelings surrounding it, remain high and have increased over time.

Key Finding #13: Injury

Injury prevention initiatives need to reflect the number of injuries, the activity of the injury, and associated preventive measures.

Almost half of all students in Canada, across grade levels and genders, reported being injured at least once in the past 12 months and needing treatment from a doctor or nurse. However, more individuals were injured playing or training for a sport (e.g., 57% of boys, 54% of girls in Grade 10) than in any other activity. Therefore, one way to reduce injuries would be through restricting access to sports, which would reduce the positive effects of physical activity. A better approach would be to view the activities associated with some injury events as positive, and therefore to increase safety while participating in such activities. Yet only a minority of Canadian youth who cycled reported wearing a helmet most of the time or always when riding a bicycle. Of the students who reported riding other vehicles (e.g., snowmobile, ATV, dirt bike), approximately one third of all students, and close to 40% of Grade 9-10 students, reported they sometimes or never wore a helmet when doing these activities. There is a need for a balanced approach to this health promotion challenge.

Key Finding #14: Mental Health

Grade 9-10 girls reported more negatively on mental and emotional health outcomes across all measures than other groups.

Under half (e.g., Grade 9, 45%; Grade 10, 43%) of older girls rated their life satisfaction as 8 or higher on a 0 to 10 scale, and one quarter of them rated their life as 5 or below on this scale. Grade 9-10 girls had the lowest self-confidence of all groups, with only 12% of Grade 10 girls reporting high self-confidence, and the lowest energy, and only about one quarter reporting they were full of energy. Grade 9-10 girls reported experiencing the most psychosomatic symptoms and emotional problems, with about half of Grade 9-10 girls in the high psychosomatic symptoms group and in the high emotional problems group. More than 40% of Grade 9-10 girls reported wishing they were someone else. Findings underscore the continued importance of addressing the mental health and emotional well-being of young people, especially Grade 9-10 girls.

Key Finding #15: Spiritual Health

Spiritual health was strongly related to grade level of students.

Across the total score and all four domains (connections to others, self, nature, and the transcendent), girls were more likely to see spiritual health as important to them than were boys. What was striking was the large decrease in spiritual health as children aged. The drop was particularly large for overall spiritual health (e.g., 26% drop for boys; 29% drop for girls), connections to nature (e.g., 24% drop for boys; 26% drop for girls), and connections to the transcendent (e.g., 19% drop for boys; 26% drop for girls). Young people who reported high spiritual health also reported many positive health outcomes, educational outcomes, and relational outcomes relative to those with lower levels of spiritual health.

Key Finding #16: Substance Use

Reported declines in some substance use behaviours were encouraging.

Cannabis rates were at their lowest levels ever reported among students over the past 20 years, with 23% of Grade 9-10 boys and girls in 2014 reporting ever having tried cannabis, compared to 40% and 37% respectively in 2010. The continuing decline of cigarette smoking among young people in Canada is good news. Continued declines in the rates of beer drinking and drunkenness were also notable, as was the very low prevalence of use of other illicit drugs such as ecstasy, cocaine, and heroin. The emergence of E-cigarettes as a new phenomenon is concerning, as 26% of boys and 21% of girls in Grade 10 reported ever using this substance during their lifetime.

Key Finding #17: Sexual Health

While the majority of Grade 9-10 students reported not engaging in sexual intercourse, some reported higher-risk sexual activities.

Questions on sexual health were asked of Grade 9-10 students only. The majority of young people in Grade 10 reported that they had not yet had sexual intercourse. Young people also appeared to be waiting longer to have sexual intercourse than was reported in previous cycles of HBSC. However, of the students who reported having had sexual intercourse, approximately one fifth reported not using any form of contraception the last time that they had sexual intercourse, putting them at risk for unintended pregnancy or sexually transmitted infections.

Key Finding #18: Bullying and Fighting

There has been a decreased prevalence of bullying and physical fighting among young people in Canada since 2010.

The percentage of students who reported being neither bullied nor bullying others increased from 65% in 2010 to 70% in 2014 with a corresponding decrease in the percentages who reported both bullying others and being bullied from 8% to 5%. Similarly, the percentage of students who reported being involved in a physical fight during the past 12 months decreased from 2010 to 2014 across all grade levels and for both genders.

Chapter 1

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Introduction

THE HBSC SURVEY

Health Behaviour in School-aged Children (HBSC) is a cross-national research study conducted in collaboration with the World Health Organization (WHO) internationally, and with the Public Health Agency of Canada (PHAC) nationally. These collaborations, nationally and internationally, ensure that the information generated from findings are widely disseminated and utilized.

HBSC examines youth's (ages 11-15) health and health behaviours through a population health theory theoretical lens. Such a lens considers both individual and collective factors and conditions within broadly defined determinants of health (Public Health Agency of Canada [PHAC], 2013). Among youth, these environmental determinants include their home life, school life, peer groups, neighbourhood settings, socioeconomic status, and health and risk behaviours.

Researchers from three European countries initially administered HBSC in 1982. Canada has participated since 1990 (2014 is our country's seventh cycle of participation). Since this time, the international research network has expanded to include 44 participating countries and regions. Each country has a research team with Principal Investigator(s) and their interdisciplinary research teams. In Canada, the research team currently consists of nine independent scientists, the Canadian project manager and project staff, and professional colleagues from the PHAC, the pan-Canadian Joint Consortium for School Health (JCSH), and provincial and territorial Ministries. What originally started with a research team based completely at Queen's University has grown to include professional colleagues at McGill University, the University of British Columbia, and the University of New Brunswick, with plans for continued research network development over the coming years.

Data from the study provide research opportunities for numerous programs of research and student training opportunities. These nationally and internationally recognized programs of research focus on such issues as school health, bullying, violence and injuries, obesity and physical activity, socio-economic determinants of health, and holistic models of health. Canadian members of HBSC are active contributors to international publications and to international reports that are published under the auspices of WHO Europe. They hold prominent roles in the study's management and are key contributors to its ongoing evolution.

HBSC researchers use the broadest concept of health for youth, encompassing physical, social, emotional, and, new in this cycle, spiritual dimensions. Along with the standard and accepted definitions, health is viewed as a resource for daily living, and not solely the absence of disease. Thus, HBSC investigates the positive aspects of health, in addition to the potential long term health risk factors for future health and disease. This focus on the positive is informed by assets-based approaches to adolescent health research (Brooks & Kendall, 2013), whereby factors that both positively and negatively affect youth populations are systematically investigated.

The HBSC survey is conducted every four years using a common research protocol, which is developed and approved by the International Assembly of Principal Investigators, including a representative from the Canadian HBSC Team. By collecting common indicators of adolescent health across multiple nations and distributing the survey every four years, health behaviours for youth can be compared internationally, within nations, and over time. All country members contribute to the development of the study within their areas of expertise, with cross-discipline collaboration and sharing of skills strongly encouraged. In Canada, the protocol and associated questions asked of Canadian students are developed through a broad-based consultation model alongside PHAC, the JCSH, provincial and territorial Ministries, and individual research teams. Canadian HBSC team members support research initiatives of the JCSH and participate in public education activities.

PURPOSE AND OBJECTIVES OF HBSC

The main purposes of HBSC are to understand youth's health and well-being and to inform education and health policy and health promotion programs at provincial/territorial, national, and international levels.

As well as providing contemporary data on the health and health behaviours of young people in Canada, the report thematically addresses the importance of relationships in their lives as possible determinants of health.

The objectives of the HBSC network have been developed more broadly over the 30-year course of the study through collaboration between Canadian and HBSC international researchers and policymakers. They are:

- to initiate and sustain national and international research on health behaviour, health and well-being, and their social and physical contexts in school-aged children;
- to contribute to theoretical, conceptual, and methodological development in specific areas of adolescent health research;
- to contribute to the knowledge base in these research areas;
- to monitor and compare health and health behaviours and social and physical contexts of school-aged children in member countries through the collection of relevant data;
- to disseminate findings to the relevant audiences including researchers, health and education policy makers, health promotion practitioners, teachers, parents, and young people;
- to develop partnerships with relevant external agencies in relation to adolescent health to support the development of health promotion with school-aged children. (This development occurs at provincial/territorial, national, and international levels);
- to promote and support the establishment of national expertise on health behaviour and on the social and environmental contexts of health in school-aged children;
- to establish and strengthen a multi-disciplinary international network of experts in this field;
- to provide an international source of expertise on adolescent health for public health and health education.

METHODS

The Student Questionnaire

The student questionnaire represents the core source of information in the HBSC survey. Questionnaires were administered to school classes, typically by teachers, and were filled out by individual students during one 45-70 minute classroom session.

In Canada, schools chose to complete the survey either using pen and paper or as a web-based online survey. 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 closed-ended response option to the question. There were three sets of items that comprised our national questionnaire; 1) mandatory items that all HBSC countries used and were developed in a collaborative fashion by members of the international network and ratified at semi-annual research meetings of the research network; 2) optional items that examined particular aspects of adolescent health, each used by only some of the participating countries, developed or adapted from other sources by international topic area experts; and 3) additional items developed or adapted specifically for the Canadian survey, including some that were supplied by our key project sponsors (PHAC and the JCSH). There was one version of the questionnaire for Grade 6, 7, and 8 students, and a second longer version for Grade 9 and 10 students.

The researchers were granted ethics clearance for the study by Research Ethics Boards from both Queen's University and PHAC/Health Canada. After ethical approval at Queen's University and PHAC/Health Canada, three levels of consent were required before a student could participate in the HBSC survey. At the first level, the researchers requested permission from the school jurisdictions to invite the sampled schools and students to participate. At the second level, school principals at the sampled schools were asked to participate. At the third level, the researchers obtained either active parent consent (students were required to return a signed consent form to participate) or passive parent consent (students were permitted to participate if they did not return the parent consent form indicating that the parents refused permission to participate). As per the ethics agreements at Queen's University and PHAC/Health Canada, the participating school jurisdictions and schools selected the consent type that was consistent with their practices. Students were given instructions for completing the questionnaires at the beginning of the session. They completed the surveys individually at their own pace. For pen-and-paper surveys, student anonymity was protected by having students seal their unsigned surveys in privacy envelopes. Surveys submitted online through the web-based survey were completely anonymous as well.
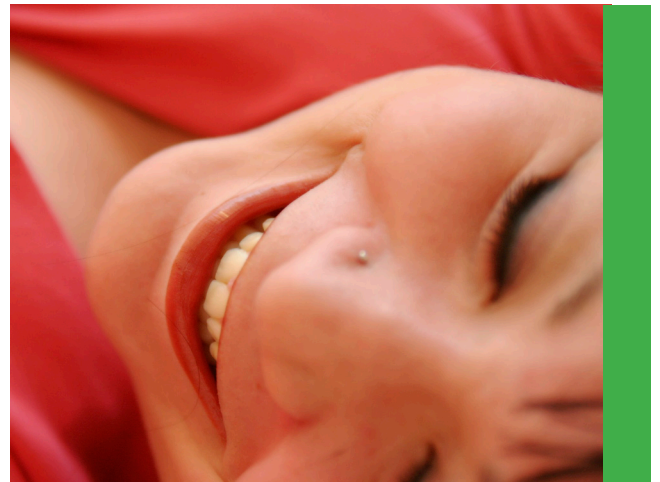
The Sample

The Canadian HBSC sample targeted both a national weighted representative sample and, for some provinces and territories, a representative sample within those jurisdictions. For most provinces, a two-stage cluster sampling approach was used. At the first stage, school jurisdictions were identified and ordered on the sampling list according to key characteristics: language of instruction, public/Roman Catholic designation (where applicable), and community size. A list of schools within eligible and consenting school jurisdictions was created, and then schools in the sample were selected randomly for study from this list. The number of classes in specific schools was estimated based on the grades in the school, the number of teachers, the total

enrolment, and the enrolment by grade, while accounting for known variations in class structure. Classes had an approximately equal chance of being selected. Administrators at most selected schools were asked to have two classes at each of the selected grades participate. In some of the provinces and territories with larger samples relative to the overall student populations (e.g., Prince Edward Island), all students at selected schools within the targeted grade levels were invited to participate. In the three Territories, all schools and students were invited to participate. Private and special schools, including on-reserve schools, were not included in the study sample to maintain consistency with past survey cycles.

Student participation was influenced by a number of factors. Failure to return parent consent forms was the largest contributing factor. Additionally, some students declined to participate or spoiled their questionnaires intentionally. For the remaining non-participants, failure to receive parental consent and absence on the day of survey administration were the most common reasons for non-participation. The 2014 HBSC survey was administered in 377 Canadian schools. **Table 1.1** provides details surrounding the national sample of 29,784 students. **Table 1.2** further describes the number of participating schools and students across the provinces and territories. The overall student participation rate based upon summary forms provided by teachers of participating classes, was estimated at 77%.

Table 1.1 Breakdown of the National sample, by gender and grade					
	Grade 6	**Grade 7**	**Grade 8**	**Grade 9**	**Grade 10**
Boys	2260 (49.5%)	2909 (50.2%)	2817 (48.4%)	3462 (49.8%)	3178 (48.8%)
Girls	2305 (50.5%)	2883 (49.8%)	3000 (51.6%)	3485 (50.2%)	3329 (51.2%)
TOTAL	**4565**	**5792**	**5817**	**6947**	**6516**

Table 1.2 Schools and Students in the National Sample, by Province and Territory				
	Schools		**Students**	
British Columbia	19	(5.0%)	1120	(3.8%)
Alberta	33	(8.8%)	4462	(15.0%)
Saskatchewan	57	(15.1%)	4722	(15.9%)
Manitoba	8	(2.1%)	652	(2.2%)
Ontario	81	(21.2%)	5888	(19.8%)
Quebec	20	(5.3%)	1531	(5.1%)
New Brunswick	2	(0.5%)	316	(1.1%)
Nova Scotia	21	(5.6%)	2234	(7.5%)
Newfoundland and Labrador	21	(5.6%)	2120	(7.1%)
Prince Edward Island	25	(6.6%)	3211	(10.8%)
Yukon	33	(9.4%)	1316	(4.4%)
Northwest Territories	39	(10.3%)	1687	(5.7%)
Nunavut	18	(4.8%)	525	(1.8%)
TOTAL	**377**	**(100%)**	**29,784**	**(100%)**

STATISTICAL NOTES

Presentation of Key Findings

The majority of survey estimates presented in this national report are proportions that are shown in simple bar-chart or line-graph formats. Most often, these charts and graphs are broken down by gender and grade level (Grades 6 through 10). With respect to the presentation of trends, the sample included only Grades 6, 8, and 10 in the first two cycles of the study (1990 and 1994). The decision to show only these grades in trends data was based on maintaining consistency across presentations of trends including those survey years and those years outside of the study. Additionally, using five grade levels in trends makes the lines more difficult to read. With respect to proportions, the data from a single response category (or combination of response categories) are typically presented.

Confidence Intervals and Tests of Statistical Inference

This report was written for a broad audience that included people with and without formal statistical training. Findings are therefore presented in a simple manner that has been agreed to by the HBSC research team in consultation with key stakeholders. Within the broad audience that will read this report, there is a segment that would want a more sophisticated statistical approach. This audience would typically expect, for example, that confidence intervals (CIs) that adjusted for the nested and clustered nature of the sampling scheme could be provided for each of the survey estimates. Alternatively, a series of p-values from statistical tests (e.g., chi-square, Fisher's exact, regression derived) could be presented to summarize the statistical significance of group comparisons and trends over time for that audience. However, given that our intended readership includes a wide range of stakeholders, coupled with our experience in disseminating previous HBSC findings to multiple audiences, we have decided to include neither of these statistical possibilities within the body of this report. If a reader is particularly interested in these more refined estimates and statistical tests for specific results of interest, the authorship team can provide them, upon request.

Sample Size Considerations

The overall 2014 sample (n=29,784) and subsamples (e.g., n=2000 or more for each grade/gender strata) are each very large. The vast majority of estimates in this report are thus very precise. Confidence intervals for most estimates (stratified by grade and gender) are within plus or minus two percentage points, and differences between groups would be statistically significant (p<0.05) if they were three percent or greater. The writing in this report reflects this understanding, while avoiding terminology (e.g, statistically significant) that would indicate a specific statistical test had been undertaken.

Composite Measures

Several composite measures (scales) have been used in this report. Four of these scales pertain to the key relationships related to the theme of the report: parent support, school climate, friend support, and community support. Definitions of the four scales can be found in Chapters 2 to 5. Additionally, the four relationship scales can be referenced together in Appendix A. In addition to these four measures, 11 other composite measures are introduced throughout the report: family communication, teacher support, student support, positive peer group activities, risky peer group activities, participation in community groups and activities, sedentary screen time, emotional problems, psychosomatic symptoms, prosocial behaviour, and spiritual health. These scales have often been used in other settings. Their suitability for use within the 2014 HBSC sample was confirmed using factor analytical methods followed by reliability analyses, as indicated from the full dataset. Psychometric properties of the scales are presented when they are introduced within individual chapters.

Semi-continuous measures have been created by taking the mean of several items, or summing up the responses from several items. These raw scale scores have then been collapsed into three approximately equal categories (e.g., low, medium, high) for ease of presentation. These resulting measures are based on relative

rather than absolute numbers; thus those individuals in the "low" category are simply the lowest "third" of students for that specific scale in relative terms. One exception to this rule is the sedentary behaviour measure, which was calculated as the average daily screen time summed across three specific screen time measures and reported in real time spent in hours per day.

Relationships with Contextual Indicators

The major theme of this report is that relationships matter to the health of young Canadians. Chapters 2 through 5 introduce findings specific to four key contexts (home, school, peers, and community). They also identify the key measures and scales used to examine relationships in subsequent chapters. In each of the remaining chapters of the report, there is a section that explores relationships between the focus of the chapter and selected key measures (parent support, school climate, friend support, and community support). The analytical approach is entirely descriptive. In general, for ease and clarity of presentation, we report on the "high" category of each of the key measures of context relative to the outcome or behaviour variable of interest. These bivariate or stratified analyses are not adjusted for known confounders beyond stratification by age and gender.

A potential complication surrounding the interpretation of the results is the issue of causality. While the information presented provides the reader with the understanding of a potential relationship between variables, whether a low or high score on one of the four key measures of context causes changes in the health behaviours or outcomes, or vice versa, cannot be made clear, given the cross-sectional nature of the data. Likely there is reciprocal causation with regards to health behaviours and the contextual indicators, and therefore a more in-depth and multi-faceted approach to the issue would be required to examine and understand the relationship between variables in more detail. Such an analysis is beyond the scope of the present report.

ORGANIZATION OF THE REPORT

This report focuses on relationships, specifically those reported within home, school, peers, and community, and how these relationships are connected to health and health behaviours. Chapters 2 through 5 introduce findings specific to these four contexts, and identify the key measures used to examine relationships in subsequent chapters. Chapters 6 through 15 are organized conceptually around topics that remain prominent public health issues for young people in Canada: physical activity (Chapter 6), sleep health (Chapter 7), healthy eating (Chapter 8), healthy weights (Chapter 9), injury (Chapter 10), mental health (Chapter 11), spiritual health (Chapter 12), substance use (Chapter 13), sexual health (Chapter 14), and bullying and fighting (Chapter 15). The items related to participation in team and individual sports are of equal importance to more than one topic area and are therefore reported in more than one chapter. Realizing that many readers read one chapter based on their area of interest, we made the decision to cover the items in more than one place in the report. Each of these chapters contains an introduction to the topic, a statistical review of health measures, a brief summary of how selected variables relate to the four relationship indicators, a list of areas of concern and encouraging findings, and a summary and implications section. Chapter 16 provides a summary of the core messages that emerged from this national analysis [Note: the terms "youth", "adolescent" and "young person" are used interchangeably throughout the report].

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Chapter 2

Colleen Davison

Home and Family

THE IMPORTANCE OF UNDERSTANDING THE HOME AND FAMILY SETTING

Children learn and develop values, norms, and behaviours based on those modeled, taught, and enforced within the family environment. The home and family setting comprises a combination of social and physical factors that exist within the environments where young people live with their families. Canadian families have diverse structures with some young people having more than one place they consider home. For the purpose of this report, family relationships are characterized by relationships between young people and their parents, step-parents or guardians, and although the family dynamic includes siblings and others in the home, these relationships are not the focus of this chapter.

The relationships young people have in the home and family begin at birth and influence health in many ways as growth and development occurs. Early childhood social and physical environmental exposures are some of the key determinants of health (Pungello et al., 2010). Research has linked negative aspects of home environments in early childhood to poorer language development, deficits in school readiness, aggression, anxiety, depression and later behaviour problems (Trentacosta et al., 2008). Later, social and physical environmental factors at home have been associated with high school graduation rates, teen parenthood, obesity levels, substance use, and even subsequent levels of adult income and employment (Duncan, Ziol-Guest, & Kalil, 2010; Gable & Lutz, 2000; Pungello et al., 2010).

As a young person enters the teenage years, the focus of relationship development tends to shift in emphasis towards school and peer groups (Berndt, 2004; Collins & Steinberg, 2006). Parent and family relationships, however, remain among the most important influences on a young person's health and well-being. Communication with parents and connectedness with family have been associated with reduced delinquent behaviour, less depression, and fewer negative psychosomatic symptoms in adolescents (Currie et al., 2008). Family connectedness and support from a caring adult are health assets (Steinberg, 2001) and have been shown to help reduce negative health risk behaviours such as the initiation of smoking (Fergus & Zimmerman, 2005). A happy home life, in part characterized by open and respectful communication with parents and siblings, relates to adolescent well-being, higher self-esteem and fewer emotional problems and delinquent behaviours (Gutman & Eccles, 2007). The home and family constitute the most powerful social influences on adolescent development and directly impact health and well-being.

WHAT IS BEING REPORTED IN THIS CHAPTER?

This chapter reports HBSC 2014 data gathered from young people who answered questions about their home and family structure, their satisfaction with family life, the relationships they have with parents, and their experience of family support.

The chapter begins with a focus on overall living arrangements and happiness of home life among Canadian young people. Next, it includes sections on parental relationships emphasizing parental communications, trust, and understanding, as well as parental expectations of young people, and family meal practices. The chapter then moves on to explain the development of parent communication and family support scales that are used here and later in this report as composite measures of communication and support.

Living Arrangements of Canadian Students

Young Canadians do not all have the same kind of family or living arrangement (**Figure 2.1**). There is diversity with respect to the number of settings a child might consider home, and the number and composition of persons in the home and family. More than two thirds of Canadian young people (71%) live in homes with both parents. The remaining youth live in single-family homes (with mother 14%, with father 3%), with a parent and step-parent (8%), or in another kind of arrangement including with grandparents, extended family, friends, or in a foster care situation (4%).

Overall Experience of a Happy Home Life

The majority of Canadian young people reported having a happy home life [**Figure 2.2**] (range 67% - 84%). Consistently, younger students more often reported having a happy home life as compared to older students, and boys reported having a happy home life more often than girls across all grade levels.

2.1 Family Structure (%)

- Living with both parents
- Living with mother and partner
- Living with father and partner
- Living with mother only
- Living with father only
- Other
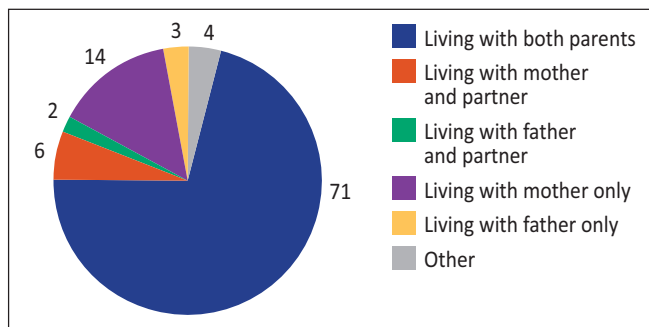
2.2 Students who reported that they had a happy home life, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	83	84	81	76	76
Girls	82	77	72	69	67
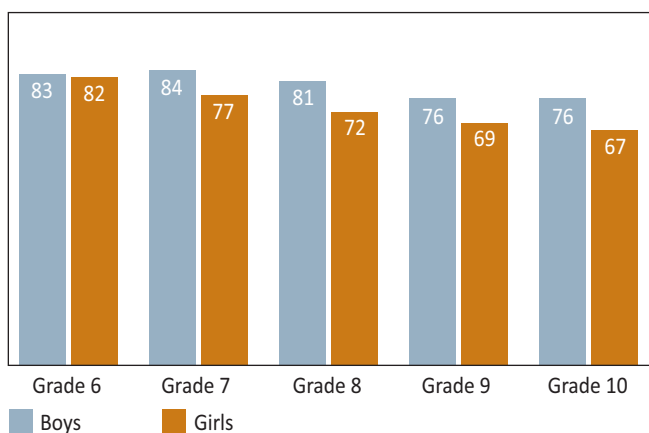
Reports of a happy home life differed by the types of family structures within which the young people lived (**Figure 2.3**). Students who lived with both biological parents reported having a happy home life 84% of the time for boys and 79% for girls. Young people who lived in other kinds of family arrangements, such as with one biological parent and a partner, or in single parent families, reported having a happy home life 66-72% of the time for boys and 50-61% of the time for girls. Overall, girls reported happy home lives less frequently than boys regardless of the family structure.

There was very little difference in the reports of a happy home life from young people born in Canada and young people who had immigrated to Canada (**Figure 2.4**), with one exception. For those young people who immigrated to Canada one to two years before completing the survey, girls more frequently reported having a happy home life (86%) than boys (71%). This is counter to the gender pattern seen in **Figures 2.2** and **2.3** and to those patterns for the other groups of immigrant students who have been in Canada longer.

2.3 Students who reported that they had a happy home life, by family structure and gender (%)

Boys   Girls

2.4 Students who reported that they had a happy home life, by number of years lived in Canada and gender (%)

Boys   Girls

An additional measure of overall satisfaction with home life was whether or not a student reported that he or she wanted to leave home at times (**Figure 2.5**). Girls reported more often that they wanted to leave home as compared to boys, and younger students reported wanting to leave home less often than their older counterparts. Among girls, this age gradient was more pronounced than among boys, with 38% of Grade 10 girls reporting that they wanted to leave home at times.

2.5 Students who reported that they wanted to leave home at times, by grade and gender (%)

Boys   Girls
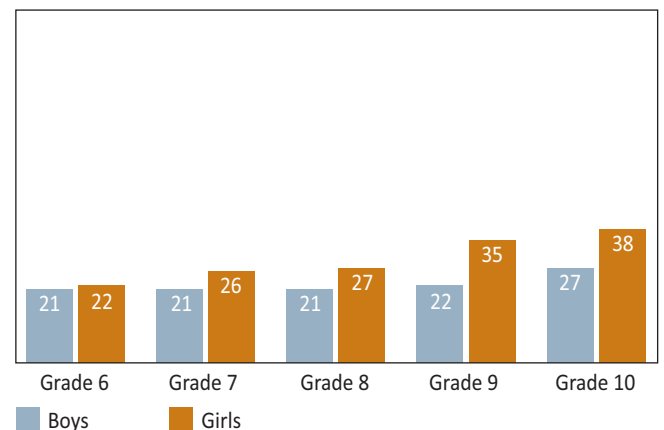
Figure 2.6 illustrates the proportion of students from Grades 6-10 who reported having a lot of arguments with their parents. Arguments generally increased as students got older, and were reported more commonly among girls and their parents than among boys and their parents. Nearly one in every three Grade 10 girls reported that she had a lot of arguments with her parents.

Parental Communication

In addition to the question about arguments with their parents, young people were asked a number of other questions about parental relationships in the HBSC survey. This section highlights findings related to parental communication. **Figures 2.7** and **2.8** report ease of communication with parents (mother

2.6 Students who reported that they had a lot of arguments with their parents, by grade and gender (%)

and father respectively). In both cases, ease of communication decreased as children grew older, for both boys and girls. Overall, between 68%-84% of young people felt that their mother was easy to talk to, while 48%-73% reported the same for their fathers. Boys reported ease of communication with their parents (mother and father) more often than did girls.
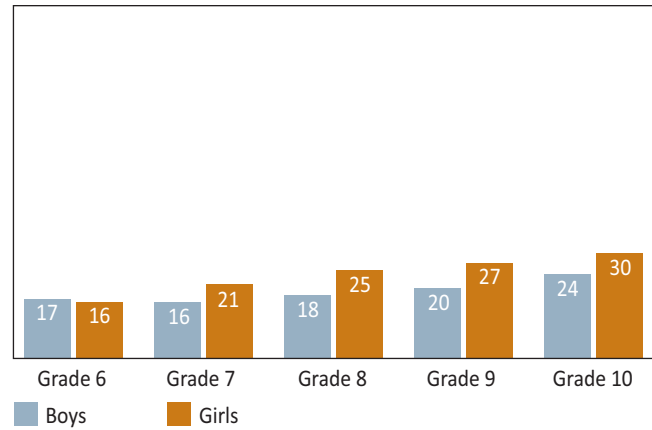
2.7 Students who reported that their mother was easy or very easy to talk to, by grade and gender (%)
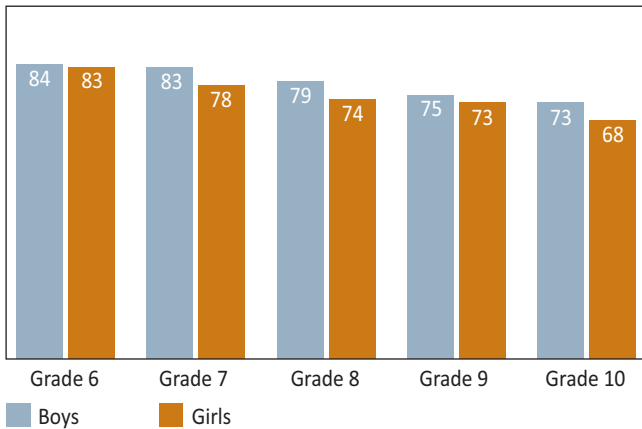
2.8 Students who reported that their father was easy or very easy to talk to, by grade and gender (%)
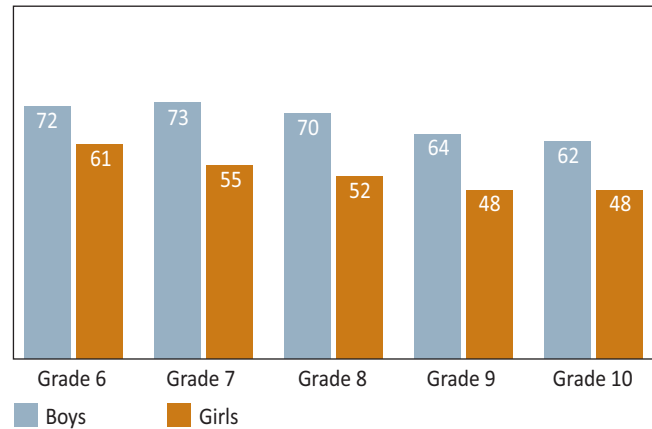
The items that make up the family communications scale are listed in **Table 2.1**. This scale relates to being able to talk about things that young people feel are important to them, having someone to listen, and having relationships where misunderstandings are discussed until clear. The Cronbach's alpha for the family communications scale is 0.87.

Table 2.1 Family Communication	
In my family...	
I think the important things are talked about	1 = Strongly disagree,
When I speak someone listens to what I say	2 = Disagree,
We ask questions when we don't understand each other	3 = Neither agree nor disagree,
When there is a misunderstanding we talk it over until it's clear	4 = Agree, 5 = Strongly agree

Figure 2.9 presents the percentage of students who reported low to high levels of family communication using the four-item scale from Table 2.1. Low, medium and high categories were determined using cut-points at approximately equal tertiles (31.3% low, 37.4% medium, and 31.2% high). Two fifths of the students in Grade 6 were in the high family communication group (41%), while only 31% of students in Grade 8 and 24% of those in Grade 10 were categorized as high on the family communication scale. Differences between genders were minimal.

Figure 2.10 presents the percentage of young people who reported that they felt important things were talked about in their family. This feeling was reported by 79% of boys and 77% of girls in Grade 6 and declined in both genders to 69% of boys and 65% of girls in Grade 10.

2.9 **Percentage of students in the low to high family communication groups, by grade and gender (%)**

Boys / Girls

Grade 6 — Grade 8 — Grade 10

2.10 **Students who reported that they thought important things were talked about in their family, by grade and gender (%)**

Boys / Girls

Figure 2.11 presents the percentage of young people who indicated that they had someone in their family who would listen to them when they spoke. Similar to other family variables, younger students and boys showed higher agreement than did older students and girls.

2.11 **Students who reported that they thought they were listened to in their family when they spoke, by grade and gender (%)**

Boys / Girls
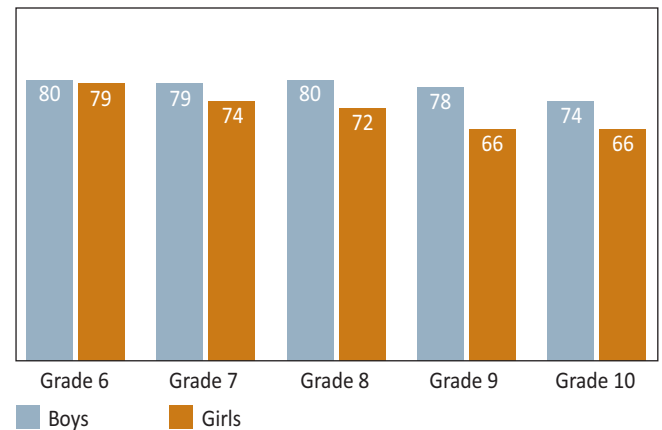
Parental Understanding and Trust

Figure 2.12 reports the proportion of students who felt that they were understood by their parents. Similar to the measure of communication, students' sense of being understood decreased as they grew older. A greater proportion of boys reported feeling understood than girls, across all grades.

We were interested to determine if levels of understanding had changed over time for Canadian adolescents and their parents. **Figures 2.13a** and **b** provide the reported proportion of students in Grades 6, 8, and 10 who felt understood by their parents, drawing from seven cross-sections of data from 1994-2014. Overall, the age differences were consistent, with younger students more commonly reporting being understood as compared to older students. There was an increasing trend from 1994 to 2002 with a leveling or slight decline for this variable after that date.

2.12 Students who reported that they were understood by their parents, by grade and gender (%)
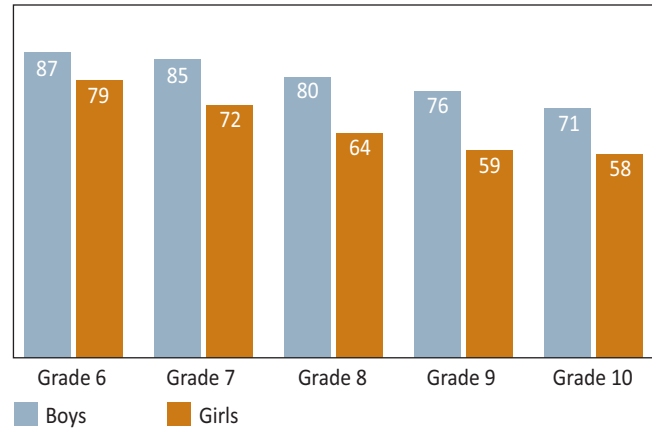
2.13a Boys who reported that they were understood by their parents, by grade and year of survey (%)
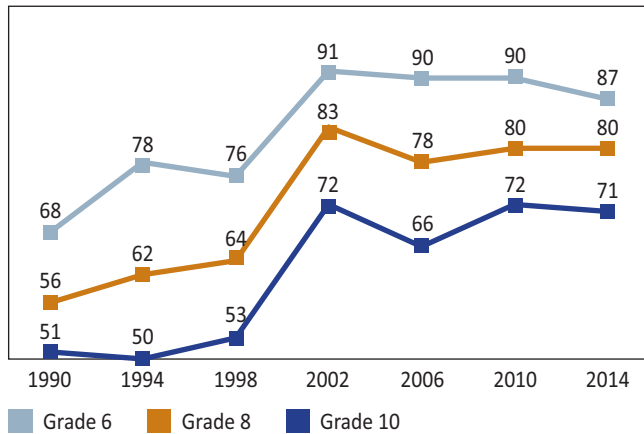
2.13b Girls who reported that they were understood by their parents, by grade and year of survey (%)
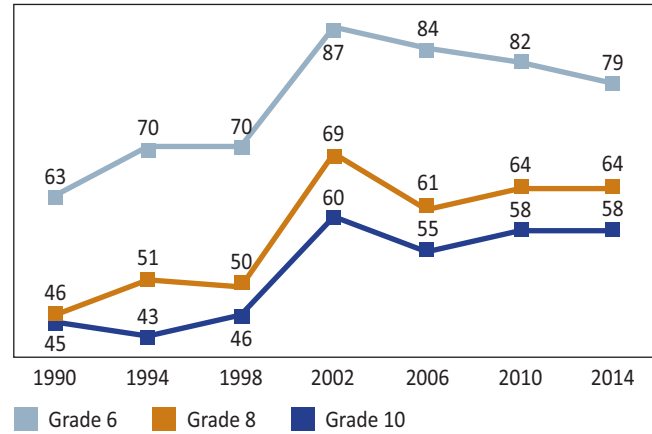
2.14 Students who reported that they were trusted by their parents, by grade and gender (%)
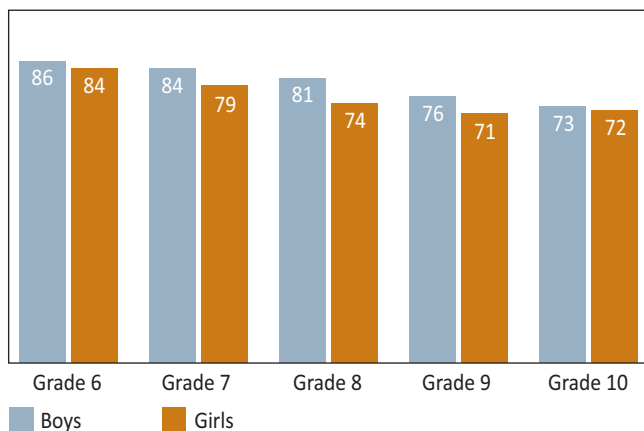
Young people were asked whether they felt their parents trusted them (**Figure 2.14**). In Grade 6, 86% of boys and 84% of girls reported feeling that they were trusted. These levels generally declined for both boys and girls across grades. Overall, boys reported feeling trusted more often than girls at all grades.

Parental opinions and expectations are also important to the relationship between parents and young people. **Figure 2.15** shows the proportion of students by grade and gender who reported that what their parents thought of them was important. The grade and gender differences were less pronounced for this variable than for some others in this section, with very similar results for boys and girls across grades. Seventy-eight percent of Grade 6 boys and 73% of Grade 6 girls reported feeling that what their parents thought of them was important, compared to 64% of Grade 10 boys and 71% of Grade 10 girls. Overall, more than two thirds of students (range 64% to 78%) cared what their parents thought of them.

Figure 2.16 shows the proportion of Canadian young people who felt their parents expected too much of them. This feeling increased as young people got older with 24% of Grade 6 boys and 22% of Grade 6 girls making this report, in comparison to 33% of Grade 10 boys and 34% of Grade 10 girls.

2.15 Students who reported that what their parents thought of them was important, by grade and gender (%)
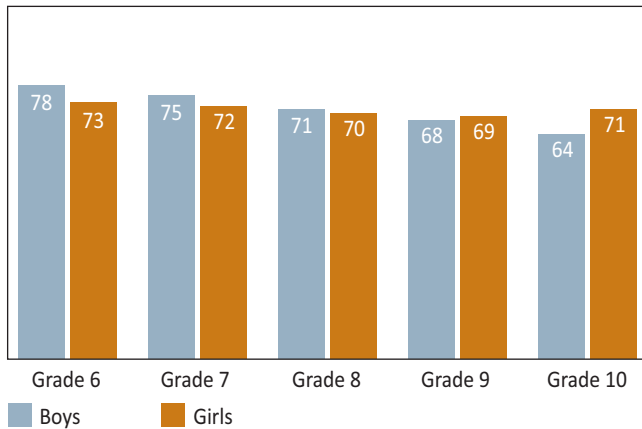
2.16 Students who reported that they thought their parents expected too much of them, by grade and gender (%)
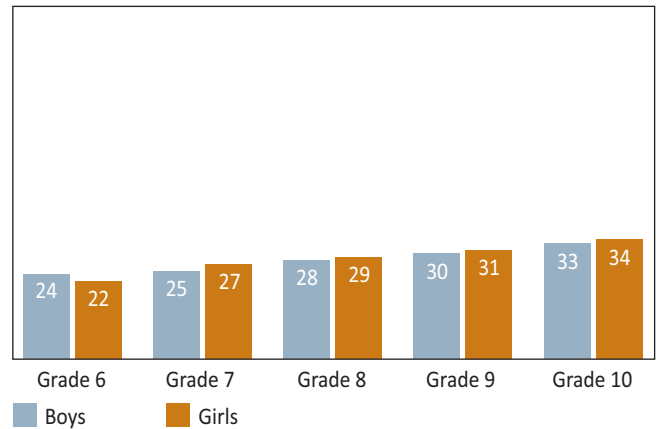
> **"A family eating together promotes healthy living because they are communicating and talking with each other."**
>
> *(Youth focus group participant)*

Family Meal Practices

The practice of eating a meal together can indicate that families are connected and engaged in each other's lives. Meals are opportunities for communication and sharing, as well as building and strengthening relationships. Not all young people ate breakfast with a parent or other adult on a consistent (at least 5 times a week) basis (**Figure 2.17**). Percentages were higher in the younger age groups with 40% of Grade 6 boys and 38% of Grade 6 girls reporting this family meal practice. In contrast, only 19% of boys and 13% of girls in Grade 10 reported that they consistently ate breakfast with a parent or other adult.

2.17 Students who reported that they had breakfast together with their mother or father or other adult family member five or more times per week, by grade and gender (%)
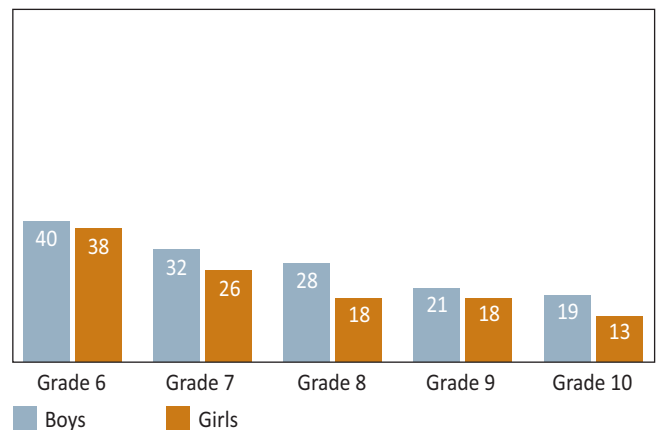
2.18 Students who reported that they had an evening meal together with their mother or father or other adult family member five or more times per week, by grade and gender (%)
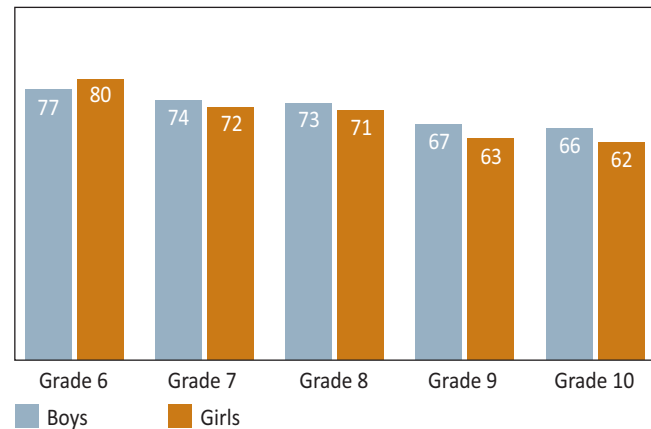
Figure 2.18 shows that young people more consistently ate an evening meal with their family, with this pattern remaining across the grades. Three of every four Grade 6 students said they had their evening meal with a parent or other family member at least 5 times a week (77% among boys, 80% among girls). The majority of students in Grade 10 reported the same, with 66% of boys and 62% of girls eating their evening meals with a parent or other adult.

FAMILY SUPPORT

The home and family setting is a location where young people are able to request, give, and receive social and emotional support. The items that make up the family support scale are listed in **Table 2.2**. These items include having family members who try to help and who offer emotional support when needed, being able to talk to a family member about any problems, and having family members who are willing to help a young person make decisions. The Cronbach's alpha for the family support scale is 0.91.

Table 2.2 Family Support	
My family really tries to help me.	1 = Strongly disagree,
I get the emotional help and support I need from my family.	2 = Disagree,
I can talk about my problems with my family.	3 = Neither agree nor disagree, 4 = Agree,
My family is willing to help me make decisions.	5 = Strongly agree

Figure 2.19 shows the percentage of Canadian young people in the different grades who scored low, medium, or high on this overall family support scale. Cut-points between the categories were decided based on approximately equal tertiles across the distribution (34.5% low, 33.2% medium, and 32.3% high). Family support was affected by grade. Grade 6 students were the least likely to be in the low family

> "My parents will help me learn things and get through life…if I start to go off course, then they put me back in line and set me free again."
>
> *(Youth focus group participant)*

support group and the most likely to be in the high family support group. The opposite was true for Grade 10 students. Gender differences were only evident in Grade 8 students, where girls were more likely to be in the low group and less likely to be in the medium group than were boys.

2.19 Percentage of students in the low to high family support groups, by grade and gender (%)

Boys / Girls

Grade 6   Grade 8   Grade 10

2.20 Students who reported that they got the emotional help and support they needed from their families, by grade and gender (%)

Boys   Girls
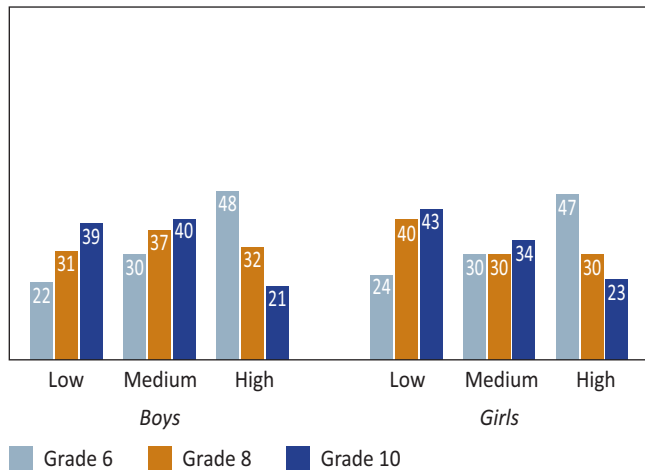
When looking at the individual items, it is evident that the different components of family support also appear to decrease from the younger to the older age groups. **Figure 2.20** shows the percentage of students by age and gender who stated they had a family member who could provide emotional help and support when needed. For Grade 6, 77% of boys and 74% of girls responded positively to this question, compared to 59% of Grade 10 boys and 58% of Grade 10 girls. Differences between the genders were minimal.

Patterns are quite similar for whether a young person was able to talk about problems with a family member (**Figure 2.21**). The majority of Canadian young people said they had a family member with whom they could talk about their problems, with boys consistently reporting so more often than girls in their grade.

2.21 Students who reported that they could talk about their problems with their families, by grade and gender (%)

Boys   Girls
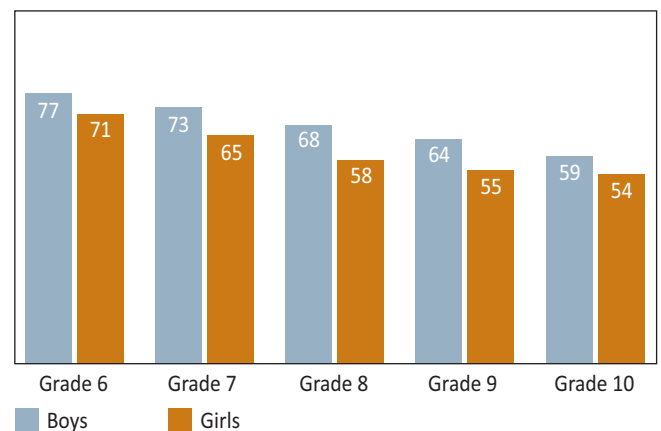
AREAS OF CONCERN

- More than one in four Canadian young people felt that they would like to leave home at times. Older girls reported this feeling most often, with 38% of girls in Grade 10 stating that they felt they wanted to leave home at times.
- Less than half of the girls in Grades 9 and 10 felt that their father was easy to talk to.
- Many of the indicators of family communication and support, such as feelings of trust and understanding between young people and their parents, declined markedly from Grades 6 to 10.
- Reports of having a happy home life varied for students in different family structures. Only half of the girls who lived with single fathers, for instance, reported having a happy life at home.

ENCOURAGING FINDINGS

- A strong majority (67%-84%) of Canadian young people reported having a happy home life; this finding was consistent across gender, grade levels, and across immigrant and Canadian born youth.
- Most Canadian students (68%-84%) reported that their mother was easy to talk to; the majority of boys also felt that fathers were easy to communicate with.
- Levels of trust between young people and their parents were high, with 71%-86% of youth reporting that they felt trusted by their parents.
- Canadian students consistently reported that they cared what their parents thought of them, for boys and girls evenly.
- Over the past 25 years, there has been a gradual increase in levels of understanding between parents and youth, although this trend has leveled out most recently.

SUMMARY AND IMPLICATIONS

The home and family setting is essential to study and appreciate as a significant influence on the health and health behaviours of adolescents. Social supports provided in the family and by parents can protect young people from harmful stressors (Stansfeld, 2003), and indeed, even the perception of social support, whether it is truly available or ever accessed, has been shown to buffer negative influences (Barker, 2007). Factors within the home and family setting provide structure for young people; these factors impact levels of attachment, security, and perceived well-being (Breinbauer & Maddaleno, 2000). Adolescents tend to be healthier in families with engaged parents who set consistent expectations and model open communication (Baumrind, 1991; Spera, 2005). The data presented in this chapter are encouraging in that adolescents generally indicated they had a happy home life and good levels of trust with their parents.

Previous research has shown that family and parental communication consistently relates to child health outcomes (Elgar, Craig, & Trites, 2012). In the 2014 HBSC cycle, more than two thirds of students reported having someone to listen to them. Mothers were considered generally easy to talk to, and, except among older girls, fathers were as well. These are encouraging findings. However, despite the importance of family communication, there are some students who have difficulty in communicating openly in their families with the percentage of these students increasing across grade level. With our understanding of the health and well-being benefits of open communication, these family situations need special consideration and support.

The areas of concern in the findings highlight future directions for health promotion research and public health and social services. First, it will be important to understand more about a young person's desire to leave the family setting, as reported, for example, by 38% of Grade 10 girls. This desire might be a natural product of adolescent development and increased independence, or it could be indicative of a more general social trend that places adolescents in general conflict with the concept or construction of family. If the latter were the case, it would be important to identify ways to reintegrate and invigorate the role and engagement of teenagers in families in the current Canadian context. Second, it will be important to understand relationship dynamics between Canadian female adolescents and their fathers. This may be an area where improvements in communication and feelings of support could be fostered through targeted programming. Finally, it is an overall trend that as young people get older, the support and levels of communication that they report coming from the home and family setting decrease. As with their reports of wanting to leave home, this may be naturally associated with older adolescents' desire for autonomy. However, there exists opportunity in health promotion research and intervention, with the older age groups particularly, to understand this phenomenon.

In summary, this chapter provides descriptions of some of the key factors in home and family settings that have implications for health, health behaviours and related interventions. Relationships in the home environment are necessary and important to consider in any strategy aimed at improving young persons' health.

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Chapter **3**

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School

THE IMPORTANCE OF UNDERSTANDING THE SCHOOL ENVIRONMENT

"As children move through the educational system, they are subjected to greater academic demands and expectations. These rising expectations can result in increased pressure to succeed in school, with the potential to have either positive or negative impacts on young peoples' learning, health and emotional well-being." Klinger et al., 2015

There is little doubt that the primary role of public education in Canada is to support the academic development of our children. Certainly, the currency for judging the quality of schools across Canada revolves around measures of student achievement. Schools, school administrators, and teachers are typically evaluated on the success of their students, and various student achievement statistics with school identifiers are readily accessible in the public domain. School improvement efforts and initiatives focus on these academic outcomes. From the student perspective, marks and report cards can provide a sense of confidence and self-worth; engender feelings of failure, frustration, hopelessness and despair; impact relationships with parents and friends; and help define social groups. For many students, an awareness of the life implications of their academic success and the critical role it can play in their life path is something that comes by the time they enter Grade 9, if not before.

While academic achievement is a primary goal of education, there is also a deep recognition that schools play a critical role in the social development of our children. It is well established that children's and adolescents' experiences in school encompass two distinct, yet interconnected domains: academic and social (Elias & Arnold, 2006; Roeser, Eccles, & Sameroff, 2000). While these domains were initially thought of as in conflict, the symbiotic nature of these domains has long been recognized (e.g., Elias, 2006; Hoffman, 2009). In today's society, many advocate that along with the academic success of our children, the mission of public schooling must additionally include efforts to develop healthy relationships and promote well-being. The social experiences of our youth within the school setting play a critical role in the maturation and developmental processes of adolescents and youth (Bird & Markle, 2012; Perra, Fletcher, Bonnell, Higgins, & McCrystal, 2012; Van Ryzin, Gravely, & Roseth, 2009).

Given the potential impact of schools on the lives of our youth, it is not surprising that teacher and peer support play pivotal roles in the developmental aspects of young peoples' lives (Reddy, Rhodes, & Mulhall, 2003; Sakiz, Pape, & Woolfolk Hoy, 2012; Shin, Daly, & Vera, 2007). Young people who feel they have more academic support, teacher social support, and student social support at school are less likely to have behavioural problems in addition to having lower deviant peer affiliation (Sakiz, Pape, & Woolfolk Hoy, 2012; Wang & Dishion, 2012). Students who feel more supported by their peers (Shin, Daly, & Vera, 2007) and teachers (Sakiz, Pape, & Woolfolk Hoy, 2012) are more likely to engage in school and have positive outcomes. A school environment in which teachers and youth feel they can appropriately and comfortably interact is essential for youth to reach their potential.

The school environment is one place to promote students' well-being and prosocial behaviours (Bird & Markle, 2012; Reddy, Rhodes, & Mulhall, 2003). School climate represents perceptions of that environment. It can consist of a variety of factors, such as students' feelings of belongingness, their comfort level in their physical surroundings, their feelings of being connected to or engaged with the school through teachers and peers, and their views of the fairness of the rules and amount of school work (e.g., Wang & Dishion, 2012). Academic success and positive school functioning are often associated with subjective well-being among adolescents (Bird & Markle, 2012; Van Ryzin, Gravely, & Roseth, 2009), highlighting one contribution of the school towards their mental health. In a similar vein, positive support in youth's school environment can increase motivation and school engagement, and furthermore help create more positive relationships with peers and teachers (Sakiz, Pape, & Woolfolk Hoy, 2012). Conversely, school disengagement is often associated with more deviant behaviours such as smoking and drinking alcohol on a regular basis (Perra et al., 2012; Wang & Dishion, 2012). Providing a safe and positive school setting where youth can connect and engage provides them with an opportunity to flourish.

Schools have consistently been shown to have important impacts and influences on the developmental trajectories of youth (e.g., Wang & Dishion, 2012). With this understanding, examining how Canadian youth presently view school and understanding their experiences in the school context, both academically and socially, allow for a greater understanding of the influence school has on Canadian students.

WHAT IS BEING REPORTED IN THIS CHAPTER?

In recognition of the importance of the school setting, the HBSC study includes a variety of questions about the school context. In this chapter, we focus on Canadian school-aged children (Grades 6 through 10) and their perceptions of school work and academic achievement, teacher support, student support, and school climate. For some specific questions, data are examined across multiple years to highlight trends in children's and adolescents' experiences of school systems in Canada. For ease of reading, the data have been organized under the two domains: academic (academic achievement and school pressure) and social (teacher support, student support, and school climate).

First, students' perceptions of their academic achievement and difficulties are given. For academic achievement, students identified how good their teachers would say their school work was, in addition to reporting their average marks from their most recent report card. In recognizing potential difficulties that students might have with school, they were asked to identify how pressured they felt by schoolwork, and if they felt they had more school work than they could handle.

Teacher support was then examined using questions regarding youth's feelings about their accessibility to, and comfort with, their teachers (e.g., trust in teachers, treated fairly by teachers, friendly, can get extra help, feeling encouraged to express their own views in class), in addition to their perceptions of how teachers felt about them (e.g., teacher accepts students for who they are, caring about student as a person, interested in them as a student, and understanding the student prior to suggesting new ways of doing things). The responses from these questions were used to create a teacher support scale across grade and gender. Two items from the scale (teachers caring about them as a person; when students need extra help, they can get it) are shown in addition to the proportions of students who fell in the high teacher support group. In a similar fashion to teacher support, student support is examined using responses from students' views of their peers (e.g., students in their classes are kind and helpful and enjoy being together; other students accept them for who they are). Again, the responses from these items were combined to create a student support scale. Two specific items from this measure are highlighted (other students are kind and helpful; students feel that other students accept them for who they are), followed by students in the high student support category.

Finally, school climate is examined using responses from students' perceptions of their school environment (e.g., school is a nice place to be; rules in the school are fair; students' enjoyment of school) and students' feelings of belongingness. Single items from the scale are shown for "our school is a nice place to be," and "I feel I belong at this school," by gender and grade. Additionally, data from students who responded that they liked school a lot are presented by gender and year of the survey for Grades 6, 8, and 10. Finally, the relationships between school climate and other school measures (academic achievement, teacher support, and student support) are reported.

Academic Domain

Student Achievement

Given the ongoing central focus on achievement, the first set of analyses focus on students' perceptions of their learning and academic success in schools.

Students were asked for their opinion of what their teachers thought of their school performance compared to their classmates (**Figure 3.1**). The majority of the students reported that teachers felt their school work was good or very good, ranging from a high of 80% (Grade 6 girls) to a low of 62% (Grade 10 boys). Girls were consistently more positive than boys at each grade level (7%-10% higher). Further, older students were less likely than younger students to think their teachers felt their school work was good or very good, as highlighted by the steady drop from Grade 6 (74% boys; 80% girls) to Grade 10 (62% boys, 70% girls).

3.1 Students who reported that teachers thought their school work was good or very good, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	74	66	67	63	62
Girls	80	76	75	70	70
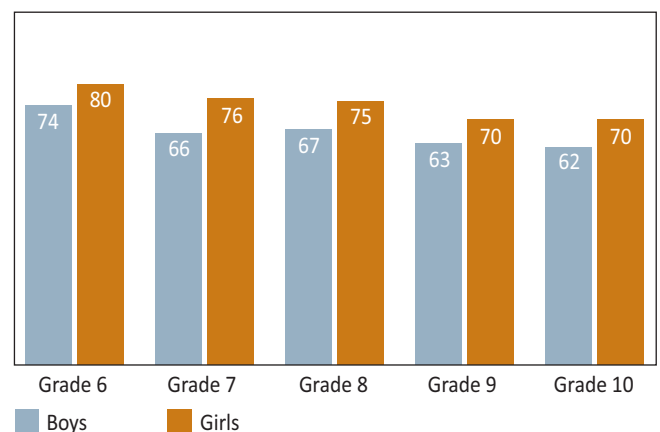
These findings regarding students' perceptions of what teachers thought of their school work have been tracked across HBSC survey years (**Figure 3.2a** and **b**), and the results have remained consistent across all years. As an example, regardless of survey year, younger students and girls have held more positive perceptions than older students and boys. In 2014, there has been an increase in the proportions of students who felt their school work was good or very good for Grade 6 and 8 boys, and Grade 8 girls.

3.2a Boys who reported that teachers thought their school work was good or very good, by grade and year of survey (%)
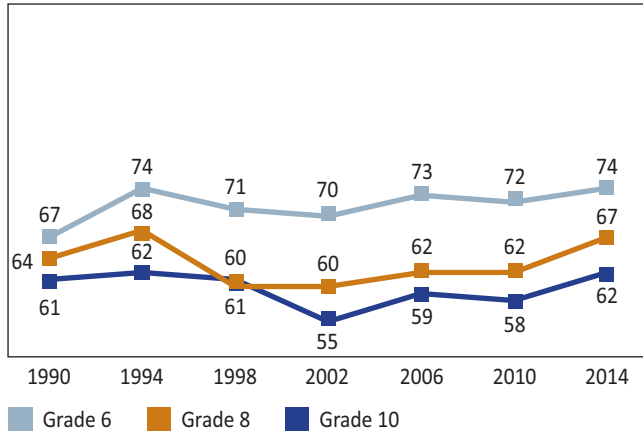
3.2b Girls who reported that teachers thought their school work was good or very good, by grade and year of survey (%)
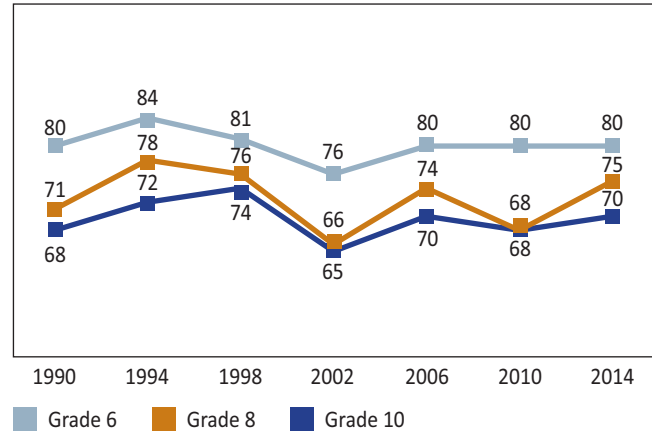
Academic achievement was additionally measured by students' self-reports of their average mark on their last report card (**Figure 3.3**). Consistent with the previous measure of perceptions about relative achievement, girls consistently indicated they achieved higher marks than did boys, regardless of grade level. Few students reported their average mark was "below average." With the exception of Grade 8 and 10 boys (at 74% and 67% respectively), at least three quarters of the students stated their marks were "above average" or "excellent." Boys' self-reports of their average mark decreased with grade, while girls' self-reports remained relatively steady.

> **"I'd say that the stress comes from the work assignments and having to get everything in on a due date."**
>
> *(Youth focus group participant)*

3.3 Average mark on last report card, by grade (%)
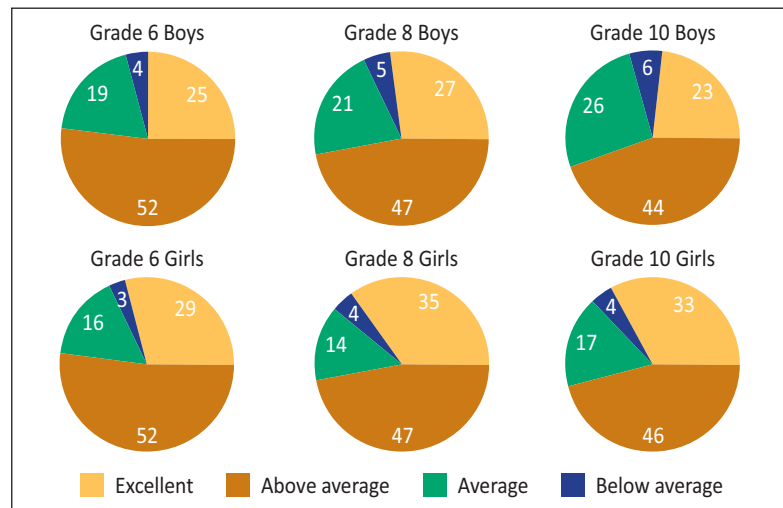
School Pressure

Students' perceptions of school pressure provide an important measure of both the positive and negative impacts of schooling with respect to fostering academic achievement and social well-being.

Grade 6 students have continuously reported very low levels of school pressure over the survey years with slightly higher pressure being reported by boys than by girls (**Figure 3.4a** and **b**). For example, in 2014, the respective percentages were 9% and 6%. The pattern for Grade 8 has largely mirrored that of Grade 6, except in the most recent survey where girls' self-reports of school pressure (15%) exceeded those of boys (12%). In contrast, Grade 10 girls have consistently reported more school pressure than Grade 10 boys (2014: Grade 10 girls, 26%; Grade 10 boys, 16%). These findings highlight that the large majority of students do not report high levels of perceived school pressure, but these perceptions do increase across grades for both boys and girls. For all groups, reported school pressure was highest in 1998 before dropping in 2002.

3.4a Boys who reported that they felt a lot of pressure because of school work, by grade and year of survey (%)

Grade 6   Grade 8   Grade 10
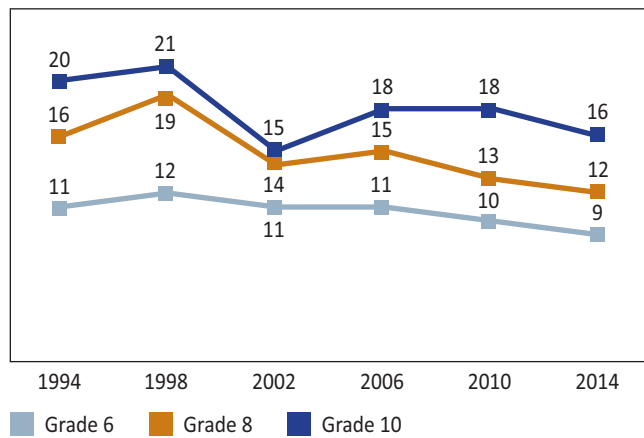
3.4b Girls who reported that they felt a lot of pressure because of school work, by grade and year of survey (%)

Grade 6   Grade 8   Grade 10
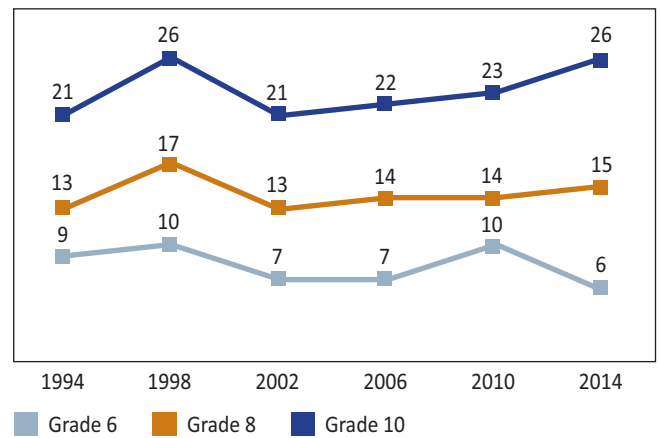
Students were asked if they felt they had more school work than they could handle (**Figure 3.5**). The proportion of students who agreed or strongly agreed with this question increased from Grade 6 to Grade 10 for both boys and girls. The increase was much more dramatic for girls, rising from 18% to 36%, compared to a rise from 21% to 29% for boys. In Grade 6, boys agreed or strongly agreed more often that their school work was too much to handle than did girls (21% versus 18%). By Grade 10, the gender gap had shifted (29% boys, 36% girls) alongside the overall increase.

3.5 Students who reported that they had more school work than they could handle, by grade and gender (%)

Boys   Girls
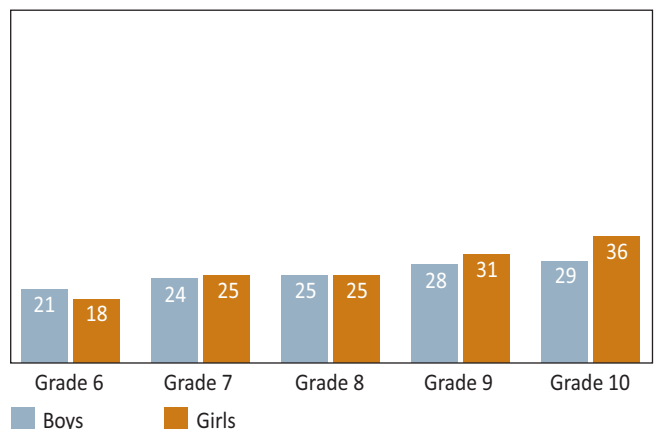
Social Domain

Teacher Support

The teacher support scale is a composite measure consisting of nine items (**Table 3.1**). Four items are based on the students' perceptions of how their teacher(s) feel about them (teacher accepts me, teacher cares about me, feel like my teacher is interested in me as a student, and feel like my teacher tries to understand how I see things before suggesting a new way of doing something). The remaining five items relate to how students feel about their teachers (feel trust in my teachers, teachers treat me fairly, teachers are friendly, availability of extra help when needed, and feel encouraged to express my own views in class). All items were reported on a 5-point scale from "strongly agree" to "strongly disagree." The 9-item scale has a Cronbach's alpha of 0.90. For presentation purposes, the raw scale score is divided into three groups, with 35.3% of all students in the "high teacher support" group (**Figure 3.6**).

Table 3.1 Teacher Support	
I feel that my teacher accepts me as I am.	1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
I feel that my teachers care about me as a person.	
My teachers are interested in me as a student.	
My teachers try to understand how I see things before suggesting a new way to do things.	
I feel a lot of trust in my teachers.	1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
Our teachers treat us fairly.	
Most of my teachers are friendly.	
When I need extra help, I can get it.	
I am encouraged to express my own view in my class(es).	

The likelihood of being in the high teacher support group decreased across grades for both boys (Grade 6, 53%; Grade 8, 35%; Grade 10, 23%) and girls (Grade 6, 62%; Grade 8, 35%; Grade 10, 22%). Grade 6 girls (62%) were more likely than Grade 6 boys (53%) to be in the high teacher support group, whereas there were no gender differences in this respect for Grades 8 and 10 students.

Individual results for the items within the teacher support scale highlight similar patterns, albeit with some interesting differences.

3.6 **Students in the low to high teacher support groups, by grade and gender (%)**
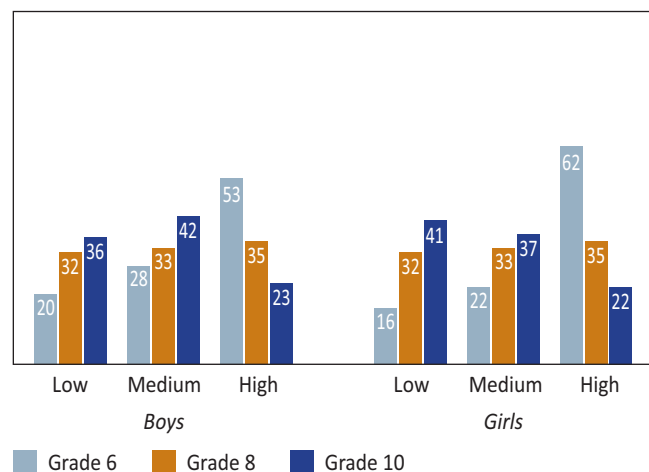
As shown in **Figure 3.7**, the vast majority of Grade 6 students felt that their teachers cared about them as persons (77% of boys and 80% of girls). This proportion dropped steadily across grades so that the lowest percentages were reported in Grades 9 and 10 (Grade 9: 58% boys, 54% girls; Grade 10: 59% boys, 54% girls). In Grades 7 and 8, there was no difference in this regard between boys and girls. In Grades 9 and 10, girls' agreement with this statement was lower than that of boys. Similarly, approximately 81% of students reported they could get extra help when they needed it (**Figure 3.8**). Students across the grades responded similarly to this item, in contrast to other items where older students were more negative. As well, the differences between genders were minimal on this item.

3.7 Students who reported that they felt that their teachers cared about them as persons, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	77	73	66	58	59
Girls	80	72	65	54	54
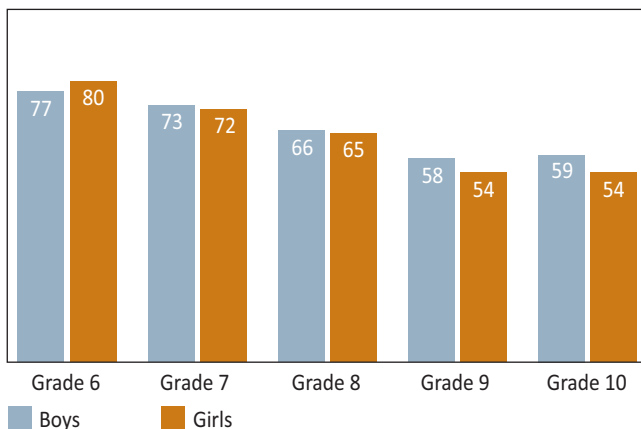
3.8 Students who reported that they could get extra help when they needed it, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	84	81	80	80	82
Girls	85	80	82	80	81
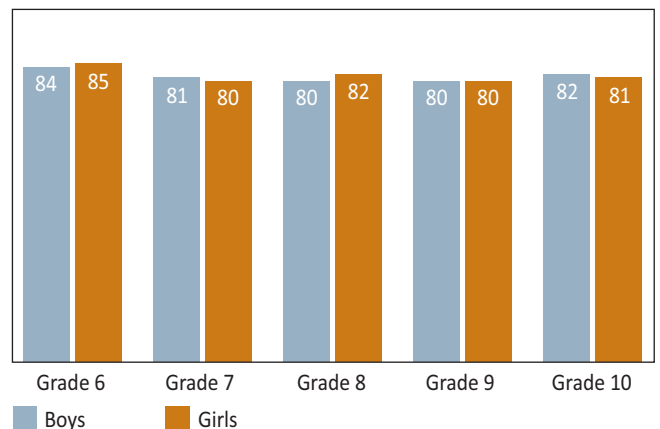
Student Support

The student support scale is a composite measure consisting of three items (**Table 3.2**). The three items measure students' perceptions about their peers within the school environment (students in my class(es) are kind and helpful; students in my class(es) enjoy being together; I feel accepted by other students in my class(es)). All items within the scale were on a 5-point scale from "strongly agree" to "strongly disagree." The resulting 3-item scale has a Cronbach's alpha of 0.80. For presentation purposes, the raw scale score is divided into three groups with 24.9% of all students in the "high student support" group.

Table 3.2 Student Support	
Most of the students in my class(es) are kind and helpful.	1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
The students in my class(es) enjoy being together.	
Other students accept me as I am.	

Figure 3.9 illustrates the percentages of students in the low, medium, and high student support categories. The likelihood of being in the high student support group decreased across grades for both boys (Grade 6, 40%; Grade 8, 27%; Grade 10, 16%) and girls (Grade 6, 39%; Grade 8, 24%; Grade 10, 15%).

Individual results for the items within the student support further highlight these grade and gender patterns. The percentages of students who agreed or strongly agreed that other students in their classes were kind and helpful were highest for Grade 6 students (boys, 71%; girls, 73%) and lowest for Grade 9 and 10 students (Grade 9: 57% boys, 53% girls; Grade 10: 56% boys, 54% girls), with a steady decrease across grades (**Figure 3.10**). In Grades 8 and 9, boys responded more positively to the question than did girls, whereas there were minimal differences between boys and girls in the other grades.

Boys were also more likely than girls to report feeling other students accepted them as they were with the exception of Grade 6 students (**Figure 3.11**). Furthermore, girls in Grades 6 and 7 were more likely to respond positively than older girls, with the largest drops in acceptance occurring between Grade 6 and Grade 7 (7% drop) and between Grade 7 and Grade 8 (6% drop).

3.9 Students in the low to high student support groups, by grade and gender (%)

Grade 6   Grade 8   Grade 10
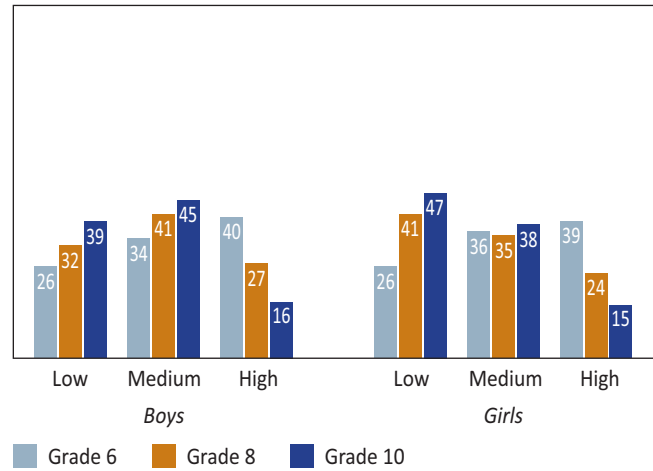
3.10 Students who agreed or strongly agreed that other students were kind and helpful, by grade and gender (%)

Boys   Girls
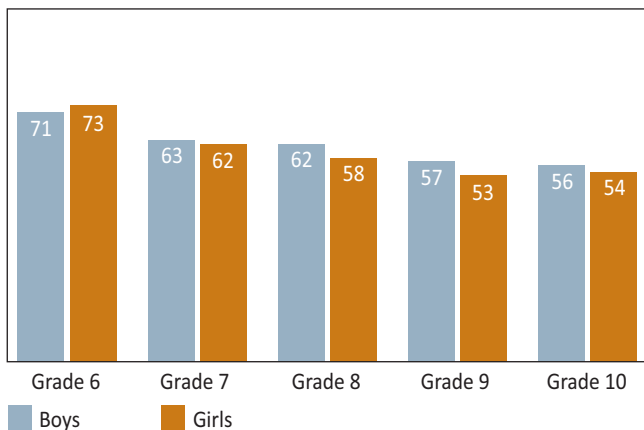
3.11 Students who agreed or strongly agreed that other students accepted them as they were, by grade and gender (%)

Boys   Girls
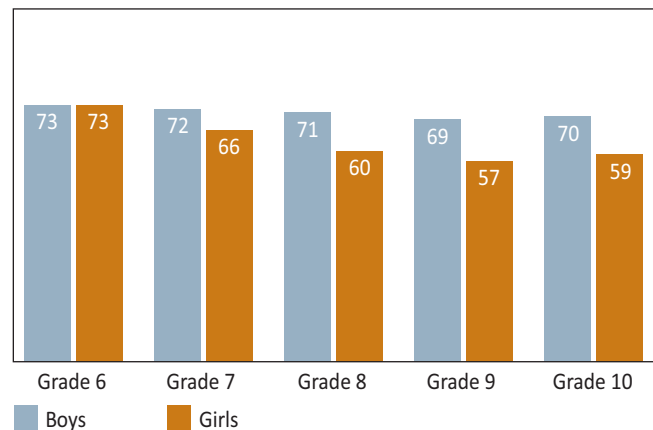
School Climate

The school climate scale comprises 4 items (**Table 3.3**). Three of the items focus on students' perceptions about the school environment (the rules in this school are fair; our school is a nice place to be; and I feel I belong at this school). The fourth item asked students how they felt about school at present. Three of the questions were scored on a five-point scale from "strongly agree" to "strongly disagree." The question regarding liking school used a 4-point scale ranging from "I like it a lot" to "I don't like it at all." The 4-item scale has a Cronbach's alpha of 0.78. Combined, these items provide a measure of the school climate as perceived by students. For presentation purposes, the raw scale score is divided into three groups with 32.1% of all students in the "high school climate" group.

Table 3.3 School Climate	
The rules of this school are fair.	1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
Our school is a nice place to be.	
I feel I belong at this school.	
How do you feel about school at present?	1 = I don't like it at all, 2 = I don't like it very much, 3 = I like it a bit, 4 = I like it a lot

Figure 3.12 examines school climate by grade and gender. Grade 6 students responded more positively than older students, in that of 44% of boys and 51% of girls were in the high school climate group compared to 24% of Grade 10 boys and 22% of Grade 10 girls. At Grade 6, higher proportions of girls than boys were in the high school climate group. Gender differences were minimal in the proportions in the high school climate group for Grades 8 and 10.

3.12 Students in the low to high student support groups, by grade and gender (%)

Grade 6   Grade 8   Grade 10
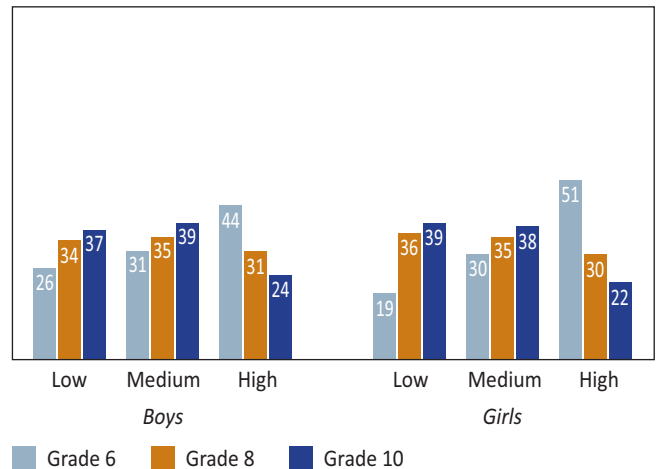
3.13 Students in the high school climate group, by average mark on last report card, by grade and gender (%)

Grade 6   Grade 8   Grade 10
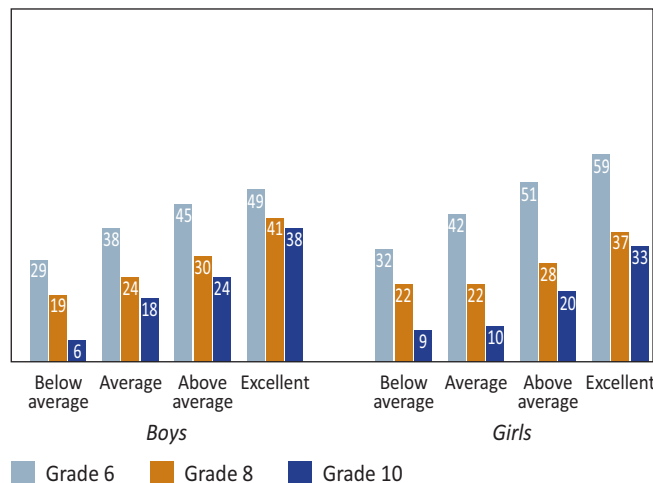
The school climate scale is also a useful measure to examine the differences that exist between different groups of students based on their academic achievement (**Figure 3.13**), their perceptions of teacher support (**Figure 3.14**), and their perceptions of student support (**Figure 3.15**). First, in all grades and for both boys and girls, students who reported receiving excellent marks on their last report were more likely to be in the high school climate group,

3.14 Students in the high school climate group, by teacher support (low, medium, and high), by grade and gender (%)

Boys: Low 4, 5, 5; Medium 24, 22, 20; High 70, 61, 63
Girls: Low 6, 3, 4; Medium 32, 20, 17; High 71, 64, 63

Grade 6   Grade 8   Grade 10
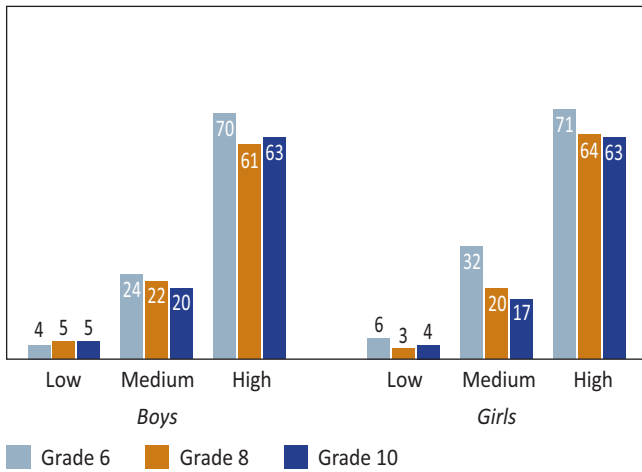
3.15 Students in the high school climate group, by student support (low, medium, and high), by grade and gender (%)

Boys: Low 14, 13, 12; Medium 40, 27, 25; High 67, 57, 53
Girls: Low 19, 13, 9; Medium 50, 30, 26; High 75, 58, 53

Grade 6   Grade 8   Grade 10
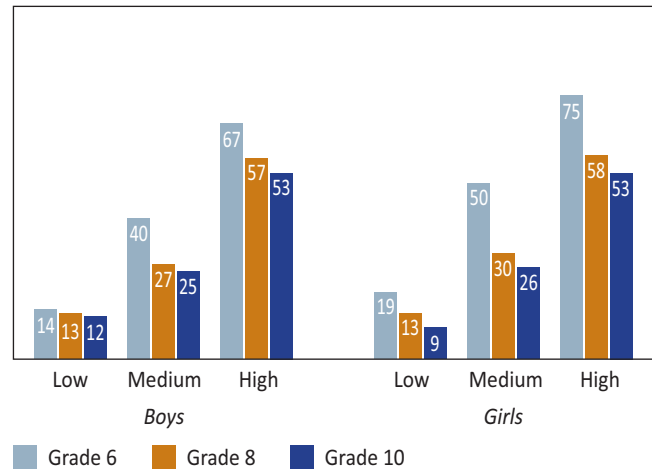
than were students who said they received very good marks. In turn, the proportion of students reporting very good marks exceeded that of average mark students, which surpassed that of below average mark students for boys and for Grade 6 girls (but not Grade 8 and Grade 10 girls). Next, students who were in the high teacher support group were considerably more likely to be in the high school climate group than were students with relatively lower levels of teacher support. Students in the low teacher support group were only rarely in the high school climate group. The overall correlation coefficient between the two measures is 0.62. For all grade groups and for both boys and girls, the relationship was similarly strong. Last, and similar to teacher support, student support had a strong relationship with school climate. At all grades and for both girls and boys, students with relatively higher student support at school were much more likely to be in the high category on school climate than were students with relatively lower student support.

The individual items within the school climate scale also provide important insights into student perceptions about their schools. As highlighted in **Figure 3.16**, 60% or more of students agreed or strongly agreed that their school was a nice place to be, regardless of grade or gender. The proportion of agreement decreased from Grade 6 to Grade 9 and remained relatively stable thereafter. Grade 6 girls were more likely to report they thought their school was a nice place to be than were Grade 6 boys. Gender differences slightly favoured girls from Grade 8 onward.

3.16 Students who agreed or strongly agreed that their school was a nice place to be, by grade and gender (%)

Grade 6: Boys 74, Girls 80
Grade 7: Boys 71, Girls 71
Grade 8: Boys 67, Girls 64
Grade 9: Boys 64, Girls 60
Grade 10: Boys 63, Girls 61

Boys   Girls
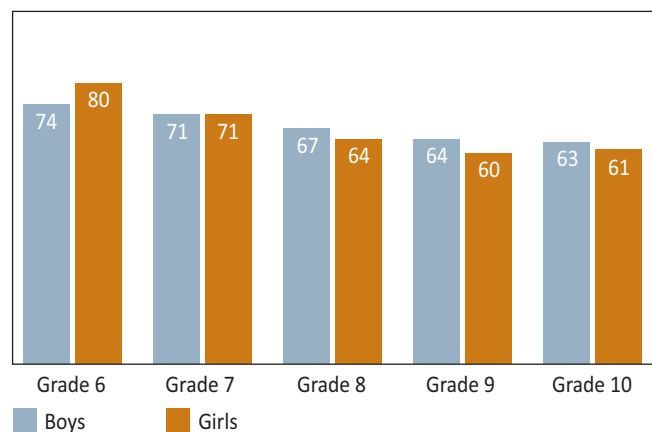
More boys reported that they felt they belonged at school than did girls (**Figure 3.17**), except for Grade 6 students. Perceptions of belonging at school decreased steadily from Grade 6 to Grade 9.

Figures 3.18a and **b** present the percentages of students reporting they liked school a lot over the seven cycles of data collection in the 24-year period that the HBSC survey has been conducted in Canada. In every previous survey cycle, at each of Grades 6, 8, and 10, girls were much more likely to report liking school a lot than were boys. In contrast, in 2014, these percentages were relatively similar in Grades 8 and 10. Across years, Grade 6 students have reported liking school a lot more than have older students.

3.17 **Students who agreed or strongly agreed that they felt they belonged at their school, by grade and gender (%)**
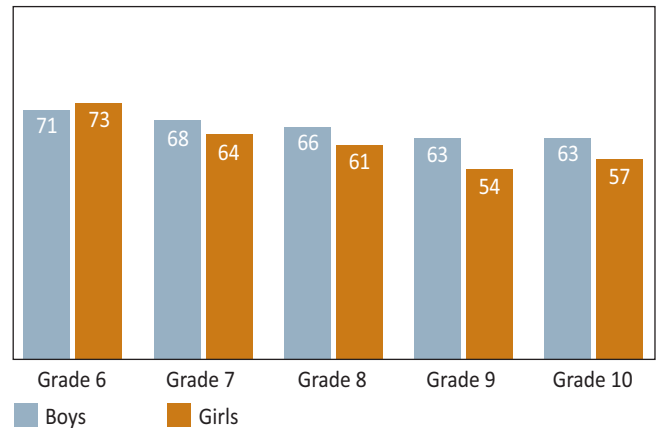
3.18a **Boys who reported that they liked school a lot, by grade and year of survey (%)**
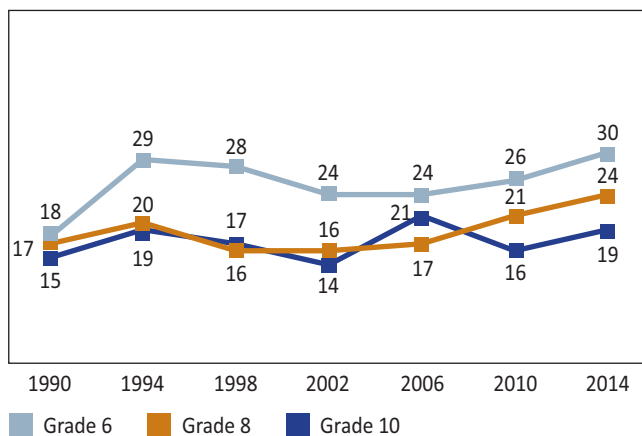
3.18b **Girls who reported that they liked school a lot, by grade and year of survey (%)**
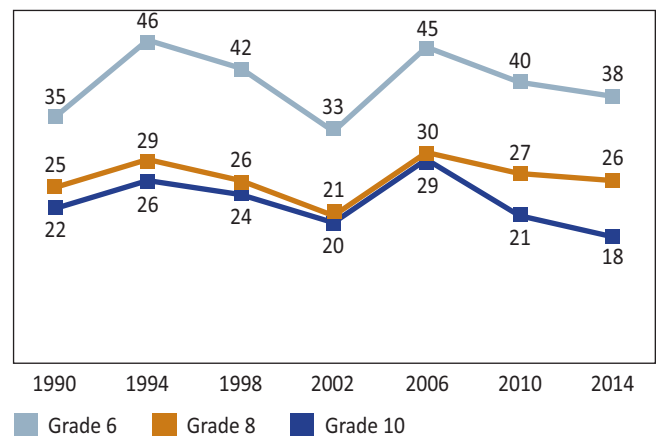
AREAS OF CONCERN

- There is a substantial proportion of children who reported feeling excess pressure with regards to their expected school work. These proportions increased in the higher grades and, within the population of youth surveyed in the HBSC study, peaked in Grade 10 girls. Over 1 in 4 students overall and more than 1 in 3 Grade 10 girls agreed they had more school work than they could handle.
- School connectedness appears to have important associations with other important schooling outcomes for children and adolescents. From Grade 6 through to Grade 10, there were groups of students who were much less likely to report positive perceptions of the school and their sense of belonging in the school. Students in Grades 8 and 10 were more likely to feel disconnected from school. Those who felt the least connected to school reported the lowest levels of achievement and support from others.
- Children in the later grades were much less likely to enjoy school or report positive perceptions about school. These findings, which have been consistently found over time and across gender, continue to highlight a challenge for educators to effectively create learning environments that meet the needs of adolescents.
- The shift from Grade 6 to Grade 8 was associated with a substantial drop in the proportion of children who reported liking school a lot. The drop was larger for girls than for boys. This drop occurred alongside the change from elementary to middle to secondary schooling, and the shift to adolescence (puberty).

ENCOURAGING FINDINGS

- Across grades, the large majority of students reported levels of academic achievement that suggest these students were meeting academic expectations. Two thirds of Grade 10 boys and three quarters or more of each of the other grade and gender groups reported excellent or above average marks on their last report card.
- Fewer than 1 in 10 Grade 6 students reported feeling a lot of pressure because of their school work. The educational structure and support from teachers in elementary schools across Canada appear to result in very positive experiences for these children at a critical time in their lives.
- Across grades, the majority of children reported positive perceptions about their teachers. Four in five Grade 6 students, three quarters of Grade 7 students, and two thirds of Grade 8 students agreed or strongly agreed their teachers cared about them as people.
- Similarly, students reported high levels of academic support from their teachers. Over 80% of students felt that they could get help from their teachers when needed. This level of support speaks very positively to the ongoing efforts of teachers to help their students obtain academic success.
- While the HBSC study has shown that the school environment is a challenge for some students, over 60% of the students reported that their school was a nice place to be. Along with other measures of school climate, and teacher and student support, there is ongoing evidence that Canadian schools and teachers continue to provide a positive learning and social environment for our youth.
- Teachers matter. The associations between positive school climate and levels of teacher support reinforce the ongoing findings that teachers can make a difference in how young people are engaged at school. Similarly, healthy peer relationships help provide the necessary supports for positive school experiences and educational success.

SUMMARY AND IMPLICATIONS

The importance of school in young people's lives in undeniable. Children are in school for a significant portion of their daily lives, and it is within the classroom walls that students learn to interact with others and learn about themselves as individuals. As a result, teachers have much greater responsibility than preparing their students for academic success. From Kindergarten through to high school, teachers who create a positive learning climate and develop positive relationships with their students help to create youth who demonstrate short and long term academic success and healthy well-being (Baker, Grant, & Morlock, 2008; Birch & Ladd, 1997; Henry, Knight, & Thornberry, 2012). Hence, it continues to be important to examine children's and adolescents' perceptions of their own academic success, the support they receive from their teachers and other students (peers), and the overall climate of the school. The HBSC study, with its national sample of children and youth at important times in their development, provides critical insights into the lives of youth in school, and identifies issues for concern and optimism.

As shown by the HBSC findings, the large majority of Canadian youth reported positive experiences with respect to the schools they attended, their teachers, and their peers. Canadian schools and teachers provide a positive learning and social environment for children to develop healthy educational and social outcomes. Perhaps not surprisingly, children in the younger grades reported more positive perceptions of their achievement and schooling experiences. At all grade levels, girls tended to have more positive perceptions of school. These positive perceptions parallel the national (and international) findings of higher achievement for girls across subject areas, and greater levels of post-secondary admissions (Voyer & Voyer, 2014). While girls had more positive perceptions of school and higher perceived and actual levels of academic success, they were also more likely to report feeling more pressure with respect to their school work. Of potential concern, this perception of pressure has been steadily increasing for Grade 10 girls over the past 12 years. This trend may suggest that,

while girls are having high levels of success in school, they also feel greater pressure to succeed in order to realize their post-secondary aspirations. The trends in school pressure in Canada have critical similarities to and differences with what is observed in other countries (Klinger et al., 2015).

The majority of Canadian students believed that their teachers cared about them as persons. In Grade 6, over 80% of the children reported this positive perception of their teachers. The proportion of students who reported that their teachers cared about them as persons steadily declined through subsequent grades. These declines occurred at the same time as the changes from elementary school to middle school to high school. As an example, elementary school ends in Grade 6 in Alberta, Grade 7 in British Columbia, and Grade 8 in Ontario. While children in elementary school (e.g., Grade 6) typically have a single teacher, students in middle and high school will have a teacher for each subject or pair of subjects. As teachers are required to work with greater numbers of students, it becomes more difficult for them to develop the same positive and ongoing relationships that exist in elementary classrooms. The lower proportions reported by girls are interesting and difficult to interpret. It is possible that due to girls' higher levels of achievement, teachers devoted less of their time to supporting the girls in their classrooms. Certainly, this is an area for further research and study. While students in the older grades were less likely to report that their teachers cared about them as persons, their perceptions about support for their learning remained consistent across grades. Approximately 80% of students at all grade levels, both boys and girls, felt they could get help from their teachers when needed. Teachers are providing academic support, and students are receiving it as needed.

Overall, children and adolescents also reported positive peer relations and support. The trends are similar to those found for teacher support, declining through the later grades, and lower levels of support being reported by girls. These trends highlight a challenge for Canadian youth and our efforts to support them. The youth surveyed in the HBSC study are in the early, middle, and later stages of puberty, a time of change and increased self-consciousness for children and adolescents (e.g., Burnett, Thompson, Bird, & Blakemore, 2011; Somerville, 2013). It is during this time of transition that these youth require support from those around them. The HBSC findings indicate that, within the school setting, a substantive portion of our youth do not perceive high levels of this necessary support from their peers and their teachers. As the findings from the HBSC study corroborate, there are consistent positive associations between teacher and peer support and school success and positive school experiences. The consistent decline in these measures in later grades highlights the need to continue to identify ways to meet the needs of Canadian youth to support their successful transition into adulthood.

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Chapter 4

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Peers

THE IMPORTANCE OF UNDERSTANDING PEER RELATIONSHIPS

Adolescence marks a unique developmental time in the lifespan of individuals, where deep friendships emerge and peer relationships play an increasingly important and influential role in individuals' health and well-being (Berndt, 2004; Brendgen & Vitaro, 2008; Kobus, 2003). Throughout adolescence, youth turn to peers for security and support as they seek to establish autonomy from parents and develop independent identities (Dykas, Ziv, & Cassidy, 2008; Kobus, 2003; Marion, Laursen, & Zettergren, 2013; Nickerson & Nagle, 2005; Viner et al., 2012). During this developmental period, relationships with adolescent peer groups and friends outside of the family unit take on greater importance as young people explore new roles, behaviours, and responsibilities (Giordano, 2003; Kobus, 2003; Marion et al., 2013). In addition, adolescence marks a time when young people typically begin to engage in romantic relationships, with the likelihood of having a romantic partner increasing as they grow older (Kenny, Dooley, & Fitzgerald, 2013).

While the emergence of strong peer relationships is a part of adolescent growth and development, the influence of such relations is complex. At a life stage when risky behaviour (e.g., cigarette smoking, drug use, alcohol consumption, sexual permissiveness) is prevalent and sexual harassment becomes a more pervasive problem (McMaster, Connolly, Pepler, & Craig, 2002; Ryan, 2011), adolescent peer relationships may serve as either a protective influence or a negative risk factor in the lives of youth (Gardner & Steinberg, 2005; Viner et al., 2012; Waldrip, Malcolm, & Jensen-Campbell, 2008). The mere presence of peers can have an influential effect on young people's decision-making processes and engagement in health-compromising behaviours (Chein, Albert, O'Brien, Uckert & Steinberg, 2011). For example, Kobus (2003) found that adolescent peer relationships serve to both promote and deter cigarette smoking among youth; adolescents whose friends engage in smoking are more likely to smoke themselves than those with non-smoking friends. In a similar study, Potard, Courtois and Rusch (2008) found that conservative peer attitudes about sexual permissiveness acted as a protective factor, whereas liberal attitudes appeared to be a risk factor for sexual behaviour among adolescents.

Peers can also have both a positive and negative impact on other aspects of young people's health (Fujimoto & Valente, 2012; Hahm et al., 2012; Hawton & O'Connor, 2012; Maxwell, 2002; Wouters et al., 2010). Just as high quality, supportive peer relationships may serve as a protective factor against the negative outcomes of health-compromising behaviours, positive peer relationships may help to promote and sustain physical activity among youth (Davison, 2004; Fitzgerald, Fitzgerald, & Aherne, 2012), and support young people's engagement in school and academic adjustment (Liem & Martin, 2011; Ryan, 2011). Furthermore, high quality friendships may foster young people's success in the social world, as supportive relationships can help youth build connections and make positive contacts with new peers (Berndt, 2004). In contrast, low quality relationships with peers can challenge the mental and physical health of young people (Graham & Bellmore, 2007). Youth who feel rejected or victimized by their peers may suffer from symptoms of depression, anxiety, loneliness, low self-esteem, suicidal ideation, and self-harm (Graham & Bellmore, 2007; Klomek, Morrocco, Keinman, Schonfeld & Gould., 2007, 2008). Moreover, victimization and feelings of exclusion may play into the decision to run away from home (Chen, Thrane, & Adams, 2012). In addition, for some youth, victimization and social exclusion may result in unhealthy dieting, self-objectification, and body shaming (Hilt & Hamm, 2014; Lunde & Frisen, 2011). The benefits of positive friendships and the risks of peer rejection extend well beyond adolescence into adulthood (Dykas et al., 2008; Marion et al., 2013).

Peer relationships are an unavoidable and influential factor in the growth and development of young people (Allen, Chango, Szwedo, Schad, & Marston, 2012). To provide support for the maintenance of good health and well-being among Canadian youth, it is important to examine the nature and quality of adolescent peer relationships. Similarly, to help promote and develop proactive strategies that foster positive peer relationships, it is integral to understand how Canadian youth are relating to one another.

WHAT IS BEING REPORTED IN THIS CHAPTER?

In this chapter, we examine Canadian youth's perceptions of peer support gathered from the 2014 HBSC survey data across Grades 6 and 10. The HBSC peer survey questions provide a snapshot of students' peer networks and relationships by asking them a series of questions about the role of peers across four dimensions: 1) peer support; 2) frequency of positive and risky behaviour peer group activities; 3) ease of communication with friends about things that really bother them; and 4) level of interaction with friends (both face-to-face and e-communication).

First, we present Canadian youth's perceptions of peer support. Students identified the extent to which their friends really tried to help them and if they could count on their friends when things went wrong. We also describe youth's reports on having friends with whom they felt they could share their joys, sorrows, and problems. These responses were used to create a general peer support scale to which levels of peer support (low, medium, high) are presented across Grades 6, 8, and 10 for boys and girls.

Next, we examine separately young peoples' perception of friends' engagement in positive peer group activities (e.g., do well at school, participate in organized sports activities, get along with parents) and risky behaviour peer group activities (e.g., use drugs, have sexual relationships) for Grade 9 and 10 students, the only grades

for which these questions were asked. The involvement in high positive peer group activities and high risk behaviours is explored as it relates to level of peer support (low, medium, high). We analyze the data on students' reported ease with talking to their best friend, same-sex friend(s), and opposite-sex friend(s) about what really bothered them, including HBSC trend data since 2002.

Finally, we compare youth's reported time spent with friends outside of school to how often they contacted their friends using e-communication such as texting, e-mail and other social media. We explore the relationship between Grade 6, 8, and 10 students who reported the highest levels of peer support and their reported time spent meeting friends outside of school time, or texting and using social media. Our summary and implications section highlights areas of concern and encouraging findings, and lead into key considerations and recommendations for policy and practice.

Friend Support Scale

The four items that comprise the friend support scale are presented in **Table 4.1** (my friends really try to help me, I can count on my friends when things go wrong, I have friends with whom I can share my joys and sorrows, and I can talk about my problems with

> **"Being around people who make you feel good is a big part of a happy and healthy lifestyle."**
>
> *(Youth focus group participant)*

my friends). All items were reported on a 5-point scale from "strongly agree" to "strongly disagree." The scale has a Cronbach's alpha of 0.92. For presentation purposes, the raw scale score is divided into three groups, with 31.3% of students in the group with the highest friend support, 34.6% in the medium friend support group, and 34.1% in the lowest friend support group.

Table 4.1 Components of the Friend Support Scale	
My friends really try to help me	1 = Strongly disagree,
I can count on my friends when things go wrong	2 = Disagree,
I have friends with whom I can share my joys and sorrows	3 = Neither agree nor disagree, 4 = Agree,
I can talk about my problems with my friends	5 = Strongly agree

Individual Perceptions of Friend Support

Figure 4.1 illustrates the percentage of students who felt that their friends really tried to help them. The percentages ranged from 66% (Grades 8, 9, and 10) to 73% (Grade 6) for boys and from 77% (Grades 8 and 10) to 82% (Grade 6) for girls. After a small and steady drop in agreement for both genders from Grade 6 to Grade 8, percentages stabilized.

Figure 4.2 illustrates the percentage of students who reported that they could count on their friends when things go wrong. Over three quarters of girls and two thirds of boys agreed or strongly agreed with the statement. There was limited variance across grades with respect to agreement on this statement.

4.1 Students who agreed or strongly agreed that their friends really tried to help them, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	73	69	66	66	66
Girls	82	79	77	78	77
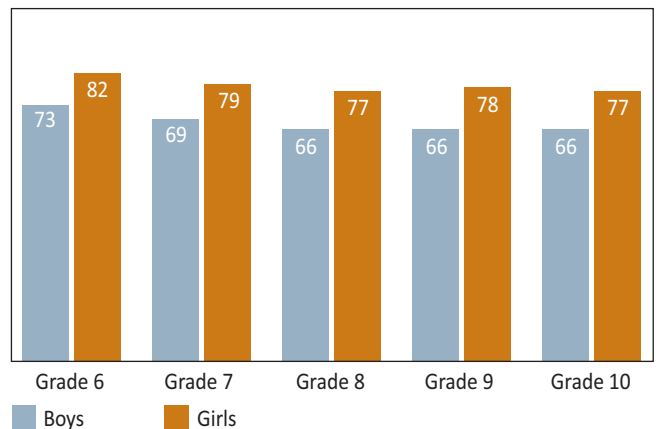
4.2 Students who agreed or strongly agreed that they could count on their friends when things go wrong, by grade and gender (%)

Grade 6: Boys 73, Girls 80
Grade 7: Boys 72, Girls 79
Grade 8: Boys 70, Girls 77
Grade 9: Boys 70, Girls 78
Grade 10: Boys 67, Girls 77

Boys ▪ Girls
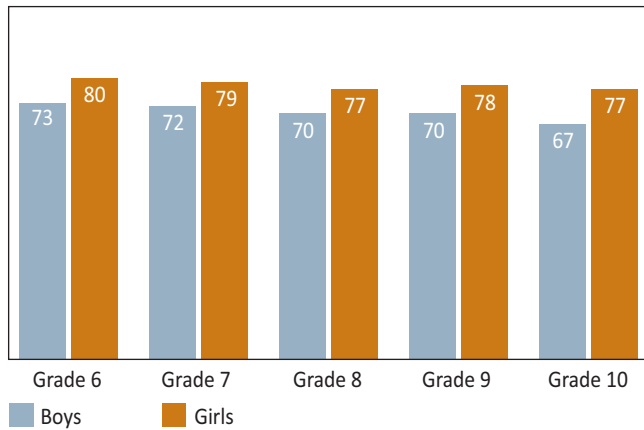
4.3 Students in the low, medium, and high friend support groups, by grade and gender (%)

Boys — Low: 39, 42, 44; Medium: 33, 35, 38; High: 28, 23, 19
Girls — Low: 23, 29, 29; Medium: 30, 31, 40; High: 47, 40, 31

Grade 6 ▪ Grade 8 ▪ Grade 10
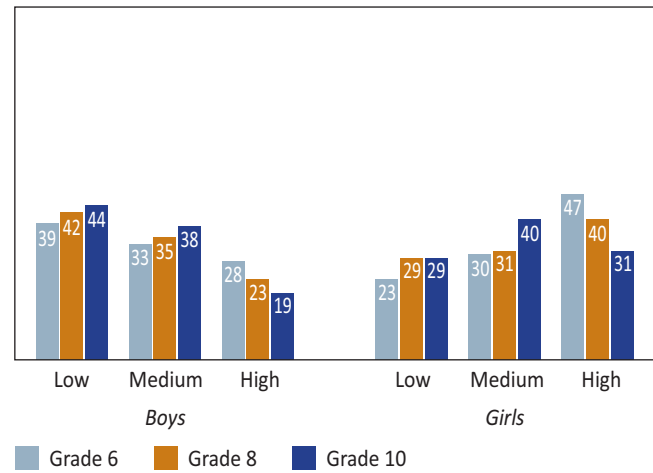
Figure 4.3 illustrates the percentage of students who reported lower to higher levels of friend support across Grades 6, 8, and 10. Girls were more likely than were boys to be in the high friend support group across all grade levels, with the reverse being true for the low friend support group. The percentage of both boys and girls in the high friend support group decreased across each subsequent grade.

PEER GROUP ACTIVITIES

Positive and Risky Peer Group Activities

Friend's involvement in positive peer group activities was similar across Grades 9 and 10 (**Table 4.2**). Girls were more likely to report that friends did well at school, cared for the environment, and helped others in need than were boys. Boys reported higher levels in friends' participation in organized sports activities with others and getting along well with their parents than did girls. There were minimal gender differences reported across grades for friends' participation in cultural activities other than sports. Over half of the students surveyed stated that their friends did well at school, participated in organized sports activities with others, and got along well with their parents.

> "I think girls [...] tend to be harsh like really harsh on each other and I think that plays a really big role in that like sometimes you try to turn to your friends but your friends are actually the ones looking to keep you down and that can affect your marks as well you know."
>
> *(Youth focus group participant)*

Table 4.2 Percentage of Grade 9 and 10 students who reported that the group of friends with whom they spent most of their leisure time engaged in the following positive peer group activities "often" (%)				
Most of the friends in my group…	**Boys**		**Girls**	
	Grade 9	**Grade 10**	**Grade 9**	**Grade 10**
Do well at school	68	65	76	76
Participate in organized sports activities with others	59	59	53	51
Participate in cultural activities other than sports	22	21	20	20
Get along well with their parents	58	57	52	55
Care for their environment	23	20	27	25
Help others in need	35	33	46	47

There was an increase from Grade 9 to 10 for both genders in their perceptions of their friends' participation in risky peer group activities (**Table 4.3**). In Grade 10, having sexual relationships was the activity most often reported about friends.

Table 4.3	Percentage of Grade 9 and 10 students who reported that the group of friends with whom they spent most of their leisure time engaged in the following risky peer group activities "often" (%)			
Most of the friends in my group…	**Boys**		**Girls**	
	Grade 9	**Grade 10**	**Grade 9**	**Grade 10**
Smoke cigarettes	7	9	6	8
Get drunk	9	17	10	16
Have used drugs to get stoned	10	16	10	13
Have sexual relationships	11	22	10	20

Friend Support and Peer Group Activities

Figure 4.4 shows the percentage of students reporting their friends' high involvement in positive activities by level of friend support (low, medium, high). There were small gender differences across all levels of support. As level of friend support increased, students were more likely to report higher involvement in positive activities (Low Group: 23% for boys, 26% for girls; Medium Group: 36% for boys, 38% for girls; High Group: 43% for boys, 45% for girls).

Figure 4.5 shows the relationship between friends' involvement in activities involving risk behaviours and level of friend support. Level of friend support was unrelated to friends' increased participation in risky peer group activities.

4.4 Friends' relatively high level of positive peer group activities, by level of friend support, by gender (%)

Level of friend support

■ Boys   ■ Girls
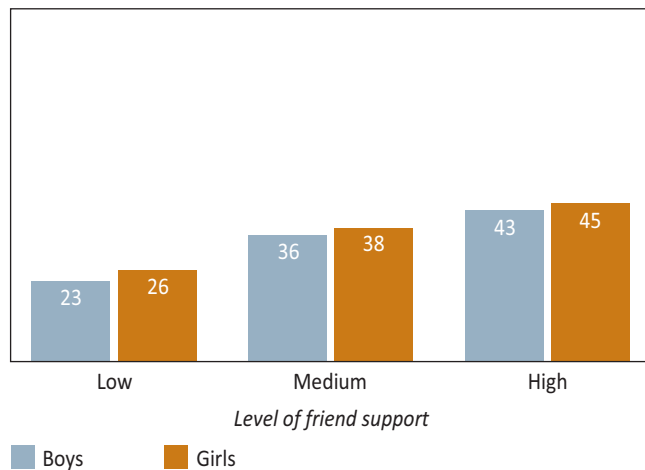
4.5 Friends' relatively high level of risky peer group activities, by level of friend support, by gender (%)

Level of friend support

■ Boys   ■ Girls
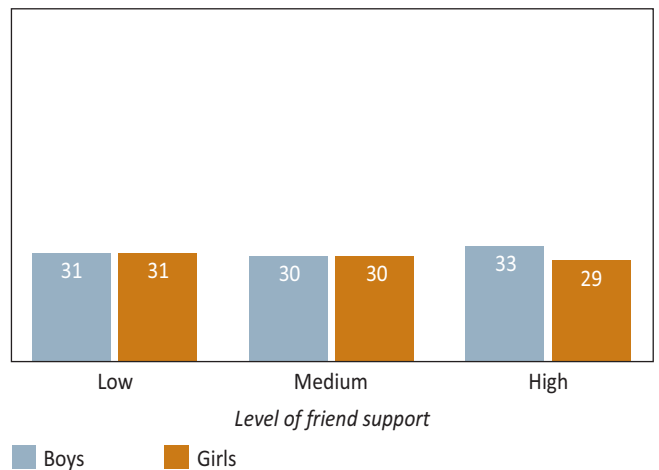
EASE OF COMMUNICATION WITH FRIENDS

Ease of Talking to Best, Same-Sex, and Opposite-Sex Friends

The results for students who found it easy or very easy to talk to their best friends about things that really bothered them are presented in **Figure 4.6**. Girls were consistently more likely than boys to report that it was easy to talk to their best friend, with the greatest gender difference seen in Grades 6 (9%) and 7 (8%) and the smallest difference in Grades 8, 9, and 10 (5%). Across all grade levels, at least 87% of girls and 78% of boys found it easy or very easy to communicate personal issues to their best friends.

There was a similar gender pattern across grade levels for ease of talking to same-sex friends about things that really bothered students (**Figure 4.7**). As in the previous figure, girls reported higher levels than boys across all grade levels. Cross-grade changes were minimal for both boys and girls.

While the percentage of students reporting high levels of ease in talking to opposite-sex friends about things that really bothered them was comparatively lower (**Figure 4.8**) than that for talking to best friends and same-sex friends, the proportion of boys and girls reporting ease increased across grade levels. In contrast to the two previous results, boys were more likely than were girls to report higher levels of ease in talking to opposite-sex friends about things that really bothered them. The difference between the percentage of boys and girls who found it easy to talk to opposite-sex friends was highest in Grade 6 (12%) and lowest in Grades 7 and 10 (5%).

4.6 Students who reported that they found it easy or very easy to talk to their best friend about things that really bothered them, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	78	80	83	83	83
Girls	87	88	88	88	88

4.7 Students who reported that they found it easy or very easy to talk to their same-sex friends about things that really bothered them, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	71	71	74	74	74
Girls	79	81	83	81	81

4.8 Students who reported that they found it easy or very easy to talk to their opposite-sex friends about things that really bothered them, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	45	52	61	64	68
Girls	33	47	52	58	63
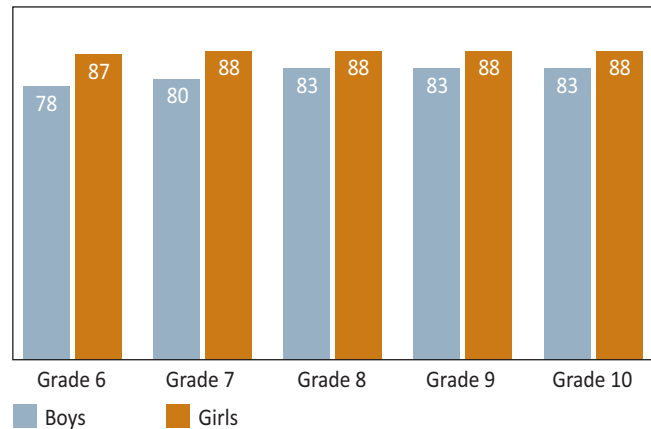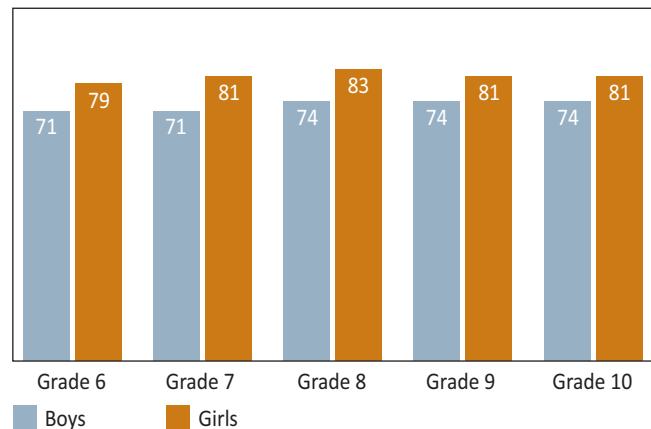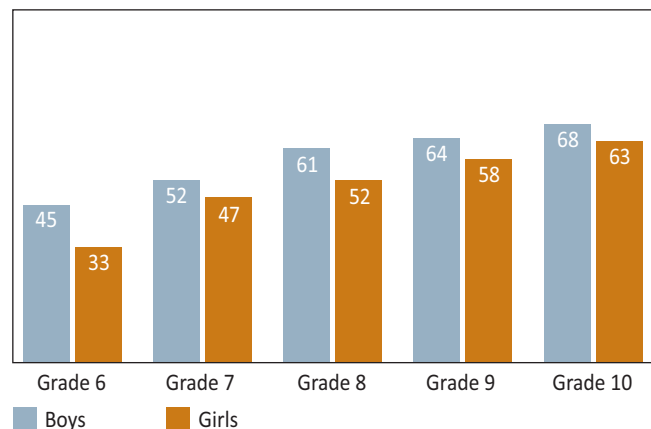
Trends Data for Ease of Talking to Friends

The percentage of students who found it easy to talk to their best friends has remained relatively stable within grade levels across years (**Figures 4.9a** and **b**). Regardless of survey year or grade level, girls indicated that they were more likely than boys to find it easy or very easy to talk to their best friends.

4.9a Boys who reported that they found it easy to talk to their best friend about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10

4.9b Girls who reported that they found it easy to talk to their best friend about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10
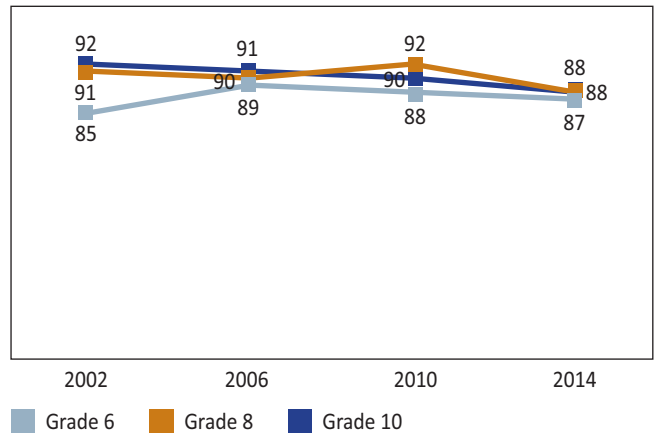
Figures 4.10a and **b** show the percentage of students across survey years who found it easy or very easy to talk to their same-sex friends. Girls across grades and survey years reported higher percentages of ease compared to boys. The percentages for boys have remained fairly stable across years with limited grade differences. In contrast, the reported ease for Grade 10 girls in talking to their same-sex friends has decreased steadily since 1994. As a result, while there was a 16% gap between Grade 6 (78%) and Grade 10 (94%) in 1994, the cross-grade differences for girls were minimal in 2014 (Grade 6: 79%; Grade 8: 83%; Grade 10: 81%).

4.10a Boys who reported that they found it easy to talk to same-sex friends about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10
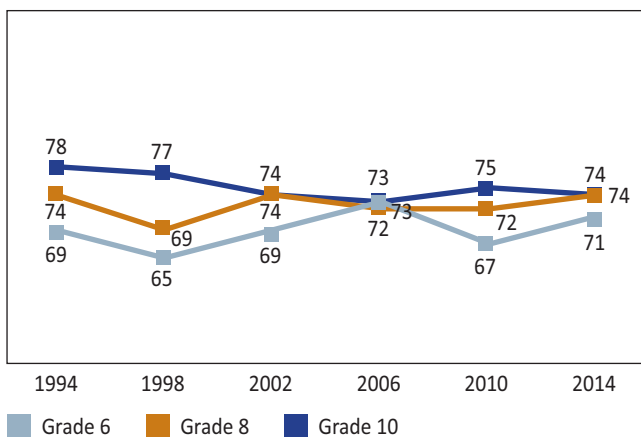
4.10b Girls who reported that they found it easy to talk to their same-sex friends about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10
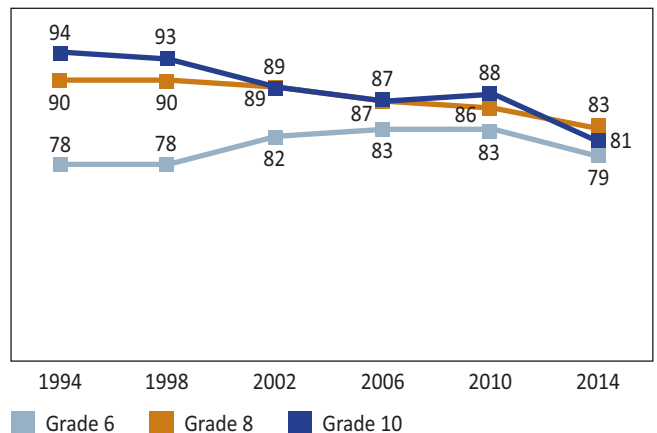
Over the survey years, the percentage of students who found it easy to talk to friends of the opposite sex has remained relatively stable with a slight increase between the first three surveys and the last three surveys for Grade 6 and 8 students (**Figures 4.11a** and **b**). Across all survey years, Grade 6 and Grade 8 boys found it easier to talk to opposite-sex friends than their female counterparts. The Grade 10 gender differences were minimal.

4.11a Boys who reported that they found it easy to talk to their opposite-sex friends about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10
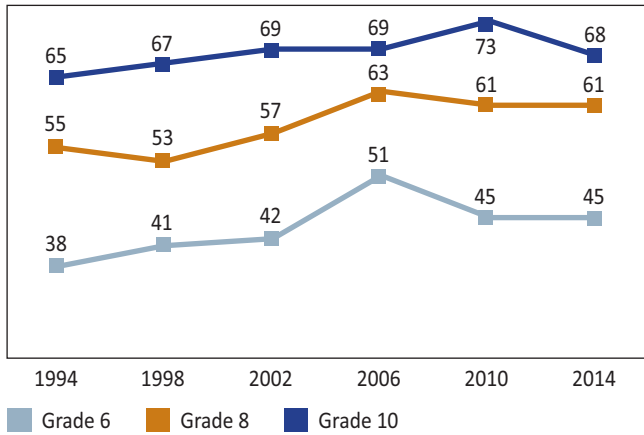
4.11b Girls who reported that they found it easy to talk to their opposite-sex friends about things that really bothered them, by grade and year of study (%)

Grade 6   Grade 8   Grade 10
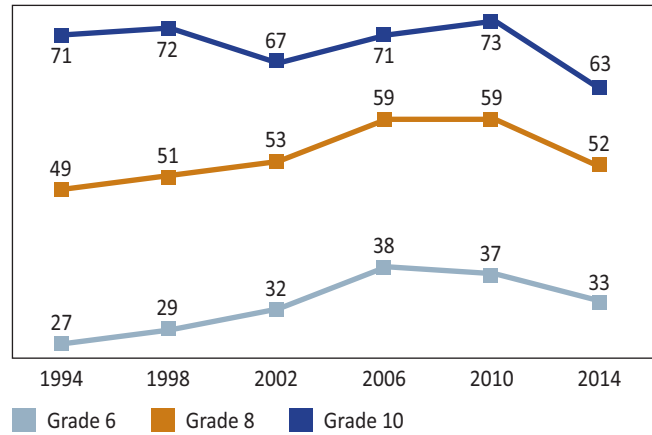
INTERACTIONS WITH FRIENDS

Time Spent with Friends Outside of School

The percentage of students reporting meeting their friends daily before 8:00 p.m. remained fairly stable across grades for both genders (**Figure 4.12**). Boys were more likely than girls to meet their friends before 8 p.m. for all grade levels.

4.13 Students who reported that they met friends daily outside school time after 8 p.m., by grade and gender (%)

Boys   Girls

4.12 Students who reported that they met friends daily outside school time before 8 p.m., by grade and gender (%)

Boys   Girls
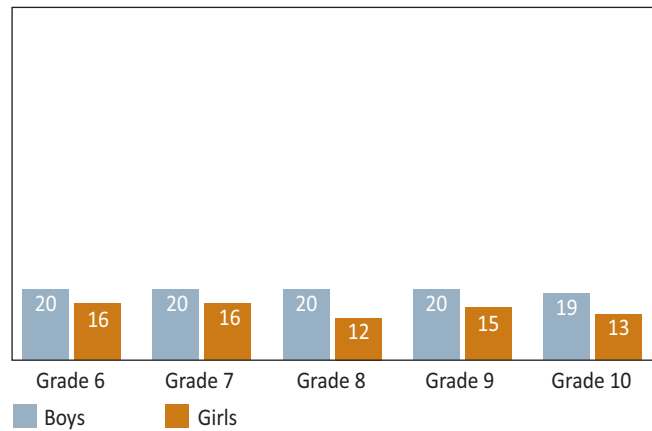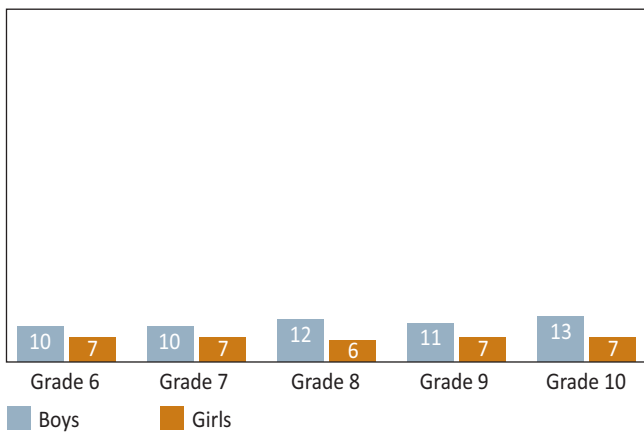
Fewer students reported meeting their friends daily after 8:00 in the evening outside of school time (**Figure 4.13**) than before 8:00 in the evening. Boys reported meeting their friends daily at this time more often than did girls. Differences between grades were minimal.

E-Communication with Friends

Figure 4.14 presents students' reported frequency of daily contact with friends using texting or SMS. Texting/SMS was the most common of the three forms of electronic communication reported across all grade and gender combinations. For both genders, frequency of contact using texting/SMS increased across each grade, so that by Grade 10, half of the boys and over two thirds of the girls reported texting daily. Girls consistently reported higher frequency of contact compared to boys, across each grade level.

Figure 4.15 presents students' reported daily contact with friends using email. Compared to the other forms of e-communication, the use of email was rare, with only 2% to 4% of students reporting they used email to contact their friends daily.

4.14 Students who reported that they contacted their friend(s) using texting/SMS on a daily basis, by grade and gender (%)

Boys — Girls

4.15 Students who reported that they contacted their friend(s) using email on a daily basis, by grade and gender (%)

Boys — Girls
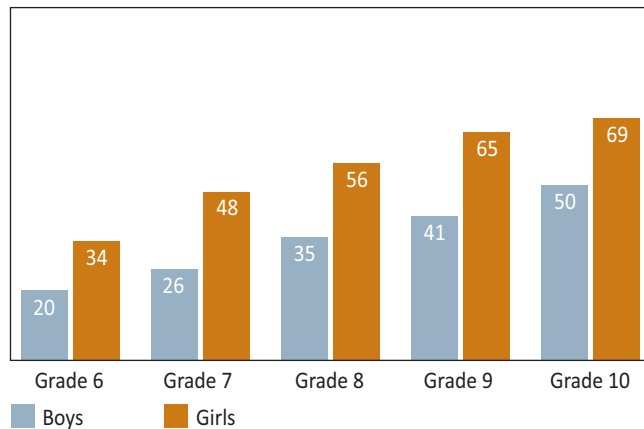
Figure 4.16 shows the percentages by grade and gender for students who reported daily contact with their friends using other social media (e.g., Facebook [posting on wall, not chat], My Space, Twitter, Apps [instagram], games [Xbox], YouTube, etc.). Frequency of contact using other social media increased across Grades 6, 7, and 8 and remained stable thereafter. For both genders, the highest levels of frequency were reported in Grade 9 (31% for boys and 43% for girls). Girls reported higher frequency of contact using other social media than did boys.

4.16 Students who reported that they actively contacted their friends using other social media (e.g., Facebook [posting on wall, not chat], My Space, Twitter, Apps [instagram], games [Xbox], YouTube, etc.) on a daily basis, by grade and gender (%)

Boys — Girls
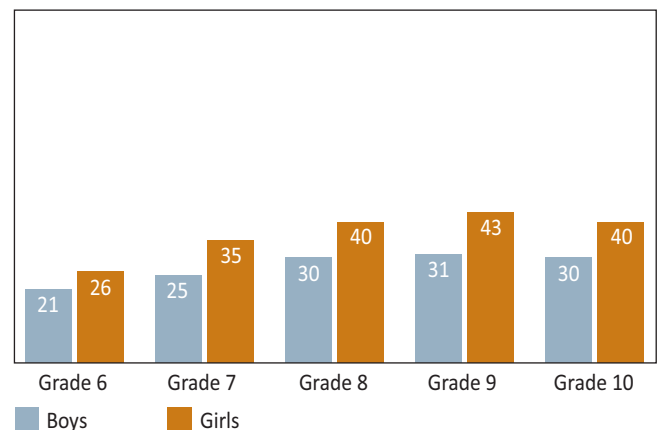
Friend Support and Interactions with Friends

Students who reported more frequent contact with friends outside of school before 8 p.m. were more often in the high friend support group, for both boys and girls (**Figure 4.17**).

There was a similar finding for those students who reported being out with friends after 8:00 p.m. (**Figure 4.18**). More frequent reported contact with friends outside of school after 8:00 p.m. was associated with a greater likelihood of being in the high friend support group.

4.17 Students in the high friend support group, by contact with friends before 8 p.m., by gender (%)

Frequency of contact with friends before 8PM

Boys   Girls
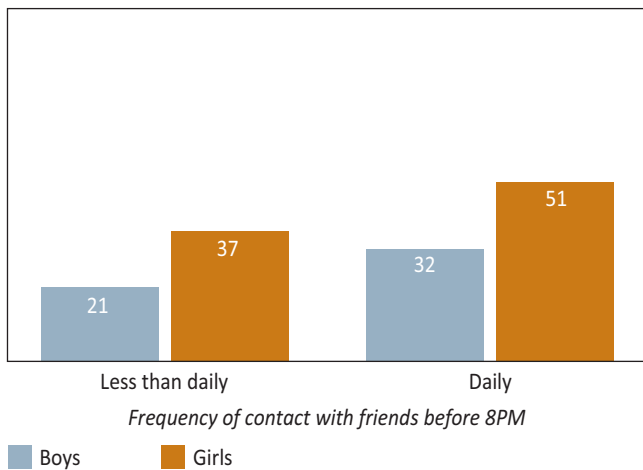
4.18 Students in the high friend support group, by contact with friends after 8 p.m., by gender (%)

Frequency of contact with friends after 8PM

Boys   Girls
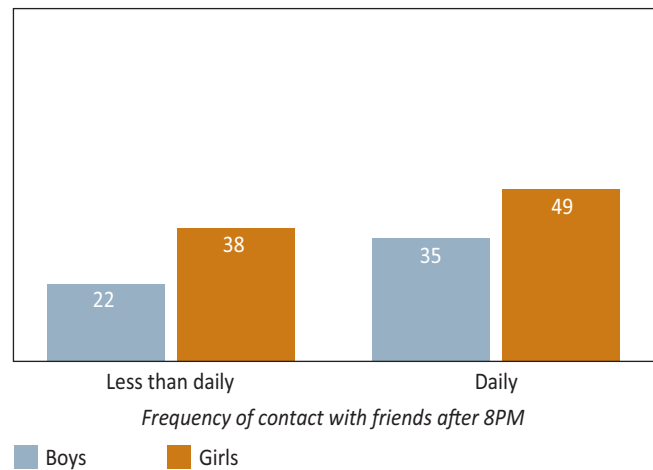
Friend support was related to texting (**Figure 4.19**). Girls and boys who indicated that they texted daily were more often in the high friend support group than were girls and boys who reported texting less often.

Friend support was also related to use of social media for communication (**Figure 4.20**). Girls and boys who reported that they used other social media daily were more likely to be in the high friend support group than were girls and boys whose reported social media use for communication was less often.

4.19 Students in the high friend support group, by contact with friends using texting/SMS, by gender (%)

Frequency of contact with friends using texting/SMS

Boys   Girls
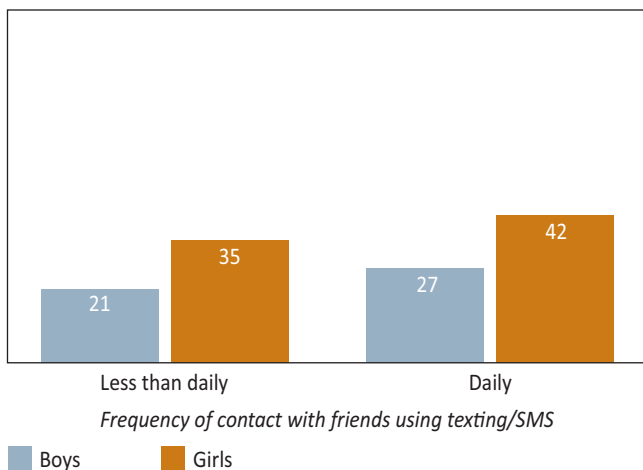
4.20 Students in the high friend support group, by contact with friends using other social media (e.g., Facebook [posting on wall, not chat], My Space, Twitter, Apps [instagram], games [Xbox], YouTube, etc.), by gender (%)

Frequency of contact with friends using social media

Boys   Girls
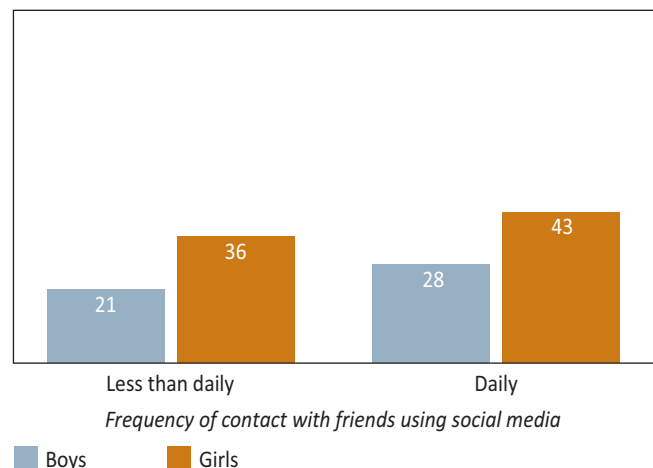
AREAS OF CONCERN

- Regardless of grade, boys consistently reported lower levels of friend support when compared to girls. While approximately three quarters of girls reported that they had friends who tried to help them, and could count on their friends when things went wrong, only two thirds of boys reported the same.
- Similarly, across all grades, boys were more likely than girls to be in the low friend support group and less likely to be in the high friend support group.
- From Grade 9 to Grade 10, there was an increase in risky peer group activities among Canadian youth. For both boys and girls, friends' reported sexual relationships doubled across the grades. Friends getting drunk and using drugs to get stoned increased as well.

ENCOURAGING FINDINGS

- Overall, the majority of Canadian youth reported high levels of peer support. Regardless of age, approximately two of three boys and three of four girls received support from their friends.
- A majority of Canadian youth agreed or strongly agreed that they had friends with whom they could talk about their problems and share their joys and sorrows. Similarly, in analyses not presented, most students believed that they could count on their friends in times of need and that their friends tried to help them.
- Most Canadian youth indicated that their friends were often involved in positive peer group activities. Among these activities, doing well at school, participation in organized sports activities, and getting along with parents were reported by more than half of the Grade 9 and Grade 10 students surveyed (only grades for which the question was asked).
- For both boys and girls, friend support was strongly related to friends' engagement in positive activities, such that Canadian youth whose friends were reported as highly involved in positive activities were more likely to report being in the high friend support group.
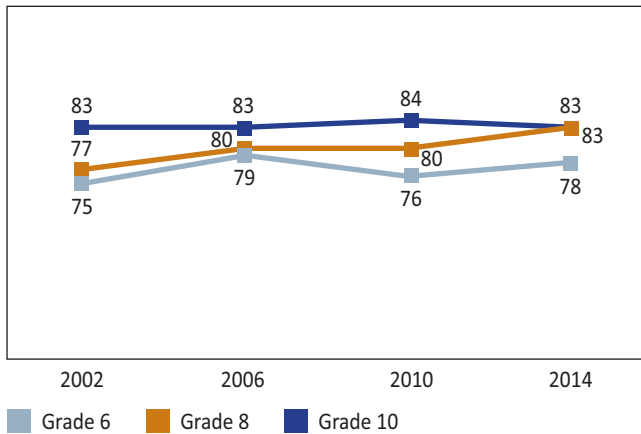- Most Canadian youth reported that they found it easy or very easy to talk to their best friend and same-sex friends about things that really bothered them. By Grade 10, approximately two thirds of students reported ease of communication with opposite-sex friends.
- For both boys and girls, students who reported that they interacted with their friends on a daily basis, whether in person or via modes of e-communication, were more likely to be in the high friend support group than were students who reported that they interacted with their friends less frequently.

SUMMARY AND IMPLICATIONS

The findings in this chapter reveal the important and complex role that peer relationships play in the lives of Canadian youth. As children grow and transition from elementary school into high school, peers take on a more prominent role than previously held. At this time, young people increasingly turn to friends for support and security, as they strive to develop independent identities and to establish and maintain autonomy from parents (Marion et al., 2013; Nickerson & Nagle, 2005). As illustrated by the HBSC findings, the majority of Canadian youth reported high levels of friend support. Regardless of age, on average, two thirds of boys and three quarters of girls were happy with the support they received from their friends. Similarly, most Canadian adolescents believed that they received help from their friends, were able to count on their friends in times of need, and had friends with whom they could talk about their problems and share their joys and sorrows.

As adolescents continue to become more autonomous, mobile, and independent (Blieszner & Roberto, 2004), peer group relationships may undergo considerable transformations in both membership and interests and activities. Such shifts may be particularly difficult to maneuver at a time when young people are negotiating the developmental changes associated with pubertal physical development (Berenbaum, Beltz, & Corley, 2015; Johnson, 2014; Jones, Dick, Coyl-Shepherd, & Ogletree, 2014).

Adolescence has been described as a time when the influence of friends eclipses that of parents, where the heightened prominence of peers is often assumed to be analogous with a period of heightened influence (Marion et al., 2013). Supportive peers can have a positive impact on the lives of adolescents, often serving as a protective factor against the negative outcomes of risky and health-compromising behaviours (e.g., Berndt, 2004; Davison, 2004). In contrast, low quality relationships and the mere presence of peers can impact the decision-making processes and engagement in risky behaviours among adolescents (e.g., Chein et al., 2011; Graham & Bellmore, 2007). Most Canadian youth in the 2014 HBSC survey indicated that their friends were involved in positive peer group activities, such as doing well at school, participating in organized sports activities, and getting along with parents. Friend support was strongly related to friends' engagement in such positive activities for both girls and boys. Adolescents' reports of their friends' risky peer group activities were much lower than their reports of positive peer group activities, although these reports increased for both boys and girls from Grade 9 to Grade 10. Whereas friend support was related to positive peer group activities, it was unrelated to risky peer group activities.

Throughout adolescence, the importance of having friends as confidants increases substantially. Similarly, romantic relationships often begin to emerge from interpersonal networks created by friends, with the likelihood of having a romantic partner increasing as young people get older (Blieszner & Roberto, 2004; Kenny et al., 2013). As with past HBSC findings, most Canadian youth reported an ease of communication with their best friend and same-sex friends. The ease with which individuals communicated with opposite-sex friends increased with age, with the comfort level of girls increasing faster than that of boys. For both best and same-sex friendships, girls reported greater ease in communication than boys. However, boys reported being better able to talk to opposite-sex friends than did girls. The HBSC trends data revealed a clear pattern with regards to ease of communication. Overall, Canadian youth consistently found it easiest to talk to best friends, followed by same-sex friends, and then opposite-sex friends.

As email becomes a social tool of the past, e-communication and online social networking continue to shape the dynamics of the adolescent peer context (e.g., Strasburger, Jordan, & Donnerstein, 2010; Wells & Mitchell, 2008). For both boys and girls, the percentage of Canadian youth communicating via text/SMS increased with age. By Grade 10, approximately half of boys and two thirds of girls reported contacting their friends using text/SMS on a daily basis. While Canadian adolescents reported using online social networks less frequently than texting/SMS to contact friends, these online services provided an important forum for communication among some youth, as approximately one third of girls and slightly more than one quarter of boys reported using social networks to communicate with friends on a daily basis.

Canadian youth reported lower levels of daily face-to-face interactions with friends than e-communications. The reports of students meeting their friends after 8:00 p.m. were lower than those for face-to-face interactions earlier in the evening. Reports of daily face-to-face interactions with friends both before and after 8:00 p.m. were higher for boys than for girls.

Although findings indicate that Canadian youth interacted more regularly with friends via modes of e-communication than face-to-face, there was no marked difference between being in the high friend support group and the various modes of interaction. What appears to be most important for Canadian youth is the consistency of interactions with friends. For both boys and girls, those who said they interacted with their friends on a daily basis, whether in person or via e-communication, reported a greater likelihood of being in the high friend support group when compared to students who stated that they interacted with their friends less frequently.

As Canadian youth grow and develop throughout adolescence, it is important that the social structures surrounding them are supportive of the cultivation and maintenance of positive relationships among peers. However, although adolescents tended to find it easy to communicate with peers and increasingly did so through e-communication, it is not known to what extent peers were adequately prepared or knowledgeable to respond effectively to the needs of their friends (Kenny et al., 2013). Education and ongoing discussions between adults and youth on how to help friends in distress would be worth exploring further. For example, youth may need to know how to establish pathways for seeking help and support, including where to turn and what to do.

Second, although adolescents' descriptions of friends tended to characterize them as engaging in positive peer group activities, the reported percentage of friends' risky activities increased between Grade 9 and Grade 10. It is important to explore how adults might support the development of positive group activities and be aware of the risky peer group activities of adolescents. Perhaps they could provide adolescents with the time and means to make daily connections with friends, either face-to-face or electronically, while remaining aware of the nature of such connections.

Finally, while the majority of Canadian youth reported that they were supported by their peers, some did not. In this respect, providing young people with a wide array of interests in structured and adult-supervised extracurricular activities is a critical step, as these types of activities have beneficial effects on maintaining current friendships and establishing future friendships (Schaefer, Simpkins, Vest, & Price, 2011). For young people who prefer more solitary interest pursuits, positive interactive activities could be encouraged, in person or electronically.

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Chapter 5

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Community

THE IMPORTANCE OF UNDERSTANDING COMMUNITY RELATIONSHIPS

Adolescent health is intricately linked to the social environment. There is broad consensus that the mechanisms that support or hinder health cannot be fully explained by individual characteristics but rather must be examined in a system of nested social structures (Marmot et al., 2010). This ecological perspective is especially important to understanding adolescent health. In the adolescent years, social relationships begin to extend beyond the home, school, and peer settings and into the community. Participation in civic life shapes young peoples' self-concept and identity and refines their understanding of reciprocity, fairness, and social justice (Arsenio & Gold, 2006; Morgan & Haglund, 2009).

The term "community" refers to a social structure that groups people with common values or goals (Sampson, 1999). The neighbourhood, a form of community created by geographic proximity, is where young people live, play, and interact. Groups and activities in which youth participate constitute another kind of community. Together, neighbourhoods and groups offer important benefits such as mutual trust, social support, safety, and access to social networks that can facilitate cooperation (Vyncke et al., 2013). Communities also influence health through communicating health-facilitating information and establishing norms about accepted behaviours (Ellen, Mijanovich, & Dillman, 2001). Researchers use the term "social capital" to describe such benefits of social networks to individuals (Baum & Ziersch, 2003; Coleman, 1988; Putnam, Leonardi, & Nanetti, 1994). Although research on social capital in youth is limited compared to in adults, studies have found that youth's assessments of social capital in terms of group affiliations, trust, and cooperation relate to better physical health (Ferguson, 2006; Morgan & Haglund, 2009), mental health (Leventhal & Brooks-Gunn, 2000, McPherson et al., 2014), and academic outcomes (Leventhal & Brooks-Gunn, 2000, Rothon, Goodwin, & Stansfeld, 2012), and to fewer behavioural problems (McPherson et al., 2014).

The social norms of a community also influence lifestyle choices of young people and consequently their health (Leventhal and Brooks-Gunn, 2000). For example, adolescents are more likely to be physically active if they belong to groups that value physical activity, such as sports teams. Resources that are available through neighbourhood communities can encourage healthy habits. For instance, living in neighbourhoods with safe green spaces or recreation facilities makes it easier for young people to participate in sports and other activities. Finally, community relationships and support contribute to the resilience of youth to rebound and thrive during difficult times (Morgan & Ziglio, 2007).

Community relationships are therefore a formative influence on the development of young people. Youth who are part of a supportive community are more likely to lead healthy, rewarding, and productive lives (Scales, 1999). Adolescence is also a period of rapid social development when youth become more engaged in their communities. Within this context, it is important to examine the type of communities that surround Canadian youth and how they relate to their health and health behaviours.

WHAT IS BEING REPORTED IN THIS CHAPTER?

This chapter describes community relationships of Canadian students in Grades 6 to 10 who participated in the 2014 HBSC study. Community relationships, support, and social capital were self-assessed using questionnaire items that measured perceptions of the local community and involvement in community organisations, volunteer work, and other kinds of group affiliations.

Community Support Scale

Community support was assessed in five items that asked about the quality of social relationships, neighbourhood safety, and trust (Table 5.1). Some academic researchers refer to this concept as "social capital" or "neighbourhood social capital" (Baum & Ziersch, 2003; Coleman, 1988; Putnam, Leonardi, & Nanetti, 1994), but for ease of communication with policy audiences we are using the term "community support" throughout this report. The five community support items were reported on a 5-point scale from "strongly agree" to "strongly disagree". The scale has a Cronbach's alpha of 0.78. For presentation purposes, the scale score is divided into three groups, showing low (32.4%), medium (34.9%), and high (32.7%) community support. We present grade and gender differences in community support.

Table 5.1 Components of the community support scale	
People say 'hello' and often stop to talk to each other on the street.	
It is safe for younger children to play outside during the day.	1 = Strongly disagree,
You can trust people around here.	2 = Disagree, 3 = Neither agree nor disagree,
There are good places to spend your free time (e.g., recreation centres, parks, shopping centres).	4 = Agree, 5 = Strongly agree
I could ask for help or a favour from neighbours.	

An additional item measured general social distrust by asking students whether they thought that most people in their neighbourhood would try to take advantage of them if they had the chance, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). Trends from 2002 to 2014 are presented for average community support and the percentage of youth that agreed or strongly agreed with the item about general social distrust.

Participation in Community Groups and Activities

Youth participation in activities and groups was measured as another dimension of community involvement. Students indicated (yes or no) whether they were involved in a sports team (e.g., volleyball, hockey, soccer), individual sports (e.g., running, cycling, skating), volunteer work, arts groups, community groups (e.g., scouts, girl guides, 4-H, cadets), church or other religious/spiritual group, and other activity or group (e.g., chess, math, debate). These seven items on group membership were then summed to create a scale ranging from 0 to 7, indicating the number of group types in which youth were involved. This scale was then categorised into three equally sized groups representing low (0 to 1), medium (2), and high (3 to 7) group membership. Levels of membership (low, medium, high) are presented by grade level and gender.

Community Support Scale

Figure 5.1 shows the percentage of boys and girls who reported low, medium, and high community support across grades 6, 8, and 10. The distribution low, medium, and high community support was similar for boys and girls. However, both gender groups showed differences between grade levels. The percentage of students with high community support was greatest among Grade 6 students (42% in both boys and girls) and lowest among Grade 10 students (29% in boys, 23% in girls) with Grade 8 students in the middle.

Trends in Community Support

Figures 5.2a and **b** show the time trend in the mean score of the community support scale among boys and girls respectively. Assessments of community support remained relatively high for boys and girls across years and grades. A slight decrease in scores occurred between 2002 and 2010. Scores then remained stable between 2010 and 2014. Students in the lower grades had more positive perceptions of community support compared with higher grades.

5.1 Students who reported low, medium, and high levels of community support, by grade and gender (%)
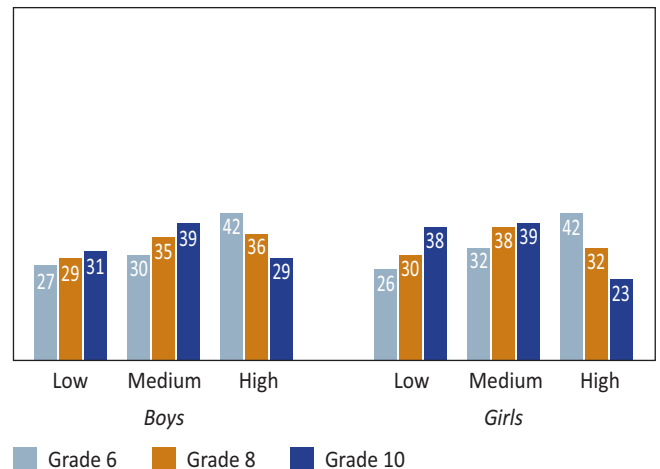
5.2a **Mean score of community support scale among boys, by grade and year of the study**

20.7
20.0
19.4
19.9
19.1
18.9
19.2
18.7
18.3
19.5
19.3
18.8

2002   2006   2010   2014

Grade 6   Grade 8   Grade 10
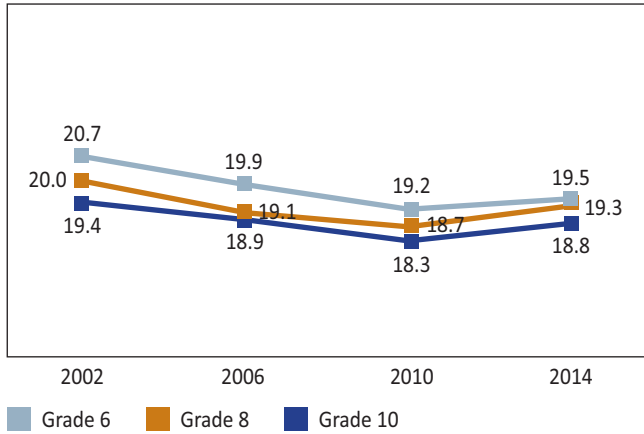
5.2b **Mean score of community support scale among girls, by grade and year of the study**

20.8
19.9
19.8
19.5
19.0
18.9
19.2
18.4
18.2
19.7
18.9
18.4

2002   2006   2010   2014

Grade 6   Grade 8   Grade 10
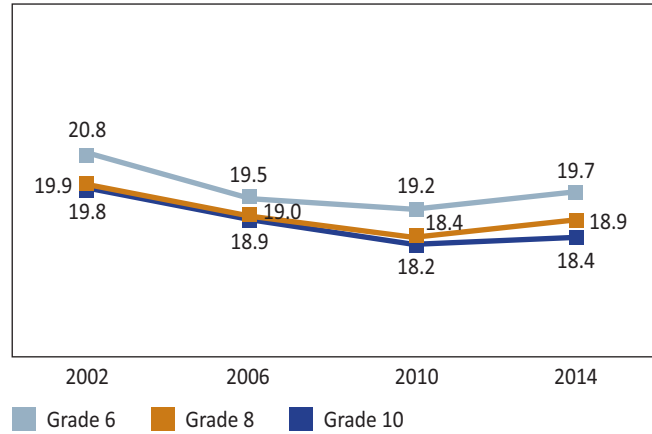
Individual Perceptions of Neighbourhood Social Distrust

Approximately 1 in 6 students indicated they felt that people would try to take advantage of them if they had the chance (**Figure 5.3**). Levels of distrust were similar among boys and girls in Grades 6 and 7 and were higher for boys compared with girls in Grades 8, 9 and 10.

Overall, the percentage of students who perceived that most people would try to take advantage of them if they got the chance increased between 2002 and 2014 only among Grade 8 and 10 girls and Grade 10 boys (**Figures 5.4a** and **b**). In Grade 10, there was an increase of 7% between 2002 and 2014 in girls (from 9% to 16%) and 3% in boys (from 18% to 21%), while the increase was 1% among Grade 6 girls

5.3 **Students who agreed or strongly agreed that most people around their community would try to take advantage of them if they got the chance, by grade and gender (%)**

Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
16 / 15	17 / 16	18 / 14	20 / 15	21 / 16

Boys   Girls
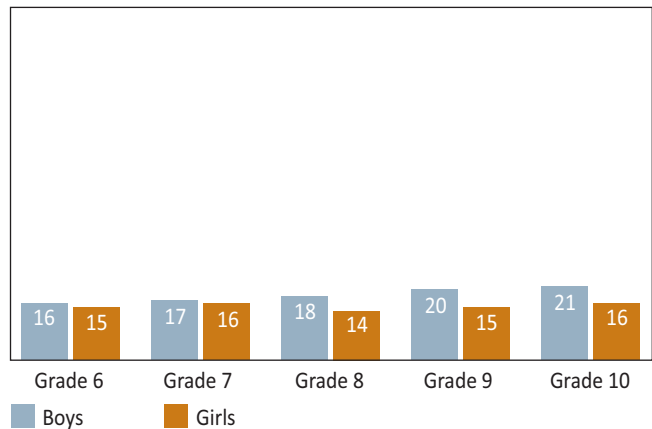
5.4a **Boys who agreed or strongly agreed that people in the area where they live would try to take advantage of them if they got the chance, by grade and year of study (%)**

18
17
16
17
15
14
20
18
17
21
18
16

2002   2006   2010   2014

Grade 6   Grade 8   Grade 10
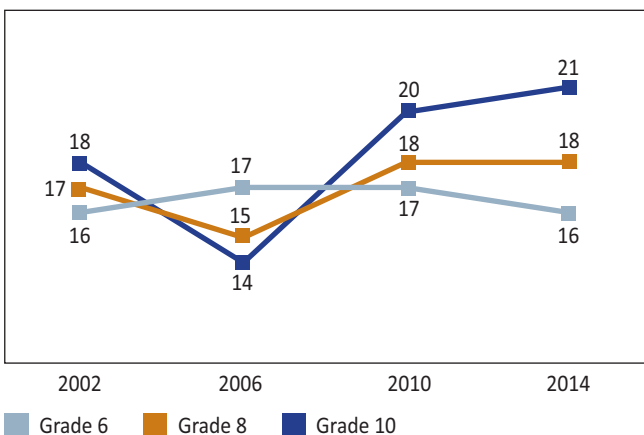
5.4b **Girls who agreed or strongly agreed that people in the area where they live would try to take advantage of them if they got the chance, by grade and year of study (%)**

14
9
9
13
11
10
15
15
15
16
15
14

2002   2006   2010   2014

Grade 6   Grade 8   Grade 10
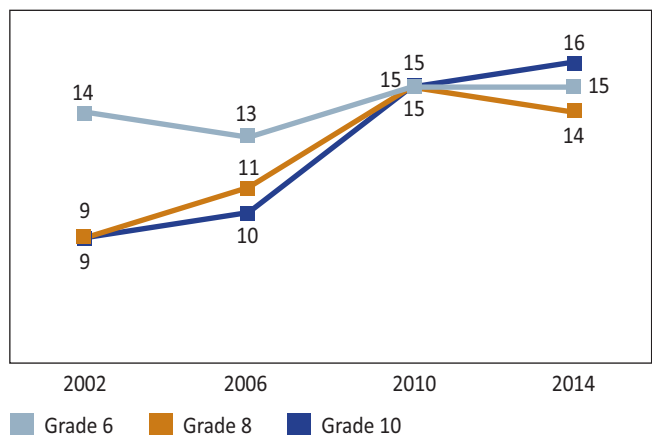
and 0% among Grade 6 boys. Across all grades and all years, boys reported neighbourhood social distrust in greater percentages than did girls.

Participation in Community Groups and Activities

The percentage of students reporting participation in team sports ranged from 51% among girls in Grades 9 and 10 to 70% among boys in Grade 7 (**Figure 5.5**). Boys reported higher participation in team sports at each grade level compared to girls. Participation in team sports declined at higher grades among both boys and girls.

5.5 **Students who reported involvement in team sports, by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	69	70	67	63	64
Girls	60	59	58	51	51

Boys ■   Girls ■
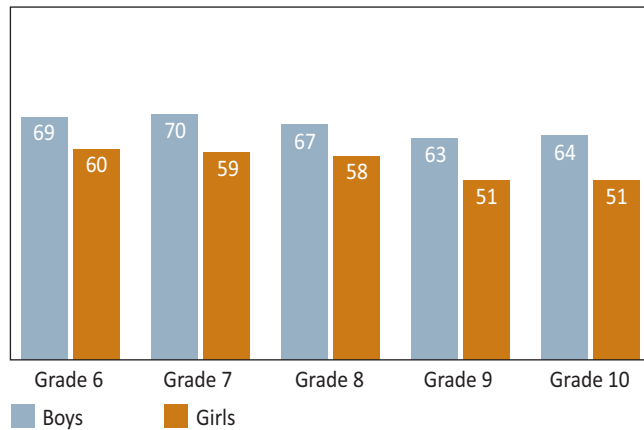
> **"I just think that it is always important to always want to help people. It will make you feel better and them feel better and it is a good thing to do."**
>
> *(Youth focus group participant)*

The percentage of students reporting participation in volunteer work ranged from 21% among boys in Grade 6 to 58% among girls in Grade 10 (**Figure 5.7**). Girls reported greater involvement in volunteer work than did boys at every grade level. Volunteering was more common at higher grade levels than at lower grade levels among boys and girls.

About half of all students reported involvement in individual sports (**Figure 5.6**). There were minimal differences in sports membership between gender and grade groups.

5.6 **Students who reported involvement in individual sports, by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	50	49	49	49	49
Girls	55	51	45	45	44

Boys ■   Girls ■
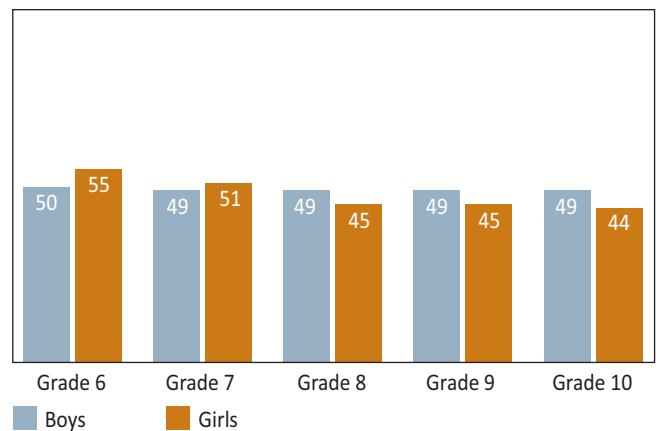
5.7 **Students who reported involvement in volunteer work, by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	21	26	31	37	41
Girls	29	34	42	48	58

Boys ■   Girls ■
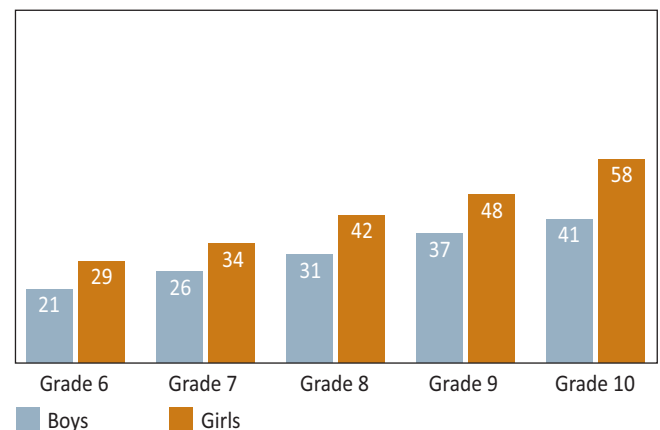
About 1 in 5 boys in all grade levels reported involvement in arts groups (**Figure 5.8**). Girls were approximately twice as likely as boys to participate in arts groups. Involvement in arts group among girls was slightly higher in Grades 6 and 7 than in the higher grades.

Approximately 1 in 8 students reported involvement in community groups (**Figure 5.9**). In Grade 6, girls reported greater involvement than boys (12% vs. 9%). In other grades, gender differences were minimal.

Approximately one quarter of students reported being involved in church or other religious/spiritual groups (**Figure 5.10**). Boys and girls had similar participation in church or religious groups.

5.8 **Students who reported involvement in arts groups, by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	19	25	22	20	19
Girls	50	49	43	40	37

5.9 **Students who reported involvement in community groups (e.g., scouts, girl guides, 4-H, cadets), by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	9	12	11	11	10
Girls	12	13	11	10	10
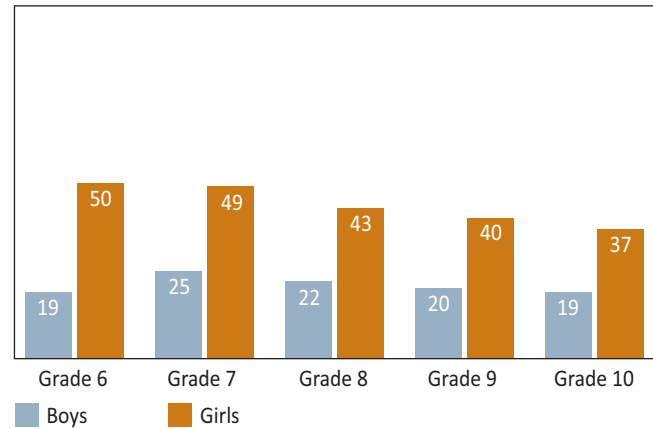
5.10 **Students who reported involvement in church or other religious/spiritual group, by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	26	23	25	22	21
Girls	27	25	24	24	23
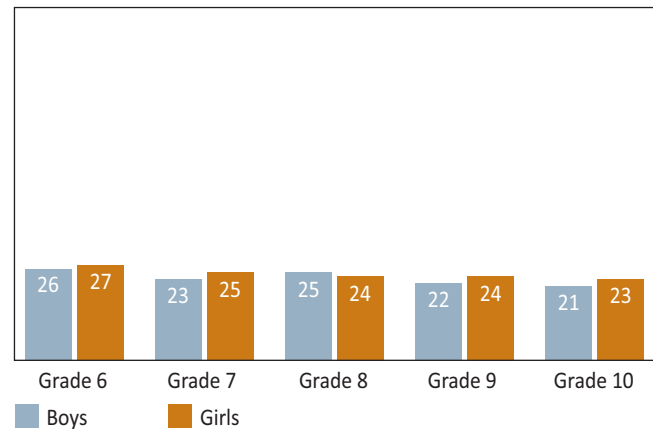
5.11 **Students who reported involvement in other activities or groups (e.g., chess, math, debate), by grade and gender (%)**

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	22	19	16	15	17
Girls	19	15	14	11	11
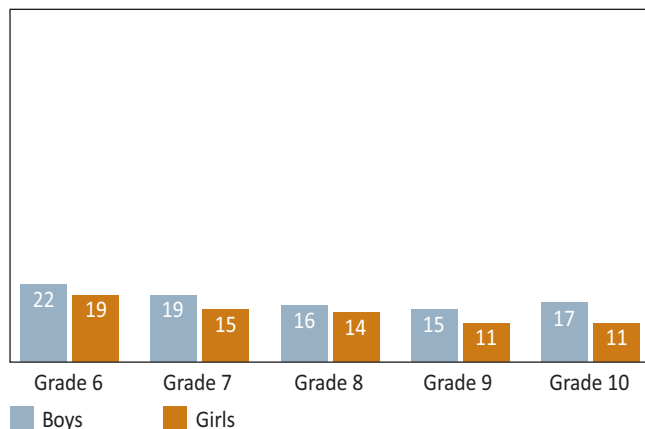
The percentage of students reporting involvement in other activities or groups ranged from 11% among girls in Grades 9 and 10 to 22% among boys in Grade 6 (**Figure 5.11**). Involvement declined with subsequent grades and was more commonly reported among boys than girls.

The percentage of students with high group membership was greater for girls than for boys (**Figure 5.12**). There were minimal differences in the percentage of students reporting low, medium, and high involvement in group activities by grade level.

5.12 Students who reported low, medium, and high levels of involvement in activities or groups, by grade and gender (%)

	Low	Medium	High
Boys	36 33 38	30 30 26	34 37 36
Girls	29 31 32	26 26 25	45 43 43

Grade 6   Grade 8   Grade 10
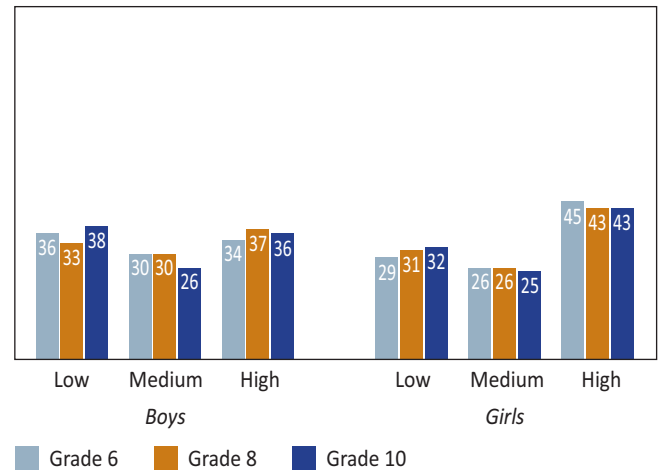
AREAS OF CONCERN

- At all grade levels, boys reported lower levels of involvement in community activities and groups than girls. More than 2 in 5 girls reported being part of three or more community activities or groups compared with only 1 in 3 boys who reported the same. Girls were more likely to report being involved in volunteer work and arts groups compared with boys. However, boys were more likely to report being involved in team sports compared with girls.
- About 1 in 6 students felt that most people in their neighbourhood would try to take advantage of them if they had the chance. Boys in higher grades reported greater levels of distrust, with about 1 in 5 boys reporting that people in their neighbourhood would try to take advantage of them. The percentage of students who felt distrust towards others increased between 2002 and 2014, among girls in Grades 8 and 10 and among boys in Grade 10.

ENCOURAGING FINDINGS

- Canadian students generally reported high levels of community support across all grades. These high levels of community support have remained relatively stable over the last decade, between 2002 and 2014.
- The majority of Canadian youth reported being involved in two or more community activities or groups. Among these activities, involvement in a sports team and in individual sports was reported by more than half of Canadian youth.
- Many Canadian youth were involved in volunteer work. This type of community involvement was more common at higher grade levels. By Grade 10, approximately half of girls and one third of boys reported participating in volunteer work.

SUMMARY AND IMPLICATIONS

As illustrated by the HBSC findings, the majority of Canadian youth reported high levels of community support and membership in community activities and groups.

Most Canadian youth were involved in community activities or groups, and about two thirds of students reported participating in more than one community activity or group. Research findings suggest that most Canadian youth benefit from the support, security, and access to information afforded to them through community relationships (Vyncke et al., 2013). For policymakers, research also suggests that such community support and associated social capital are tools that could be leveraged to spread health information, promote healthy lifestyles, and discourage health compromising behaviours to the majority of Canadian youth (Sampson, 1999; Viner et al., 2012).

Younger students reported higher overall levels of community support compared to older students, as measured by the community support scale. Over 40% of boys and girls in Grade 6 reported high levels of community support, whereas the figure was around 25% for boys and girls in Grade 10. This finding may reflect different preferences about good places to spend free time among older and younger students. While perceptions of neighbourhood safety and trust remained high across grade levels, fewer older students agreed their neighbourhood had good places to spend free time. For example, older students may prefer to spend time at shopping centres compared to younger students who may prefer libraries or recreation centres.

It is encouraging that Canadian youth reported high levels of community involvement and community support. Neighbourhoods that engender high levels of social capital contribute to better mental and physical health, lower levels of youth fighting and bullying, and more health-promoting behaviours (Viner et al., 2012). Civic involvement and other aspects of neighbourhood social capital can help mitigate the negative effects of abusive or neglectful environments among youth (Runyan, 1998). Moreover, some evidence suggests community social capital may also have indirect links to adolescent health through reducing socioeconomic inequities in health and well-being (Vyncke et al., 2013). Building community support therefore supports health promotion in young people and reduction of health inequalities through the life course (Marmot et al., 2010).

Social capital keeps bad things from happening to good kids (Putnam, 2000: p.296).

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Chapter 6

Ian Janssen

Physical Activity and Sedentary Behaviour

THE IMPORTANCE OF UNDERSTANDING PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR

Physical activity refers to any bodily movement produced by the muscles. Physical activity therefore includes light intensity tasks such as playing catch, moderate intensity tasks such as walking, and vigorous intensity tasks such as running. Many activities in which youth engage include movements of a variety of intensities. For example, while playing a hockey game, a young person will transition between light, moderate, and vigorous intensity movements. Participation in a hockey game also includes sedentary time such as the time a player spends sitting on the bench.

Most research in the physical activity field has focused on moderate to vigorous physical activity. Participation in physical activities of moderate to vigorous intensity makes a person breathe more deeply and rapidly, makes their heart beat faster, and increases their body temperature (i.e., makes them feel warm and sweat). Common types of moderate to vigorous physical activity for youth include participating in organized sports such as a dance class or soccer practice, engaging in active transportation such as walking or biking to school, taking a physical education class at school, and doing unstructured play in their free time such as outdoor play or playing some (but not all) active/fitness video games.

> **"I think that to be healthy you need to be a physical person and do physical activity and you need to eat well."**
>
> *(Youth focus group participant)*

Among young people, routine participation in moderate to vigorous physical activity is associated with a variety of physical and mental health benefits. The physical health benefits include the regulation of body weight and chronic disease risk factors (e.g., blood pressure, blood cholesterol), improved fitness, and the development of healthy and strong bones (Janssen & LeBlanc, 2010; Strong et al., 2005). The mental health benefits include a better mood, decreased risk of depression, and improved academic performance (Janssen & LeBlanc, 2010; Strong, et al., 2005). Current recommendations are that children and youth participate in at least 60 minutes of moderate to vigorous physical activity daily for health benefits (Tremblay, Warburton, et al.,

2011). Refer to Canada's Physical Activity Guidelines for Children and Youth at the following web address for more information on appropriate volume, intensity, and types of physical activity needed for good health: www.csep.ca/guidelines.

Sedentary behaviour refers to activities where there is little or no movement and which occur while a person is seated or lying down (Sedentary Behaviour Research Network, 2012). Common sedentary activities in which young people engage include watching television, playing video games, surfing the web on the computer, doing homework, reading, and travelling in a car. The amount of time young people spend in sedentary behaviour is poorly correlated to the amount of time they spend participating in moderate to vigorous intensity physical activity (Tremblay, Colley, Saunders, Healy, & Owen, 2010). Conversely, sedentary behaviour is very strongly and negatively correlated to the amount of time spent in light intensity activities, and efforts aimed at reducing the amount of time people spend being sedentary primarily aim to replace some of their sitting time with light intensity activities such as standing.

Excessive time spent in sedentary behaviour, especially screen-time activities, such as watching television, using the computer, and playing sedentary video games, is associated with an assortment of negative health outcomes. These health outcomes include obesity, high blood pressure, decreased fitness, engagement in violent behaviours, and substance use and abuse (LeBlanc et al., 2012). Excessive sedentary behaviour negatively impacts a young person's health independent of their moderate to vigorous physical activity (LeBlanc, et al., 2012). Current guidelines are that youth should participate in no more than 2 hours of sedentary screen time per day during their recreation time, and that they limit sedentary (motorized) transport, extended sitting and time spent indoors throughout the day (Tremblay, Leblanc, et al., 2011). Refer to Canada's Sedentary Behaviour Guidelines for Children and Youth for more information on appropriate levels of sedentary behaviour for health benefits: www.csep.ca/guidelines.

WHAT IS BEING REPORTED IN THIS CHAPTER?

Students reported on how many days in a typical week they were physically active at a moderate to vigorous intensity for 60 minutes or longer. Students who reported that they had completed at least 60 minutes of physical activity on all seven days of the week met physical activity guidelines and were considered to be physically active, while those participating in lesser amounts were considered to be physically inactive. Students also reported the number of hours in a typical week that they were physically active in class time at school. New items were added to the 2014 HBSC survey to gather information about the number of hours in a typical week that students were physically active in their free time, either outdoors, or indoors playing active video games such as Wii Fit and Xbox Kinect. In addition, students were asked to report their primary mode of transportation to school and whether or not they played team sports such as volleyball or hockey, and individual sports such as running and skating. Finally, students were asked a series of questions to determine how many hours in an average day they engaged in the following sedentary screen time behaviours: (1) watching television including DVDs, videos, YouTube, and similar services, (2) playing sedentary video games on a computer, video games console, or other electronic devices, and (3) using computers, tablets (like iPad), or smartphones for other purposes such as homework, emailing, tweeting, Facebook, chatting, or surfing the internet.

Along with several physical and mental health benefits, engagement in moderate to vigorous physical activity and limiting sedentary behaviour have known social benefits. For instance, lower screen time levels have been linked with engagement in fewer violent behaviours such as bullying and fighting (Janssen, Boyce, & Pickett, 2010). Strong, positive relationships could also influence a young person's movement behaviours. For example, the amount of support and encouragement young people receive from their parents is positively associated with their engagement in moderate to vigorous physical activity (Gustafson & Rhodes, 2006). This chapter reports on whether physical activity and sedentary behaviour are associated with family support, school climate, friend support, and community support.

> "Running was something that really helped me when I was angry or upset. I would just go for a run. Just to get away from anyone, you know just to be alone and looking at everyone passing by while I'm running. Not really thinking of anything. Just kind of clearing my mind and having that me time. So that was something that really helped me with, was being active."
>
> *(From Embers to Flames: Saskatchewan inner-city Aboriginal youth)*

DESCRIPTION OF THE PROBLEM

Physical Activity Levels of Young Canadians

Figure 6.1 shows that between 22% and 31% of boys reported participating in at least 60 minutes of moderate to vigorous physical activity on a daily basis. Only 10% to 22% of girls reported achieving this same criterion. Within both genders, the proportion of students who stated that they were physically active at this level declined steadily between Grade 6 and Grade 10.

As shown in **Figure 6.2**, the proportion of students who indicated that they participated in 60 minutes of moderate to vigorous physical activity on a daily basis did not change more than 2 percentage points between the 2002 and 2014 HBSC surveys.

6.1 Students who reported that they had been physically active seven days over a typical week for a total of at least 60 minutes per day, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	31	29	28	24	22
Girls	22	19	14	12	10
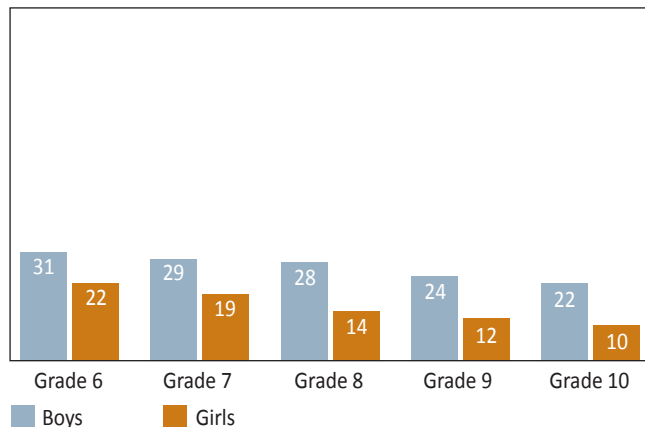
6.2 Students who reported that they had completed at least 60 minutes per day of moderate to vigorous physical activity, in 2002, 2006, 2010, and 2014 (%)

2002	2006	2010	2014
18	19	18	20
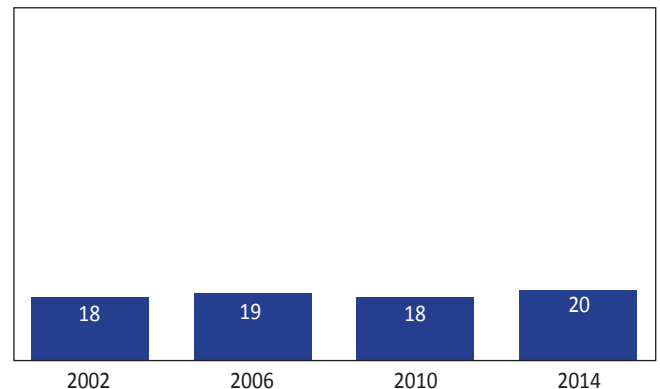
Nineteen to 33% of students indicated that they were not involved in organized sports when they completed the survey (**Table 6.1**). An average of 27% indicated that they were involved in team sport(s) only, while 15% indicated that they were involved in individual sport(s) only, and 34% indicated that they were involved in both team and individual sports. More boys than girls reported participating in sports. Participation in sports was highest in Grade 6 students and lowest in Grade 10 students.

Table 6.1 Students who reported that they participated in organized sport, by grade and gender (%)	Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Do not participate in sports	19	22	19	25	21	27	23	31	24	33
Participate in team sport(s) only	31	23	32	25	31	28	28	24	27	23
Participate in individual sport(s) only	12	19	12	14	12	14	14	18	12	16
Participate in both team and individual sports	38	36	37	35	36	30	34	27	37	28

Figure 6.3 shows that 25% to 31% of boys and 19% to 29% of girls reported that they used active transport (e.g., walking or bicycling) for the main part of their journey to school. Most boys (64% to 71%) and most girls (67% to 80%) used motorized transport such as a school bus or family vehicle for the main part of their journey to school.

Figure 6.4 shows that from 29% to 32% of boys and 19% to 23% of girls reported that they participated in at least 4 hours of moderate to vigorous physical activity during class time at school in the past week. Similar levels of physical activity during class time were reported from Grade 6 to Grade 10. However, boys were more likely than girls to say they accumulated 4 or more hours per week of physical activity during class time at school.

6.3 Primary mode of transportation to school reported by students, by grade and gender (%)
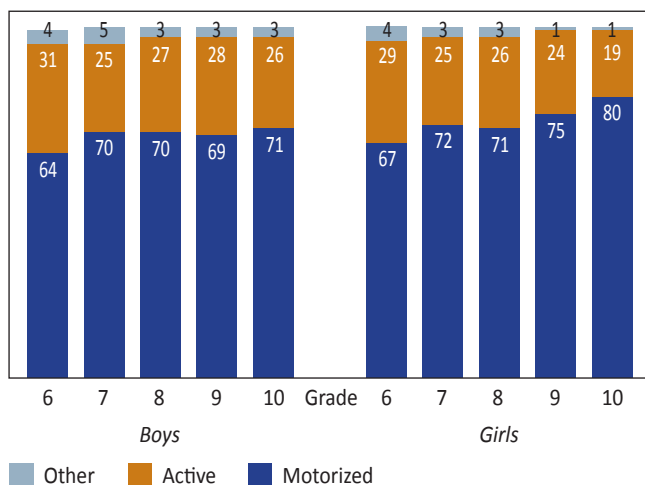
6.4 Students who reported that they had spent four or more hours per week doing physical activities in class time at school, by grade and gender (%)
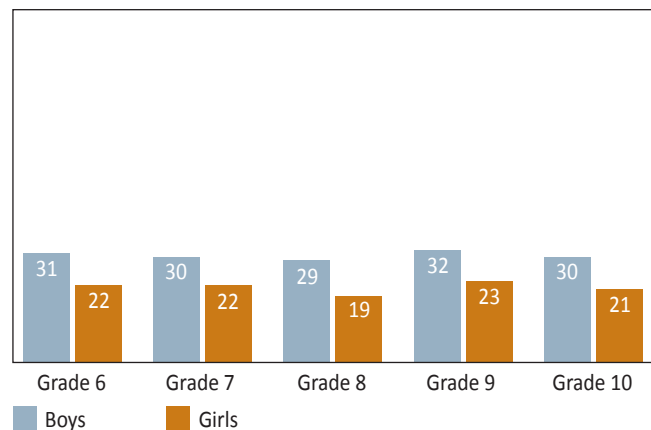
Between 81%-88% of boys and 72%-85% of girls reported accumulating at least four hours of outdoor play in in the past week during their free time (**Figure 6.5**). Outdoor play participation was reportedly higher in boys than in girls and declined from Grade 6 to Grade 9.

From 22% to 31% of boys and from 20% to 37% of girls reported that they played active video games for four or more hours in the past week (**Figure 6.6**). Participation in active video games decreased from Grade 6 to Grade 10. Active video game play was higher in girls than in boys at Grade 6; this gender difference disappeared by Grade 10.

6.5 **Students who reported that they had spent four or more hours per week participating in outdoor play in free time, by grade and gender (%)**

6.6 **Students who reported that they had spent four or more hours per week participating in active video games, by grade and gender (%)**
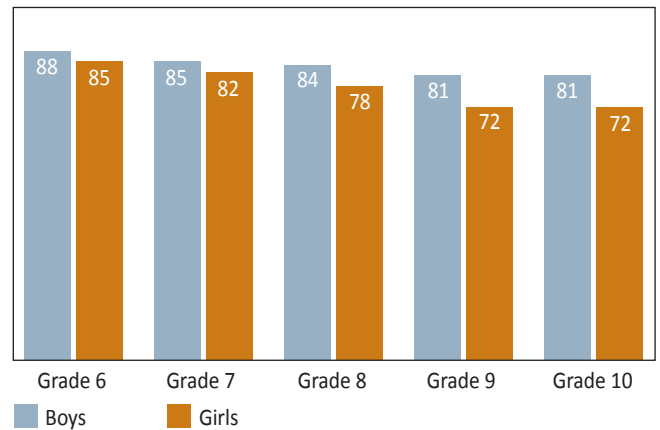
Sedentary Behaviours of Canadian Young People

Figure 6.7 illustrates that more than 50% of boys and 40% of girls across all grade categories reported watching two or more hours of television per day. Reports of television watching increased slightly by grade.

6.7 **Students who reported that they had watched two or more hours of television per day, by grade and gender (%)**
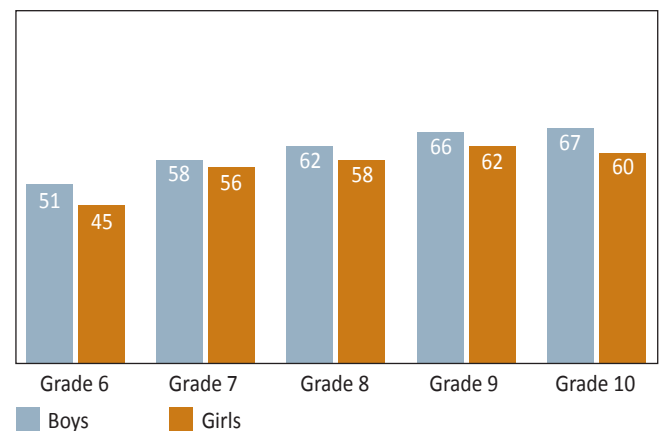
"Watching TV, it's the strangest way to escape. Like people read, listen to music, do their thing… I watch shows. Like I will binge watch a show but the problem with that is that if I'm trying to escape from stress like, say it's school stress, I'll watch a show but then I'll be spending the time watching the show instead of doing the things that will make me unstressed. But then when I do them, I get so overwhelmed. So it's like this vicious cycle that just keeps going."

(Youth focus group participant)

From 51% to 62% of boys and from 37% to 46% of girls reported that they played sedentary video games for two hours or more per day on average (**Figure 6.8**). More boys than girls played sedentary video games for two or more hours per day, irrespective of grade. Sedentary video game use was lower in Grade 6 students than in students in the other grades. Conversely, as shown in **Figure 6.6**, active video game use was higher in Grade 6 students than in students in the other grades.

While boys reported spending more time than girls watching television and playing sedentary video games, girls reported spending more time than boys using the computer for recreational purposes. As illustrated in **Figure 6.9**, by Grade 10, 71% of girls indicated that they used a computer in their free time for two or more hours per day versus 62% of Grade 10 boys. The percentage of students using the computer in their free time for two or more hours per day doubled between Grade 6 and Grade 10.

Figure 6.10 illustrates the percentage of Canadian youth whose responses adhered to the sedentary screen time guidelines of 2 hours per day or less. In Grade 6 only 16% of boys and 22% of girls met this guideline. In Grades 8 to 10 fewer than 10% of boys and girls met this guideline.

6.8 Students who reported that they had played sedentary video games for two hours or more per day, by grade and gender (%)

Boys   Girls
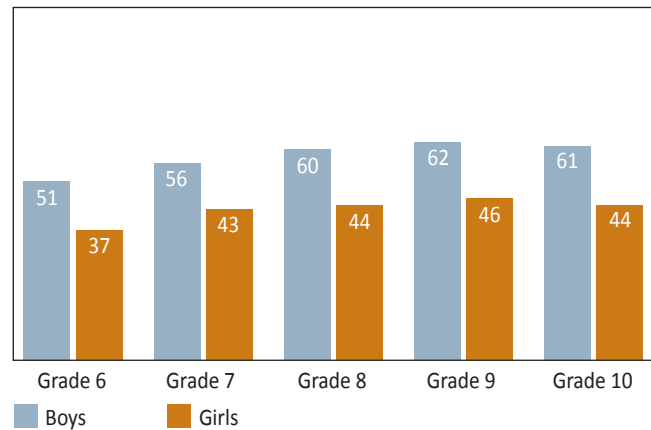
6.9 Students who reported that they had used the computer in their free time for two hours or more per day, by grade and gender (%)

Boys   Girls
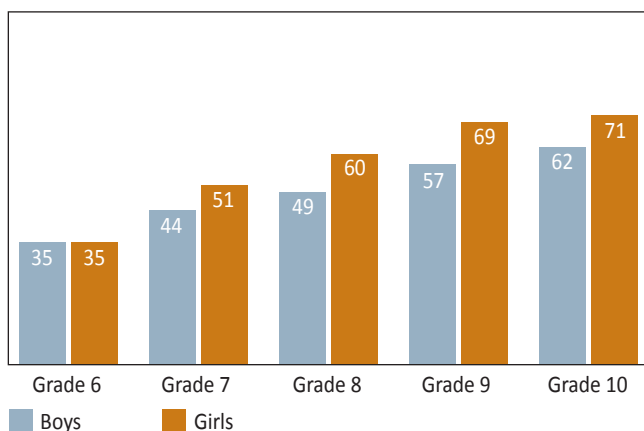
6.10 Students who met sedentary screen time guidelines of 2 hours or less per day, by grade and gender (%)

Boys   Girls
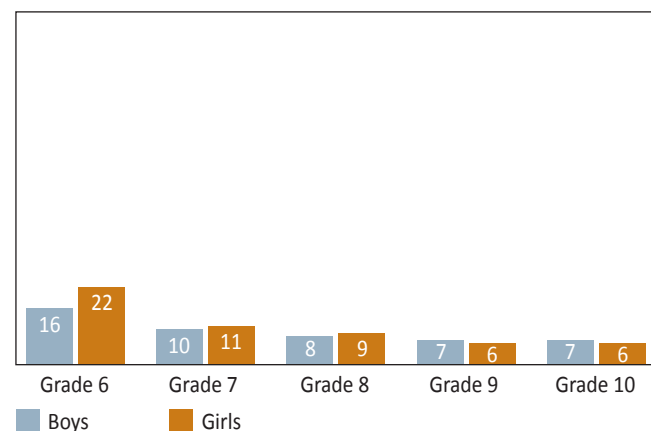
RELATIONSHIPS AND PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR

Of the family, school, friend, and community relationships, friend support was the most strongly associated with moderate to vigorous physical activity and is therefore the form of support presented here. [Note: descriptions of the four scales can be found in Appendix A.]

The association between friend support and moderate to vigorous physical activity is shown in **Figure 6.11**. The percentage of physically active youth who were in the high friend support group was 11% to 14% higher than the proportion of physically inactive youth in the high friend support group. The association between friend support and sedentary screen time is shown in **Figure 6.12**. The percentage of boys who were in the high friend support group was higher among those who met the recommended sedentary screen time levels (<2 hours per day) than for those who did not. Sedentary screen time was not related to friend support among girls.
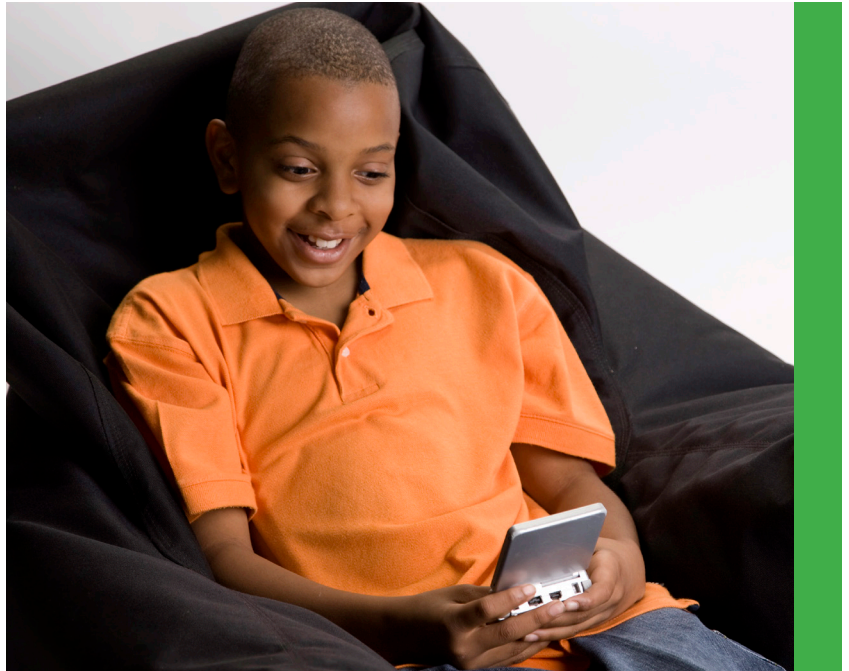
6.11 Students in the high friend support group, by physical activity, by gender (%)

Physically active — Boys: 31, Girls: 50
Physically inactive — Boys: 20, Girls: 36

Boys ■ Girls ■
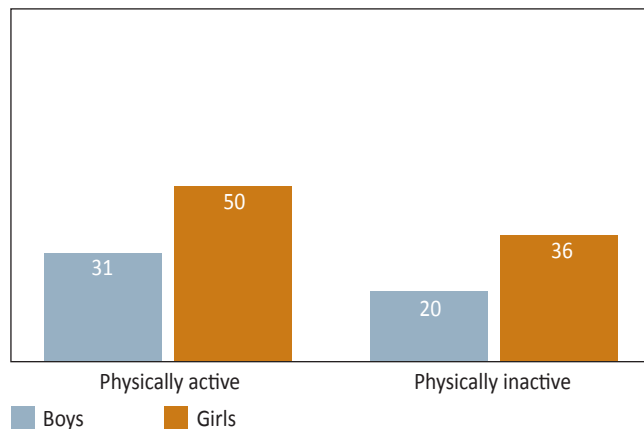
6.12 Students in the high friend support group, by sedentary screen time, by gender (%)

<2 hours per day — Boys: 26, Girls: 39
>2 hours per day — Boys: 23, Girls: 38

Boys ■ Girls ■
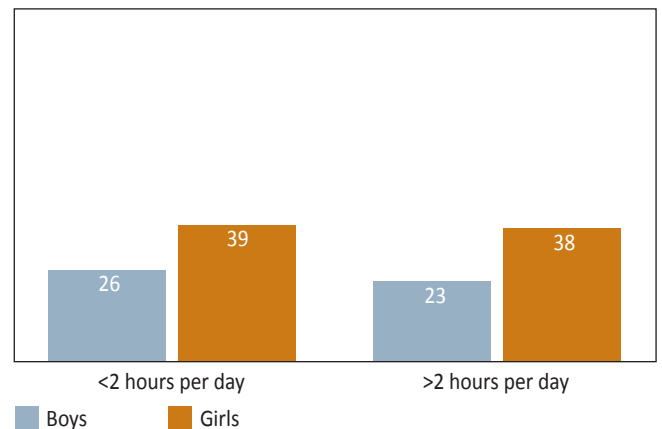
AREAS OF CONCERN

- Only 1 in 5 Canadian youth participate in enough moderate to vigorous physical activity to meet Canada's physical activity guidelines (i.e., 60 minutes of moderate to vigorous intensity physical activity every day).
- Only 1 in 10 Canadian youth adheres to the Canadian sedentary behaviour guidelines which recommend a maximum of 2 hours per day of sedentary screen time.
- The proportion of students meeting physical activity and sedentary behaviour guidelines decreased considerably between Grade 6 and Grade 10.

ENCOURAGING FINDINGS

- Friend support appears to have a strong influence on engagement of students in physical activity.
- The physical activity and screen time results were not as discouraging in Grade 6 children as they were in students from other grades.

SUMMARY AND IMPLICATIONS

The findings in this chapter highlight that the majority of Canadian young people do not engage in sufficient amounts of movement behaviours. Deficits include their lack of participation in moderate to vigorous intensity physical activity and their excessive screen time levels. These unhealthy movement behaviours contribute to a range of health problems, both acute and chronic. Immediate consequences include physical problems such as obesity, high blood pressure, and decreased levels of cardiovascular fitness (LeBlanc et al., 2012). In terms of social consequences, sedentary lifestyles during adolescence are also accompanied by behaviours that are more likely to include violence and illicit substance use (LeBlanc et al., 2012).

This 2014 Canadian HBSC report contains data on new items that were collected and analyzed for the first time. New items included: participation in organized sports, engagement in active outdoor play, and active video game play. Findings indicate that approximately 75% of youth were participating in organized sports at the time the survey was completed. The new data also indicate that approximately 80% of youth reported that they played outdoors for at least 4 hours per week, although it is unclear how much outdoor play is sufficient. About 25% of students reported that they played active video games for at least 4 hours per week, although this is far lower than the amount of time they reported spending in sedentary screen time. Despite such facts, large portions of the study population did not meet Canada's Physical Activity Guidelines for Children and

Youth for moderate to vigorous physical activity (Tremblay, Warburton, et al, 2011). Most also exceeded recommended guidelines for sedentary behaviour which are no more than 2 hours per day in front of screens during their recreation time (Tremblay, Leblanc, et al., 2011). This failure to meet the recommended guidelines for both physical activity and sedentary behaviour, irrespective of type and context of activity, is undoubtedly contributing to the epidemic of obesity reported for young people in Canada.

Of the four types of relationships examined, friend support was the most strongly related to physical activity. Thus, friends appear to play an important role in movement behaviours. The causal direction of the association between friend support and physical activity is not known, so it is possible that this is a bi-directional association, or both friend support and physical activity go together in a common factor and lifestyle. Friend support could provide a positive influence on movement, while movement, in turn, could have a positive influence on the quantity and quality of friend relationships, or both factors could go together as part of a larger common factor.

In summary, this chapter provides simple descriptive information on the physical activity and sedentary behaviours of young Canadians, and examines how relationships could influence these behaviours. Despite their appreciated health benefits, the majority of Canadian youth do not get enough moderate to vigorous physical activity and accumulate too much screen time. Physical activity is an obvious public health priority within Canada.

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Chapter 7

Ian Janssen

Sleep Health

THE IMPORTANCE OF UNDERSTANDING SLEEP HEALTH

Sleep health is a new field of research that examines how we sleep and the factors that influence sleep. Present day youth sleep one hour less per night than they did 100 years ago (Matricciani, Olds, & Petkov, 2012). This reduction in sleep could be contributing to a myriad of physical, mental, and social health problems (Gruber et al., 2014). Insufficient sleep is associated with an impaired ability to concentrate and retain information and an impaired academic performance (Wolfson & Carskadon, 1998), mood disorders such as anxiety and depression (Blunden, Hoban, & Chervin, 2006), decreased immune function (Sekine, Chandola, Martikainen, Marmot, & Kagamimori, 2006), increased risk of injuries (Koulouglioti, Cole, & Kitzman, 2008), and obesity (Cappuccio et al., 2008).

In this chapter, we examine sleep duration, difficulty getting to sleep as a measure of sleep quality, and daytime sleepiness (Dewald, Meijer, Oort, Kerkhof, & Bogels, 2010). Sleep duration refers to the time a person is asleep. Sleep quality refers to indicators of how sleep is experienced, including being rested after waking up and being satisfied with sleep. Having difficulty falling asleep is one indicator of poor sleep quality. Sleepiness refers to a waking condition associated with an increased tendency to fall asleep. Young people can express sleepiness with words such as tired or fuzzy or cranky, and through behaviours such as yawning, rubbing their eyes, and resting their heads on a desk.

> **"If I have a good sleep, I wake up happier. If I wake up tired, it changes my mood."**
> *(Youth focus group participant)*

The National Sleep Foundation from the United States has recently provided updated recommendations on how many hours of sleep people need (Hirshkowitz et al., 2015). Although Canadian guidelines do not exist, the National Sleep Foundation recommendations have been endorsed in a Canadian position stand on pediatric sleep (Gruber, et al., 2014). These recommendations suggest that 6 to 13 years olds should get 9-11 hours of sleep per night and that 14 to 17 year olds should get 8-10 hours of sleep per night. These recommendations also indicate that, for some people, less or more sleep than the recommended ranges may be appropriate. Specifically, for 6 to 13 year olds, appropriate sleep per night can range from 7-8 hours to 12 hours of sleep. For 14 to 17 year olds, the range is 7 to 11 hours.

WHAT IS BEING REPORTED IN THIS CHAPTER?

Students reported the typical time that they turned out the lights to go to sleep and the typical time that they woke up in the morning during the past week for both weekdays and weekends. From these numbers, we calculated their average sleep duration and classified them as having a sleep duration in the "recommended," "may be appropriate," and "not recommended" categories proposed by the U.S. National Sleep Foundation (Hirshkowitz, et al., 2015). As a measure of sleep quality, we examined the frequency at which students reported they had difficulty getting to sleep in the past 6 months. For sleepiness, we looked at students' responses to the statement "I am usually tired when I go to school in the morning." Students who agreed or strongly agreed with this statement were considered to be sleepy when going to school.

Although research is limited, there is evidence to suggest that poor sleep habits are a function of several biological, behavioural, and environmental factors (Dewald, et al., 2010; Gruber, et al., 2014). The relationships that young people have with their family, school, friends, and community could be among the environmental factors that contribute to inadequate sleep, poor sleep quality, and sleepiness. This chapter reports on whether such associations exist.

DESCRIPTION OF THE PROBLEM

We compared sleep duration to the National Sleep Foundation Recommendations for 6 to 13 year olds and 14 to 17 year olds. Across grades, the average reported nightly sleep duration fell within the recommended range for 64%-78% of boys and 65%-82% of girls (**Figure 7.1**). A further 17%-26% of boys and 13%-24% of girls had sleep durations that might be appropriate. The change in the recommended amount of sleep from 9-11 hours to 8-10 hours between 13 and 14 year olds may partially explain the increase in the proportion of students in the recommended sleep duration range between Grade 8 and Grade 9.

7.1 **Students who met sleep duration recommendations, by grade and gender (%)**

Boys:
Grade	Not recommended	May be appropriate	Recommended range
6	5	17	78
7	10	23	67
8	10	26	64
9	8	19	74
10	10	23	67

Girls:
Grade	Not recommended	May be appropriate	Recommended range
6	5	13	82
7	11	24	65
8	10	24	67
9	8	21	71
10	9	21	69

Legend:
- Not recommended
- May be appropriate
- Recommended range
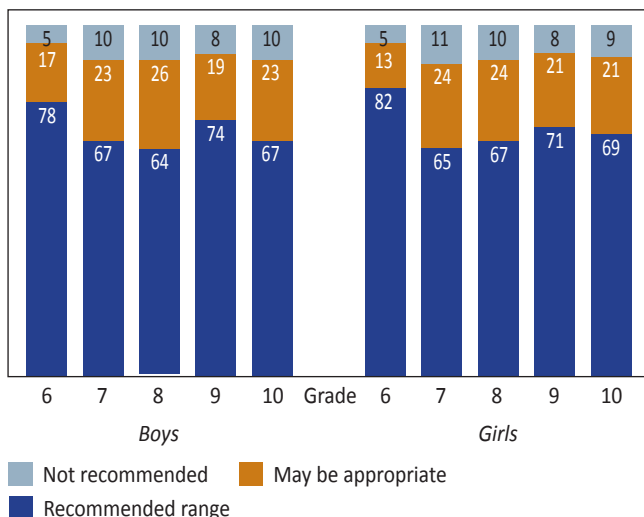
Figure 7.2 shows that 20% to 24% of boys and 26% to 38% of girls reported that they had trouble falling asleep more than once a week. Girls were more likely to have trouble falling asleep than boys. This difference between genders became more pronounced as students got older. Difficulty in getting to sleep increased as girls got older. Boys' reported difficulty remained largely stable across grades.

In Grade 6, 44% to 47% of boys and girls agreed or strongly agreed that they were usually tired when they went to school in the morning (**Figure 7.3**). By Grade 10, these proportions increased to 62% for boys and to 75% for girls. Girls were consistently more likely to report they were usually tired when they went to school in the morning than were boys.

7.2 Students who reported that they had difficulty getting to sleep more than once a week, by grade and gender (%)

Boys   Girls
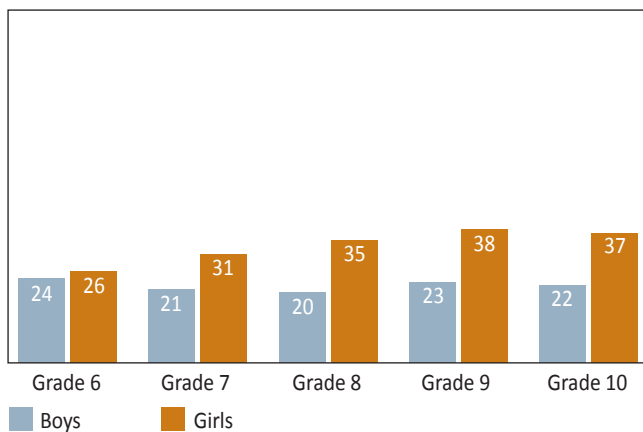
7.3 Students who reported that they were tired when going to school in the morning, by grade and gender (%)

Boys   Girls
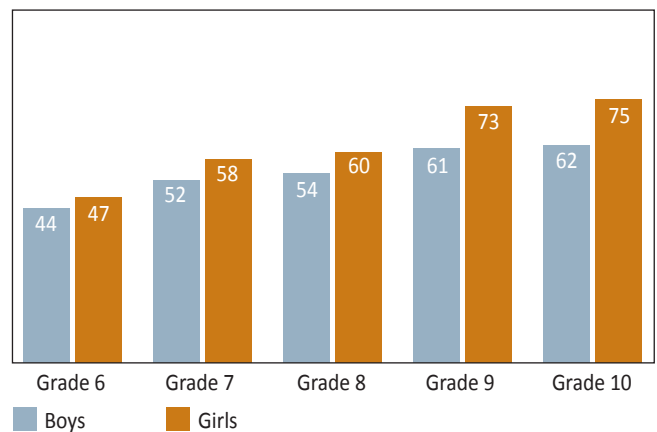
RELATIONSHIPS AND SLEEP HEALTH

A final series of six figures demonstrates the associations between sleep duration, feeling tired in the morning and having difficulty getting to sleep with high relative levels of family support and school climate. Descriptions of the family support and school climate scales can be found in Appendix A.

Family support was associated with sleep health. These relationships were consistent for the three sleep health measures and for boys and girls. About 36% to 37% of those who stated they got the recommended amount of sleep had high family support, while 17% to 24% of those who stated that they did not get the recommended amount of sleep had high family support (**Figure 7.4**). Similarly, 36% to 37% of those who reported that they did not have difficulty getting to sleep had high family support, while 20% to 25% of those who reported that they regularly had difficulty getting to sleep had high family support (**Figure 7.5**). Finally, 39% to 42% of those who reported that they did not go to school tired had high family support, while 26% to 29% of those who reported that they did go to school tired had high family support (**Figure 7.6**).

7.4 Students in the high family support group by sleep duration, by gender (%)

Boys   Girls
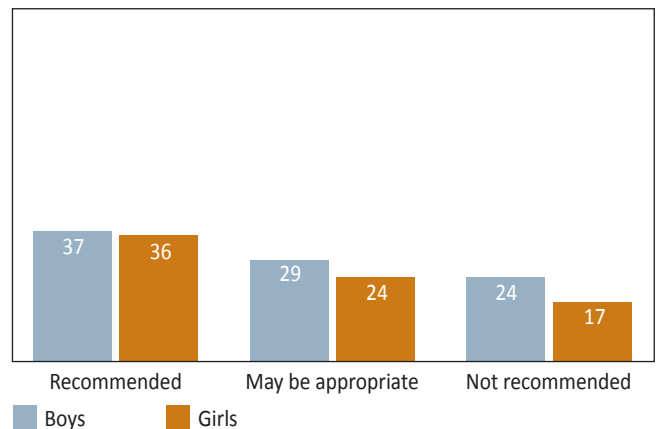
7.5 Students in the high family support group by difficulty getting to sleep, by gender (%)

	Yes	No
Boys	25	36
Girls	20	37

Boys Girls
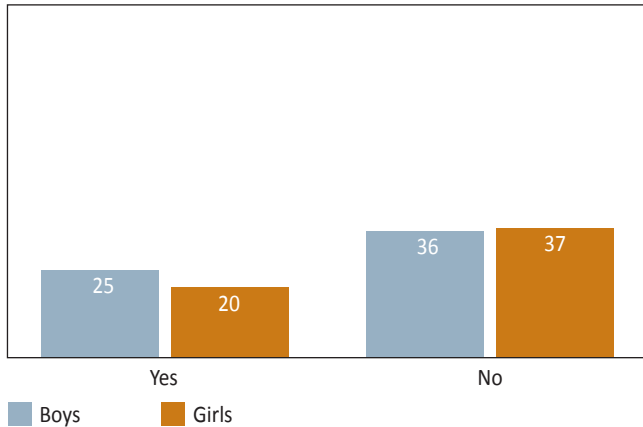
7.6 Students in the high family support group by going to school tired, by gender (%)

	Yes	No
Boys	29	39
Girls	26	42

Boys Girls
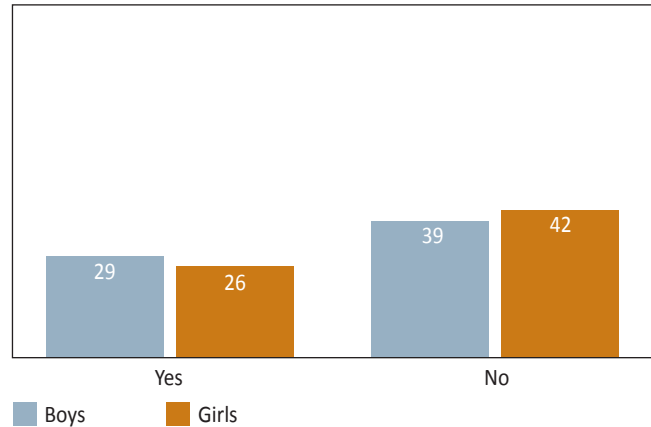
As with family support, school climate was associated with all three sleep health measures for boys and girls. About 36% of youth who reported that they got the recommended amount of sleep had a positive school climate, while 17% to 23% of those who stated that they did not get the recommended amount of sleep had a positive school climate (**Figure 7.7**). Similarly, 34% to 37% of youth who reported that they did not have difficulty getting to sleep had a positive school climate, while 18% to 21% of those who reported that they regularly had difficulty getting to sleep had a positive school climate (**Figure 7.8**). Finally, 40% to 46% of youth who reported that they did not go to school tired had a positive school climate, while 23% to 25% of those who reported that they did go to school tired had a positive school climate (**Figure 7.9**).

7.7 Students in the high school climate group by sleep duration, by gender (%)

	Recommended	May be appropriate	Not recommended
Boys	36	28	23
Girls	36	26	17

Boys Girls
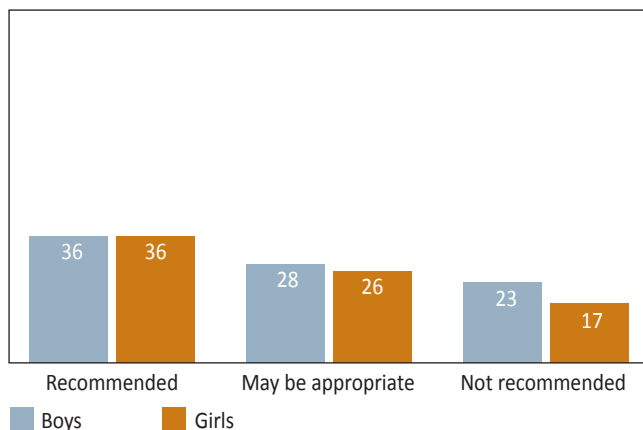
7.8 Students in the high school climate group by difficulty getting to sleep, by gender (%)

	Yes	No
Boys	21	34
Girls	18	37

Boys Girls
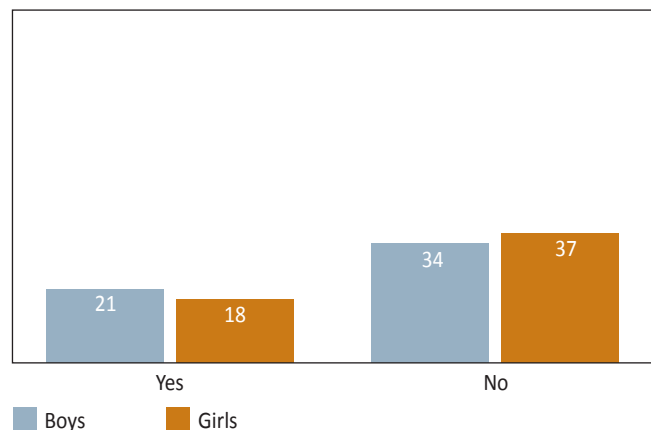
7.9 Students in the high school climate group by going to school tired, by gender (%)

Boys | Girls
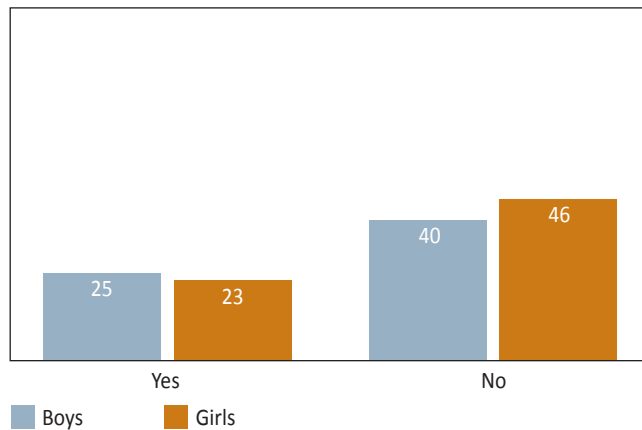
> **"When you are tired, you just don't function as well…you don't think the way you usually think and are also impatient and more insensitive and you can't think as in-depth."**
>
> *(Youth focus group participant)*

AREAS OF CONCERN

- By the time they reached Grade 9, roughly 6 in 10 boys and 7 in 10 girls reported that they went to school tired.
- There was a marked gender disparity as girls consistently reported poorer sleep health than boys.

ENCOURAGING FINDINGS

- Family and schools may have a strong influence on sleep health.
- The majority of youth reported sleep durations that were within the recommended range.

SUMMARY AND IMPLICATIONS

In this 2014 report, we are presenting data on the sleep habits of young people in Canada for the first time in the history of the Canadian HBSC study. The findings in this chapter highlight that most Canadian youth indicated that they received sufficient sleep, with durations that are consistent with the guidelines of the National Sleep Foundation in the United States (Hirshkowitz et al., 2015). Proportions of youth reporting sleep durations that were less than these recommendations increased with increasing grade level, a pattern that was consistent between the two genders. In addition, many young people reported difficulty getting to sleep and feeling tired when going to school in the morning, which is indicative of poorer sleep quality (Dewald, et al., 2010). The quality of sleep experienced by young people indeed may represent a bigger issue than their sleep duration.

The sleepiness that most Canadian youth reportedly experienced when going to school could be having a negative impact on their school performance, and their physical, mental and social health (Blunden, et al., 2006; Wolfson & Carskadon, 1998). In those affected, this impact could manifest itself in terms of impaired concentration, reduced academic performance (Wolfson & Carskadon, 1998), as well as physiological (Sekine, Chandola, Martikainen, Marmot, & Kagamimori, 2006) and psychological (Blunden, Hoban, & Chervin, 2006) impairment.

Factors that could be contributing to poor sleep health in youth include: increased use of electronic screens at night, including screens in the bedroom (Cain & Gradisar, 2010), a lack of physical activity (Langa et al., 2013), too much caffeine in the diet (Calamaro, Mason, & Ratcliffe, 2009), and high degrees of anxiety and depression (Xu et al., 2012). These factors provide a focus of ongoing study and surveillance, as well as provide the basis for preventive intervention.

Of the four types of relationships examined, family support and school climate were the most strongly and consistently related to sleep behaviours. These findings provide important information on the social environment and how it impacts sleep, and point to potential causes of sleep impairment that involve the potential contributions of both individual behaviours and contextual environmental factors (Dewald, et al., 2010). HBSC provides a platform for in-depth study of these potentially causal factors, as well as the consequences of sleep in terms of ongoing morbidity and impaired productivity.

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Chapter 8

John Freeman

Healthy Eating

Eating is a socially constructed act that is embedded not only in individual perspectives of healthy eating drawn from dietary guidance and marketing of products but also in physical and economic environments that determine what food is available to us and at what cost. (Raine, 2005, p.S11)

THE IMPORTANCE OF UNDERSTANDING HEALTHY EATING

Canada's Food Guide (CFG) is a policy and educational tool that outlines a pattern of eating to promote health, meet nutrient needs and minimize the risk of chronic disease. It provides the basis for many nutrition and health policies and programs developed across the country. Since the publication of the first Food Guide in 1942, CFG has been transformed many times. The current version, *Eating Well with Canada's Food Guide*, was released in 2007 (Health Canada, 2007).

The current Food Guide describes what amount of food people need and what type of food is part of a healthy eating pattern. Individuals are recommended to choose foods from the four food groups, a small amount of oils and fats, and to limit foods and beverages high in calories, fat, sugar, and salt. It suggests that adolescents have 6-8 daily servings of vegetables and fruits, 6-7 daily servings of grain products, 3-4 daily servings of milk and alternatives, and 1-3 daily servings of meat and alternatives, numbers varying by age and gender (Health Canada, 2015). Following the eating pattern in Canada's Food Guide should help children and teenagers maintain good health and achieve optimal growth and development.

Canada's Food Guide **may be found at the following web address: http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html.**
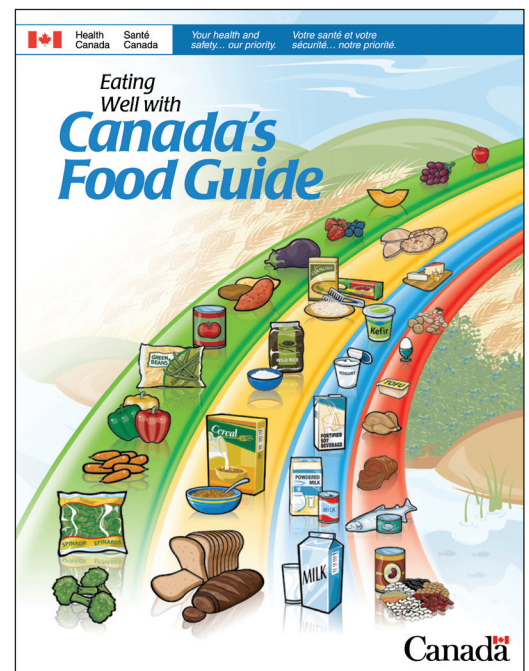
Healthy eating is important for the healthy development of children and youth (Health Canada, 2015) and to reduce the risk of obesity later in life (Lillico, Hammond, Manske, & Murnaghan, 2014; Public Health Agency of Canada [PHAC], 2012). Poor eating behaviours that begin during the teenaged years may continue into adulthood, creating negative conditions for a wide variety of eating-related concerns (Vereecken, 2005). Adolescents' eating behaviours are connected to their emotional health, such that adolescents who eat unhealthy foods tend to have greater psychological distress (Jacka, Rothon,Taylor, Berk, & Stansfeld, 2013). In an analysis of five waves of the Canadian Community Health Survey (CCHS), which collects data from individuals 12 years of age and older, lower fruit and vegetable intake was related to increased risk of depression and distress (McMartin, Jacka, & Colman, 2013).

Understanding healthy eating goes beyond knowing about the foods eaten to factors that influence what and how much is eaten, such as where and when foods are consumed. The offerings in fast food restaurants, for example, tend to be of low nutritional value (Kirkpatrick et al., 2014), although a recent United States Department of Agriculture (USDA, 2015) systematic review concluded that there was limited evidence that eating in fast food restaurants was related to body weight for children and adolescents. However, there was moderate evidence of this connection for adults. Eating breakfast is of great importance for adolescents (Edefonti et al., 2014). Those adolescents who skip breakfast are less likely to meet the recommended daily allowances of numerous vitamins and minerals, including vitamin D and calcium (Nicklas, O'Neil, & Myers, 2004; Peters, Verly, Marchioni, Fisberg, & Martini, 2012).

Yet not all young people have the opportunity to eat breakfast before going to school and arrive at school hungry, and/or they go to bed hungry the previous night because there is insufficient food in the house. Going to bed or to school hungry may be an indicator of food insecurity. Food insecurity is "characterized by limited or uncertain access to adequate food for an active, healthy life that may or may not lead to periodic reductions in food intake" (Larson & Story, 2011, p.166). For adolescents, household food insecurity seems to be predictive of inadequate nutritional intake (Kirkpatrick & Tarasuk, 2008).

Tooth brushing is included in this chapter because of the relationship between following a healthy diet and brushing regularly in creating improved oral care (Canadian Dental Association [CDA], 2015). Oral health is related to improved physical and mental health. Brushing teeth twice daily is recommended (American Dental Association [ADA], 2014).

Eating patterns have both individual and collective determinants (Raine, 2005; Taylor, Evers, & McKenna, 2005). Individual determinants include food preferences, age, gender, nutritional knowledge, and attitudes (Taylor et al., 2005). Collective determinants can be of an economic or social nature (Taylor et al., 2005). Certain foods may not be accessible and/or affordable (Raine, 2005; Taylor et al., 2005). Food choices are additionally situated within cultural, familial, peer, and school practices (Raine, 2005). Nutritional policies are implicated within collective determinants (Raine, 2005). To affect change in eating therefore requires a complex web of interactions.

WHAT IS BEING REPORTED IN THIS CHAPTER?

In this chapter, we are examining food frequency patterns, eating at fast food restaurants, breakfast consumption, going to bed or to school hungry, and tooth brushing. For food frequency, students were given a list of food items and asked how often they ate the item with response items of: "never", "less than once a week," "once a week," "2-4 days a week," "5-6 days a week," "once a day, every day," "every day, more than once". For fruits, vegetables, sweets, and non-diet soft drinks, we tracked consumption over time by comparing estimates from previous cycles of the survey. With respect to fast food restaurants, response options were "never," "rarely (less than once a month)," "once a month," "2-3 times a month," "once a week," "2-4 days a week," and "5 or more days a week." Breakfast was measured for school days ("I never have breakfast on weekdays," "one day," "two days," "three days," "four days," "five days") and for weekends ("I never have breakfast on the weekend," "I usually have breakfast on only one day of the weekend (Saturday OR Sunday)," "I usually have breakfast on both weekend days (Saturday AND Sunday)"). One question queried how often adolescents went to school or to bed hungry because there was insufficient food at home ("never," "sometimes," "often," "always"). Tooth brushing was "more than once a day," "once a day," "at least once a week but not daily," "less than once a week," and "never." Current data and data over time were calculated for tooth brushing. In addition, fruit consumption, non-diet soft drink consumption, fast food restaurant eating, and going to bed or school hungry were analyzed with respect to peer, family, school, and community support.

FOOD FREQUENCY PATTERNS

Girls across grades consistently reported a greater likelihood of eating fruits on a daily basis than did boys (Table 8.1). Similarly, they were more likely to report eating vegetables daily. About 50% of the girls and about 40% of the boys reported they ate vegetables daily. There were similar, if slightly higher percentages, for eating fruits daily. About one in three students drank fruit juice at least once daily. About 15% of respondents stated they ate sweets daily, with this number largely unaffected by grade and gender. More boys than girls said they drank soft drinks on a daily basis, with the gender gap larger in Grades 9 and 10. Fewer than 5% of students surveyed reported drinking diet soft drinks or energy drinks daily. About 5% said they ate potato chips daily. Approximately one third of the students reported eating meat alternatives at least once daily. Energy drinks, sport drinks, and game from hunting were rarely consumed on a daily or more frequent basis.
[NOTE: Frequencies are not equal to number of servings.]

Table 8.1 Students who reported that they consumed the food item once per day or more often, by grade and gender (%)

Food Item	Gender	Grade				
		6	7	8	9	10
Fruits	Boys	52	48	46	41	43
	Girls	62	55	57	50	49
Vegetables	Boys	45	43	43	40	42
	Girls	57	51	53	49	49
Sweets (candy or chocolate)	Boys	13	15	15	16	17
	Girls	14	16	15	16	16
Coke or other soft drinks that contain sugar	Boys	8	9	9	15	14
	Girls	6	7	6	7	8
Diet coke or diet soft drinks	Boys	2	3	3	4	3
	Girls	2	3	2	2	2
Potato chips	Boys	4	6	4	6	4
	Girls	4	4	3	3	4
Orange vegetables (carrots, squash, sweet potato, etc.)	Boys	20	18	15	16	16
	Girls	23	19	18	15	15
Fruit juice	Boys	34	34	33	33	32
	Girls	38	34	35	31	30
Meat alternatives (beans, lentils, tofu, eggs, peanut butter, etc.)	Boys	32	34	32	32	32
	Girls	40	37	35	32	31
Energy drinks (Red Bull, Rock Star, Guru, etc.)	Boys	2	1	2	3	3
	Girls	1	1	2	1	1
Sport drinks (Gatorade, Powerade, etc.)	Boys	5	6	5	8	7
	Girls	2	3	3	3	3
Game from hunting (moose, caribou, venison, etc.)	Boys	3	4	4	6	5
	Girls	2	3	2	3	2

Forty-six percent of boys and 37% of girls reported eating neither vegetables nor fruits once per day or more (Figure 8.1). Thirty-four percent of boys and 42% of girls reported eating both fruits and vegetables once per day or more.

8.1 Students who reported that they ate fruits and vegetables once per day or more, by gender (%)

"If you put good stuff into your body, you can be more active and you will feel better. You will have better mental and emotional health."

(Youth focus group participant)
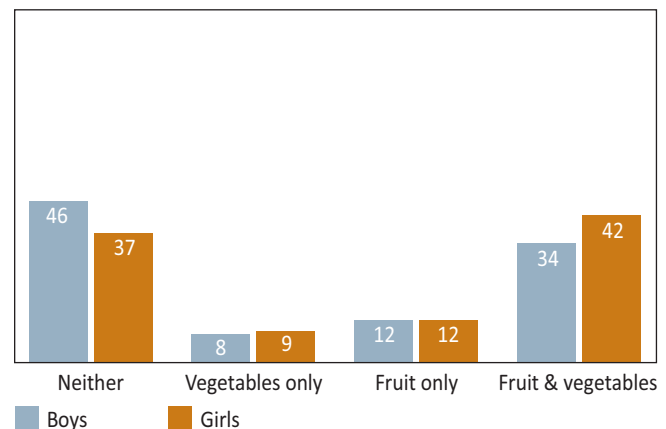
"I think what would influence healthy eating, to eat healthy, is the feeling like when I have that knowledge that when I eat healthy I'm going to perform better, so I always work towards performing good, so I eat healthy stuff."

(Youth focus group participant)

While reports of at least daily soft drink and sweets consumption have decreased over time, reported fruit and vegetable consumption has increased (**Figure 8.2**).

Eating in Fast Food Restaurants

Reports of eating in a fast food restaurant at least once per week increased with age for both boys and girls, with the greatest increase between Grade 8 (17% for both genders) and Grade 9 (27% for both genders (**Figure 8.3**).

8.2 Students who reported that they ate fruits, vegetables, sweets, and non-diet soft drinks once per day or more often, in 2002, 2006, 2010, and 2014 (%)

	Fruits	Vegetables	Sweets	Soft drinks
2002	38	42	23	22
2006	38	41	20	15
2010	44	44	18	12
2014	49	47	15	9

8.3 Students who reported that they ate in a fast food restaurant once a week or more, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	12	17	17	27	28
Girls	10	15	17	27	32
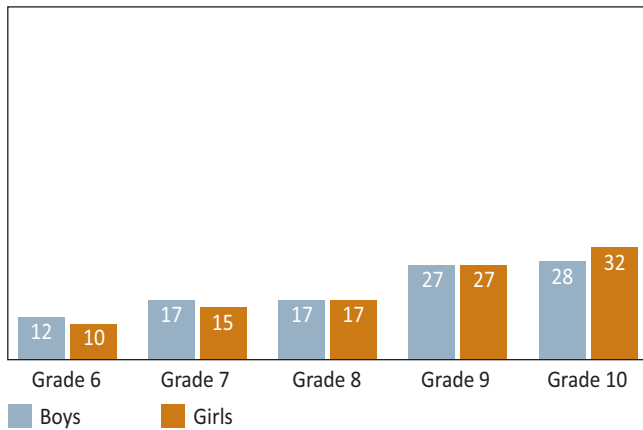
Breakfast Consumption

Reported school day breakfast consumption was related to both grade and gender with younger students and boys reporting more regular breakfast consumption than older students and girls (**Figure 8.4**). Fewer than half of Grade 9 and 10 girls said they ate breakfast every school day. Similarly, weekend breakfast consumption, as indicated by the students, decreased across grade. However, differences between genders were minimal (**Figure 8.5**). By Grade 10, 70% of boys and 68% of girls stated that they ate breakfast both days on the weekend.

8.4 Students who reported that they usually had breakfast (more than a glass of milk or fruit juice) every day on school days, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	77	73	67	61	54
Girls	72	57	56	47	45
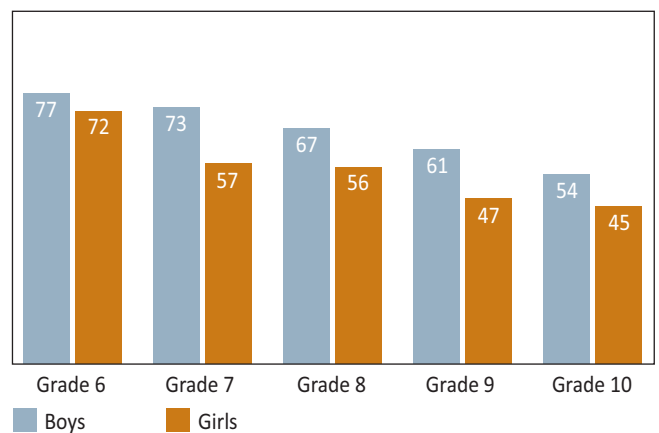
8.5 Students who reported that they usually had breakfast (more than a glass of milk or fruit juice) on both Saturday and Sunday, by grade and gender (%)

| Grade 6 | Grade 7 | Grade 8 | Grade 9 | Grade 10 |

Boys   Girls
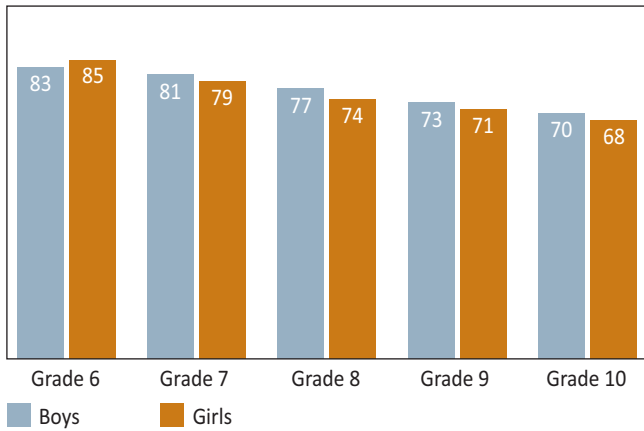
8.6 Students who reported that they went to school or to bed hungry because there was not enough food at home, by grade and gender (%)

Always   Often   Sometimes
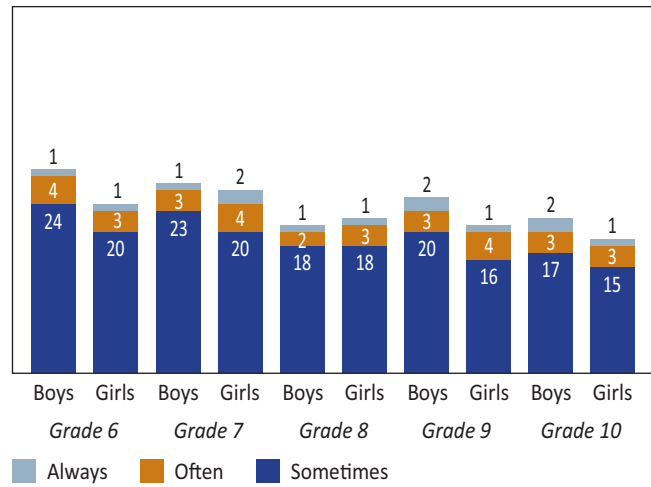
Going to School or Bed Hungry

Three to six percent of students in each grade-gender combination reported often or always going to school or to bed hungry because there was not enough food at home (**Figure 8.6**). From 15% to 24% of students said they sometimes went to bed or to school hungry. Reports of Grade 6 and 7 students were slightly higher than those of students in subsequent grades. For Grades 6, 9, and 10, the percentages for boys were higher than those for girls. Overall, the percentage of students who indicated that they went to school or to bed hungry at least sometimes because there was insufficient food in the home ranged from 19% (Grade 10 girls) to 29% (Grade 6 boys).

Across survey years, Grade 6 students more often reported that they went to school or bed hungry at least sometimes because there was not enough food at home than did students in Grade 8 or Grade 10 (**Figures 8.7a** and **b**). Across all grade-gender combinations, these percentages were lowest in 2002. With the exception of Grade 8 girls, these numbers peaked in 2010. Where differences between genders existed, the boys reported that they at least sometimes went to school or bed hungry because there was not enough food more often than did girls.

8.7a Boys who reported that they went to school or bed hungry because there was not enough food at home at least sometimes, by year of survey and grade (%)

Grade 6   Grade 8   Grade 10
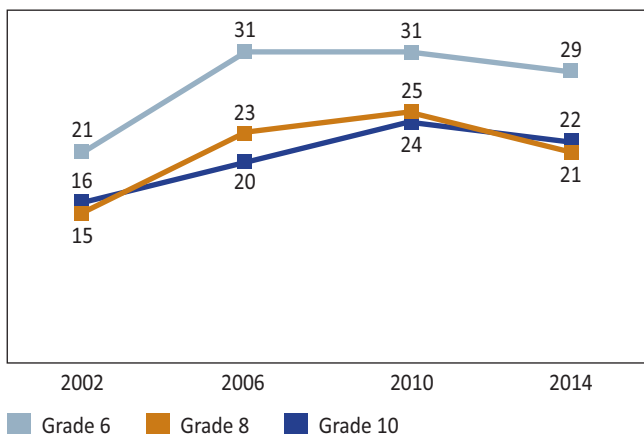
8.7b Girls who reported that they went to school or bed hungry because there was not enough food at home at least sometimes, by year of survey and grade (%)

Grade 6   Grade 8   Grade 10
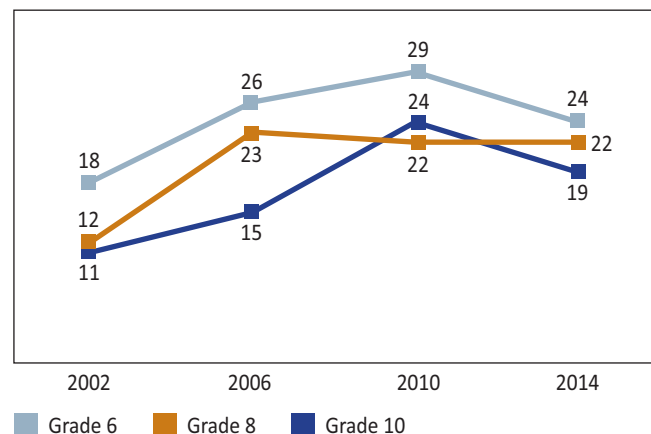
TOOTH BRUSHING

About 75% of girls and about 60% of boys said they brushed their teeth more than once daily (**Figure 8.8**). For boys, reports of brushing more than once daily were highest in Grade 6, whereas, for girls, they were highest in Grade 10. After increasing between 1990 and 1994 for boys, little change has occurred over the years in reported tooth brushing (**Figures 8.9a** and **b**).

8.8 Students who reported that they brushed their teeth more than once a day, by grade and gender (%)

Boys   Girls

8.9a Boys who reported that they brushed their teeth twice a day or more, by year of survey and grade (%)

Grade 6   Grade 8   Grade 10

8.9b Girls who reported that they brushed their teeth twice a day or more, by year of survey and grade (%)

Grade 6   Grade 8   Grade 10
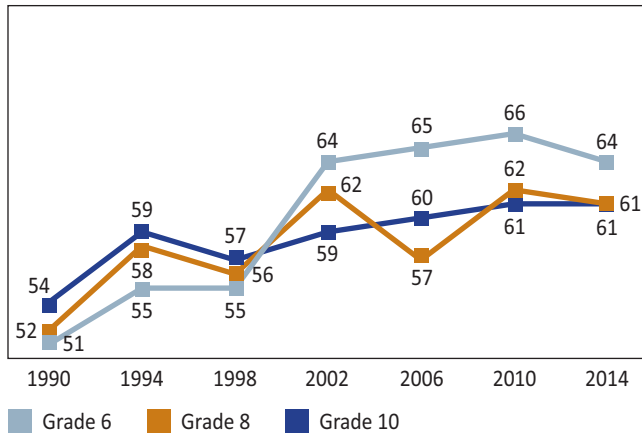
SCHOOL PROGRAMS FOR PHYSICAL ACTIVITY AND HEALTHY EATING

As shown in **Figure 8.10**, school administrators in 49% of the schools completing the HBSC survey indicated that the school did not have committees to oversee policies and practices concerning physical activity and healthy eating. In contrast, 36% of the school administrators reported such committees for both physical activity and healthy eating.

8.10 Proportion of schools that reported that they had committees to oversee policies and practices concerning physical activity and healthy eating (%)
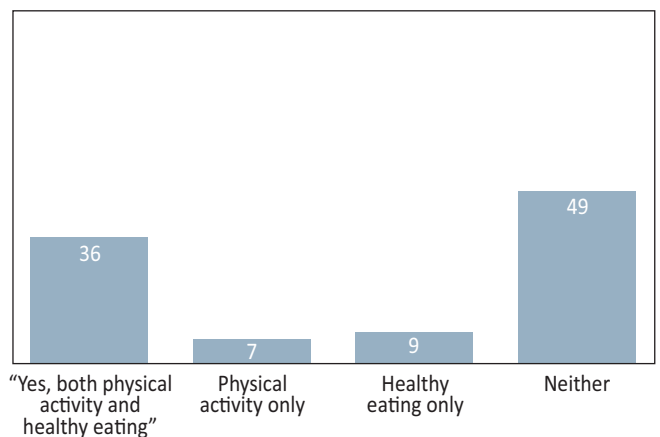
Similarly, as shown in **Figure 8.11**, school administrators in 48% of the schools completing the HBSC survey indicated that the school did not have an improvement plan for the current school year containing physical activity and healthy eating. In contrast, 37% of the school administrators reported such an improvement plan for both physical activity and healthy eating.

RELATIONSHIPS AND HEALTHY EATING

We analyzed healthy eating in connection to the four sources of support: peer, family, school, and community. For each outcome, we are presenting only one figure and describing the findings from the other sources of support (without including the figures). Those students who were in the high support group reported higher levels of support than students in the medium or the low support group. See Appendix A for greater detail about the support scales.

Fruit consumption was related to support consistently across all four types of support (e.g., friend support as shown; **Figure 8.12**). There were minimal differences in the high support group between those who reported consuming fruit less than once a week versus once a week students. Students who reported eating fruit 2-4 days a week were slightly more likely, and students who reported eating fruit 5 or 6 days a week even more likely, to be in the high support group. There was a large increase in the probability of being in the high support group for all types of support between those who reported consuming fruit at least daily versus all other groups.

8.11 Proportion of schools that reported that they had an improvement plan for the current school year containing physical activity and healthy eating related items (%)

"Yes, both physical activity and healthy eating"	Physical activity only	Healthy eating only	Neither
37	10	6	48
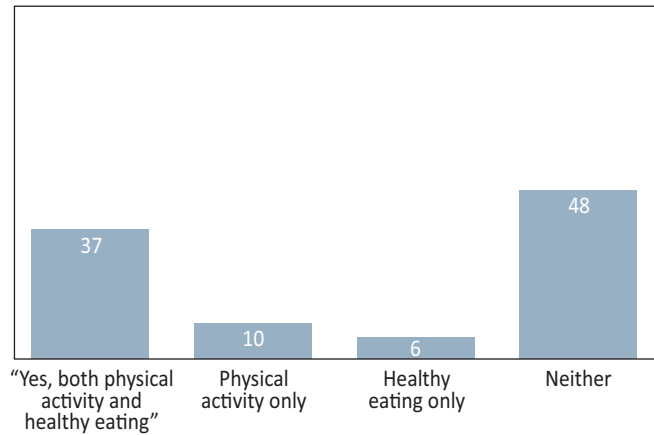
"So health, is really important for me cause I noticed that when I do eat processed foods and stuff I haven't ate, and fast food in such a long time because when I eat really unhealthy, it really affects my body. Mentally, emotionally, spiritually and physically. So, I try to eat as healthily as I can."

(From Embers to Flames: Saskatchewan inner-city Aboriginal youth)

8.12 Students in the high friend support group, by how often they ate fruit, by gender (%)

	Less than once a week	Once a week	2-4 days a week	5 or 6 days a week	At least daily
Boys	18	18	19	21	27
Girls	29	30	35	36	43
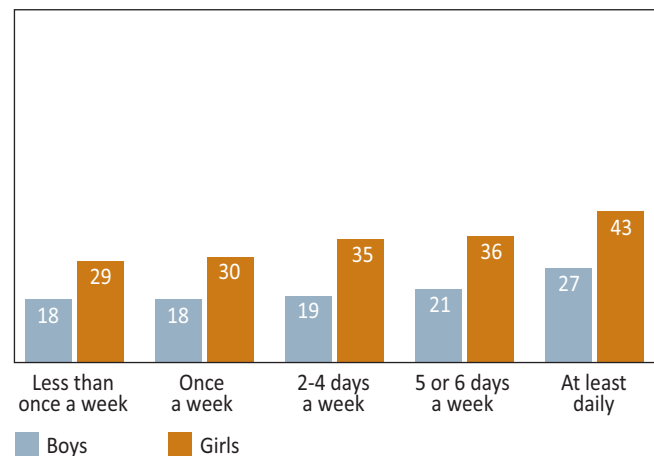
With the exception of friend support, which was unrelated to soft drink consumption, support showed a similar relationship to soft drink consumption as it did to fruit consumption. For the other three types of support (e.g., community support; **Figure 8.13**), the likelihood of being in the high support group tended to decrease with increasing reports of soft drink consumption.

Two of the forms of support (peer and community) showed minimal and inconsistent connections to eating in a fast food restaurant. Unlike the other two types of support, the less frequently students reported eating in fast food restaurants, the more likely they were to be in the high family support group and the high school climate group (the latter being shown; **Figure 8.14**).

8.13 **Students in the high community support group, by how often they drank non-diet soft drinks, by gender (%)**

Boys | Girls

Except for boys and peer support (where the numbers were similar across all four groups), adolescents who never reported going to bed or to school hungry because of insufficient food were far more likely to be in the high support group than adolescents who reported at least sometimes going to bed or to school hungry (family support shown; **Figure 8.15**).
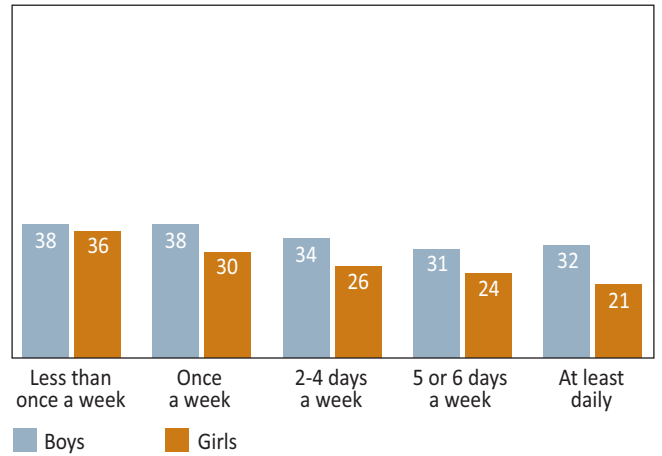
8.14 **Students in the high school climate group, by how often they eat in a fast food restaurant, by gender (%)**

Boys | Girls
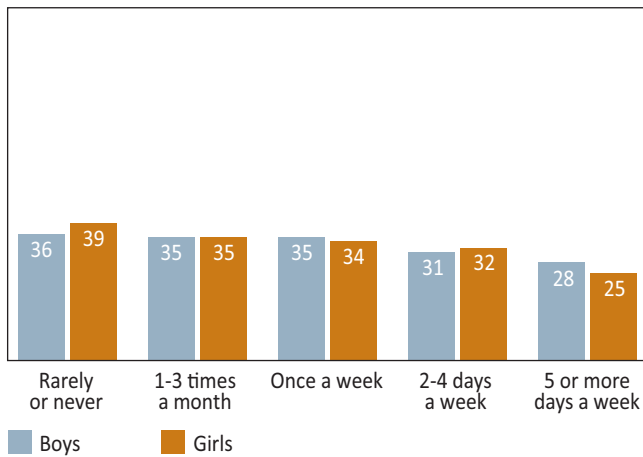
8.15 **Students in the high family support group, by how often they went to school or bed hungry because there was not enough food at home, by gender (%)**

Boys | Girls
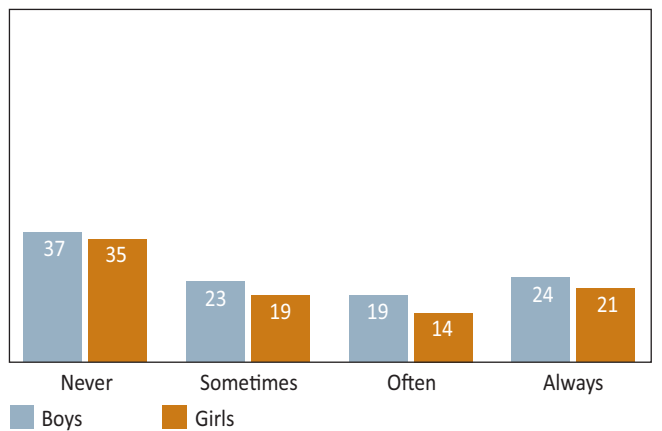
AREAS OF CONCERN

- Almost half (46%) of boys and more than one third (37%) of girls reported eating neither vegetables nor fruits once a day or more.
- The proportion of children eating at a fast food restaurant at least once per week increased between elementary school and secondary school.
- Fewer than half of Grade 9 and 10 girls said they ate breakfast every school day (compared to 72% in Grade 6). By Grade 10, 70% of boys and 68% of girls stated they ate breakfast both days on the weekend (compared to 83% of boys and 85% of girls in Grade 6).
- About one in five students indicated they went to school or to bed hungry at least sometimes because there was insufficient food in the home.
- About 25% of girls and about 40% of boys said they brushed their teeth fewer than twice daily.
- For about half of the schools surveyed, the administrator reported that the school did not have committees to oversee policies and practices concerning physical activity and healthy eating. For a similar percentage of schools, the administrator indicated that the school did not have an improvement plan for the current school year containing physical activity and healthy eating.

ENCOURAGING FINDINGS

- A relatively small proportion (6% or less) of adolescents surveyed reported drinking diet soft drinks or energy drinks or eating potato chips daily.
- Reports of at least daily soft drink and sweets consumption have decreased over time.
- Reports of at least daily fruit and vegetable consumption have increased over time.
- School climate and family support were consistently related to higher fruit consumption frequency, lower soft drink consumption frequency, lower likelihood of eating in a fast food restaurant, and lower likelihood of going to bed or school hungry because there was insufficient food.
- Community support was consistently related to higher fruit consumption frequency, lower soft drink consumption frequency, and lower likelihood of going to bed or school hungry because there was insufficient food.

SUMMARY AND IMPLICATIONS

Despite the associated physical (Health Canada, 2015), developmental (Vereecken, 2005), and mental health (McMartin et al., 2013) benefits of fruit and vegetable consumption, at least one third of boys and girls reported eating neither fruits nor vegetables at least once daily, although students indicating they ate fruits and/or vegetables at least daily have increased over survey years. Eating at fast food restaurants at least once per week increased between Grade 8 and Grade 9 for both boys and girls which is noteworthy given that the nutritional value of fast food meals is generally low (Kirkpatrick et al., 2014). Although not eating breakfast is associated with increased risk of nutritional inadequacies (Nicklas et al., 2004; Peters, Verly, Marchioni, Fisberg, & Martini, 2012) and cognitive impairments (Adolphus, Lawton, & Dye, 2013), fewer than half of Grade 9 and 10 girls said they ate breakfast every school day. By Grade 10, only 70% of boys and 68% of girls stated that they ate breakfast both days on the weekend (compared to 83% of boys and 85% of girls in Grade 6). Although tooth brushing has benefits for oral health (CDA, 2015), about 25% of girls and about 40% of boys said they brushed their teeth fewer than twice daily, thereby not meeting recommended levels (ADA, 2014). Finally, one in five Canadian adolescents who took the survey indicated they went to bed or to school hungry because of insufficient food at least some of the time.

Fewer than 5% of adolescents surveyed reported drinking diet soft drinks or energy drinks daily. Only about 5% said they ate potato chips daily. Reports of soft drink and sweets consumption have decreased over time. These trends are in line with the Food Guide recommendations to limit foods high in calories, fat, sugar, and salt.

As students are generally required to attend school until at least age 16 (varying by province and territory), school could be a focus of healthy eating efforts. However, the effectiveness of school interventions is contested. Based on their review of 19 studies, Wang and Stewart (2013) concluded that "nutrition promotion programmes using the HPS [Health Promoting School] approach [known in Canada as the Comprehensive School Health approach], either partially or fully, can be effective" (p.17). Similarly, from a Canadian perspective, McKenna (2010) concluded from her review of the literature that "behaviourally focused nutrition education, especially when combined with food services and other initiatives, may affect students' eating habits positively but may not decrease obesity levels" (p. S14; see also other articles in the *Canadian Journal of Public Health, 110* [supplement 2]). However, despite these encouraging results, for about half of the schools surveyed, the administrator reported that the school did not have committees to oversee policies and practices concerning physical activity and healthy eating. For a similar percentage of schools, the administrator indicated that the school did not have an improvement plan for the current school year containing physical activity and healthy eating.

A multi-faceted approach is likely warranted. This approach would take the joint efforts of adults in adolescents' lives (parents, teachers, community members) to address the individual and collective determinants (Raine, 2005; Taylor et al., 2005) associated with healthy eating. To affect change in eating may well require a complex web of interactions.

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Chapter 9

Ian Janssen

Healthy Weights

THE IMPORTANCE OF UNDERSTANDING HEALTHY WEIGHT

The emphasis of this chapter is body weight. A youth's body weight can be classified as being in the thin, normal weight, overweight, or obese range. Because individuals' weights are in part a function of their height, the body mass index (BMI), calculated as weight (in kg) divided by height (in m^2), is often used to determine their body weight status. In 2007, the World Health Organization (WHO) released international BMI standards for the screening, surveillance, and monitoring of body weight in school-aged children and adolescents (de Onis et al., 2007). These growth references have been adopted for use in Canada.

Obesity is a condition of excess body weight and fat that can be classified as a disease (Allison et al., 2008). It is a recognized public health issue in Canada. Obesity results from a long term imbalance wherein the number of calories consumed in the diet exceeds the amount of calories burned and expended by the body. Over time, overconsumption of foods, particularly those that are high in sugars and fats, low levels of physical activity, such as limited outdoor play and organized sport, and too much time spent in sedentary behaviours, such as watching television and surfing the web, can lead to obesity (World Health Organization, 1998). Young people with obesity are at increased risk of several health problems including elevated heart disease and diabetes risk factors, sleep problems, and poor mental health (Reilly et al., 2003). Furthermore, obesity during the adolescent years tends to persist into adulthood. In fact, upwards of 8 in 10 adolescents with obesity will have obesity at middle age (Singh, Mulder, Twisk, VanMechelen, & Chinapaw, 2008).

At the opposite extreme on the body weight spectrum from obesity is thinness. Thinness is a marker of malnutrition, although a person with thinness is not necessarily malnourished. In developing countries, malnutrition is a significant public health problem (Ezzati, Lopez, Rodgers, Vander Hoorn, & Murray, 2002). Although malnutrition is less common in developed countries like Canada, malnutrition can still present itself in the form of eating disorders such as anorexia nervosa. In fact, within adolescence, anorexia nervosa is the third most common chronic condition (Lucas, Beard, O'Fallon, & Kurland, 1991). Malnutrition and eating disorders are associated with stunted growth, bone density problems, compromised immunity, and, in extreme cases, even mortality (Misra et al., 2004; Pelletier, 1994).

Why do Weight-Related Teasing, Body Image, and Disordered Eating Matter?

In addition to examining body weight, this chapter discusses issues directly related to body weight such as weight-related teasing, body image dissatisfaction, and weight loss practices. Teasing or making fun of a person's body weight or shape is a type of bullying that has a negative impact on youth's body satisfaction and weight control behaviours (Lampard, MacLehose, Eisenberg, Neumark-Sztainer, & Davison, 2014). Being a victim of weight teasing is common among young people, particularly young people with overweight and obesity (Puhl & Latner, 2007). Being teased about one's weight is associated with low self-esteem, depressive symptoms, body dissatisfaction, and unhealthy weight control behaviours (Eisenberg, Neumark-Sztainer, & Story, 2003; Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006; Hayden-Wade et al., 2005).

Cultural ideals of slimness (particularly in females) and muscularity (particularly in males), which are unrealistic for the average person to attain, influence young people just as they do adults. These unrealistic expectations can contribute to weight-related teasing and young people feeling dissatisfied with their body weight and size, even if they have a healthy weight (Abbott, Lee, Stubbs, & Davies, 2010; Duncan, Duncan, & Schofield, 2011). Body dissatisfaction often leads to a low self-esteem, and, in some situations, it can lead to eating disorders (Westerberg-Jacobson, Edlund, & Ghaderi, 2010).

Although properly monitored and regulated weight control practices may be appropriate for young people with overweight and obesity (Plourde, 2006), extreme weight control and weight loss practices may negatively affect a young person's physical and mental health (Lock, Reisel, & Steiner, 2001). In fact, there is evidence that dieting and unhealthy weight control behaviours in adolescence predict greater weight gain into young adulthood (Neumark-Sztainer et al., 2006). Thus, attempts at losing weight may be a reflection of an unhealthy behavior, particularly in youth with thinness or a normal weight.

WHAT IS BEING REPORTED IN THIS CHAPTER?

In this chapter, we report on the proportion of students with a normal weight and the proportion with thinness, overweight, and obesity. In the HBSC survey, we asked students to report their height and weight, which were used to calculate their BMI. The WHO BMI growth references for children and youth were used to classify the students as having thinness, normal weight, overweight, or obesity (de Onis, et al., 2007). BMIs derived from self-reported height and weight, such as in the HBSC, are lower than BMIs derived from measurements of height and weight obtained using a scale and tape measure (Elgar & Stewart, 2008). Consequently, estimates of overweight and obesity from self-reported height and weight yield lower prevalences than estimates that are based on physical measurements (Elgar & Stewart, 2008).

This chapter also describes weight loss practices, weight-related teasing, and body image perceptions among Canadian youth. We asked students if they were currently dieting or doing something else (e.g., exercising) in an attempt to lose weight. We asked students how frequently they were made fun of because of their body weight. We also 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. For presentation purposes, we merged the ''much too thin'' and a ''bit too thin'' responses to create a single ''too thin'' category. We also merged the "much too fat" and "a bit too fat" responses to create a single "too fat" category.

This chapter reports on the extent to which family support, school climate, friend support, and community support are associated with body weight status. There is evidence that obesity can be influenced by a person's social network, in that the more people with obesity that someone knows, the more weight they will gain over time, on average, and the greater likelihood they will develop obesity (Christakis & Fowler, 2007). It is therefore important to examine if different types of relationships are associated with body weight among young people. In addition to influencing body weight, relationships could influence weight-related teasing. These relationships are also presented in this chapter.

DESCRIPTION OF THE PROBLEM

Thinness, Overweight, and Obesity Among Young Canadians

Figure 9.1 illustrates the proportion of young people with thinness, a normal weight, overweight, and obesity. One to 8% of students have thinness. In boys, 22%-23% have overweight and 9%-12% have obesity. In girls, 15%-17% have overweight and 5%-8% have obesity. These rates are relatively consistent over every grade.

Changes in thinness, overweight, and obesity between 2002 and 2014 are shown in **Figure 9.2**. The proportion of students with thinness remained stable over time, ranging from 3% to 4%. The proportion of boys with overweight or obesity increased from 30% in 2002 to 33% in 2014. The proportion of girls with overweight or obesity increased from 18% in 2002 to 23% in 2014. Across all surveys, the proportion of boys with overweight or obesity exceeded that of girls.

Weight-Related Teasing Among Young Canadians

As shown in **Table 9.1**, 13%-18% of boys and 14%-19% of girls were made fun at school in the past two months because of their body weight. Most of these students were made fun of once or twice, but some (4%-6%) were made fun of because of their weight at least weekly.

9.1 Students with thinness, normal weight, overweight, or obesity, by grade and gender (%)
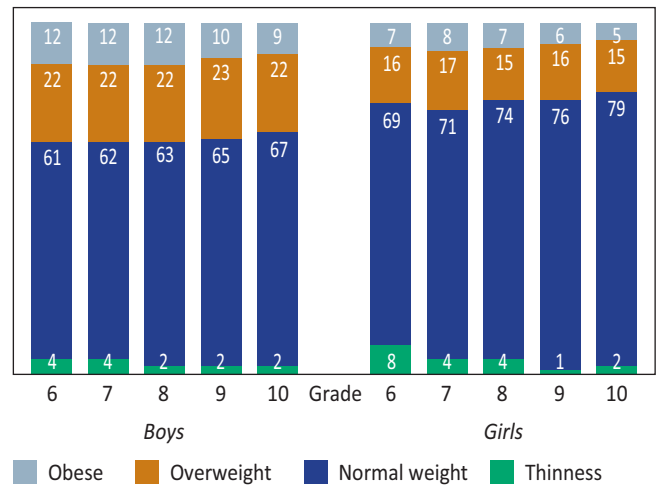
9.2 Students with thinness, normal weight, overweight, and obesity, in 2002, 2006, 2010, and 2014 (%)
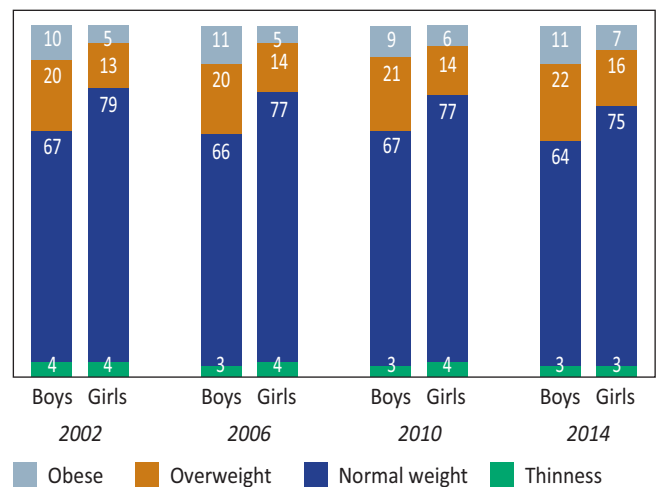
Table 9.1	Students who reported that they were made fun of because of their body weight, by grade and gender (%)									
	Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Have not been bullied in this way	85	86	82	81	84	81	86	84	87	85
Once or twice	9	8	11	11	9	10	8	10	8	10
2 or 3 times a month	2	2	3	3	2	3	2	3	2	2
About once a week	2	2	2	2	2	2	2	2	2	2
Several times a week	3	2	2	4	2	4	2	2	2	2

Body Image Among Young Canadians

Within the 2014 HBSC study, the percentage of boys who reported thinking their body was too thin increased from 13% in Grade 6 to 23% in Grade 10 (**Figure 9.3**). In girls, 9%-12% reported thinking their body was too thin. The percentage of boys who self-reported their body as too thin (**Figure 9.3**) was considerably greater than the percentage of boys with thinness (**Figure 9.1**). While more boys than girls stated their body was too thin, more girls than boys said their body was too fat. In Grades 9 and 10, about 22% of boys and 45% of girls claimed their body was too fat. The percentage of girls who stated a belief that their body was too fat (**Figure 9.3**) was considerably greater than the percentage of girls with overweight or obesity (**Figure 9.1**).

As shown in **Figure 9.4**, young people's body image perceptions remained quite stable from 2002 to 2014.

9.3 Students who reported that they thought their body was too thin, about the right size, or too fat, by grade and gender (%)

Boys / Girls

■ Too fat   ■ About right   ■ Too thin
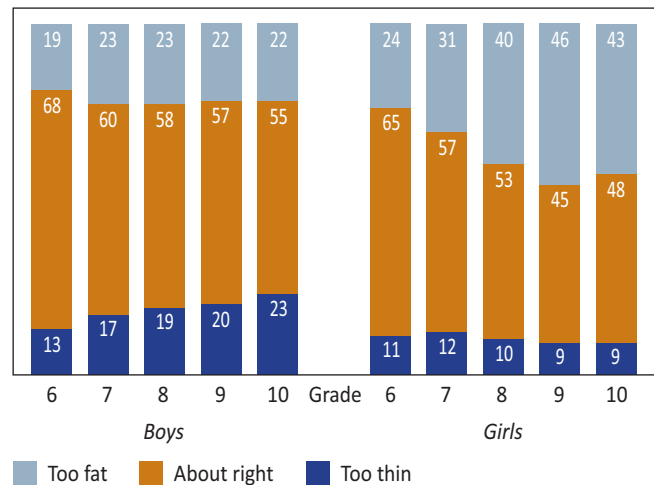
9.4 Students who reported that they thought their body was too thin, about the right size, or too fat, 2002, 2006, 2010, and 2014 (%)

■ Too fat   ■ About right   ■ Too thin

"**Everyone has different body types. It is not always something that you can control. Obviously eating healthy and being fit makes you a healthier person but sometimes it is not like you can control how tall you are. Everyone has different body types and having a magazine portray what a perfect body is not right. Everyone has different bodies and you can't always change that.**"

(Youth focus group participant)

Weight Loss Practices Among Young Canadians

Between 8% and 10% of boys and from 9% to 23% of girls indicated they were doing something to lose weight such as dieting or exercising (**Figure 9.5**). More girls than boys claimed they were doing something to lose weight; this discrepancy between genders increased considerably between Grades 6 and Grade 10.

As illustrated in **Figure 9.6**, the proportion of students who reported trying to lose weight was similar in 2002, 2006, 2010, and 2014.

9.5 Students who reported that they were doing something to lose weight, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	8	10	9	9	10
Girls	9	14	17	22	23
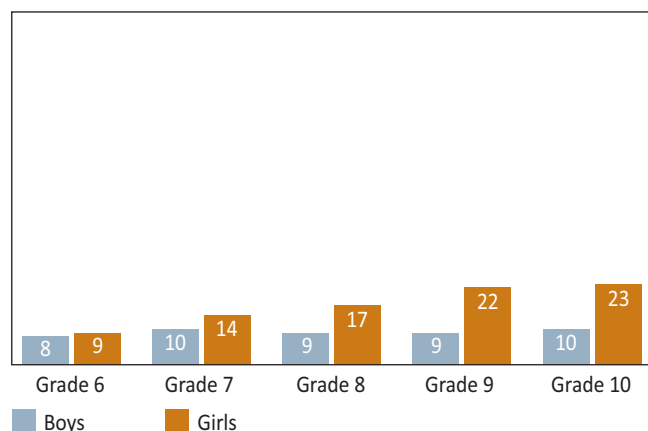
9.6 Students who reported that they were doing something to lose weight, in 2002, 2006, 2010, and 2014, by gender (%)

	2002	2006	2010	2014
Boys	9	10	9	9
Girls	20	20	16	18
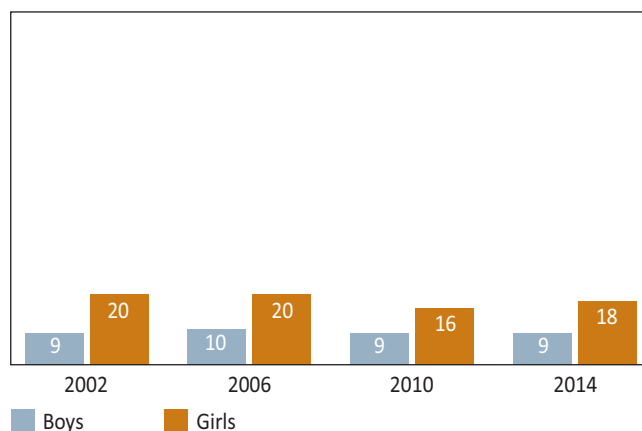
RELATIONS OF BODY WEIGHT STATUS WITH WEIGHT TEASING, BODY IMAGE, AND WEIGHT LOSS PRACTICES

Approximately 11% of students with a healthy weight reported being made fun of in the last two months because of their body weight or shape, while 20% of students with thinness, 22% of students with overweight, and 35% of students with obesity reported being made fun of because of their body weight (**Table 9.2**).

Table 9.2	Students who reported that they were made fun of because of their body weight, by BMI category (%)			
	Thinness	**Normal weight**	**Overweight**	**Obese**
Have not been bullied in this way	80	89	78	65
Once or twice	11	7	13	18
2 or 3 times a month	2	2	3	6
About once a week	2	1	3	5
Several times a week	4	1	3	7

For both boys and girls, there was an association between body weight and body image (**Figure 9.7**) such that fewer students with thinness (46% of boys, 44% of girls), overweight (57% of boys, 34% of girls), and obesity (33% of boys, 19% of girls) reported feeling that their body was about the right size by comparison to students with a normal weight (65% of boys, 60% of girls). In all body weight categories, fewer girls than boys stated they thought their body was about the right size.

9.7 **Students who reported that they thought their body was too thin, about the right size, or too fat, by body weight category, by gender (%)**

Legend: Too thin — About right — Too fat
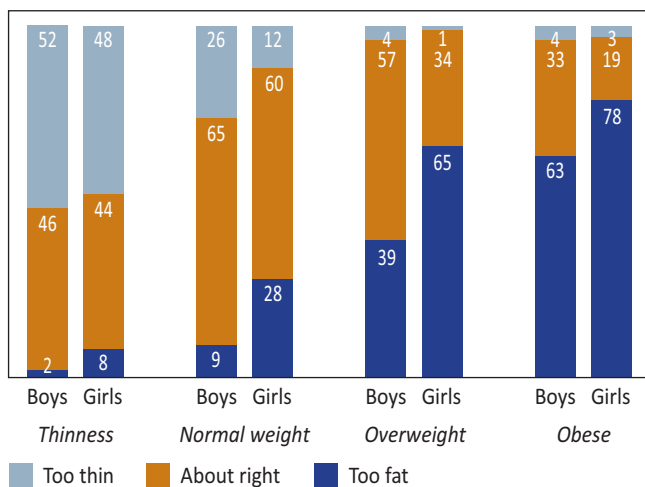
9.8 **Students who reported that they were doing something to lose weight, by body weight category (%)**
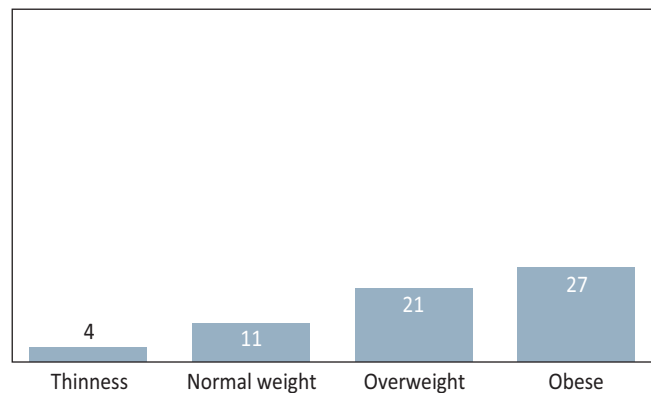
There was an association between weight loss practices and body weight. Twenty-one percent and 27% of students with overweight and obesity, respectively, indicated they were doing something to lose weight compared to 11% of students with a normal weight (**Figure 9.8**). It is cause for concern that 4% of students with thinness said they were doing something to lose weight.

RELATIONSHIPS AND BODY WEIGHT AND WEIGHT-RELATED TEASING

Community support was associated with body weight in girls and weight-related teasing for both boys and girls (**Figure 9.9**). Note: Description of the community support and school climate scales can be found in Appendix A. Among girls, 32% who were normal weight were in the high community support group, while 27% with obesity were in the high community support group. Similarly, 32% of girls who reported not being made fun of because of their body weight were in the high community support group, while only 19%-21% of girls who reported being made fun of weekly or several times a week because of their body weight were in the high community support group (**Figure 9.10**).

Weight-related teasing was also consistently associated with school climate for both boys and girls (**Figure 9.11**). Among boys, 33% of those who said they were not made fun of because of their body weight were in the high school climate group, while only 15% of those who reported being made fun of several times a week because of their body weight were in the high school climate group. Among girls, 34% of those who stated they were not made fun of because of their body weight were in the high school climate group, while only 11% of those who indicated they were made fun of several times a week because of their body weight were in the high school climate group.

9.9 **Students in the high community support group, by body weight category, by gender (%)**

	Thinness	Normal weight	Overweight	Obese
Boys	30	37	33	36
Girls	39	32	29	27
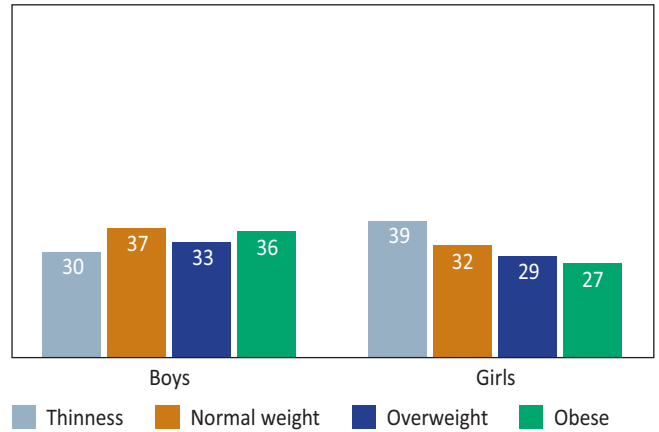
9.10 **Students in the high community support group, by weight-related teasing, by gender (%)**

	Not been made fun of	Once or twice	2 or 3 times a month	About once a week	Several times a week
Boys	36	31	28	28	28
Girls	32	25	21	21	19
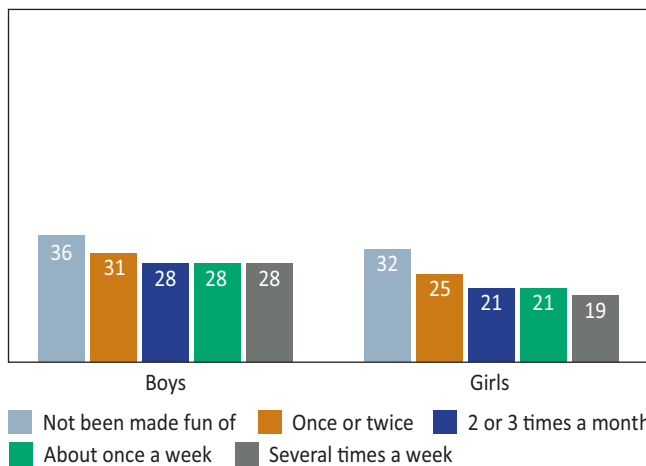
9.11 **Students in the high school climate group, by weight-related teasing, by gender (%)**

	Not been made fun of	Once or twice	2 or 3 times a month	About once a week	Several times a week
Boys	33	28	15	17	15
Girls	34	21	19	14	11
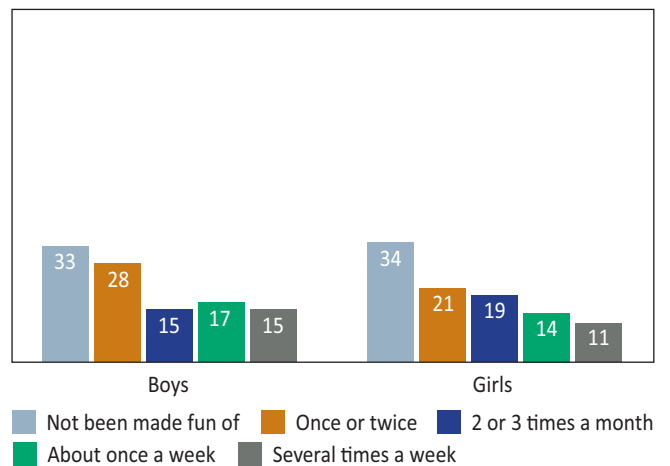
AREAS OF CONCERN

- Approximately 1 in 3 boys and approximately 1 in 4 girls suffered from overweight or obesity as determined from self-reported heights and weights.
- Four percent of students with thinness indicated they were doing something to lose weight.
- Approximately 22% of students with overweight and 35% of students with obesity were made fun of because of their body weight.
- A large percentage of Grade 6 to 10 students with a healthy weight believed their bodies were too thin or too fat.

ENCOURAGING FINDINGS

- The prevalence of thinness (based on self-reported heights and weights) was low, irrespective of gender and grade.
- A significant proportion of students with overweight (21%) and obesity (27%) reported that they were doing something to lose weight, although it is unknown if they were using healthy and productive weight loss practices.

SUMMARY AND IMPLICATIONS

Obesity is a recognized public health issue in Canada that has received its share of attention from the media, public health community, and government sectors. Despite this attention and the significant investments that have been made in recent years into healthy weights initiatives and programs, the proportion of Canadian youth with obesity remains high. In fact, more youth were obese in the 2014 HBSC study than in the 2010 HBSC (8.8% vs. 7.6%). This increase demonstrates that the interest and investments that have been made into obesity have not been enough to turn the tide. The increasing prevalence of obesity is telling of the health that young Canadians can expect to have not only today, but also in the future, given the many immediate (Singh et al., 2008) and long term (Baker, Olsen, & Sorensen, 2007) health consequences. Youth suffering from obesity will, in most cases, still be suffering from obesity when they are adults (Singh et al., 2008).

While genetic factors contribute to individuals' weights (Lubrano-Berthelier et al., 2003), so too do their behaviours. A lack of participation in moderate to vigorous intensity physical activity and an unhealthy diet, such as excessive consumption of foods that are high in added sugars and fats, are the most well-studied behavioural risk factors for obesity (McAllister et al., 2009). These behaviours are discussed in Chapters 6 and 9, respectively. There is also a large body of evidence demonstrating that obesity is influenced by excessive sedentary behaviour, such as too much screen time (eg, T.V., sedentary video games, computer use)(LeBlanc et al., 2012). Sedentary behaviour levels of Canadian youth are also discussed in Chapter 6. Furthermore, a lack of sleep and poor sleep quality can contribute to body weight and obesity (Cappuccio et al., 2008). The sleep health of Canadian youth is covered in Chapter 7.

The behavioural risk factors for obesity are influenced by physical and social environmental factors at home, at school, and in the neighbourhood and communities in which young people live and interact. A few of the many examples of relevant physical environment factors include attendance at a school that is located near fast food restaurants (Seliske, Pickett, Rosu, & Janssen, 2013), or that lacks sufficient physical activity facilities (Button, Trites, & Janssen, 2013), and living in a neighbourhood that lacks green space (Janssen & Rosu, 2015). A few of the many examples of relevant social factors include social capital at school (Button, et al., 2013), social disorder in the home neighbourhood (Carson & Janssen, 2012), and crime rates in the home neighbourhood (Janssen, 2014). In this chapter, high community support was the type of relationship and social environment factor most strongly associated with obesity.

The inclusion of new questionnaire items in the 2014 HBSC report allowed us to examine for the first time the extent to which young people were teased about their weight. Thirty-five percent of students with obesity said they experienced weight-related teasing at school over the past two months; 7% said they were teased in this way several times a week. This teasing may in part reflect the widespread negative stereotypes that obese persons are lazy and unmotivated, and lack the self-discipline needed to eat healthily and engage in physical activity (Puhl & Heuer, 2009). In recent years, there has been a growing awareness of the extent of weight bias and stigma, such as weight-related teasing, and its harmful consequences. Being teased about one's weight is associated with low self-esteem, depressive symptoms, body dissatisfaction, and unhealthy weight control behaviours (Eisenberg, et al., 2003; Haines, et al., 2006; Hayden-Wade, et al., 2005). Indeed, a large percentage of Canadian students, particularly students with obesity, were dissatisfied with their body and were doing something to lose weight. Young people may be particularly vulnerable to weight stigmatization as these experiences could impair their social development (Puhl & Heuer, 2009). The findings of this chapter imply that community support and positive school climate were particularly salient types of relationships associated with weight stigma in youth.

In summary, this chapter provides simple descriptive information on the body weight status of young Canadians, factors that could be influenced by body weight status (e.g., body dissatisfaction, weight-related teasing), and examines how relationships could influence obesity. Despite ongoing public health efforts, the prevalence of youth obesity remains high and has increased over time. Obesity remains a public health priority within Canada.

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Chapter **10**

William Pickett
Nathan King

Injury

THE IMPORTANCE OF UNDERSTANDING INJURY

Injury is defined as any physical harm to the body. Such physical damage to the body is produced by energy exchanges that involve physical, thermal, chemical, and radiation forces that have relatively sudden discernible effects (Robertson, 1998). These events happen frequently to young people and represent an important burden to the health of adolescent populations in Canada (Public Health Agency of Canada [PHAC], 2009).

In most international settings, and in Canada, activities and mechanisms that most commonly lead to major injury in young people include playing sports, motor vehicle collisions, cycling, and physical fights (Molcho et al., 2006; Public Health Agency of Canada, 2009). Most of these are considered to be injuries sustained through blunt force trauma, although injuries can also include penetrating injuries such as gunshot wounds, poisoning and ingestions, as well as burns. Intentional injuries, such as self-harm, assaults by others, or suicidal acts are also included in the definition of injury, but are not commonly reported by young people in self-report surveys such as HBSC (Langley, Cecchi, & Williams, 1989).

Injury is well recognized as a leading public health issue in populations of young people in Canada (Leitch, 2007) and around the world (Molcho et al., 2006; Peden et al., 2008). Youth injury has an enormous impact on Canadian society in terms of premature mortality, person years of life lost, inpatient and outpatient medical treatment, disability, and loss from productive activities for both adolescents and the adults who care for them when they are injured (Leitch, 2007; Public Health Agency of Canada, 2009). Indeed, injury represents the leading cause of death to Canadian children over the age of one (Public Health Agency of Canada [PHAC], 2009).

The topic of injury was felt to be so important that it was highlighted in a past special HBSC report, commissioned by PHAC that focused on injury and its contextual determinants (Davison et al., 2013). This report highlighted the importance of individual factors (e.g., close friendships, abstaining from substance use) and contextual factors (e.g., high social capital in residential neighbourhoods) that protect young people from injury. It resulted in a series of 19 summary observations, arrived at by a modified Delphi process, that focused on priorities for youth injury prevention across Canada (Davison et al., 2013).

There is a continued need for contemporary evidence about the magnitude of the youth injury problem in Canada, who is most vulnerable to different types of injury, and common patterns of injury in terms of activities, locations, and other circumstances. Such evidence provides the basis for the design and targeting of effective prevention methods.

WHAT IS BEING REPORTED IN THIS CHAPTER?

The HBSC injury module contains questions that are used to document the number of injuries reported by each participant during a one year recall period. A series of supplemental questions ask about the one most serious injury event that occurred over the time period. These questions focus on the external causes of injury (when, where, and how it happened) and its consequences (medical treatment). Additional questions contained in the Canadian survey relate to engagement in behaviours that are meant to protect young people from injury (helmet use). In this chapter, we provide a brief overview of the burden of injury experienced by young people in Canada. We also describe common patterns of injury by person (age and gender), place (location of injury), and the circumstances surrounding injury events (activities involved and mechanisms of injury). Finally, we relate the occurrence of injury to home, friend, school, and community environments. We do this in an attempt to provide evidence in support of public efforts to prevent the occurrence of injury in young people.

DESCRIPTION OF THE INJURY PROBLEM

How Often do Youth Injuries Occur?

Figure 10.1 describes the overall percentages of young people who reported at least one injury in the past 12 months. Across the grades, 45%-49% of boys reported experiencing at least one injury requiring medical treatment, compared with 38%-43% of girls.

Some young people reported experiencing more than one injury over the course of the past 12 months (**Figure 10.2**). Reports of these multiple injuries ranged from 23%-25% for boys and 17%-23% for girls.

10.1 Students who reported that they had sustained an injury requiring medical treatment, by grade and gender (%)
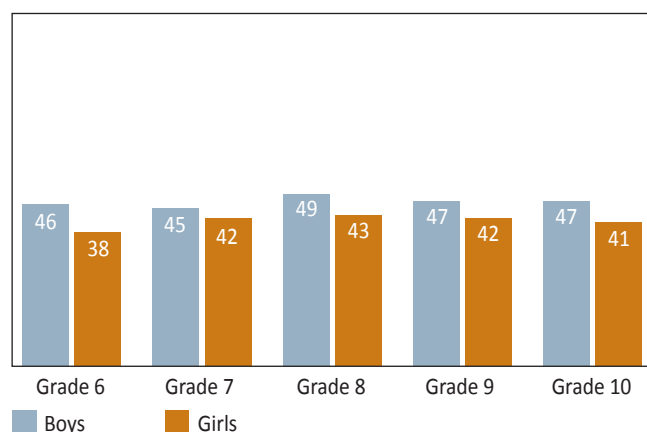
10.2 Students who reported that they had sustained multiple injuries, by grade and gender (%)
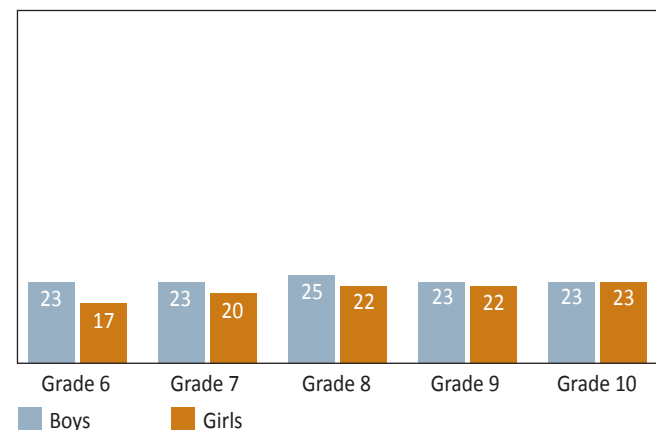
More serious injuries that required the placement of a cast, stiches, surgery, or at least an overnight admission to hospital, are shown in **Figure 10.3**. Percentages of students reporting such injuries ranged from 19%-23% among boys and 14%-16% among girls.

Activities Associated with Youth Injury

Injuries to young people occurred during many different activities. **Figures 10.4** to **10.6** show that sports and recreation activities were the leading reported causes of injury among young people in Canada. Other causes of injury (e.g., motor vehicle crashes, fighting) were less common. Occupational injuries were more frequently reported in the older age groups.

10.3 Students who reported that they had sustained one or more injuries requiring significant medical treatment, by grade and gender (%)
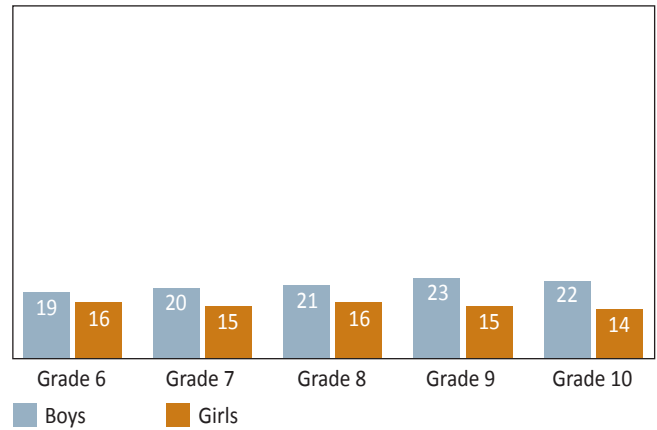
10.4 Activities leading to injury among Grade 6 students, by gender (% of all activities)
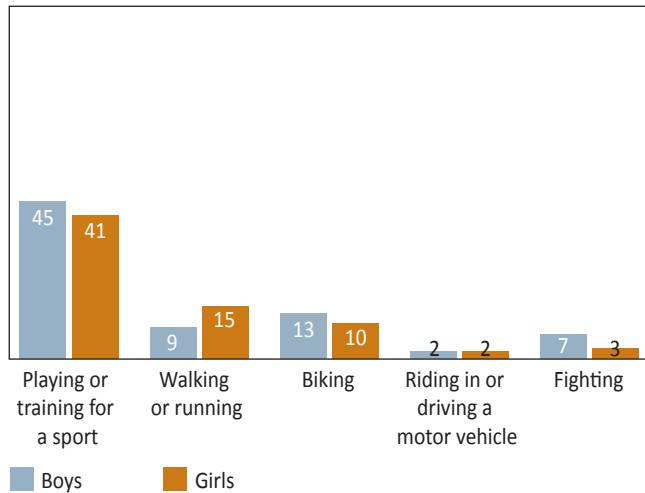
10.5 Activities leading to injury among Grade 8 students, by gender (% of all activities)
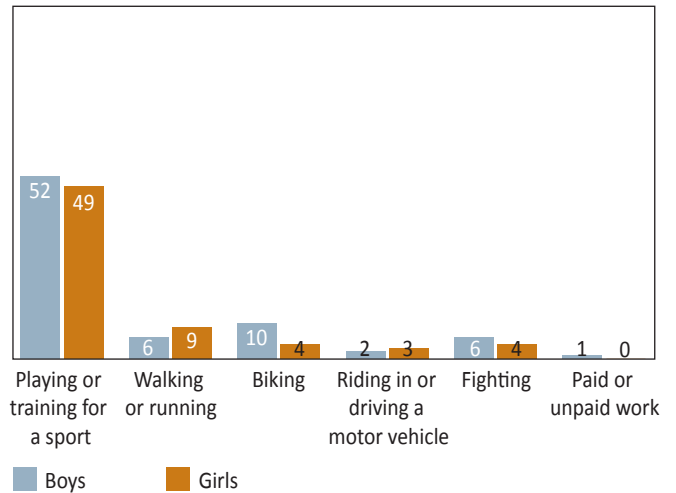
10.6 Activities leading to injury among Grade 10 students, by gender (% of all activities)
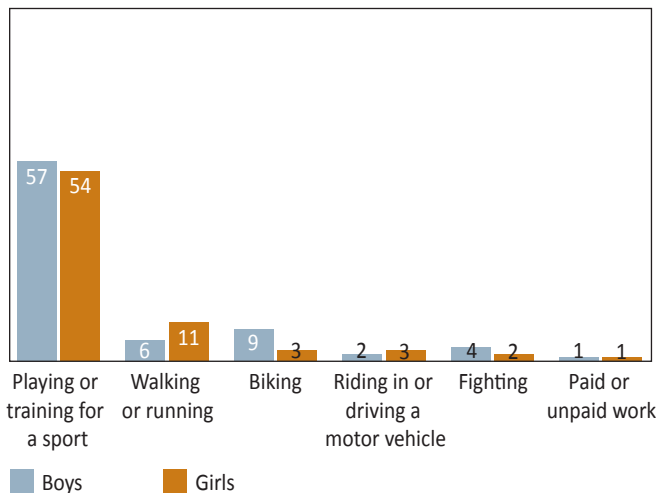
Where Injuries Happen

Table 10.1 shows that the leading places where injuries were reported as occurring to young people in Canada varied by grade level and gender. Injuries that happened at home declined as young people grew older. Injuries that occurred in sports facilities or fields increased with increasing grade level. The other patterns of injury by location were less notable.

Table 10.1 Location where injuries happen, by grade and gender (%)	Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Home or yard	28	31	23	30	17	22	19	24	17	22
School during school hours	17	18	17	15	14	19	12	10	12	13
School outside hours	5	4	4	4	3	3	5	7	4	5
Sports facility or field	28	24	33	30	43	39	42	41	44	42
Street or parking lot	7	4	9	5	8	3	9	5	9	6
Other	15	18	14	15	15	14	13	14	14	12

Causes of More Serious Injury

Figure 10.7 shows the percentages of different types of injuries that resulted in significant medical treatment. HBSC refers to these as serious injuries, and they included injuries resulting in any placement of a cast, stiches, surgery, or at least an overnight admission to hospital. Types of injuries that were more serious included various types of motor vehicle injury, cycling (biking) injuries, occupational injuries, and injuries incurred as a result of violence. This finding is consistent with what is known about the most common fatal causes of adolescent injury in Canada (Pan et al., 2006).

Prevention

Among young people who reported riding a bicycle during the last year, the proportion reporting wearing a helmet most or all of the time while cycling declined dramatically by grade (Figure 10.8). This pattern was observed among boys and girls, with minimal differences between genders.

10.7 Percentages of specific causes of injury requiring significant medical treatment (% of injuries)
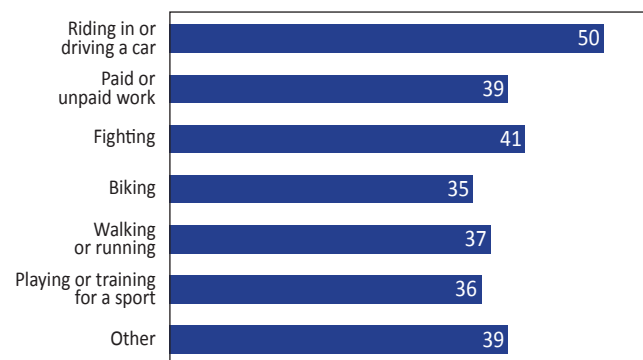
10.8 Students who reported that they wore a bicycle helmet most or all of the time when cycling in the last 12 months, by grade and gender (%)
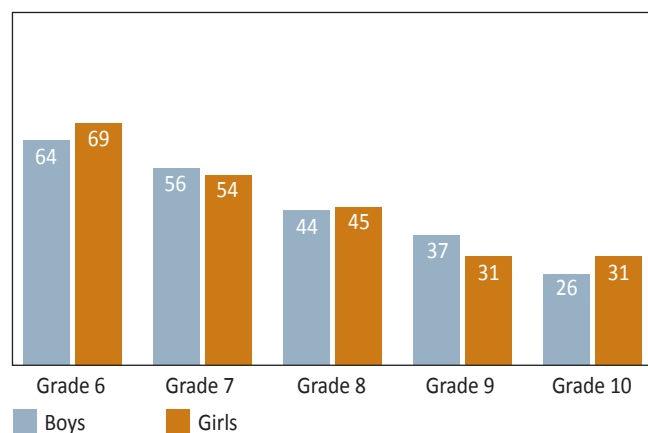
The grade-related decline in helmet use was less pronounced for students riding on motorized vehicles, such as snowmobiles, ATVs, or dirt bikes (**Figure 10.9**). Reported percentages were similar between boys and girls, with higher levels of helmet use reported among girls only in Grade 10.

RELATIONSHIPS AND INJURY

In the final section of the analysis, the percentage of young people reporting being in the high level of support group was analyzed in relation to the presence or absence of injury events. Note: Descriptions of the four scales can be found in Appendix A. This analysis was repeated for the occurrence of any medically treated injuries, serious injuries, and multiple injuries. As the main pattern and findings for each of these types of injury outcomes were similar, only the analysis for serious injury events is presented.

10.9 **Students who reported that they wore a helmet most or all of the time when riding other vehicles (e.g., snowmobile, ATV, dirt bike) in the last 12 months, by grade and gender (%)**

In general, there were inconsistent relationships between the occurrence of injury (yes or no) and the percentages of students in the high support group for both boys and girls: family support (**Figure 10.10**), friend support (**Figure 10.12**), and community support (**Figure 10.13**). Being in the high school climate group, however, was related to injury occurrence, with lower injury occurrence linked to high school climate group (**Figure 10.11**).

10.10 **Students in the high family support group, by serious medically treated injury and gender (%)**
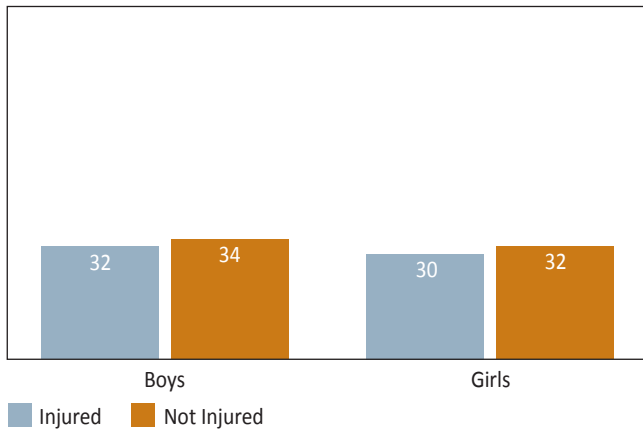
10.11 **Students in the high school climate group, by serious medically treated injury and gender (%)**
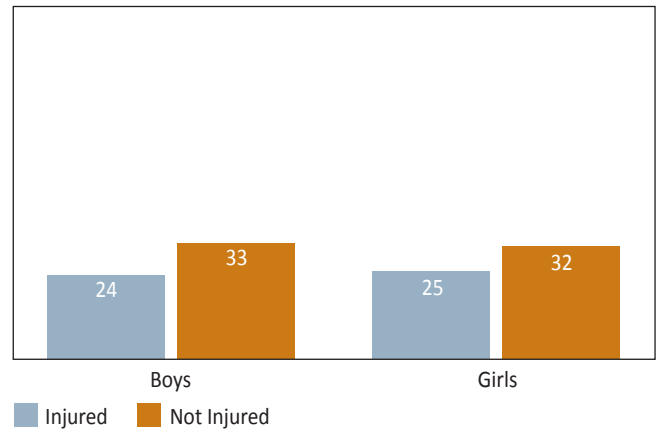
10.12 Students in the high friend support group, by serious medically treated injury and gender (%)

- 23 Boys Injured
- 23 Boys Not Injured
- 43 Girls Injured
- 37 Girls Not Injured

■ Injured ■ Not Injured

10.13 Students in the high community support group, by serious medically treated injury and gender (%)

- 34 Boys Injured
- 35 Boys Not Injured
- 34 Girls Injured
- 31 Girls Not Injured

■ Injured ■ Not Injured
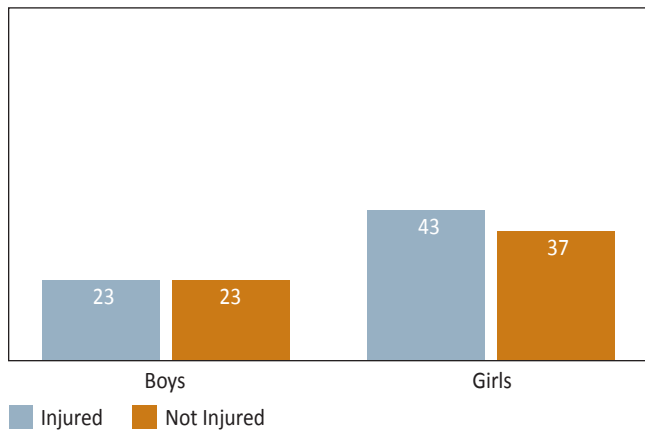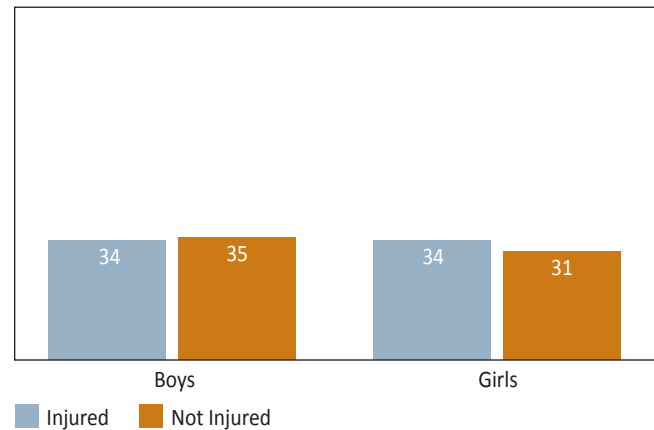
AREAS OF CONCERN

- Injuries continue to be an important public health problem in Canadian youth.
- Injuries are related to grade and gender, suggesting possible health inequities.

ENCOURAGING FINDINGS

- The leading activities associated with injury events in all groups were sports and recreational activities, activities that have benefits for physical health.
- Serious injuries associated with the major causes of trauma and death, including motor vehicle collisions, violence, cycling injuries, and intentional injuries (e.g., suicide attempts, abuse), were quite rare.

SUMMARY AND IMPLICATIONS

Youth injuries remain a leading public health priority in Canada in terms of the prevalence of injury events reported and the extent and consistency of the problem observed in different groups of young people. The patterns of injury by the people involved, locations of injuries, activity, and severity are similar to those presented in past HBSC reports (e.g., Davison et al., 2013). Major priorities for the prevention of injuries are also well understood by Canadian authorities, including PHAC (2009), which has identified injury as one of its leading priority health issues during recent years. As a result of these concerns, PHAC commissioned a special report on injury and its contextual determinants in young Canadians based upon past cycles of the HBSC (Davison et al., 2013). That report raised awareness of the problem and provided objective evidence to support critical evidence-based actions to prevent injuries in this population. A modified Delphi process was used to arrive at priorities for action, and these priorities, in turn, "require multidisciplinary collaborations to support policy development, further research, and clear decision-making for injury prevention"(Pike et al., 2013, p.89).

What is new in 2014 is the emerging dilemma that faces Canadian injury prevention professionals and others in the field of health promotion. The epidemic of obesity and associated sedentary lifestyles is well known to Canadians, as is the importance of efforts to address the emergent effects of obesity (Janssen, 2013). Yet, some of the most common types of injury that happen to youth occur during activities that are typically healthy and may help decrease obesity, such as sports and other recreational activities. Injury prevention efforts that limit exposure to physical activity, while offering some protection to health in the short term, may have the unintended side effect of harming young people by leaving them predisposed to chronic disease (Brussoni et al., 2015). A balanced approach is needed in this debate. It is encouraging to see members of the Canadian injury prevention community working cooperatively with colleagues from other health promotion fields to design initiatives that consider the health of young people more holistically, and try to find common ground between injury prevention and physical activity (Brussoni et al., 2015).

Relationships at home, at school, with friends, and in the community, while important to many aspects of health, appear to have less consistent associations with injury as a health outcome, with the possible exception of positive school environments. The occurrence of injury seems to be ubiquitous to all groups of young people irrespective of the nature and quality of these relationships.

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Chapter **11**

Bill Morrison
Patricia Peterson
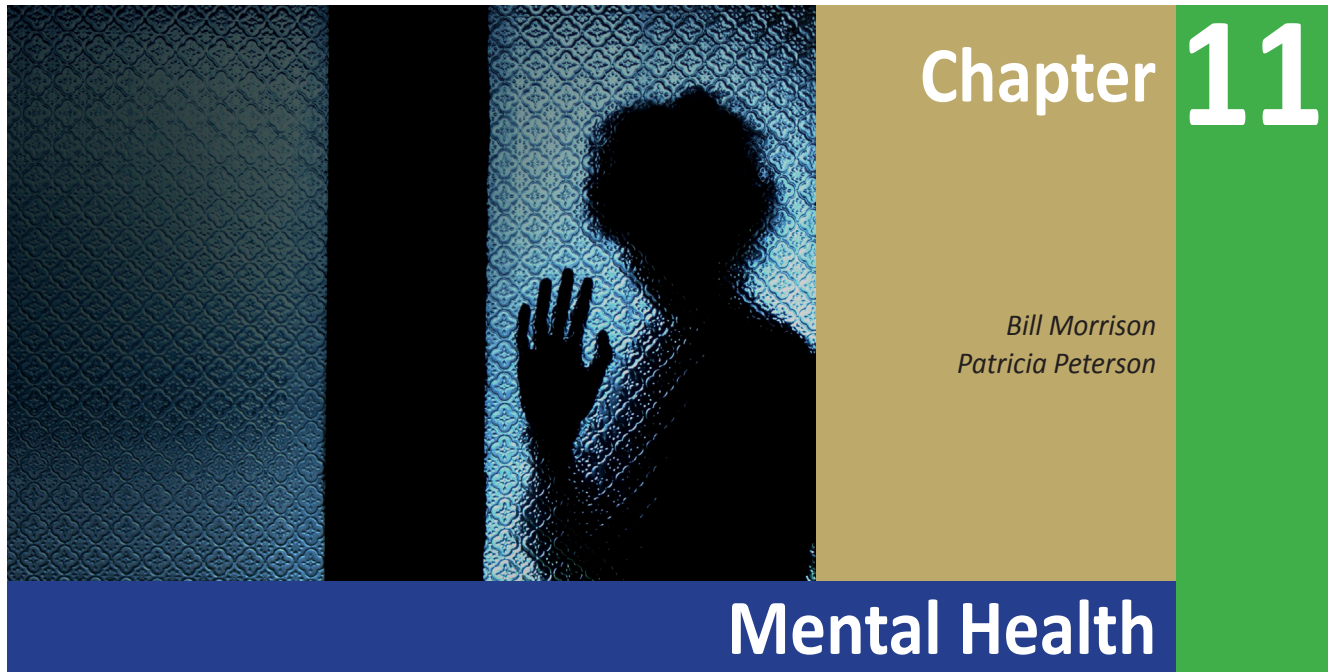
Mental Health

THE IMPORTANCE OF UNDERSTANDING MENTAL HEALTH

The Human Face of Mental Health and Mental Illness in Canada (Government of Canada, 2006) indicates, for young adults with anxiety or depression, 70% reported the onset of symptoms before the age of 15. According to the Mental Health Commission of Canada (2015), nearly 1.2 million Canadian children and youth experience mental health issues. These statistics provide a strong rationale for promoting awareness and action related to youth mental health, and for cohesive and collaborative efforts to address mental well-being across environments.

Mental health programs and services within the school, community, and health settings have often focused on addressing concerns related to the psychological well-being of children and youth through the identification of risk-need factors, delivery of timely interventions and support services, and promotional efforts aimed at reducing potential stigma associated with mental health conditions. Traditionally, such approaches have emphasized the problems or challenges associated with existing or emerging mental health-related concerns in children and youth, and the interventions needed to remediate or address areas of risk and need (Terjesen, Jocofsky, Froh, & Digiuseppe, 2004). However, students' psychological well-being is not only influenced by the absence of problems and risk-need concerns, but also by the existence of factors present within their environments that contribute to positive growth and development. From this perspective, positive mental health is more than the absence of mental illness. In 2014, the World Health Organization (WHO) defined mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (World Health Organization [WHO], 2014).

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, p.27). As children move into their early and later teen years, schools may play an even greater role than the home context in influencing youth, given the powerful influence that teacher support and peer networks have within the educational settings (Stewart, 2008; Stewart et al., 2004). Given the number of formative years students spend in school environments, the educational context provides unparalleled opportunities for promoting the delivery of activities and initiatives related to positive mental health. Stewart and Wang (2012) identify schools as an essential setting for exploring the role of

environmental factors in enhancing student mental health and resiliency. These researchers identify "the role of the school in child development, the capacity of the school personnel to develop competence in students, and the ability of the school to serve as an organizational base for mobilizing linkages with parents and community resources" as critical considerations in mental health care and promotion.

Silbereisen and Lerner (2007) note the efficacy of school models that have focused on student strength and capacity as opposed to a sole focus on pathology, risk, and need. The World Health Organization's (2007) framework for health promoting schools recommends the placement of social-emotional learning content within the general curriculum, and the design of teaching and learning practices to foster environments of support and well-being for students. As research continues to highlight the impact of mental well-being on academic and life outcomes, child and youth stakeholders are increasingly seeking means to enhance awareness and capacity for embedding positive mental health practices and approaches.

WHAT IS BEING REPORTED IN THIS CHAPTER?

Traditionally, health professionals and educators have emphasized a unidimensional deficit and symptomology approach to the conceptualization of student mental health. The emergence of positive psychology and positive mental health research has underscored the importance of including positive psychological characteristics in defining individuals' mental health and well-being (Kelly, Hills, Huebner, & McQuillin, 2012). For the current HBSC report, four thematic sections are examined, representing both areas of mental health concern and the presence of positive emotions and characteristics.

Emotional Concerns: Question items selected for analysis included scales related to sadness and hopelessness, wishing to be someone else, feeling lonely, and feeling nervous. In addition, an aggregate emotional problem scale comprised of multiple items was examined.

Psychosomatic Symptoms: Three questions focusing on psychosomatic symptoms were selected for analysis, including items related to headaches, stomachaches, and feeling irritable or bad tempered. For each question, students were asked to indicate how often the symptom had occurred in the past six months, with possible responses being about every day, more than once a week, about every week, about every month, or rarely/never.

Positive Emotions and Behaviours: Positive emotion questions selected for analysis were related to students' level of agreement on statements regarding confidence in self and feeling full of energy. With regard to prosocial behaviours, one question selected for analysis explored students' levels of identification with the statement: It is definitely like me to often help people without being asked. This question was also examined within an aggregate scale of prosocial behaviour. The prosocial scale was comprised of five question items asking students to indicate their degree of identification with the following statements: I often do favours for people without being asked; I often lend things to people without being asked; I often help people without being asked; I often compliment people without being asked; and I often share things with people without being asked.

Life Satisfaction: For this section, one question item related to students' appraisal of life satisfaction was examined. For this item, students were asked to rate their life satisfaction out of 10. This variable was further analyzed by examining the proportion of students reporting strong social support at varying levels of life satisfaction. Sources of social support involved peers, family, school climate, and community.

Within each section of this chapter, descriptive and tabular presentations of results consider grade and gender outcomes. The closing summary highlights the major findings of this investigation and implications for addressing child and youth mental health.

EMOTIONAL CONCERNS

Emotionally healthy children and youth are more likely to reach their academic potential, and schools have the capacity to positively contribute to students' emotional health (Joint Consortium for School Health [JCSH], 2013). Emotional concern questions selected for analysis include scales related to sadness and hopelessness, wishing to be someone else, feeling lonely, and feeling nervous.

Sadness and Hopelessness

As outlined in **Figure 11.1**, the proportion of girls reporting feelings of ongoing sadness or hopelessness was higher than that of boys, with increases between Grades 6 and 10. In Grade 6, 23% of girls experienced these emotions with the rate increasing throughout adolescence. Forty-three percent of girls reported feeling sadness or hopelessness almost every day for two weeks or more in a row in Grade 10. Results for male students also showed an increase throughout adolescence, with proportional results increasing from 19% in Grade 6 to 22% in Grade 10. These emotional concerns were more frequently experienced by girls than boys at all grade levels. The largest proportional spike in sadness and hopelessness was reported for girls between Grades 8 and 9 (7%), while the greatest increase among boys occurred between Grades 8 and 9, and between 9 and 10 (2% each).

Wishing They Were Someone Else

In **Figure 11.2**, the proportion of students who agreed or strongly agreed that they often wished they were someone else increased between Grades 6 and 10. Boys showed both a slower rate of increase as they grew older, and lower overall levels for this variable than did girls. From Grades 6 to 10, boys experienced a proportional increase of 6%, with 24% of boys in Grade 10 reporting a wish to be someone else. Overall increases for girls were within a range of 15 percentage points (between 25% and 40%), with the largest proportional spike occurring in Grade 9 (40%), and a slight decrease occurring in Grade 10 (38%).

11.1 Students who reported that during the past 12 months, they felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities, by grade and gender (%)
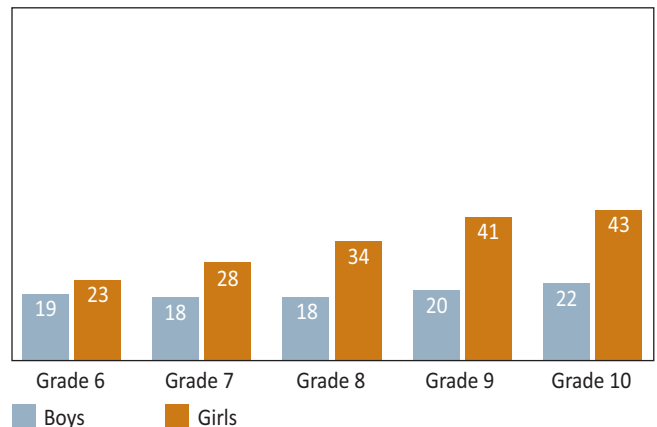
11.2 Students who agreed or strongly agreed that they often wished they were someone else, by grade and gender (%)
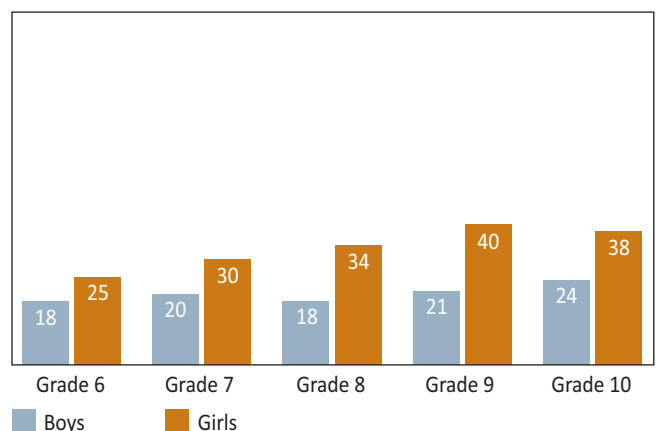
Loneliness

In **Figure 11.3**, similar to the previous two figures, the proportion of students who agreed or strongly agreed that they often felt lonely increased from one grade level to the next. Rates for boys showed an overall increase of 8 percentage points, while rates for girls increased by 15 percentage points between Grades 6 and 10. In Grades 6, 7 and 8, 17% of boys noted feelings of loneliness, climbing to 25% in Grade 10. A higher proportion of reported loneliness was noted among girls, with the largest proportional increase indicated between Grade 6 (19%) and Grade 7 (26%), levelling off at 34% in both Grades 9 and 10. The proportion of girls reporting loneliness was higher than that of boys across all grade levels.

Nervousness

Figure 11.4 presents student outcomes related to feeling nervous, with girls reporting these feelings at higher proportions than boys at all grade levels. Boys indicated feeling nervous at least once a week at a rate of 30% in Grade 6, increasing to 38% in Grade 10. The highest spike in reports of nervousness among boys was noted between Grades 9 and 10. Girls experienced proportional increases in feeling nervous at progressive grade levels, moving from a rate of 37% in Grade 6 to 60% in Grade 10. The most significant jump among girls feeling nervous occurred between Grades 6 and 7.

11.3 Students who agreed or strongly agreed that they often felt lonely, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	17	17	17	18	25
Girls	19	26	31	34	34
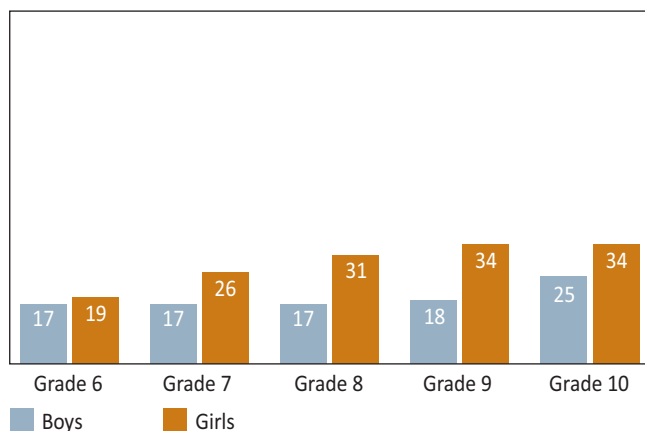
11.4 Students who reported that they felt nervous at least once a week, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	30	33	35	32	38
Girls	37	45	52	57	60
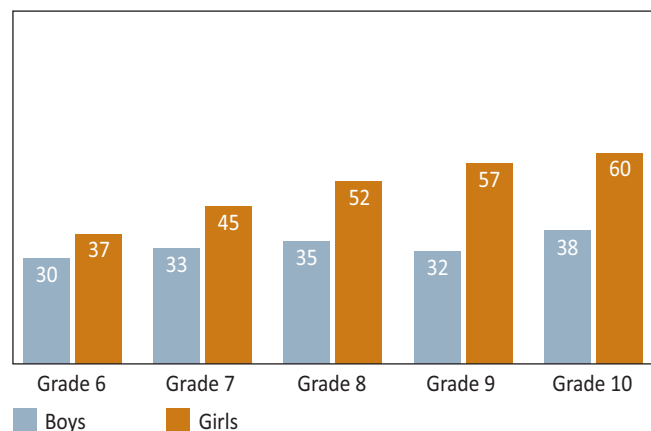
Emotional Problems

The emotional problems scale is made up of five items (**Table 11.1**) with a Cronbach's alpha of 0.87. These items are based on students' feelings of being left out of things, feelings of loneliness, feelings of helplessness, wishing they were someone else, and wishing they could change how they looked. All items were reported on a 5-point scale from "strongly agree" to "strongly disagree". For presentation purposes, the scale score is divided into three approximately equal groups, 33% low, 35% medium, and 32% high. The scale breaks the students up in a relative sense rather than an absolute sense. Students in the high group reported a relatively higher level of emotional problems than those in the medium group, who in turn reported a relatively higher level of emotional problems than those in the low group.

Table 11.1 Emotional Problems	
I often feel left out of things	1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
I often feel lonely	
I often feel helpless	
I often wish I were someone else	
I would change how I look if I could	

Figure 11.5 presents findings related to the incidence of overall emotional problems among the 32.3% of students reporting the highest scores for these factors. Boys were less likely than girls to report emotional problems, with 19% of boys in Grade 6 experiencing such challenges, growing to 29% by Grade 10. The highest proportional spike for boys occurred in Grade 10. For girls, 26% noted emotional concerns in Grade 6, growing to 47% in Grade 9 (decreasing slightly to 46% in Grade 10). The largest increase in these ratings for girls occurred between Grades 6 and 7 (from 26% to 36%).

11.5 Students in the group with the highest score on Emotional Problems scale, by grade and gender (32.3% of all students are in this group)
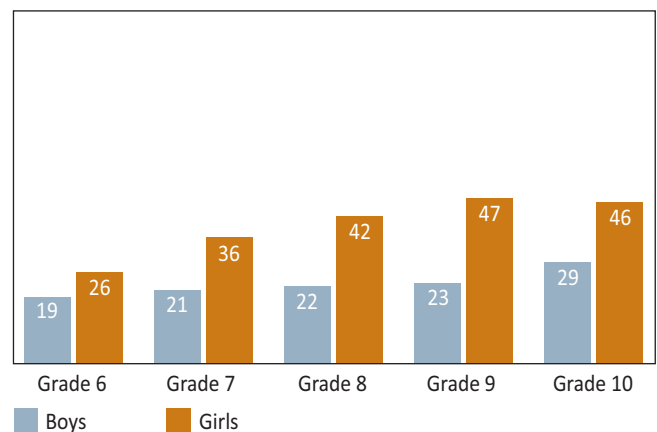
PSYCHOSOMATIC SYMPTOMS

Psychosomatic symptoms have been described as the occurrence of "physical symptoms with no clear organic cause, whether they are headaches, abdominal pain or more vague complaints such as fatigue or simply feeling unwell" (DeAngelis, 2013, p.66). For this survey, three symptoms that often occur as psychosomatic complaints were considered as potential indicators of emotional health *(Note: Survey responses do not provide evidence that these symptoms were psychosomatic and not physical in nature, although we refer to them as psychosomatic symptoms for ease of communication.)*

Psychosomatic Symptoms Scale

The psychosomatic symptoms scale is made up of 8 items (**Table 11.2**) with a Cronbach's alpha of 0.84. The 8 symptoms were headache, stomach ache, back ache, difficulties in getting to sleep, feeling low (depressed), irritability or bad temper, feeling nervous, and feeling dizzy. For each question, participants were asked to indicate how often the symptom had occurred in the past six months. The items were reported on a 5-point scale, with possible responses being: about every day, more than once a week, about every week, about every month, or rarely/never. The responses across the 8 items were summed and for presentation purposes students were divided into three approximately equal groups, 35.8% low, 32.0% medium, and 32.3% high. The scale breaks the students up in a relative sense rather than an absolute sense. Students in the high group reported relatively higher levels of psychosomatic symptoms than those in the medium group, who in turn reported relatively higher levels of psychosomatic symptoms than those in the low group.

Table 11.2 Psychosomatic Symptoms	
Headache	
Stomachache	1 = Rarely or never,
Back ache	2 = About every month,
Feeling low (depressed)	3 = About every week,
Irritability or bad temper	4 = More than once a week,
Feeling nervous	5 = About every day
Difficulties in getting to sleep	
Feeling dizzy	

Headaches

Figure 11.6 presents the proportions of male and female students who reported having headaches at least once a week. Girls were more likely than boys to report headaches at all grade levels, with proportional increases each year between Grades 6 and 10. Increased reported headaches for boys were noted each year, but within a smaller scope, ranging from 20% in Grade 6 to 24% in Grade 10. Girls experienced the largest jump between Grades 7 and 8 (30% to 38%), increasing to 48% by Grade 10, for an overall proportional increase of 23 percentage points between Grades 6 and 10.

Stomachaches

In **Figure 11.7**, the percentage of boys who reported stomachaches at least once a week was similar across grade levels, with rates ranging from 12% to 15%. The proportion of girls who reported stomachaches increased steadily from 19% in Grade 6 to 30% in Grade 10, with the largest jump occurring between Grades 7 and 8. Overall, a greater proportion of girls than boys across grade levels reported stomachaches at least once a week.

11.6 Students who reported that they had headaches at least once a week, by grade and gender (%)
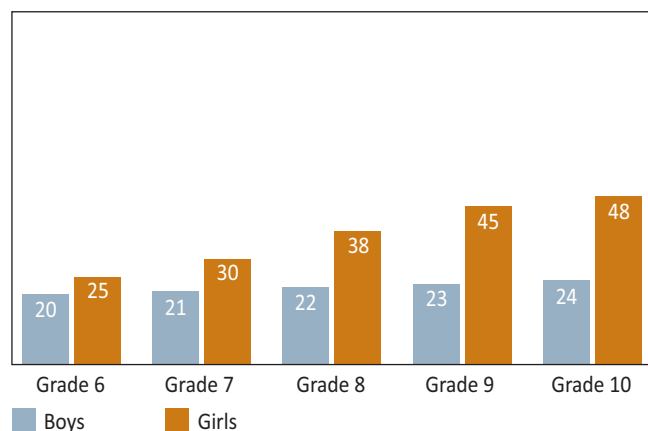
11.7 Students who reported that they had stomachaches at least once a week, by grade and gender (%)
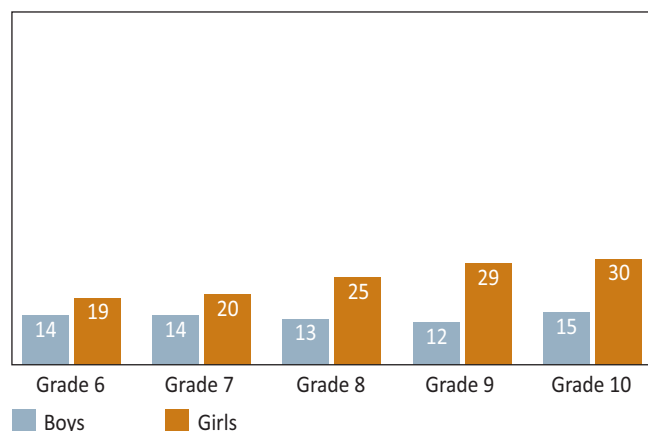
Bad Tempered or Irritable

Figure 11.8 presents findings related to feeling bad tempered or irritable at least once a week. The proportion of girls reporting feeling bad tempered or irritable was consistently higher than boys, with differences between genders increasing at subsequent grade levels up to Grade 9. Between Grades 6 and 10, the results for boys ranged from 22% in Grade 6 to 32% in Grade 10 – a proportional increase of 10% overall. In Grade 6, there was a 3% difference between the proportion of boys and girls on this question item; however, the gender gap expanded across grade levels, with the highest difference at 17% in Grades 9 and 10.

11.8 Students who reported that they felt bad tempered or irritable at least once a week, by grade and gender (%)
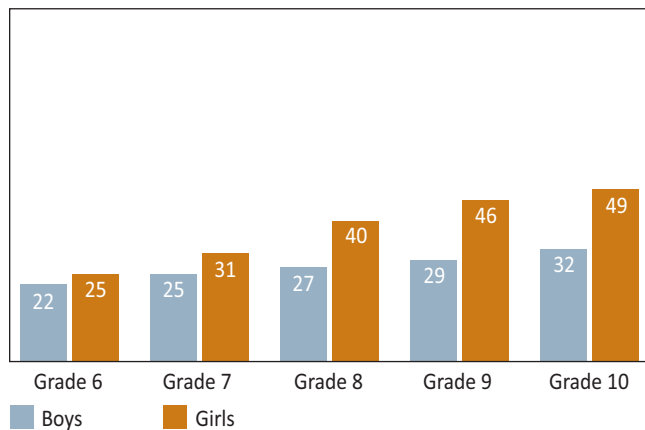
Figures 11.9a and **b** present survey findings on feeling bad tempered or irritable more than once a week across years. For both boys and girls in Grade 6, the proportion of responses on this variable decreased during each year of survey administration (1998-2014). Gender differences for Grade 6 students were not significant within these survey years. Results for boys in Grade 8 decreased by 6% overall across survey administration years. Girls in Grade 8 showed little variability in responses (ranging from 22% to 24% across the survey years) but with consistently higher ratings than boys in each year. Boys in Grade 10 reported these feelings at similar levels in each survey year with responses ranging from 15% to 20%, while responses from girls in Grade 10 ranged from a low of 23% in 2002 to a high of 29% in 2014.

11.9a Boys who reported that they felt bad tempered or irritable more than once a week, by grade and year of survey (%)
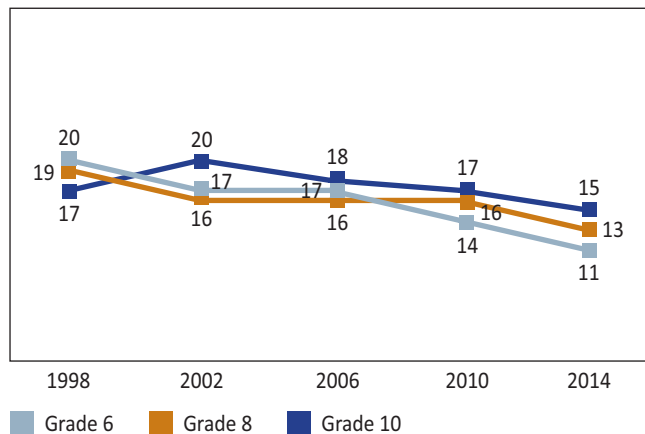
11.9b Girls who reported that they felt bad tempered or irritable more than once a week, by grade and year of survey (%)
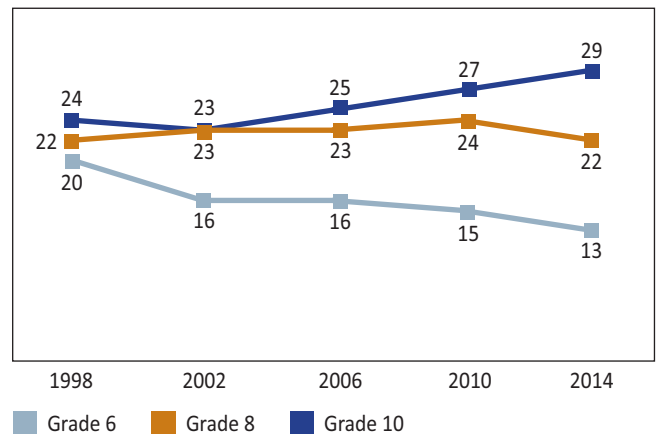
Regarding gender-based trends, the ratings of girls in Grade 6 were comparable to those of boys in all survey years, while reported experiences of feeling bad tempered or irritable among girls were higher than those among boys in Grades 8 and 10 during all survey administration years.

Psychosomatic Symptoms

Figure 11.10 presents findings related to the reporting of overall psychosomatic symptoms among the 32.3% of students with the highest scores for this scale. Boys were less likely than girls to report such symptoms, with 19% of boys in Grade 6 experiencing these challenges, growing to 27% by Grade 10. The highest proportional jump for boys occurred in Grade 10. For girls, 24% noted psychosomatic symptoms in Grade 6, growing each year to a high of 53% in Grade 10. The largest proportional increase for girls was a jump of 11% between Grades 8 and 9. In terms of gender differences, gaps in responses between boys and girls increased over time, with a difference of 5% in Grade 6, growing to differences of 28% and 26% in Grades 9 and 10 respectively.

11.10 Students in the high group on the psychosomatic symptoms scale, by grade and gender (32.3% of all students are in this group)
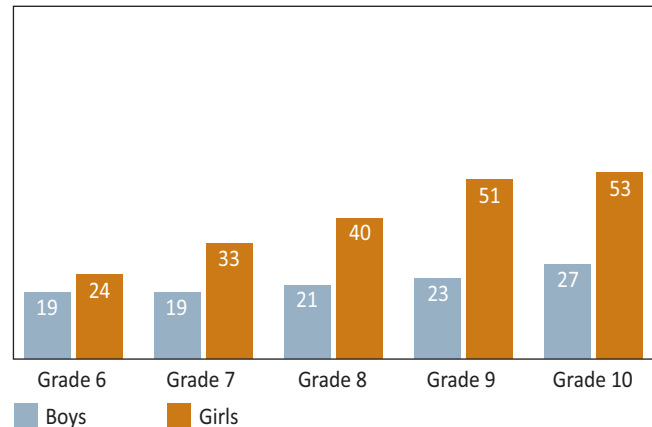
POSITIVE EMOTIONS AND BEHAVIOURS

There has been growing interest among education and health professionals in identifying positive personal assets in children and youth that move beyond a sole emphasis on areas of deficit, need, or risk related to student mental health. The investigation of the presence of positive emotions has emerged as a key focus in exploring the contribution of such internal resources to the positive adaptation and well-being of students (Lewis, Huebner, Reschly, & Valois, 2009). For this summary, positive emotion questions selected for analysis are related to students' level of agreement on statements regarding confidence in self and feeling full of energy.

Confidence

As outlined in **Figure 11.11**, student self-confidence appears to be related to both grade and gender. In Grade 6, 47% of boys indicated that they strongly agreed that they had confidence in themselves. Personal confidence declined across grade levels with only 24% of boys in Grade 10 strongly agreeing that they had confidence in themselves. A similar trend across grade levels was noted for females, with 36% of girls in Grade 6 indicating that they strongly agreed that they had confidence in themselves, whereas only 12% affirmed such self-perceptions in Grade 10. In addition to decreases in the proportion of students affirming confidence in themselves, the percentage of girls strongly agreeing with this question item was lower than that of boys across all grade levels. The largest proportional decreases in self-confidence were evident between Grades 6 and 7 (8 percentage points) for boys, and between Grades 7 and 8 (10 percentage points) for girls.

11.11 Students who strongly agreed that they had confidence in themselves, by grade and gender (%)
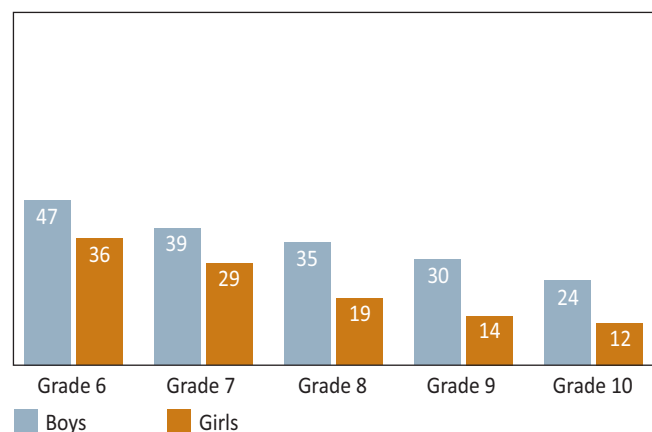
Energy

Figure 11.12 presents the proportion of boys and girls who strongly agreed that they were full of energy. A similar trend as reported for self-confidence was noted, with lower proportions of students indicating that they were full of energy at higher grade levels. For boys, 53% strongly agreed that they were full of energy in Grade 6, with 28% expressing strong agreement in Grade 10. For girls, 47% in Grade 6 indicated strong agreement that they were full of energy, with 22% reporting strong agreement in Grade 10.

11.12 Students who strongly agreed that they were full of energy, by grade and gender (%)

Boys   Girls
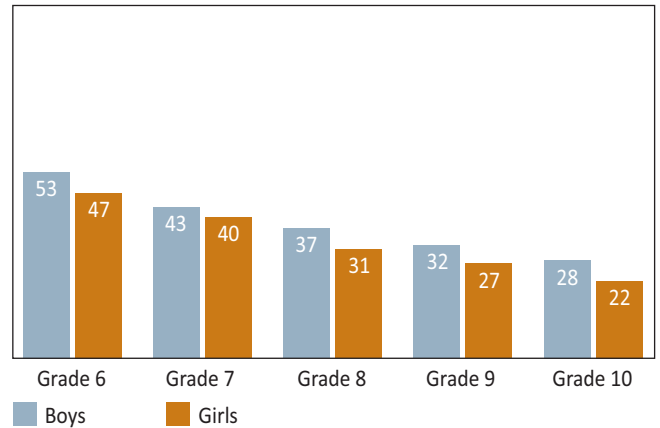
Prosocial Behaviours

Prosocial behaviour may be defined as positive actions that convey empathy and benefits to others, and that include a sense of responsibility toward others rather than a sole focus on personal gain. The development of prosocial attitudes and practices is central to the goals of social emotional learning programs often implemented in elementary and secondary school settings (Kidron & Fleischman, 2006).

The prosocial behaviour scale is made up of five items (**Table 11.3**) with a Cronbach's alpha of 0.87. The questions were on a 1 to 6 response scale anchored with the phrases "definitely like me" and "definitely not like me." All questions concerned doing things for others without being asked. Students were divided into three approximately equal groups, 33% low, 30% medium, and 37% high. The scale breaks the students up in a relative sense rather than an absolute sense. Students in the high group reported relatively higher prosocial behaviour than those in the medium group, who in turn, reported relatively higher prosocial behaviour than those in the low group.

Table 11.3 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	

Figure 11.13 provides the proportion of students across grade levels reporting that it was definitely like them to help people without being asked. A larger proportion of girls than boys indicated support for this prosocial behaviour across grade levels. For this item, the proportion of girls remained consistent across grades with reported levels between 22% and 25%. In contrast, the proportion of boys across grade levels was consistently lower than girls results, and decreased across the grades. In Grade 6, 18% of boys indicated that it was definitely like them to help others without being asked, whereas only 13% in Grade 10 identified strongly with this aspect of prosocial behaviour.

Figure 11.14 presents findings related to overall prosocial behaviours among the 37.0% of students reporting the highest scores for these items. Girls across grade levels were more likely than boys to identify with prosocial behaviours.

LIFE SATISFACTION

Life satisfaction has been recognized as a key element of positive mental health in students. Students reporting high life satisfaction also indicate higher levels of adaptive functioning across a range of school, interpersonal, and intrapersonal variables compared to their peers with average and low life satisfaction (Proctor, Linley, & Maltby, 2009). The selected item for analysis involved asking students to rate their life satisfaction out of 10.

In **Figure 11.15**, the percentage of students rating life satisfaction as 8 or higher ranged from a low of 43% to a high of 64% among boys and girls. For both boys and girls, the proportion of students indicating greater life satisfaction decreased from Grade 6 to 10. With the exception of Grade 6, a smaller proportion of girls than boys reported higher life satisfaction for each grade level. In addition, greater decreases in the proportion of students with higher life satisfaction from Grades 6 to 10 were noted among girls as compared to boys.

11.13 Students who reported that it was definitely like them to often help people without being asked, by grade and gender (%)
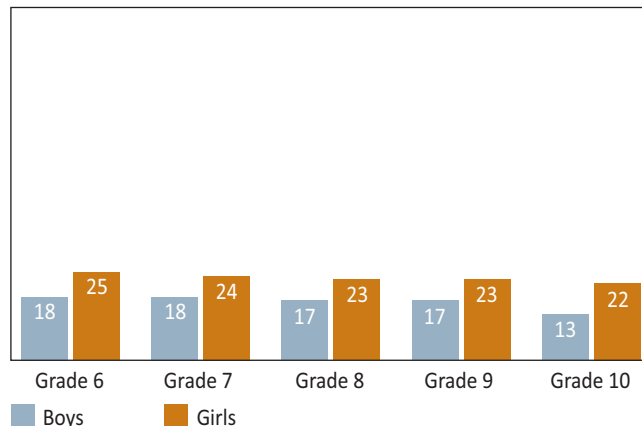
11.14 Students in the high prosocial behaviours group, by grade and gender (37% of all students are in this group)
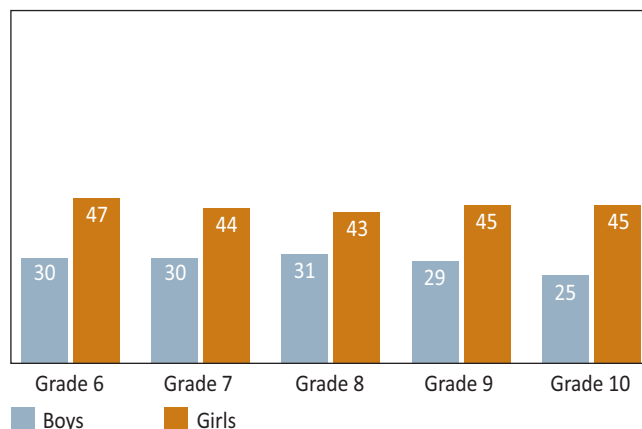
11.15 How students rate life out of 10, by grade and gender (%)
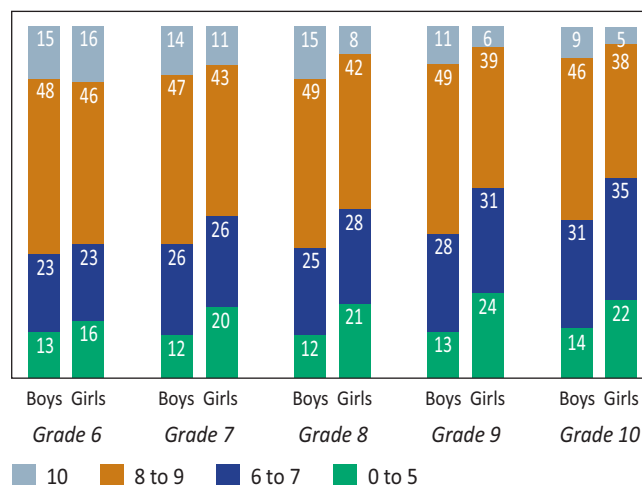
"If you feel good about yourself mentally, then you will want to take care of your body and you will eat well and sleep and stuff like that."

(Youth focus group participant)

Life Satisfaction Across Survey Administration Years

As reported in **Figure 11.16a** and **b**, a review of student ratings from 2002 to 2014 demonstrates a general decrease in the percentage of students reporting high life satisfaction. This trend was noted for both boys and girls, with the exception of boys in Grade 8, with 64% noting high life satisfaction in 2002, 2006 and 2014. Across all survey adminstration years (with the exception of Grade 6 in 2006), the proportion of boys indicating high life satisfaction exceeded the proportion of girls for the same question item.

11.16a Boys who responded 8 to 10 on life satisfaction scale, by grade and year of survey (%)

Grade 6   Grade 8   Grade 10
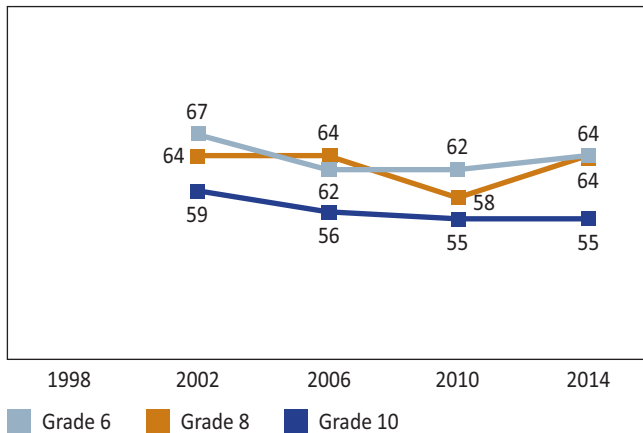
11.16b Girls who responded 8 to 10 on life satisfaction scale, by grade and year of survey (%)

Grade 6   Grade 8   Grade 10
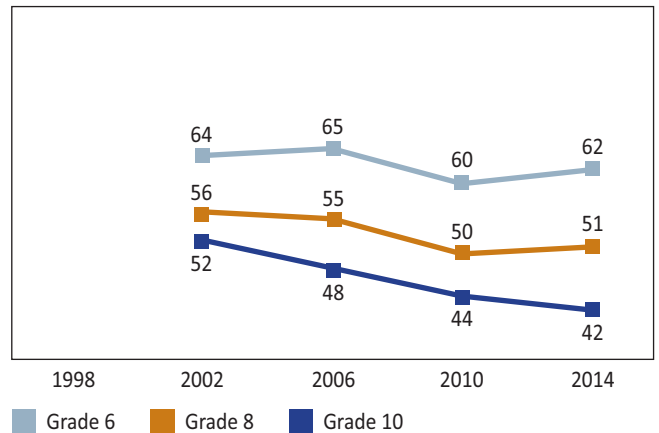
RELATIONSHIPS AND MENTAL HEALTH

Figures 11.17, **11.18**, **11.19**, and **11.20** present the percentage of boys and girls reporting high social support across ratings of life satisfaction. Sources of high or strong social support included family, school climate, friends, and community. Note: Descriptions of the four scales can be found in Appendix A.

"Your family gives you affection and love and they make you feel that you belong...If you don't talk to them you may not be as happy and make you sadder."

(Youth focus group participant)

In **Figure 11.17**, higher percentages of high family support were associated with higher life satisfaction ratings, whereas lower percentages of students reporting high family support were associated with lower ratings of life satisfaction. At lower life satisfaction ratings, the percentage of boys and girls indicating strong family support was similar; however,

11.17 Students in the high family support group, by life satisfaction on a scale of 0 to 10 and gender (%)

Boys   Girls
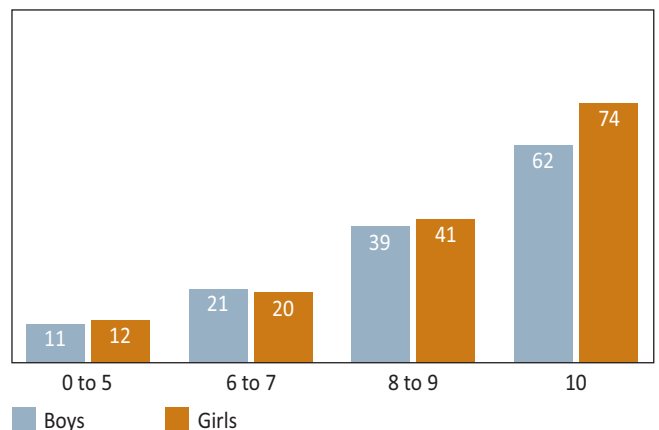
at higher ratings of life satisfaction, the percentage of girls reporting strong family support was higher than that of boys.

Students with higher levels of life satisfaction were more likely than students with lower levels of life satisfaction to be in the high third on the school climate scale (**Figure 11.18**). At lower life satisfaction ratings, the percentage of boys and girls indicating a positive school climate was similar; however, at higher ratings of life satisfaction, the percentage of girls reporting a positive school climate was substantially higher than that of boys.

In **Figure 11.19**, higher percentages of students reporting high friend support were associated with higher life satisfaction ratings, whereas lower percentages of students reporting high peer support were noted with lower ratings of life satisfaction.

11.18 Students in the high school climate group, by life satisfaction on a scale of 0 to 10 and gender (%)

In **Figure 11.20**, higher percentages of students reporting high community support were associated with higher life satisfaction ratings, whereas lower student percentages reporting high community support were observed with lower ratings of life satisfaction. Percentages of students indicating high community support across life satisfaction rating categories were quite similar for boys and girls, with differences in percentages of five points or less.

11.19 Students in the high friend support group, by life satisfaction on a scale of 0 to 10 and gender (%)
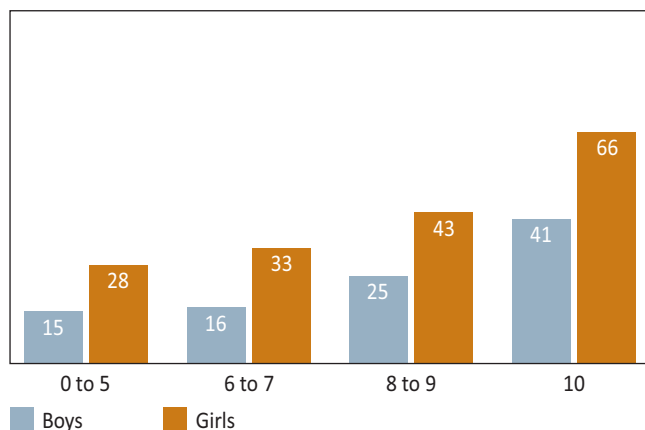
11.20 Students in the high community support group, by life satisfaction on a scale of 0 to 10 and gender (%)
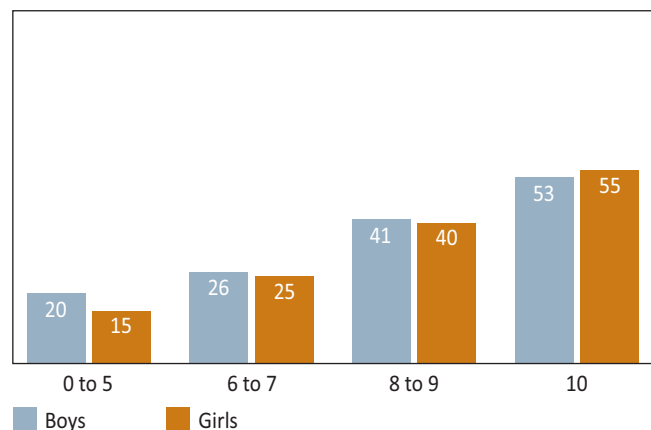
"I don't know what to do and every time I ask for help there's no like advice or anything."

(Youth focus group participant)

AREAS OF CONCERN

- The percentage of students experiencing emotional concerns consistently increased between Grade 6 and 10.
- The percentage of girls experiencing emotional and psychosomatic concerns across multiple variables was consistently higher than that of boys at the same grade levels.
- Levels of personal confidence declined across grade levels with only 24% of boys and 12% of girls in Grade 10 strongly agreeing that they had confidence in themselves.

ENCOURAGING FINDINGS

- Nearly half of students across grade levels strongly agreed that they were full of energy. The highest proportions for this variable were found in Grade 6, with 53% of boys and 47% of girls respectively reporting strong agreement for this positive emotion.
- The percentage of students rating life satisfaction as 8 or higher was greatest in Grade 6. Proportions of boys and girls indicating this level of life satisfaction were 63% and 62% respectively.
- Higher student percentages reporting high social support were associated with higher life satisfaction ratings. Sources of high social support included peers, families, school climate, and communities. Family support showed the strongest relationship with life satisfaction.

SUMMARY AND IMPLICATIONS

This chapter presented four key theme sections – two related to student emotional concerns, and two focusing on the presence of positive emotions and characteristics. The percentage of students reporting emotional concerns increased across grade levels. Consistently, a larger percentage of girls than boys reported internalizing characteristics on question items related to sadness or hopelessness, feeling lonely, and feeling nervous. In addition, a greater percentage of girls than boys indicated the presence of psychosomatic symptoms (headaches, stomach aches, feeling irritable or bad tempered) at least once a week during the past six months. These findings are consistent with other studies that have noted gender differences with respect to students' experience of internalizing characteristics. Such differences often increase between middle and late adolescence (Moksnes, Espnes, & Lillefjell, 2012).

With respect to positive emotion items, a greater percentage of students in Grade 6 strongly agreed that they had confidence in themselves than was reported at higher grade levels. Percentages of both boys and girls reporting strong confidence dropped across grade levels, with the highest overall rates of decrease noted among girls. The highest proportion of reported positive emotions was noted for the item, feeling full of energy, with grade level percentages exceeding half of all students. In terms of prosocial behaviours, a higher proportion of girls than boys across grade levels reported prosocial actions or behaviours.

Across survey administration years, the percentage of students rating high life satisfaction varied from just above to just below half of all students. There was a steady decrease in the percentage of students affirming a high level of life satisfaction, with lower proportions noted for girls compared to boys for each year of the survey administration (with the exception of 2006). A notable trend emerging from the analysis of data was the association between strong social support, particularly family support, and high life satisfaction. This finding underscores the critical role that positive relationships and strong social networks play in contributing to and enhancing students' psychological well-being (Losier & Morrison, 2007; Sheridan, Warnes, Cowan, Schemm, & Clarke, 2004).

Barry (2009) notes that the emergence of positive psychology has increased emphasis on the study of constructs that contribute to optimal functioning in children and youth. Mental health awareness and promotion bring together the dual focus of fostering positive mental health and well-being in all individuals, and addressing the needs of those persons at increased risk for or experiencing mental health concerns. This social-ecological approach is based on the implementation of integrative action at multiple levels, including individual, family, community, and social environments. Such efforts are characterized by participatory and collaborative processes aimed at enhancing the overall mental health and well-being of children and youth (Onnela et al., 2014).

Challenges faced by children, youth, and their families in accessing appropriate services include difficulties in navigating multiple service systems and participation in multiple intake, assessment, and case management processes (CIHR, 2010). When such challenges are experienced within systems of care that remain grounded within traditional service delivery models and silos, Canadian youth may be denied timely access to intervention supports and treatment. Multiple studies point to risks related to fragmented and siloed mental health services for children, youth, and their families (Anderson-Butcher, & Ashton, 2004; Christiani, Hudson, Nyamathi, Mutere, & Sweat, 2008). The provision of school-based mental health programming and supports has been shown to improve student access to such mental health services (Atkins et al., 2006; Burnett-Zeigler & Lyons, 2012).

The preceding findings underscore the importance of addressing the needs of young people with emotional concerns, as well as undertaking proactive actions that promote the well-being of all children and youth and reduce risks associated with the emergence of mental health problems. Reinke, Splett, Robeson, and Offutt (2009) assert the benefits of ecological approaches that combine the provision of targeted interventions for at-risk students with holistic approaches that promote positive mental health. The implementation of such approaches requires the engagement and participation of families, school personnel, service providers, and community members. Within such a system, strength-based approaches may be applied effectively across the contexts in which children and youth live and interact. By addressing both risk factors and protective skills, ecological approaches may provide a framework within which Canadians can foster the positive mental health and emotional well-being of children and youth in our homes, schools, and communities.

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Chapter 12

Valerie Michaelson
Nathan King
William Pickett

Spiritual Health

THE IMPORTANCE OF UNDERSTANDING SPIRITUALITY AND CHILD SPIRITUAL HEALTH

Spirituality is a broad concept that relates to wisdom and compassion (Miller & Nakagawa, 2002), the experience of wonder and joy in life (Bone, Cullen, & Loveridge, 2007), moral sensitivities (Hay & Nye, 1998), and the idea of "connectedness" (Palmer, 2009). Spiritual health has been recognized as a fourth dimension of health (along with social, emotional, and physical dimensions) (Dhar, Chaturvedi, & Nandan, 2011; 2013).

There are benefits to including spiritual health as part of a holistic approach to child health and well-being, one that considers the child as an integrated and whole human being. This view is consistent with—though not limited to—the teachings of many indigenous cultures, and also a growing body of contemporary research in more secular societies (King, Ramos, & Clardy, 2013; Roehlkepartain et al., 2006). It is also in keeping with principles outlined in the United Nations Convention on the *Rights of the Child* ratified by Canada in 1991 (UN General Assembly, 1989).

> **States Parties recognize the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development.**
>
> *Article 27.1, United Nations Convention on the Rights of the Child, 1989*

In this chapter, we define child spiritual health as a capacity for awareness of the sacred qualities of life experiences, and recognize that it is especially connected to being in relationship, as expressed in four relational domains, connections with: (1) oneself, (2) others, (3) the natural world, and (4) a transcendent other or some sense of mystery or larger meaning to life. While religious traditions can sometimes be vehicles for spiritual experience and growth, child spirituality has been viewed as a more universal construct, one that is not dependent on, or contained by, religious expression (Crompton, 1999). While many children consider spirituality a part of their religion, children do not need to be religious in order to be spiritual.

The assessment of spiritual health includes measurement of many different perceptions and experiences. However, spiritual health is extremely challenging to assess. What we were able to capture for this report are some aspects of spiritual health related to the idea of "connectedness" across its four specific domains, consistent with the underlying focus of this report on relationships. We were additionally interested in exploring possible relationships between spiritual health and other health and educational outcomes. Finally, we explored associations between spiritual health and other standard measures of the quality of relationships.

Spirituality and spiritual health are central to the lives of many young people (Lippman & Keith, 2006; Sallquist, Eisenberg, French, Purwono & Suryanti, 2010) and the potential effectiveness of health promotion practices that involve engagement with aspects of spiritual health have been recognized in recent years. These aspects include practices that focus on exposures to nature (Louv, 2005; 2012), and interventional methods such as quieting exercises used in classrooms and clinical settings, as well as mindfulness practices (Simkin & Black, 2014; Shonin, Van Gordon, & Griffiths, 2012). Such practices are becoming more common in our schools, in our hospitals, and in outpatient settings (Blaney & Smythe, 2014; Thompson & Gauntlett-Gilbert, 2008). Recent studies have demonstrated links between spirituality and happiness (Holder, Coleman, & Wallace, 2008), resilience among children (Smith, Webber, & DeFrain, 2013), and other positive mental health and physical health outcomes (Seybold & Hill, 2001).

WHAT IS BEING REPORTED IN THIS CHAPTER?

The 2014 HBSC included a new series of questions on child spiritual health and the idea of connectedness. Participants answered eight questions that were adapted (for age-appropriate literacy and brevity) from Fisher's Spiritual Well-being Scale for adults (Fisher 1999; Fisher, Francis, & Johnson, 2000). Two items were asked for each of the four standard domains. On a scale of 1 – "not at all important" to 5 "very important," students rated how important it was to: "feel that your life has meaning or purpose"; "experience joy (pleasure, happiness) in life" (connections to self); "be kind to other people"; "be forgiving of others" (connections to others); "feel connected to nature"; " care for the natural environment" (connections to nature); "feel a connection to a higher spiritual power"; "meditate or pray" (connections to the transcendent). These questions can be examined as individual items, by domain, and in an overall spiritual health scale that has excellent psychometric properties (Cronbach's alpha 0.83 with high factor loadings).

In this chapter, we provide description of patterns of the spiritual health of young people: 1) by gender and developmental stage; 2) by specific domain; 3) according to its protective and positive relationships with several other health and education outcomes, and 4) by its inter-relationships with the other HBSC measures describing the quality and extent of relationships.

GENDER AND DEVELOPMENTAL PATTERNS OF CHILD SPIRITUAL HEALTH

Our initial analysis involved the 8-item spiritual health score. We rated those young people who considered spiritual health to be "important" as those who scored a minimum of 4 out of 5 averaged across items. For each of the domains (2 items), this translated to a score of at least 8 out of 10, and for the full scale (8 items) this translated to a score of at least 32 out of 40.

Overall, the percentage of students who reported that spiritual health was important decreased by grade level. The number of girls in all age groups who rated spiritual health as important was consistently higher than the number of boys reporting the same. In Grade 6, 73% of girls and 62% of boys indicated that spiritual health was important. By Grade 10, that percentage had decreased to less than half (44% of girls and 36% of boys; **Figure 12.1**).

PATTERNS BY DOMAIN

Connections to Self

The majority of young people in all grades and both genders recognized the importance of this domain. Both boys (82%) and girls (85%) in Grade 6 reported that it was important to have a connection to oneself (**Figure 12.2**). Differences between boys and girls were least evident in this domain compared to others, as were declines by grade level. By Grade 10, 76% of boys and 80% of girls found a connection to oneself to be important.

> **"It is healthy to know yourself and what your feelings are. For some people writing in a journal can help you because it can make you feel better. You can write down what you think and what you want and goals. And also self-reflection and being by yourself and a quiet place is good for you."**
>
> *(Youth focus group participant)*

12.1 Students who reported that spiritual health was important, by grade and gender (%)

Boys / Girls

Grade 6: 62 / 73
Grade 7: 54 / 64
Grade 8: 45 / 53
Grade 9: 42 / 45
Grade 10: 36 / 44

12.2 Students who reported that it was important to experience joy in life and that their life had meaning and purpose, by grade and gender (%)

Boys / Girls

Grade 6: 82 / 85
Grade 7: 81 / 81
Grade 8: 78 / 79
Grade 9: 78 / 78
Grade 10: 76 / 80

Connections to Others

In this domain, participants were asked to rate how important it was to: 1) be kind to other people and 2) be forgiving of others. The pattern observed was relatively stable across grades (**Figure 12.3**). The importance of connections to others dropped only 7% among girls and 8% among boys between Grades 6 and 10. Again, girls consistently found this domain to be more important than boys, although, even in Grade 10, its lowest level, nearly three quarters of boys identified being kind and forgiving of others as important.

12.3 Students who reported that it was important to be kind to other people and forgiving of others, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	78	76	70	71	70
Girls	87	83	80	79	80

Boys ■ Girls ■
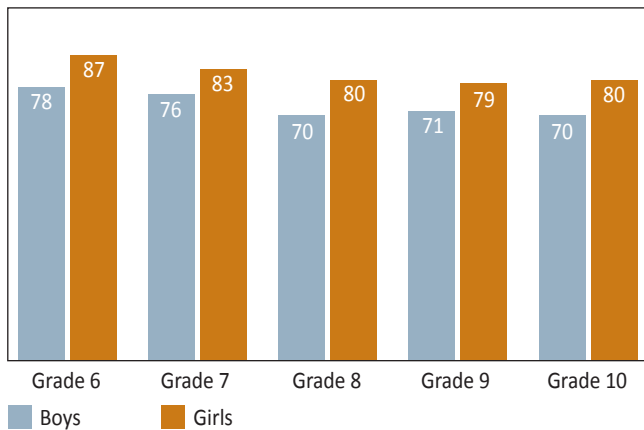
12.4 Students who reported that it was important to feel connected to nature and care for the natural environment, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	72	64	57	52	48
Girls	79	70	62	52	53

Boys ■ Girls ■
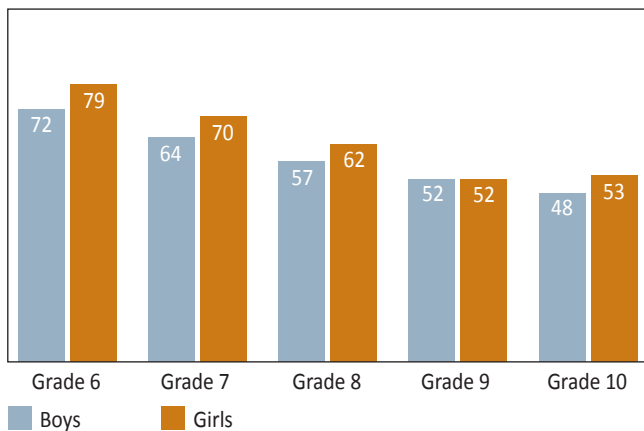
"I just think that it is important to always want to help people. It will make you feel better and they feel better and it is a good thing to do I guess."

(Youth focus group participant)

Connections to Nature

In this domain, participants were asked how important it was to: 1) feel connected to nature, and 2) care for the natural environment. Differences observed by gender in this domain were minimal (**Figure 12.4**). What was most striking was the dramatic decline by grade level. In Grade 6, 72% of boys and 79% of girls reported connection to and care of the environment to be important, but, by Grade 10, this percentage had dropped to 48% of boys and 53% of girls.

"You should go outside and play. So if it was a summer activity to go canoeing for a week or on a trip or something it would be more of a healthy lifestyle than if you were to stay at home and be at your house."

(Youth focus group participant)

> **"Meditating…is a good way to relieve stress and find peace within yourself."**
>
> *(Youth focus group participant)*

12.5 Students who reported that it was important to feel a connection to a higher spiritual power and to meditate or pray, by grade and gender (%)

12.6 Students who reported excellent health status, by overall spiritual health score and gender (%)

12.7 Students who reported high life satisfaction, by overall spiritual health score and gender (%)
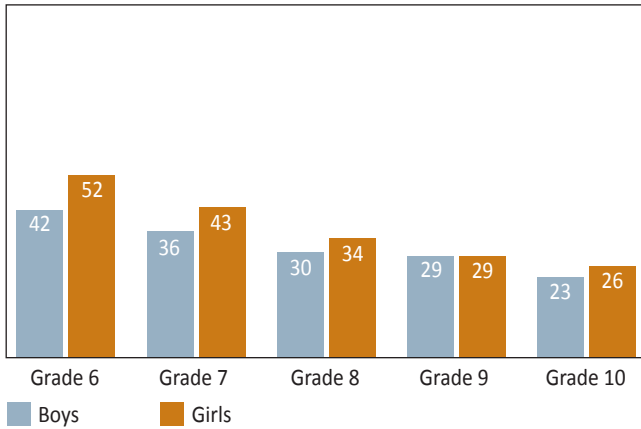
Connections to the Transcendent

In this final domain, participants were asked to report how important it was for them to: 1) feel a connection to a higher spiritual power, and 2) meditate or pray. Again, we observed a consistent gender gap, with girls rating this importance higher than boys (**Figure 12.5**). This gap decreased from 10% in Grade 6 to 3% in Grade 10, with girls still reporting this connection to be slightly more important than did boys.

SPIRITUAL HEALTH AS POSITIVE AND PROTECTIVE

Next, we briefly explored relationships between spiritual health and other standard health and educational outcomes. Regardless of the age and gender patterns that were observed, we found strong positive and protective relationships between students who reported excellent spiritual health and reports of these outcomes. Please note that in the next series of figures (**Figure 12.6** to **Figure 12.15**), we have reported for students as an aggregate rather than by grade.

For example, at the lowest end of the spiritual health spectrum, 20% of boys and 11% of girls reported having excellent health. For boys reporting the highest level of spiritual health, the percentage reporting excellent health more than doubled (to 44%). For girls, the positive relationship more than tripled, with 36% of the most spiritually healthy girls reporting excellent health. This positive pattern is reflected in our findings for high life satisfaction.

Spiritual Health as Positive for Health

Figures 12.6 and **12.7** depict relationships between spiritual health measured in quintiles and two different positive health states: self-reported overall excellent health and high life satisfaction. As spiritual health increased, so too did reports for both of these positive health states.

Spiritual Health as Protective Against Negative Health Outcomes

Not only is spiritual health related to positive health experiences, it is related to protection from negative health outcomes. For example, young people reporting higher levels of spiritual health also reported lower levels of psychosomatic symptoms (e.g., physical symptoms such as headaches and stomach aches, and psychological symptoms such as irritability or bad temper, or nervousness) and fighting behaviours. These numbers are depicted in **Figures 12.8** and **12.9**, which show striking declines in these negative health outcomes as spiritual health increased. Both girls and boys who reported strong spiritual health were about 2.5 times less likely to report psychosomatic symptoms than those at the lowest end of the scale. In terms of fighting, the higher the reported spiritual health of the participants (both boys and girls), the less likely they were to report fighting in the past 12 months.

12.8 Students who reported higher levels of psychosomatic symptoms, by overall spiritual health score and gender (%)

- Boys
- Girls
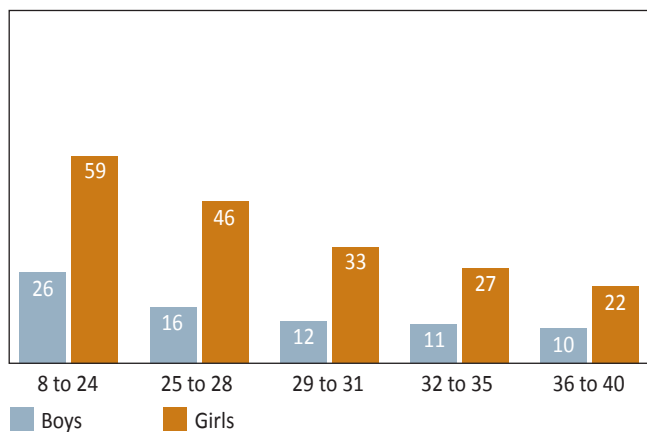
12.9 Students who reported fighting in the past 12 months, by overall spiritual health score and gender (%)

- Boys
- Girls
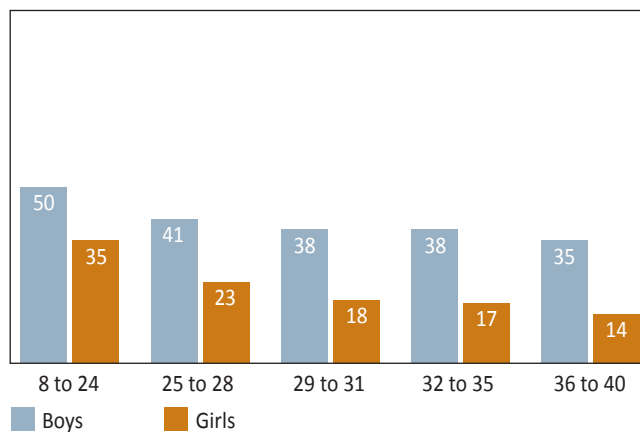
Spiritual Health and School Performance

Figures 12.10 and **12.11** relate the spiritual health scores to school performance and to feelings of pressure related to school work. In **Figure 12.10**, we show that, as spiritual health increased, so too did reports of very good school performance, an effect that nearly doubles between the low and high ends of the spiritual health scale.

Figure 12.11 suggests a protective element of spiritual health that, in contrast to other measures, favours boys over girls with respect to feelings of pressure about school work. Boys who reported high spiritual health also reported lower feelings of pressure about school work than their peers who reported low spiritual health.

12.10 Students who reported that their teachers rated their school performance as very good compared to their classmates, by overall spiritual health score and gender (%)

- Boys
- Girls
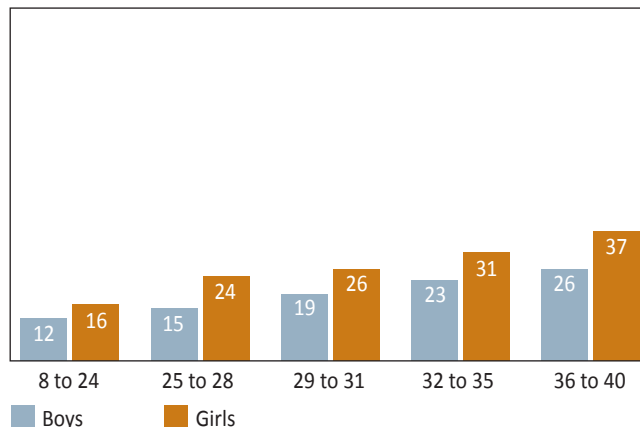
12.11 Students who reported that they felt little or no pressure from the schoolwork they have to do, by their overall spiritual health score and gender (%)

- Boys
- Girls
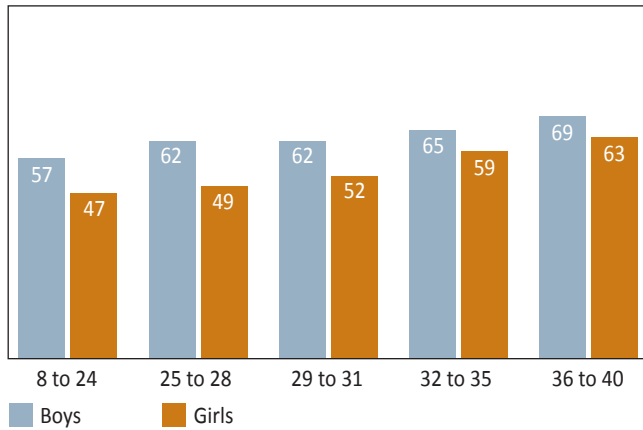
In summary, while spiritual health declines with age, for those who maintain a strong sense of spiritual health, the benefits are striking. Spiritual health appears to be related not only to positive emotional health and feelings about one's life, but to be protective against negative health and school-based behaviours and outcomes.

RELATIONSHIPS AND SPIRITUAL HEALTH

A final series of four figures demonstrates the positive association between spiritual health and a variety of relationships: high relative levels of friend support; high relative levels of family support; relatively positive school climate; and high relative levels of community support. Note: Descriptions of the four scales can be found in Appendix A. While there is a strong positive relationship in all four areas, each has unique characteristics that are worth noting.

The family context is well established as one of the most important factors that shapes child health outcomes and behaviours. Boys who reported strong spiritual health (score of 36-40) had a fourfold higher likelihood of being in the high family support group than boys with the lowest spiritual health (score of 8-24) (**Figure 12.12**). For girls, this relationship was even stronger, at five times the likelihood of being in the high family support group.

12.12 Students in the high family support group, by overall spiritual health score and gender (%)
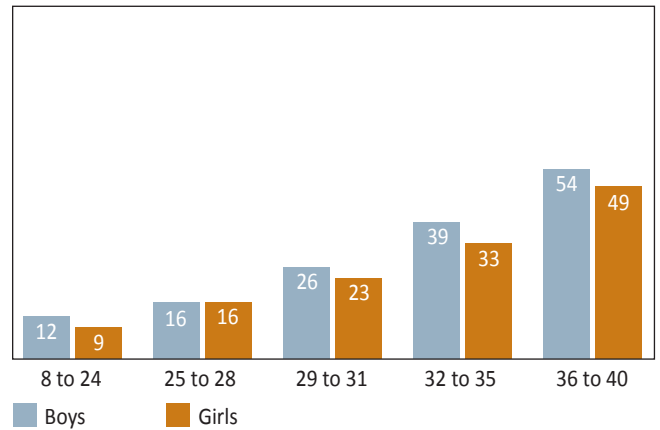
- Boys
- Girls

12.13 Students in the high school climate group, by overall spiritual health score and gender (%)
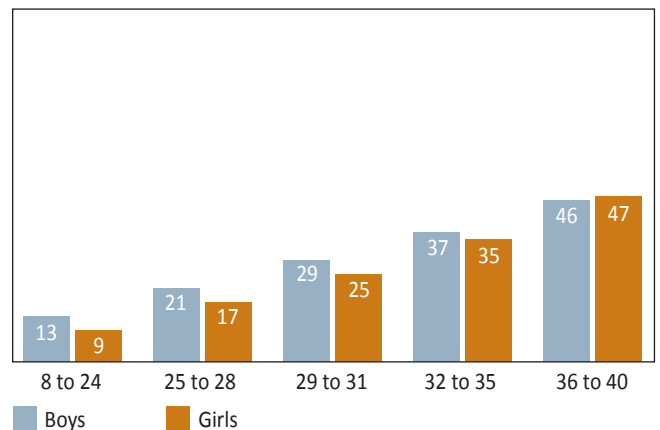
- Boys
- Girls

In terms of the school context, spiritual health has a positive relationship. The most spiritually healthy boys were three times as likely and the most spiritually healthy girls five times as likely to be in the high school climate group than their least spiritually healthy peers (**Figure 12.13**).

Figure 12.14 shows a second example where the benefits of spiritual health appear to favour boys over girls. While twice as many girls in the highest range of spiritual health were in the high friend support group compared to the lowest range, this benefit was more than threefold for boys, increasing from 11% to 39%.

Finally, in terms of the high community support group, boys with strong spiritual health were about two and half times more likely, and girls with strong spiritual health three times more likely, to be in this group (**Figure 12.15**).

12.14 **Students in the high friend support group, by overall spiritual health score and gender (%)**
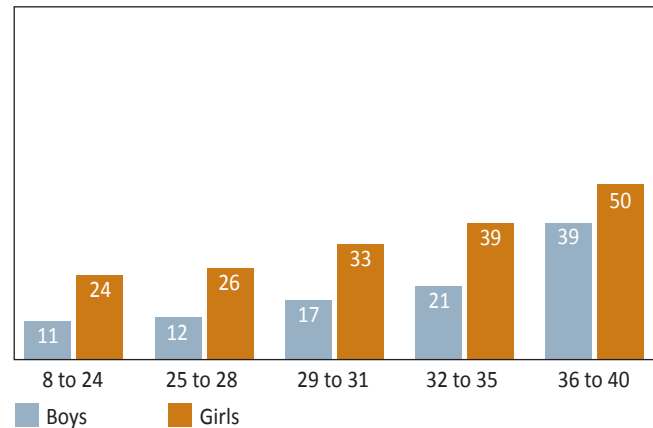
	8 to 24	25 to 28	29 to 31	32 to 35	36 to 40
Boys	11	12	17	21	39
Girls	24	26	33	39	50

12.15 **Students in the high community support group, by overall spiritual health score and gender (%)**

	8 to 24	25 to 28	29 to 31	32 to 35	36 to 40
Boys	18	24	33	39	49
Girls	13	21	28	35	46
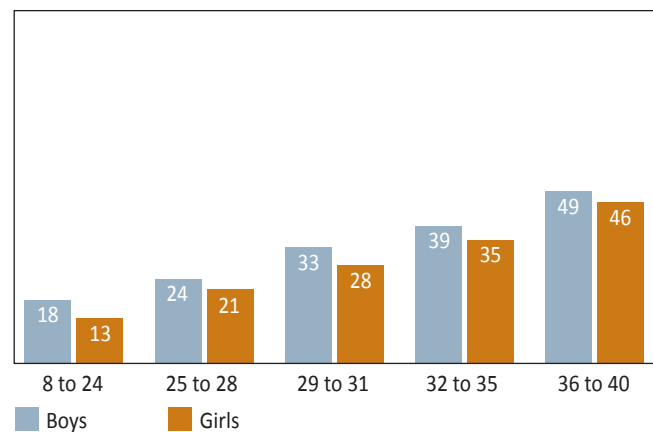
AREAS OF CONCERN

- While spiritual health is related to positive and protective health and educational outcomes, boys are often left behind in experiencing these protective relationships.
- The percentage of young people rating spiritual health as important declines dramatically with increasing grade levels and age.
- Many young Canadians report that a sense of connectedness to nature is of low importance to them.

ENCOURAGING FINDINGS

- For the young people who reported strong spiritual health, they also reported many positive health outcomes, educational outcomes, and relationships.
- A strong majority of students reported a strong sense of connectedness to self.
- Seventy percent of boys and 80% of girls reported that being kind to others was important.

SUMMARY AND IMPLICATIONS

Adolescence represents a key stage of life that requires ongoing focus as children learn, grow, and develop through these formative years. New evidence in this chapter suggests the existence of strong relationships between spiritual health and many other health and educational outcomes in Canadian young people. While we do not understand the temporal or causal nature of these relationships, because of their strength and consistency, they merit attention by those who work with and care for children, including in health and educational settings.

Six main messages emerge from the findings in this chapter: 1) spiritual health has strong associations with many positive health behaviours and health states; 2) there are strong gender patterns that favour girls; 3) spiritual health declines as young people grow older; 4) spiritual health is related to academic performance; 5) children's connection with nature declines dramatically by age; and 6) spiritual health correlates highly with family support, school climate, friend support and community support.

It is perhaps not surprising that spiritual health as a construct is important to the health of young people, in part because past research has demonstrated positive health outcomes that bear resemblance to the four domains. For example, in terms of connection to self, which was the domain most highly valued by young people, a growing body of research suggests that young people are eager to search for purpose in their lives (Damon, Menon, & Bronk, 2003) and to ask questions about ultimate concerns (King & Benson, 2006). Other researchers have shown that personal meaning promotes well-being and happiness (Holder, Coleman, & Wallace, 2008).

Reported importance of the second domain, "connection to others," was also relatively strong. In the past, researchers have demonstrated the importance of connection to peers (Scholte & Van Aken, 2006) and adults (Elgar, Trites, & Boyce, 2010), and found that expressions of kindness towards others, as well as volunteering, both measures of connection with others, are linked to enhanced happiness and well-being (Otake, Shimai, & Tanaka-Matsumi, 2006; Post, 2005). This domain also measures forgiveness, with the positive health benefits of forgiveness having repeatedly been demonstrated (Witvliet, Ludwig, &Vander Laan, 2001; Witvliet & McCullous, 2007).

While the third and fourth domains declined quite dramatically by age, there are associations between connection to nature and a connection to the realm of transcendence (Louv, 2005; 2012), while particular interventions and practices such as prayer (Levin, 1994) and mindfulness (Grossman, Niemann, Shmidt, & Walach, 2004; Biegel, Brown, Shapiro, & Schubert, 2009) are of practical use in reducing stress in adolescent populations.

The highly gendered patterns that are reported are reflective of differential needs of boys and girls. Boys and girls may relate to the domains of spirituality differently so that gender-specific curricula and approaches may be warranted. For the most part, the health benefits that appear to go along with spiritual health are experienced more often and more strongly by girls over boys. This may reflect the ways that girls and boys are nurtured in their early years and socialized during adolescence. Anomalies to this pattern were found in the areas of friend support and the pressures of school. In these two cases, it was boys rather than girls who received the strongest health benefits related to spiritual health. It could be that these two concepts are related, in that positive friend support is helping to alleviate the pressures of school. This pattern is striking and worthy of focused attention.

The wide variations observed in the perceived importance of spiritual health by domain, and the strong and almost universal declines observed, suggest a need for a more outward focus to be stressed in targeted interventions. For example, if spirituality enhances health by increasing personal meaning, there may be a need to promote strategies aimed at enhancing personal meaning in children's lives. Strategies could include such simple things as encouraging them to keep journals (Sinats et al., 2005) or to participate in volunteer activities (Holder et al,, 2008; Post, 2005). While evidence surrounding the effects of meditation programs such as mindfulness is mixed, these programs also appear to have potential in contributing positively to child health outcomes (Grossman et al., 2004; Biegel et al., 2009). Provision of opportunities for young people to not only care for, but also learn to know and love the natural world, may be one of the most important contributions that a focus on spiritual health can make (Louv, 2005; 2012).

Better spiritual health was related to better academic performance. Personality characteristics may distinguish individuals who seek a greater connection with the sacred from other individuals (Good & Willoughby, 2014). In adult samples, spiritual seeking has been associated with openness to experience (McCullough & Willoughby, 2009), which is linked to factors that promote school success, such as intellectual curiosity (Costa & McCrae, 1995). It is also possible that young people who benefit from the enhanced relational benefits that come with a spiritually healthy experience also experience the benefits of strong social capital in a school setting, which, in turn, influences their school performance and helps them handle pressure constructively.

Dramatic declines were observed in the domain of connections to nature. Such declines contradict assumptions that young people in Canada are likely to be highly engaged with the environment, even though this has become an important aspect of many educational curricula (for example, the "Connecting With Nature" educational guide developed by the David Suzuki foundation in collaboration with the Toronto District School Board and Nipissing University's Schulich School of Education) (Clausen & Miller, 2014). Connections with the natural world have long been held to be of strong importance to children (Louv, 2005; 2012). The fact that young people didn't respond in this manner may reflect distinctive changes among the current generation in the nature of childhood and early adolescence, which is known to feature less outdoor play (Gray, 2011) than previous generations. This may be related to increased parental concerns around crime and safety (Clements, 2004), as well as to greater time spent interacting with electronic communication technologies (Clements, 2004).

In addition, environmental issues may be regarded with less importance by general populations of young people when compared to cultures with large populations of Aboriginal persons and adherents to many Eastern religions (Fisher et al., 2000). School curricula and social messages often present the environment as being in crisis and in need of human care (Bigelow & Swineheart, 2014). As important as these messages are, one result may be that young people are more likely to experience the stress connected with environmental degradation at the expense of, or at least much more strongly than, the awe and wonder that might be found in an experience of the natural world.

Finally, spiritual health appears to have strong associations with positive relationships. This pattern was observed in all analyses, from friend support, to family support, to a positive experience of school climate, as well as to experience of community support. Relationships lie at the heart of what it is to be a human being. These connections, whether they are with ourselves, with others in our lives, or with the world that surrounds us, are fundamental to our health and our ability to flourish (Castleden, Garvin, & Huu-ay-aht First Nation, 2009).

Further research in this area could include in-depth analyses by individual domain, as well as explorations of relationships between connection to nature and many aspects of health, including social and emotional health. Also, complementary qualitative work could provide further depth of understanding of these findings. Nurturing spiritual health takes place in many settings, including within homes, schools, faith groups and communities. Findings presented in this report suggest a number of implications for these groups, including helping young people ask questions about meaning in their lives; creating opportunities for outward focussed behaviours such as volunteerism; promoting connections to nature; and facilitating opportunities for participating in self calming activities such as mindfulness. Associations between spiritual health and many positive health outcomes and behaviours are very strong, and while they are not fully understood, paying attention to these implications in a variety of settings will help to maximize the potential benefits of spiritual health in the lives of Canadian children.

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Chapter 13

Elizabeth Saewyc

Substance Use

THE IMPORTANCE OF UNDERSTANDING SUBSTANCE USE

During adolescence, some young people begin to experiment with tobacco, alcohol, or other drug use, while others engage in more frequent use, and may even experience problems because of their use (Paglia-Boak & Adlaf, 2007). Generally, substance use becomes more common among older youth, but the younger that adolescents begin use, the greater the likelihood that they will develop problems related to that use (Hingson, Heeren & Winter, 2011; Mason & Spoth, 2012). Experimenting with tobacco use during adolescence can lead to nicotine dependence (Gervais, O'Loughlin, Meshefedjian, Bancej, & Tremblay, 2006) and increase risk for early mortality from heart disease, cancers, or respiratory illness. Tobacco use is still one of the leading contributors to early death among adults, although the significant decreases in the number of adolescent and adult smokers in Canada over the past 50 years has been a public health success story (World Health Organization, 2005). However, new modes of nicotine use, such as electronic cigarettes, may be leading to a resurgence of tobacco use (Grana, Benowitz & Glantz, 2014), so it is important to regularly monitor adolescent smoking.

Alcohol use, while it can also contribute to health problems later in life, has the potential for more immediate harms as well. Heavy episodic or binge drinking, defined as 5 or more drinks for males and 4 or more for females on one occasion, is linked to increased risk of injuries, alcohol overdose, and a number of negative social consequences, including unwanted or unprotected sex (Canadian Public Health Association, 2011). Frequent alcohol use during adolescence can lead to conflict with family, with the law, and with friends (Paglia-Boak & Adlaf, 2007; Smith, Stewart, Poon, Saewyc & the McCreary Centre Society, 2010). Driving while intoxicated, or riding as a passenger with someone who has been drinking, can lead to traffic crashes. Motor vehicle crashes are a leading cause of death among adolescents, and research indicates drunk driving is implicated in more than half of those fatal injury events (MADD Canada, 2013).

Cannabis use among adolescents is another potential concern. Cannabis is the third most commonly used drug globally after alcohol and tobacco (Degenhardt & Hall, 2012) and previous research has found Canada secondary school students to be among the groups with the highest prevalence of use (Dick, Ferguson, Saewyc, Baltag & Bosek, 2014). Although cannabis use does not appear to have the same levels of acute or long-term harms as alcohol, tobacco, or increased risk of mortality found in other drugs (Degenhardt & Hall, 2012), there are documented health and psychosocial effects from heavy levels of use, especially among adolescents. These harms include higher levels of anxiety and panic attacks, cognitive effects such as memory loss and attentional difficulties, as well as higher risks for psychotic episodes (Hall & Degenhardt, 2009; Moore, Zammit, Lingford-Hughes, et al, 2007). Heavy use also impairs response times and can affect driving (Armentano, 2013).

The use of other drugs, such as opioids, cocaine, or amphetamines may be less common than alcohol, tobacco or cannabis use among adolescents, but their use is also linked to significant risk of harms. These harms include higher levels of mortality due to overdose, injuries while intoxicated, dependence, and adverse effects from chronic use later in life, such as cardiovascular disease from cocaine (Degenhardt & Hall, 2012).

WHAT IS BEING REPORTED IN THIS CHAPTER?

In this chapter, we examine Canadian youth's report of their use of tobacco, alcohol, cannabis, and other drugs on the 2014 HBSC survey data. Questions about tobacco and alcohol use were asked across Grades 6 to 10, while questions about cannabis and other drugs were asked only of students in Grades 9 and 10. The HBSC survey questions about tobacco, alcohol, cannabis, and other drug use provide a snapshot of these health-compromising behaviours among adolescents.

First, we focus on the patterns of tobacco use among all students, as well as examining potential patterns of use by grade and for boys and girls over time. The survey asks about different kinds of tobacco use, such as chewing tobacco and e-cigarettes. Next, we focus on alcohol use, including different types of alcohol (beer, wine, liquor), plus levels of hazardous drinking, including being really drunk two or more times. Then, we identify the prevalence of cannabis use, and of other illicit substance use, including different kinds of prescription drugs used to get high rather than for illness.

Finally, we examine the patterns of use linked to supportive relationships, including high peer support, high family support, and high community support.

TOBACCO USE

Very few adolescents in Canada reported smoking every day, although the percent increased with age (**Figure 13.1**). Almost no students in Grade 6 or 7 were daily smokers, but, even among older students, fewer than 1 in 20 students in Grade 10 reported that they smoked tobacco every day.

Boys and girls reported a similar prevalence of having smoked in the past 30 days, as shown in **Table 13.1**. Within each grade, those who smoked were equally distributed among those who smoked only a couple of days, those who smoked several times, and those who smoked nearly every day.

13.1 Students who reported that they smoked daily, by grade and gender (%)

Boys   Girls
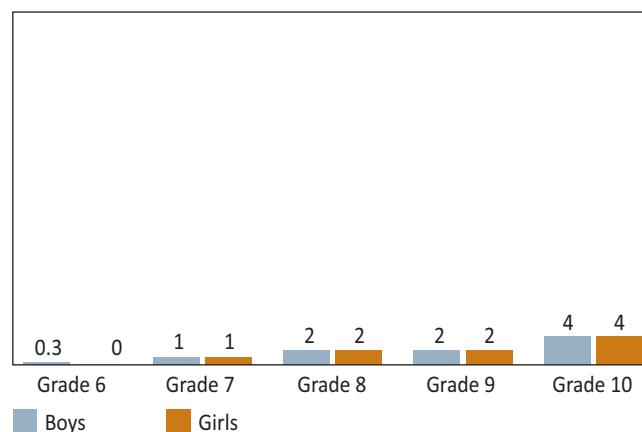
Table 13.1		Number of reported days that students smoked in the last 30 days, by grade and gender (%*)			
		Never	**1-2 days**	**3-19 days**	**20 or more days**
Grade 6	**Boys**	99	0	0	0
	Girls	99	0	0	0
Grade 7	**Boys**	99	1	0	0.5
	Girls	97	1	1	1
Grade 8	**Boys**	96	2	1	2
	Girls	96	1	1	1
Grade 9	**Boys**	91	3	3	3
	Girls	93	3	2	2
Grade 10	**Boys**	88	4	4	4
	Girls	90	4	3	4

*   Percentages greater than 0.5 percent are rounded to whole numbers, those less than 0.5% are rounded down.

> "I think a lot of the time your health depends on your environment. So if your family smokes and everyone you know smokes then you will probably start to smoke because it is what you grew up with."
>
> *(Youth focus group participant)*

Figures 13.2a and **b** show the prevalence of boys and girls who were daily smokers across each survey year since 1990. The percent of daily smokers has declined significantly among students in Grades 8 and 10, especially over the last 3 cycles of the survey. In earlier surveys, a higher proportion of girls than boys reported daily smoking, but, in the most recent two surveys, the proportions were similar.

13.2a Boys who reported that they smoked daily, by grade and year of survey (%)

Grade 6 ■ Grade 8 ■ Grade 10
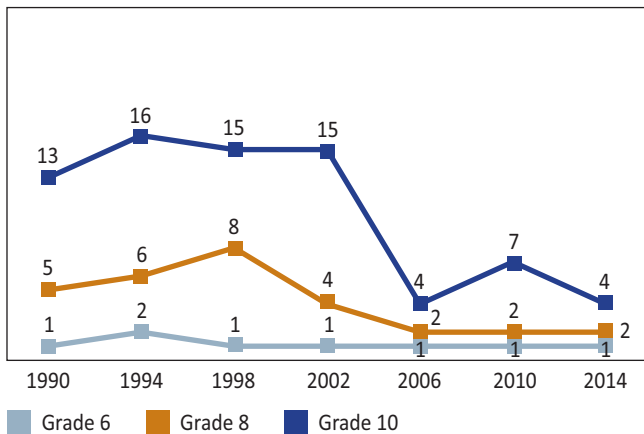
13.2b Girls who reported that they smoked daily, by grade and year of survey (%)

Grade 6 ■ Grade 8 ■ Grade 10
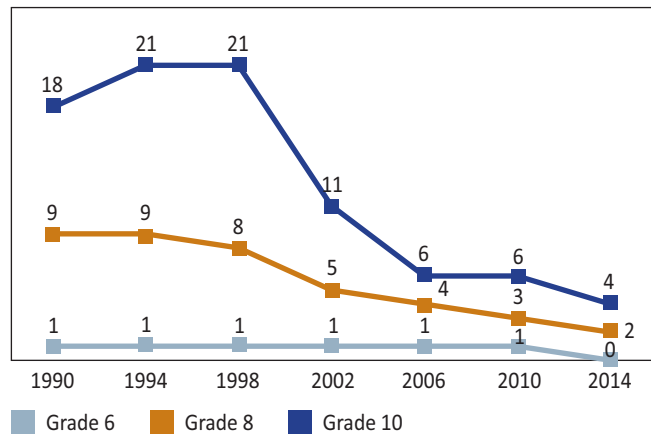
There are a variety of other forms of tobacco and smoking products besides cigarettes to which young people may have access. Some, such as flavoured tobacco, appear designed to appeal specifically to adolescents. As seen in the following **Figures 13.3** to **13.6**, the prevalence of students reporting that they had ever used flavoured tobacco, chewing tobacco, snuff, or e-cigarettes was higher among older students and more common among boys than girls.

Electronic cigarettes, or e-cigarettes, were more popular among students in Canada compared to tobacco and cannabis products. E-cigarette use increased steadily with age. By Grade 10, more than 1 in 5 students had tried e-cigarettes. Boys were significantly more likely to use e-cigarettes than were girls in the same grade.

13.3 Students who reported that they had ever smoked or used flavoured tobacco, by grade and gender (%)

■ Boys ■ Girls
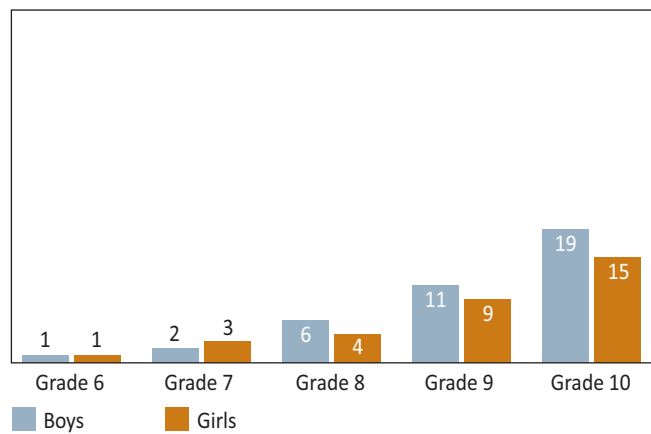
13.4 Students who reported that they had ever used chewing tobacco, by grade and gender (%)

■ Boys ■ Girls
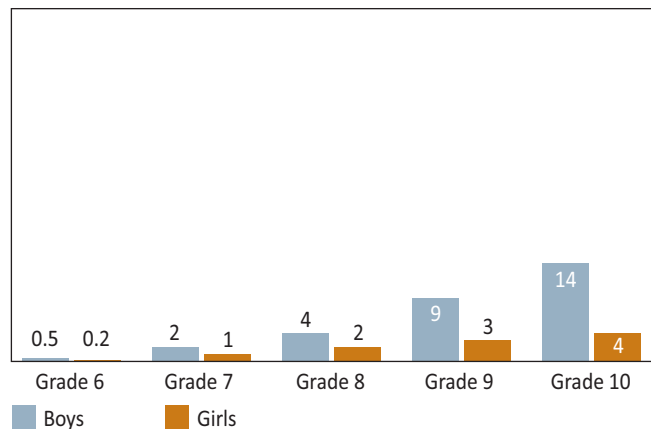
13.5 Students who reported that they had ever smoked or used other tobacco products (snuff, snu, gutkha, hard stuff), by grade and gender (%)

Boys   Girls
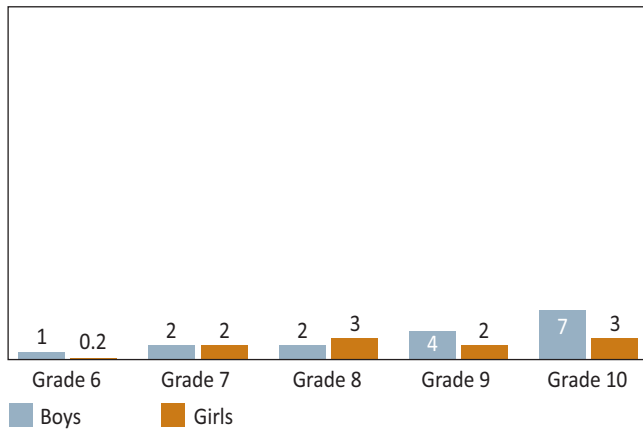
13.6 Students who reported that they had ever used e-cigarettes, by grade and gender (%)

Boys   Girls
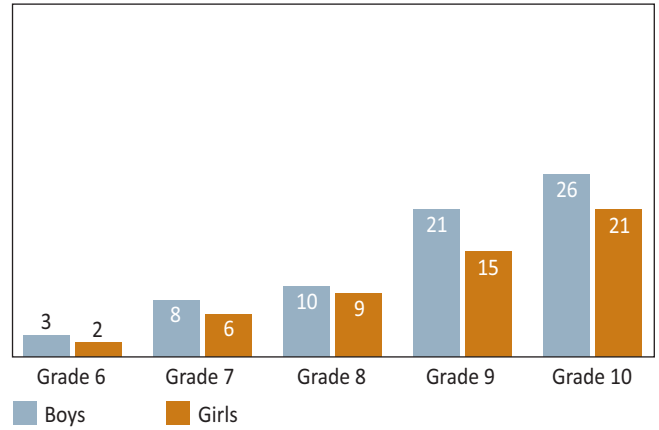
ALCOHOL CONSUMPTION

We asked a number of different questions about alcohol use, including the types of alcohol used at least weekly, frequency of drinking, being drunk, and binge drinking.

Figures 13.7a to **13.10b** show the percent of boys and girls who reported drinking beer, wine, liquor or coolers at least once a week in Grades 6, 8 and 10 in all the survey years since 1990. Beer was the most common drink among adolescent boys, while liquor and coolers had similar levels of weekly use as beer among girls. Only a small proportion of adolescents reported drinking wine at least once a week, with the rates stable across survey years. The trends in weekly beer drinking have been declining steadily or been stable since 2002 for boys and since 1990 for girls. The percent of students reporting weekly use of other forms of alcohol appear relatively stable over years. As is seen with tobacco use, weekly use of alcohol was more common among grade 10 students compared to younger students.

13.7a Boys who reported that they drank beer at least once a week, by grade and year of survey (%)
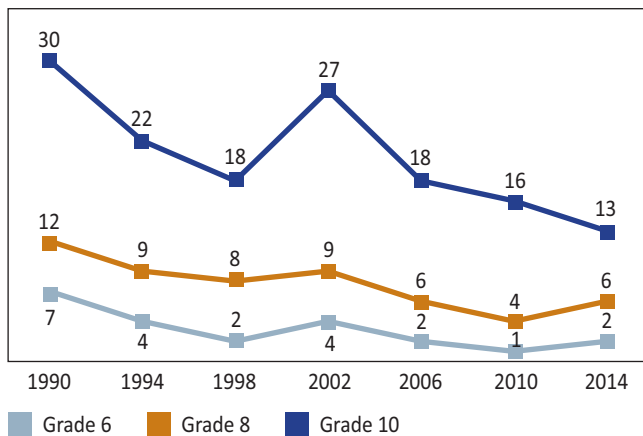
Grade 6   Grade 8   Grade 10

13.7b Girls who reported that they drank beer at least once a week, by grade and year of survey (%)
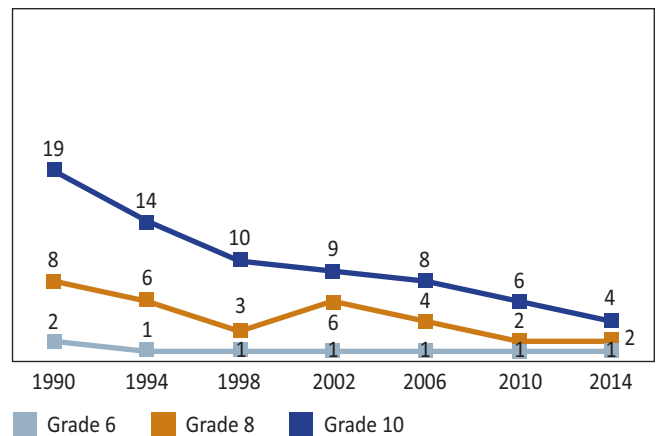
Grade 6   Grade 8   Grade 10

13.8a Boys who reported that they drank wine at least once a week, by grade and year of survey (%)

Grade 6 | Grade 8 | Grade 10

13.8b Girls who reported that they drank wine at least once a week, by grade and year of survey (%)

Grade 6 | Grade 8 | Grade 10
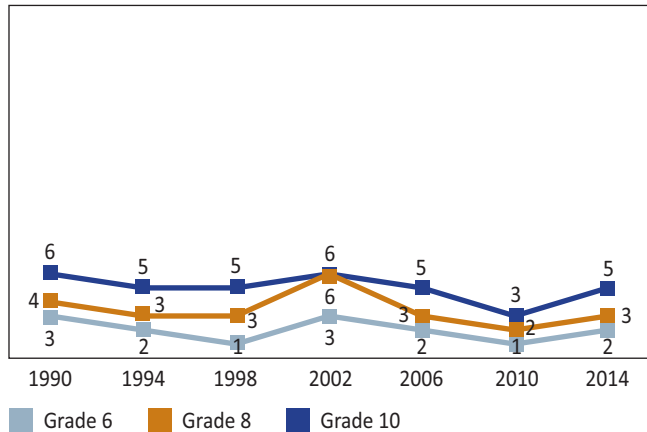
13.9a Boys who reported that they drank liquor at least once a week, by grade and year of survey (%)

Grade 6 | Grade 8 | Grade 10
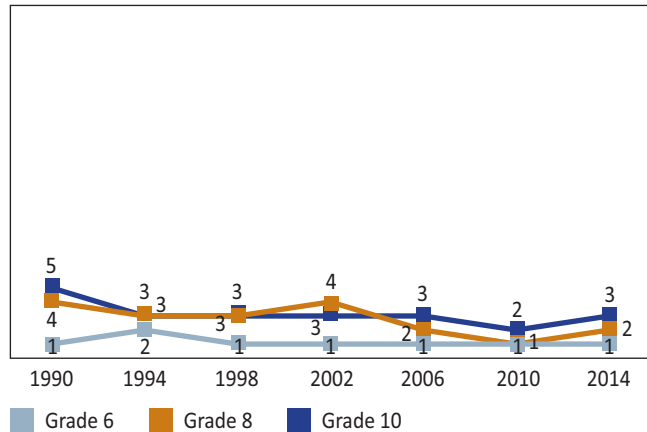
13.9b Girls who reported that they drank liquor at least once a week, by grade and year of survey (%)

Grade 6 | Grade 8 | Grade 10
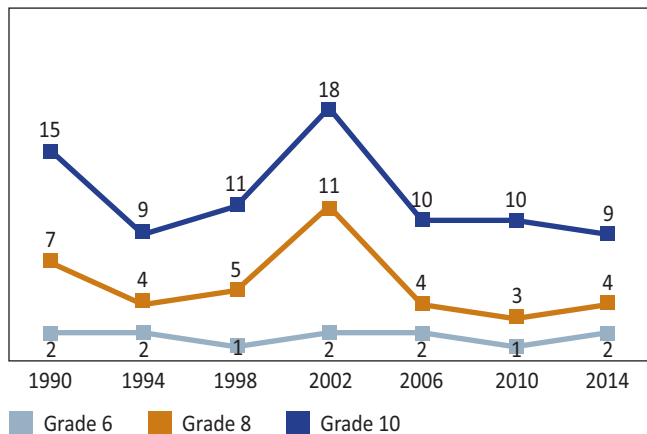
13.10a Boys who reported that they drank coolers at least once a week, by grade in 2006, 2010, and 2014 (%)

Grade 6 | Grade 8 | Grade 10
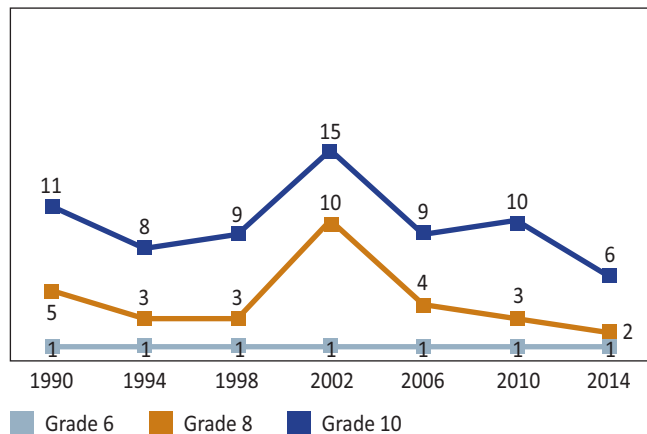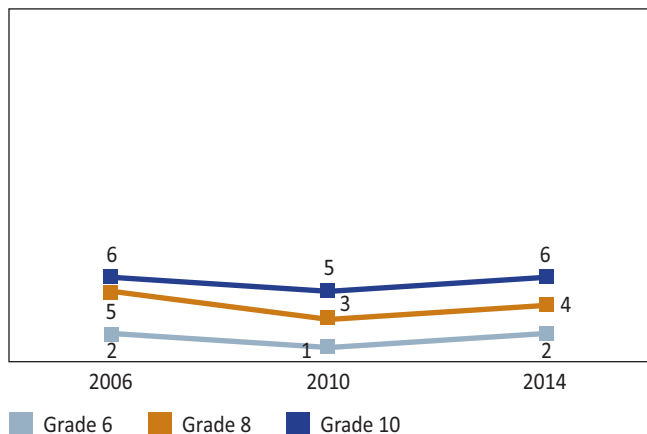
13.10b Girls who reported that they drank coolers at least once a week, by grade in 2006, 2010, and 2014 (%)

Grade 6 | Grade 8 | Grade 10
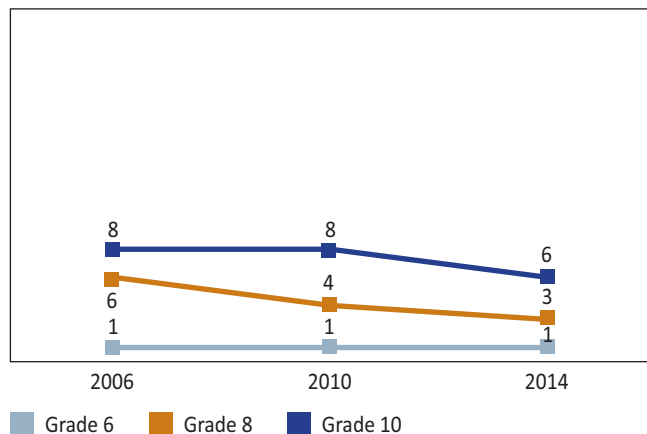
Table 13.2 shows the patterns of alcohol use in the past 30 days for boys and girls in each grade. Almost no students in Grade 6 drank alcohol at all in the past month, and only a small percentage of adolescents in each grade drank alcohol nearly every day. However, among Grade 10 students, more than a third reported drinking alcohol in the past month, most commonly drinking 1 or 2 days. While boys and girls had a similar prevalence of drinking alcohol in the past 30 days, a greater proportion of girls reported drinking on just 1 or 2 days compared to boys, and more boys reported drinking 20 or more days than girls in all grades.

| Table 13.2	Numbers of reported days that students drank alcohol in the last 30 days, by grade and gender (%*)				
		Never	**1-2 days**	**3-19 days**	**20 or more days**
Grade 6	**Boys**	94	5	1	0
	Girls	97	2	1	0
Grade 7	**Boys**	90	7	2	1
	Girls	92	5	2	1
Grade 8	**Boys**	84	10	5	2
	Girls	86	10	4	1
Grade 9	**Boys**	71	18	9	3
	Girls	71	18	10	1
Grade 10	**Boys**	60	21	16	3
	Girls	58	27	14	2

*   Percentages greater than 0.5 percent are rounded to whole numbers, those less than 0.5% are rounded down.

Intoxication is more common among older students than younger students. More than 1 in 4 students in Grade 10 said they had been really drunk at least twice in their life, while very few students in Grades 6 or 7 had done so (**Figure 13.11**). There were no gender differences. The percentage who had been drunk at least twice has declined over the past several survey years in each grade (**Figures 13.12a** and **b**).

13.11 Students who reported that they had been really drunk at least twice, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	1	3	7	16	28
Girls	1	3	5	17	27

■ Boys   ■ Girls
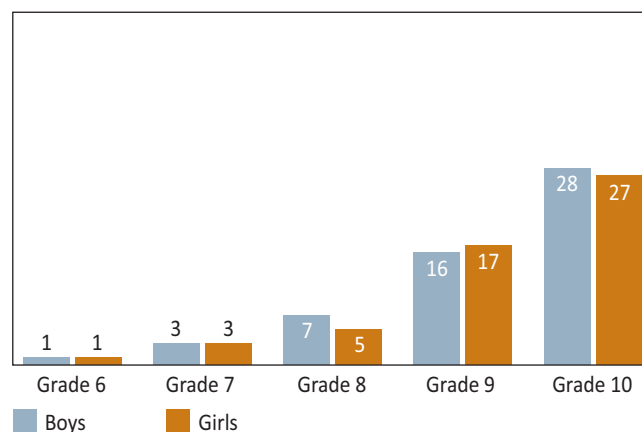
13.12a **Boys who reported that they had been really drunk at least twice, by grade and year of survey (%)**

Grade 6   Grade 8   Grade 10

13.12b **Girls who reported that they had been really drunk at least twice, by grade and year of survey (%)**

Grade 6   Grade 8   Grade 10
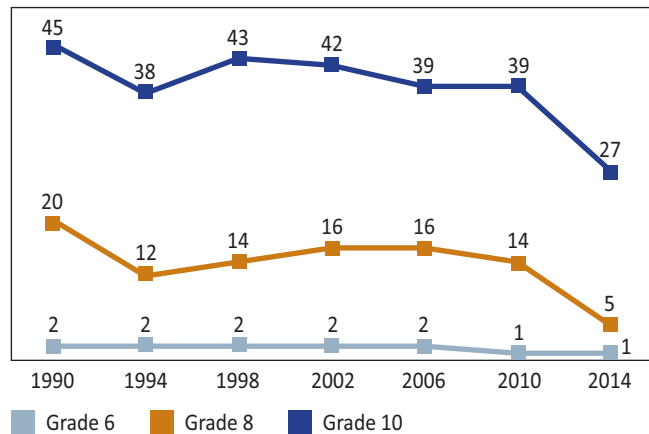
Figure 13.13 shows the percentage of students who reported having been really drunk at least once in the past month. This percent increased sharply with age, with only 5% of students in Grade 8 reporting they had been really drunk in the past month, but more than 1 in 10 students in Grade 9, and approximately 1 in 5 students in Grade 10, reporting the same.

13.13 **Students who reported that they had been really drunk in the last 30 days, by grade and gender (%)**

Boys   Girls
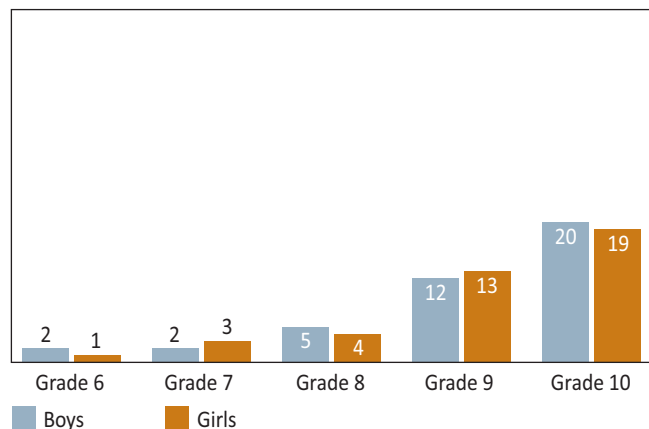
Heavy episodic or binge drinking can be a more precise way to measure levels of high risk drinking among adolescents. The Canadian Centre on Substance Abuse defines high risk drinking as 5 or more drinks in one event for males, and 4 or more drinks for females (Thomas, 2012). The HBSC survey asked questions about binge drinking using this standard. As shown in **Figure 13.14**, binge drinking increased with age; as many as 1 in 5 boys and girls in Grade 10 reported binge drinking at least once a month in the past year. A similar proportion of boys and girls in these grades reported that they typically binge drank (**Figure 13.15**).

13.14 Students who reported that they had had 5 or more drinks (4 or more for females), on one occasion, once a month or more in the past 12 months, by grade and gender (%)

	Grade 9	Grade 10
Boys	13	22
Girls	15	22

Boys ▮ Girls ▮
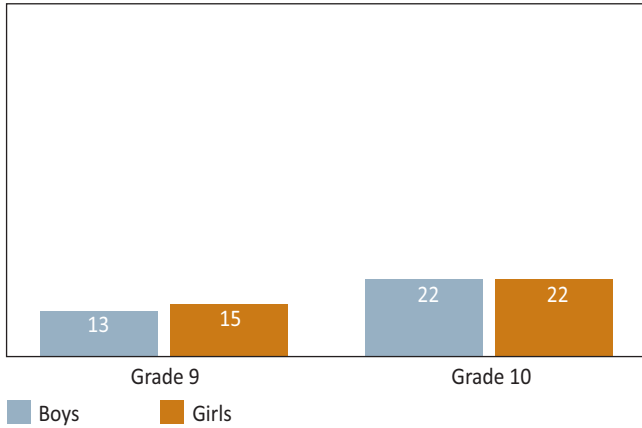
13.15 Students who reported that they had had 5 or more drinks (4 or more for females) on a typical day when they were drinking, by grade and gender (%)

	Grade 9	Grade 10
Boys	10	21
Girls	14	24

Boys ▮ Girls ▮
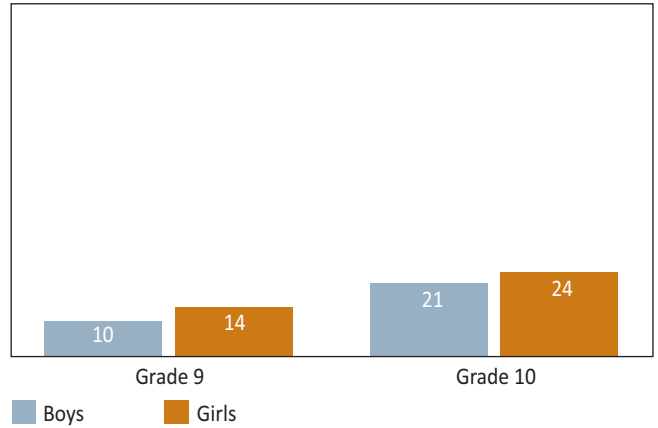
CANNABIS AND OTHER SUBSTANCE USE AMONG CANADIAN STUDENTS

Questions about cannabis and other drugs are asked only of students in Grades 9 and 10. Cannabis is the most commonly tried substance after alcohol. As shown in **Figure 13.16**, the prevalence of cannabis use peaked in 2002 and has been declining ever since. It is currently at its lowest level among both boys and girls over the last 20 years.

One in 5 students in Grades 9 and 10 reported using cannabis in the past year, with similar rates among boys and girls (**Figure 13.17**). Similarly, about 13% of students reported using cannabis in the past month (**Figure 13.18**).

13.16 Grade 9 and 10 students who reported that they had tried cannabis, by gender and year of survey (%)

Year	Boys	Girls
1990	26	24
1994	30	27
1998	44	41
2002	50	40
2006	33	34
2010	40	37
2014	23	23

Boys ▮ Girls ▮
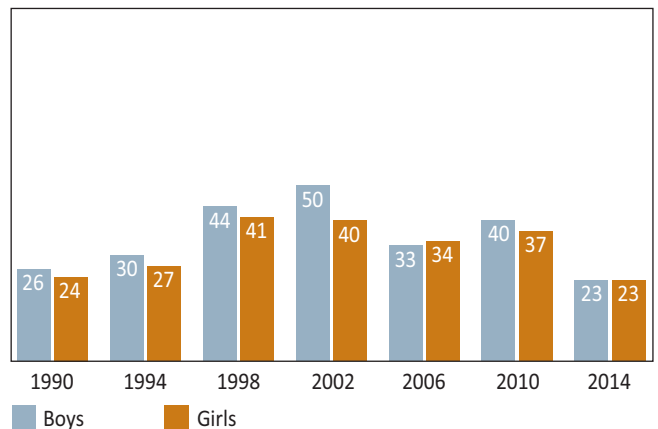
13.17 Grade 9 and 10 students who reported that they had used cannabis in the past 12 months, by gender (%)

	Never	1-2 days	3 to 19 days	20 days or more
Boys	80	6	7	8
Girls	79	7	9	6

Boys ▮ Girls ▮
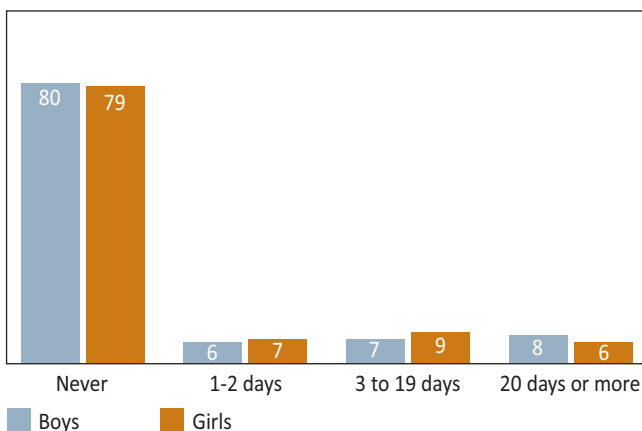
13.18 Grade 9 and 10 students who reported that they had used cannabis in the past 30 days, by gender (%)

	Never	1-2 days	3 to 19 days	20 days or more
Boys	87	4	5	4
Girls	87	6	5	3

Boys ▮ Girls ▮
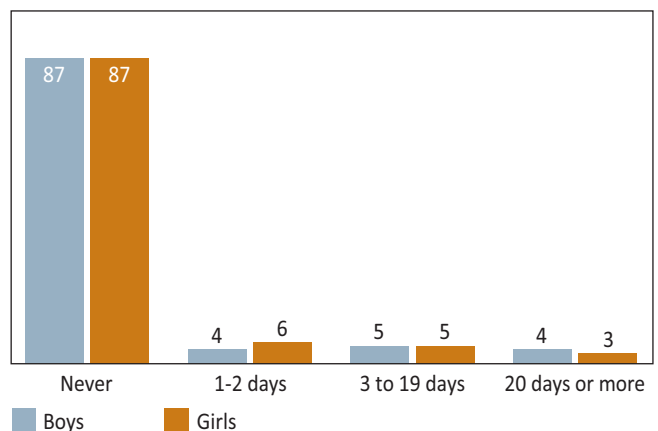
Table 13.3 shows the rates of student use of other substances in the past 12 months, including prescription or over-the-counter medications used to get high. Very few youth had tried any of the illicit substances such as cocaine or ecstasy, and an even smaller percentage said they had used these drugs three or more times. Inhalants, such as glue or solvents, and heroin were the least commonly tried drugs. The use of medications to get high was more common, although still not very frequent. A higher percent of girls than boys reported using cough or cold medicines to get high.

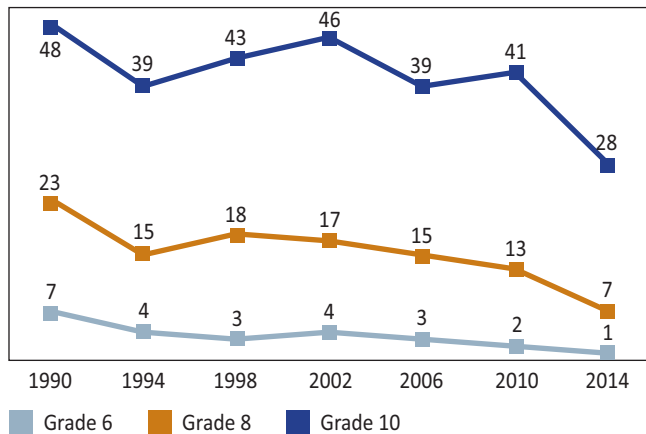| Table 13.3 Students who reported that they had ever taken one or several of the drugs listed below in the last 12 months?, Grade 9 and 10 students, by gender (%*)		Never	1 or 2 times	3 or more times
Ecstasy, MDMA (E, Xtc, Adam, X)	Boys	97	2	2
	Girls	97	2	1
Amphetamines (speed)	Boys	97	1	2
	Girls	98	1	2
Methamphetamines/Crystal methamphetamine (ice)	Boys	98	1	1
	Girls	99	0	0.5
Heroin (horse, tar, junk)	Boys	98	1	1
	Girls	99	0	0
Cocaine (coke, crack, snow, rock)	Boys	97	2	2
	Girls	98	1	1
Glue or solvents (e.g., gasoline, butane, model glue)	Boys	98	1	1
	Girls	99	0.5	0
LSD and other hallucinogens (e.g., PCP, magic mushrooms, mescaline, peyote, Salvia)	Boys	96	3	2
	Girls	96	3	1
Medication to get high:				
Pain Relievers (e.g., Percodan, Demerol, Oxycontin, Codeine)	Boys	95	3	2
	Girls	95	4	2
Stimulants (e.g., Ritalin, Concerta, Adderall)	Boys	96	2	2
	Girls	98	1	1
Sedatives/tranquillizers (e.g., Valium, Ativan, Xanax)	Boys	97	2	1
	Girls	98	1	1
Cough and cold medicines	Boys	85	6	9
	Girls	79	9	12

*   Percentages greater than 0.5 percent are rounded to whole numbers, those less than 0.5% are rounded down.

RELATIONSHIPS AND SUBSTANCE USE

The figures in this next section show the relationship between different types of social support and tobacco use, alcohol use, and cannabis use among students. Note: Descriptions of the four scales can be found in Appendix A.

Being in the high friend support group was only slightly linked to smoking rates among boys, but was more strongly associated with smoking among girls (**Figure 13.21**). A greater proportion of girls who reported not having smoked cigarettes in the last 30 days were in the high friend support group compared to girls who reported smoking cigarettes in the last 30 days. In contrast, family support (**Figure 13.19**), school climate (**Figure 13.20**), and community support (**Figure. 13.22**) showed stronger relationships with tobacco use; about 1 in 3 boys and girls who reported never smoking cigarettes in the past 30 days were in the high group of these kinds of support.

13.19 Students in the high family support group, by days smoked cigarettes in the last 30 days and gender (%)

	Never	1-2 days	3 to 19 days	20 days or more
Boys	34	22	17	17
Girls	33	11	12	9

Boys ■ Girls ■
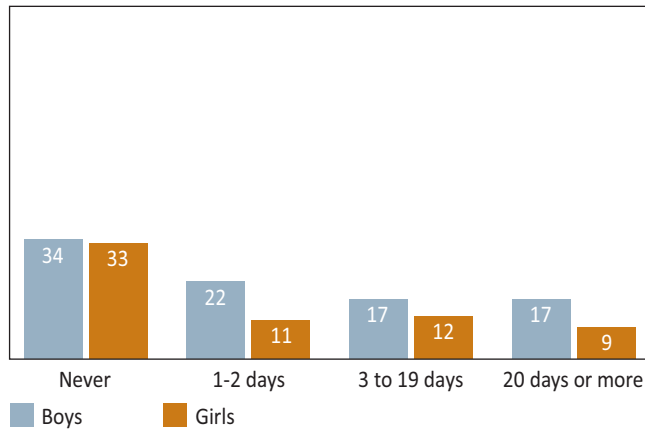
13.20 Students in the high school climate group, by days smoked cigarettes in the last 30 days and gender (%)
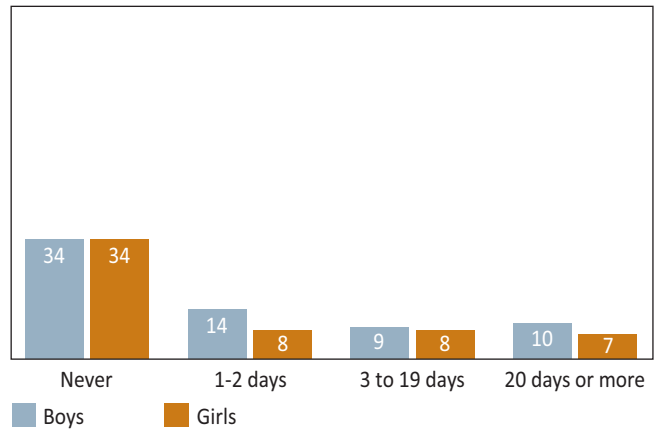
	Never	1-2 days	3 to 19 days	20 days or more
Boys	34	14	9	10
Girls	34	8	8	7

Boys ■ Girls ■

13.21 Students in the high friend support group, by days smoked cigarettes in the last 30 days and gender (%)

	Never	1-2 days	3 to 19 days	20 days or more
Boys	23	27	21	15
Girls	39	31	28	27

Boys ■ Girls ■

13.22 Students in the high community support group, by days smoked cigarettes in the last 30 days and gender (%)

	Never	1-2 days	3 to 19 days	20 days or more
Boys	36	26	26	17
Girls	33	15	14	5

Boys ■ Girls ■
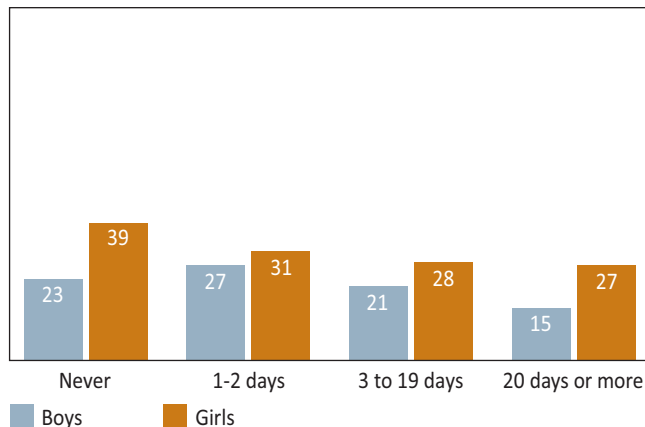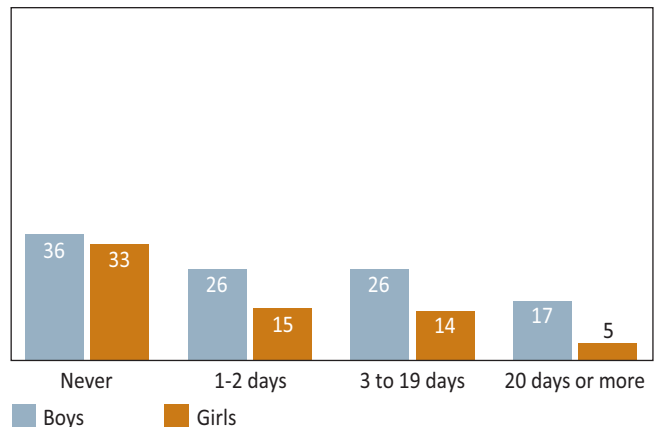
There were similar patterns for alcohol use in the last 30 days as for tobacco use. A higher percentage of boys and girls who reported not drinking alcohol in the last 30 days, compared to those who did, were in the high family support group (**Figure 13.23**), the high school climate group (**Figure 13.24**), and the high community support group (**Figure 13.26**). There was not an apparent link for boys between being in the high friend support group and frequency of alcohol use, although a higher percent of girls who reported not drinking alcohol in the last 30 days were in the high friend support group than girls who reported having done so (**Figure 13.25**).

13.23 Students in the high family support group, by days drank alcohol in the last 30 days and gender (%)

	Boys	Girls
Never	36	35
1-2 days	23	21
3 to 19 days	22	14
20 days or more	20	8
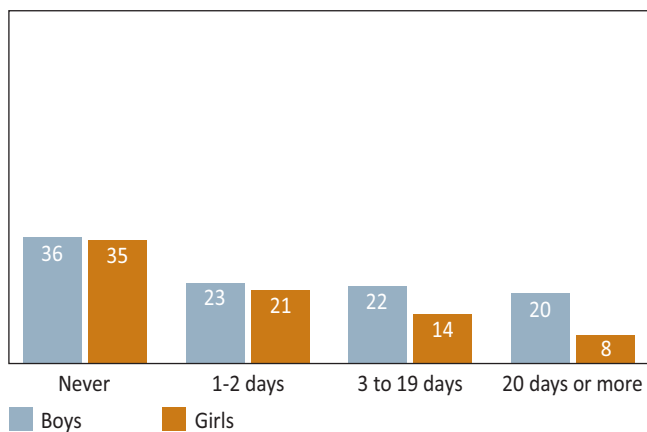
13.24 Students in the high school climate group, by days drank alcohol in the last 30 days and gender (%)
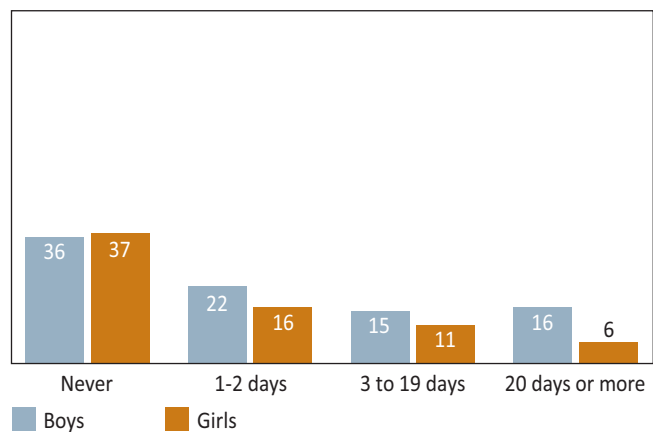
	Boys	Girls
Never	36	37
1-2 days	22	16
3 to 19 days	15	11
20 days or more	16	6

13.25 Students in the high friend support group, by days drank alcohol in the last 30 days and gender (%)

	Boys	Girls
Never	24	40
1-2 days	22	36
3 to 19 days	19	34
20 days or more	25	30

13.26 Students in the high community support group, by days drank alcohol in the last 30 days and gender (%)

	Boys	Girls
Never	37	33
1-2 days	33	26
3 to 19 days	29	21
20 days or more	28	18
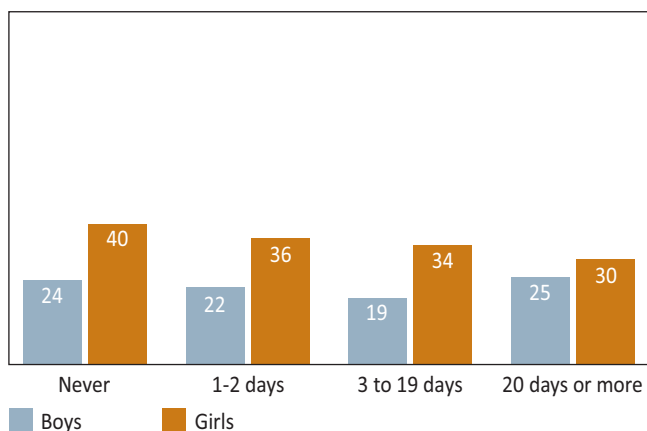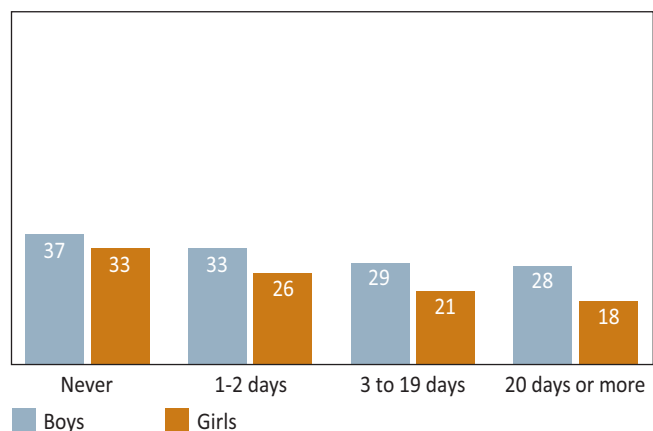
Cannabis use (among students in Grades 9 and 10 only) showed the same pattern. A greater proportion of students who reported not using cannabis were in the high family support group (**Figure 13.27**), the high school climate group (**Figure 13.28**), and the high community support group (**Figure 13.30**) than those who had used cannabis. Among boys, there was not a link between being in the high friend support group and having used cannabis in the last 30 days, but a higher percentage of girls who reported not using cannabis in the last 30 days were in the high friend support group than were girls who did (**Figure 13.29**).

> **"Well like I smoked weed now and then just cause like everyone else was doing it right? So I was like hey, I don't want to be left out from the fun that everyone else was having."**
>
> *(Youth focus group participant)*

13.27 **Students in the high family support group, by days used cannabis in the last 30 days and gender (%)**

	Never	1-2 days	3 to 19 days	20 days or more
Boys	26	19	16	13
Girls	27	7	8	9
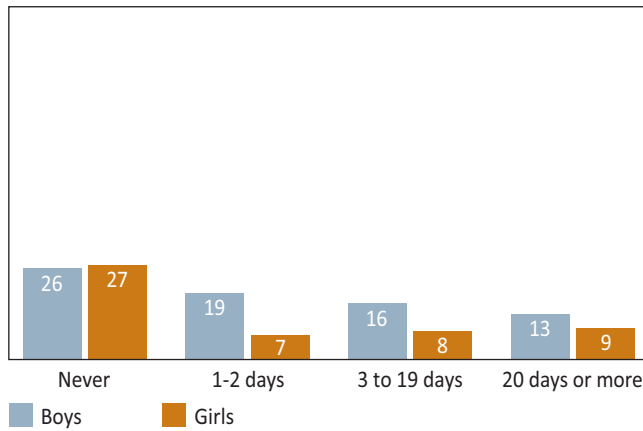
13.28 **Students in the high school climate group, by days used cannabis in the last 30 days and gender (%)**
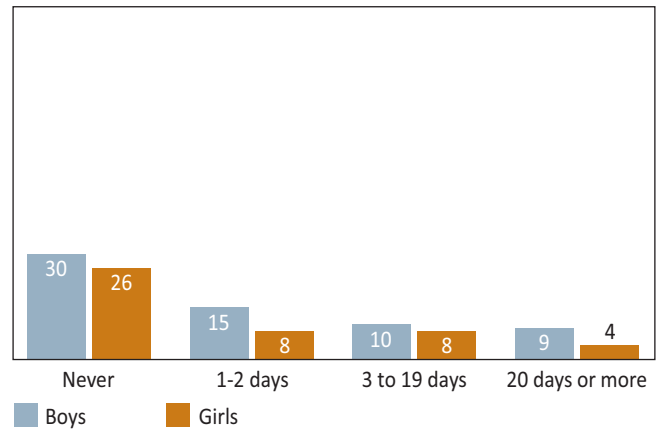
	Never	1-2 days	3 to 19 days	20 days or more
Boys	30	15	10	9
Girls	26	8	8	4

13.29 **Students in the high friend support group, by days used cannabis in the last 30 days and gender (%)**

	Never	1-2 days	3 to 19 days	20 days or more
Boys	19	19	23	22
Girls	34	34	27	15

13.30 **Students in the high community support group, by days used cannabis in the last 30 days and gender (%)**

	Never	1-2 days	3 to 19 days	20 days or more
Boys	33	26	22	24
Girls	26	17	15	12
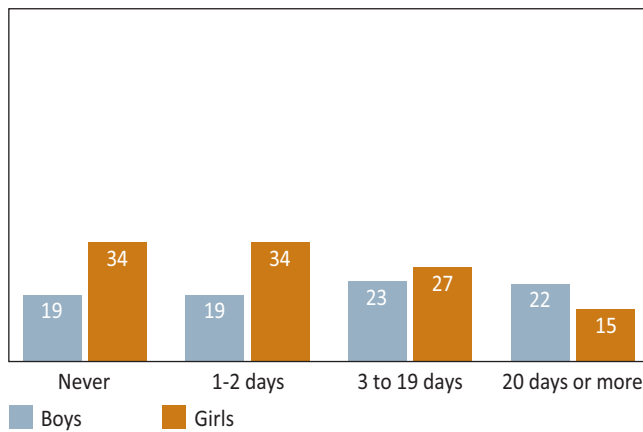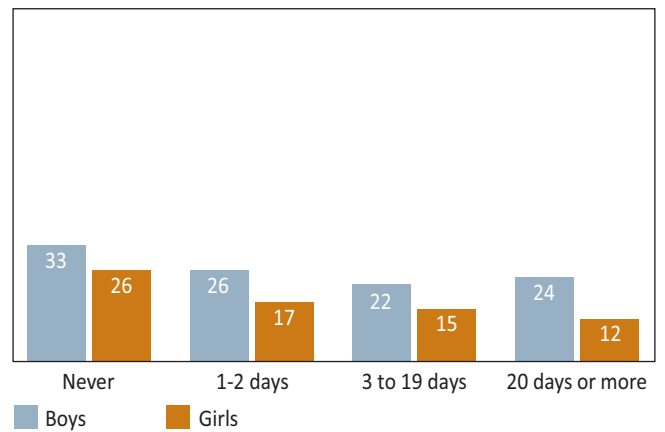
AREAS OF CONCERN

- Nearly 1 in 5 Grade 9 and 10 students reported they had tried e-cigarettes.
- High peer support was not associated with lower use of alcohol, tobacco or cannabis for boys.

ENCOURAGING FINDINGS

- Overall, rates of daily smoking continue to be low for Canadian students.
- Rates of beer drinking and drunkenness continue to decline among students.
- Cannabis rates are at the lowest levels ever reported among students over the past 20 years.
- The use of illicit drugs, such as ecstasy, cocaine, or heroin, remains low in this student population.
- Comparatively higher levels of family support, school climate, and community support are linked to lower rates of tobacco, alcohol, and cannabis use.

SUMMARY AND IMPLICATIONS

Although the continuing decline of cigarette smoking among adolescents in Canada is good news, the emergence of e-cigarettes use among adolescents bears watching. At present, the research is limited on the health effects of the liquids in e-cigarettes, and it is unclear whether they serve as a route to nicotine dependence and regular tobacco use (Grana et al, 2014). The concern is whether widespread e-cigarette availability will erase the gains in prevention of tobacco use seen over the past decade.

High peer support among boys does not appear to lead to lower substance use. There may be a few different mechanisms acting to explain this. First, a higher proportion of boys exhibit high sensation-seeking tendencies, which are linked both to higher likelihood of earlier onset of experimentation with alcohol or other drug use, as well as hazardous levels of substance use (Romer & Hennessy, 2007). Research has shown that peers with similar levels of sensation-seeking tend to associate, so those at highest risk for hazardous substance use are likely to become friends with youth with similar levels of sensation-seeking and substance use (Romer & Hennessy, 2007). The second mechanism may be the societal norms around masculinity that approve of or even valorize alcohol and other substance use among boys and young men (Iwamoto & Smiler, 2013). It is possible that changing norms around masculinity and substance use among boys may help reduce the chances that peers will spur each other to early initiation and more hazardous levels of use.

This survey affirms other studies that have demonstrated strong links between family, school, and community connectedness and lower risk for smoking, alcohol use, and other substance use (Smith et al., 2014; Poon, Saewyc & Chen, 2011). Findings suggest that ongoing efforts to encourage positive family relationships, school connectedness, and the presence of caring adults in the community can serve as emotional supports and role models in preventing early onset of substance use and problem substance use.

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Chapter **14**

Elizabeth Saewyc

Sexual Health

THE IMPORTANCE OF UNDERSTANDING SEXUAL HEALTH

Puberty is one of the defining markers of the transition of adolescence. As a result, the development of sexual identity, sexual attractions, and the onset of sexual behaviours may begin during the adolescent years (Tolman & McClelland, 2011; Saewyc, 2011). The World Health Organization's working definition of sexual health encompasses "physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" (www.who.int/reproductivehealth/topics/sexual_health/sh_definitions/en/).

Sexual relationships, while a normal part of the human experience, can involve health and psychosocial risks, especially among younger adolescents. Sexual contact can result in a sexually transmitted infection (STI), unless condoms or other barrier methods are used to help prevent those infections. Early onset of sexual behaviours (i.e., before age 15 or 16) has been linked to higher number of sexual partners, alcohol or drug use during sex, STIs and pregnancy during the adolescent years (Heywood, Patrick, Smith & Pitts, 2014; Langille, Asbridge, Flowerdew, & Allen, 2009; Poon, Smith, Saewyc & McCreary Centre Society, 2015). Population surveillance across Canada suggests that adolescents and young adults who are sexually active have the highest rates of STIs such as chlamydia, although these estimates may actually be an underestimate for a variety of reasons. Many people infected with STIs do not have symptoms and as a result may not go to a health care practitioner for testing. Furthermore, the majority of adolescents are not sexually active (Mitchell, Roberts, Gilbert, et al., 2015). Similarly, penile-vaginal intercourse without contraception can lead to unintended, mistimed, or unwanted pregnancy; rates of births to adolescent young women in Canada have been declining since the mid-1990s (McKay & Barrett, 2010).

> "So we have aggression, because she wanted to and there's pressure, music and sexualization of music and how it influences us, pressure from the other person or from our friends, being a virgin is shameful..."
> *(Youth focus group participant)*

Given the potential health consequences, both positive and negative, of sexual activity, it is important to monitor the sexual behaviours of adolescents nationally. This provides information to document changing trends in sexual health and sexual risk behaviour for adolescents. This information can help identify potential gaps in sexual health education or health promotion, and can be used to guide policy and programming to support the sexual health of Canadian youth.

In 2014, nearly 1 in 5 Grade 9 students and 1 in 3 Grade 10 students reported having had sexual intercourse, with similar rates for boys and girls (**Figure 14.1**).

As shown in **Figures 14.2a** and **b**, the proportions of Grade 9 and 10 students who were sexually experienced appears to be declining in the 2014 cohort. These figures suggest adolescents in Canada may be waiting a bit longer before initiating sexual intercourse.

WHAT IS BEING REPORTED IN THIS CHAPTER?

The HBSC asks a limited number of questions about sexual intercourse and sexual health behaviours, such as contraception and condom use. These questions are only asked of students in Grades 9 and 10. In this chapter we document the rates of students who are sexually experienced, the protective sexual health behaviours such as condom use and contraceptive use among students, and the link between supportive relationships and sexual behaviour.

14.1 Grade 9 and 10 students who reported that they had had sexual intercourse, by gender (%)
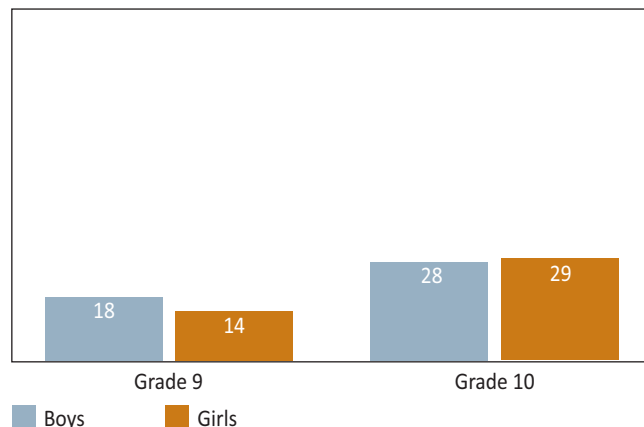
14.2a Grade 9 and 10 boys who reported that they had had sexual intercourse, in 2002, 2006, 2010, and 2014 (%)
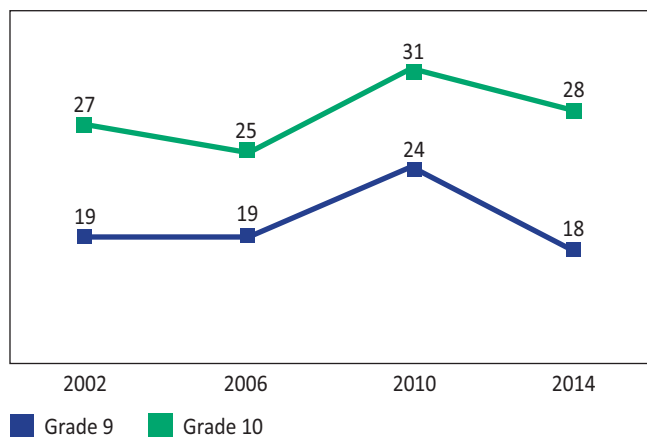
14.2b Grade 9 and 10 girls who reported that they had had sexual intercourse, in 2002, 2006, 2010, and 2014 (%)
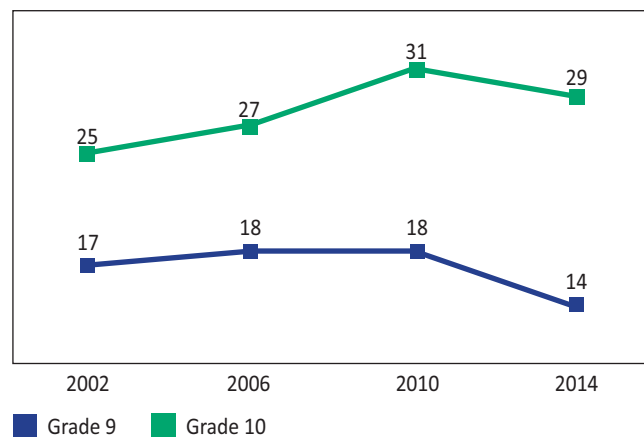
The majority of sexually experienced young people reported using some form of contraception or barrier method the last time they had sexual intercourse (**Figure 14.3**). As with other studies in Canada (Saewyc, Taylor, Homma & Ogilvie, 2008; Poon et al., 2015), the most common choice was condoms, but over half of girls and more than a third of boys also reported they or their partners used birth control pills the last time they had sex. Nearly 1 in 5 adolescents reported they used no method, or were unsure of the method.

As can be inferred from **Figure 14.4**, most sexually active young people in Grade 9 or 10 had only recently begun having sex. The majority reported they first had sex at their current age. Very few adolescents reported having sex at age 12 or younger. Sex at that age may be a sign of sexual abuse, as has been found in other research (e.g., Miller, Cox, & Saewyc, 2010).

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

- Boys
- Girls
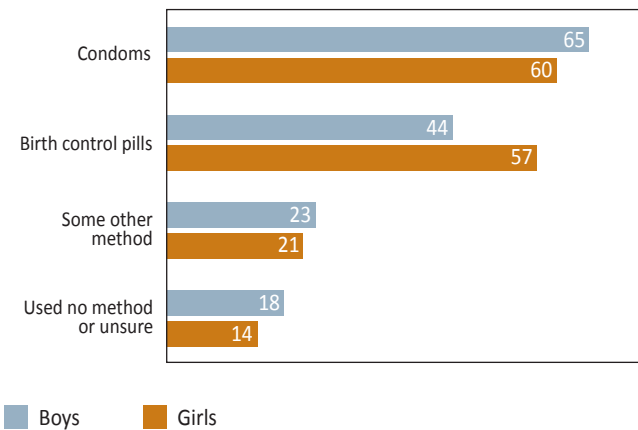
14.4 Age of sexual initiation, Grade 9 and 10 students, by gender, among those who ever had sexual intercourse (%)

- Boys
- Girls
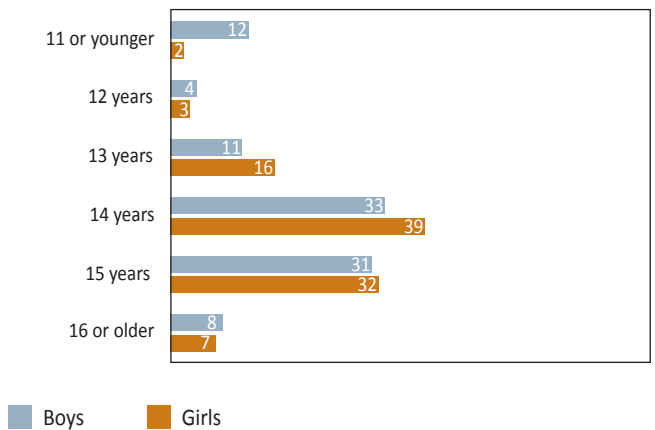
RELATIONSHIPS AND SEXUAL BEHAVIOUR

The following section shows the potential relationship between ever having sexual intercourse and high levels of support in relationships with family, friends, and community. Note: Descriptions of the four scales can be found in Appendix A.

Family support was associated with sexual behavior for girls, but not for boys. Among girls who had never had sex, a greater percentage reported high family support (**Figure 14.5**). Likewise, a greater percentage of students, both boys and girls, who had not had sex were in the high school climate group (**Figure 14.6**).

14.5 Grade 9 and 10 students in the high family support group, by reported sexual intercourse and gender (%)
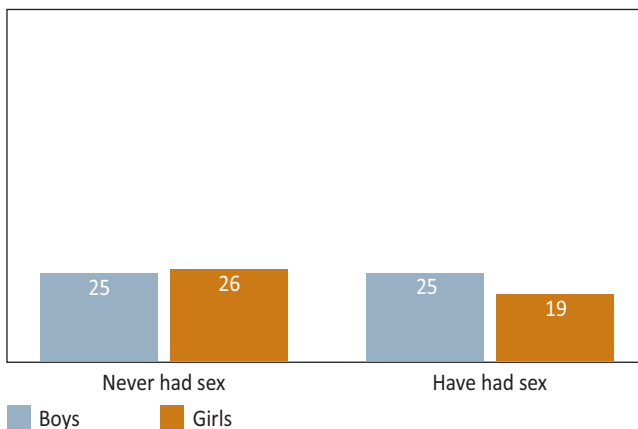
- Boys
- Girls

14.6 Grade 9 and 10 students in the high school climate group, by reported sexual intercourse and gender (%)
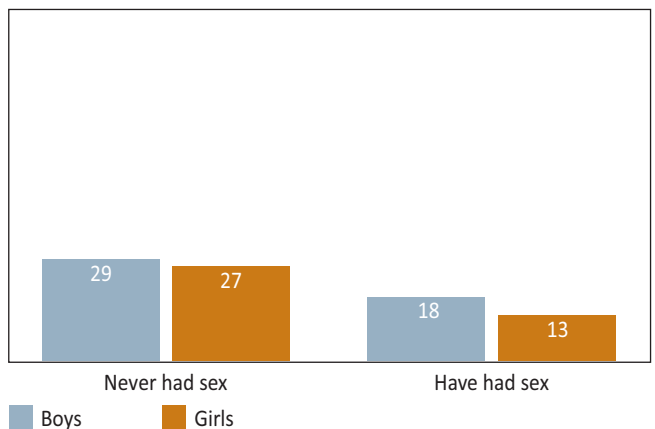
- Boys
- Girls

As shown in **Figure 14.7**, a higher percentage of boys who had sex than those who had not were in the high friends support group, while a slightly higher percentage of girls who had not had sex were in the high friend support group.

Figure 14.8 shows that high levels of community support were also linked to sexual behaviour, although the relationship was not as strong as that for family or school support. A higher percentage of students who reported that they had never had sexual intercourse were in the high community support group.

14.7 Grade 9 and 10 students in the high friend support group, by reported sexual intercourse and gender (%)
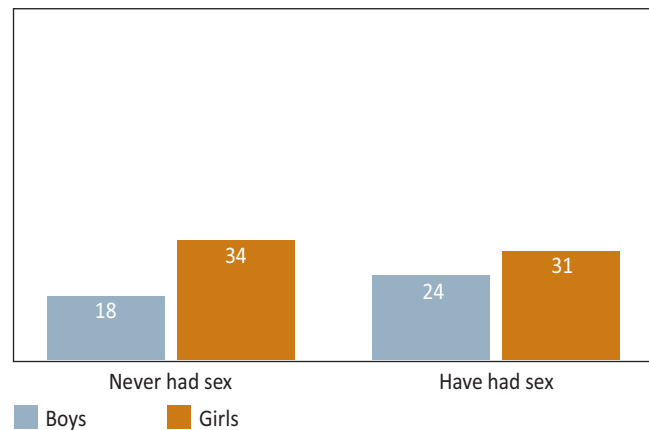
Never had sex: Boys 18, Girls 34
Have had sex: Boys 24, Girls 31

■ Boys   ■ Girls

14.8 Grade 9 and 10 students in the high community support group, by reported sexual intercourse and gender (%)

Never had sex: Boys 34, Girls 27
Have had sex: Boys 30, Girls 18

■ Boys   ■ Girls
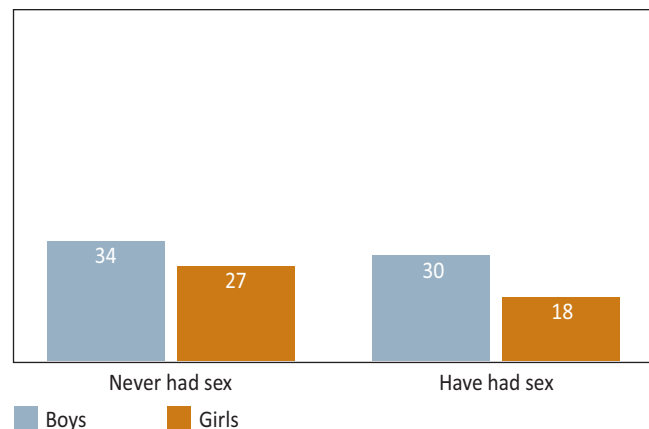
AREAS OF CONCERN

- Nearly 1 in 5 students used no method of contraception or barrier protection the last time they had sexual intercourse, putting them at risk for unintended pregnancy or STIs.

ENCOURAGING FINDINGS

- Overall, the majority of Canadian 15-year olds had not had sexual intercourse; they appeared to be waiting longer to have sexual intercourse than in previous years.
- The majority of sexually experienced students used a condom the last time they had sexual intercourse, and more than 80% used some form of contraception.
- Higher family, school, and community support were related to lower likelihood of having had sexual intercourse.

SUMMARY AND IMPLICATIONS

Sexual health is an important aspect of adolescent development, and the results from the most recent HBSC study are in line with other evidence in Canada that suggests sexual health is continuing to improve among adolescents in Grades 9 and 10 (Poon et al., 2015; McKay & Barrett, 2010). That youth are waiting longer before first having intercourse is a positive finding, as a recent systematic review has documented an extensive body of research showing that early age of sexual initiation has been linked to higher sexual health risks, including greater risk of coerced sex, more sexual partners, use of alcohol or drugs during intercourse and greater risk of teen pregnancy involvement (Heywood et al., 2014).

It is important to recognize, however, that there are a limited number of questions related to sexual behaviour on the HBSC study, that are focused on only certain types of sexual behaviour. As a result, we may not have a complete picture of the range of their sexual practices, the contexts of their sexual relationships, or the relative health risks they may face. Although only a small percentage of adolescents first had sexual intercourse at very young ages, we do not know whether students' sexual initiations were consensual or coerced, or whether their partners were close in age or much older. Coerced or unwanted sexual activity is not only a violation of young people's right to safety, but is associated with significant health risks (Upchurch & Kusunoki, 2004; Homma, Wang, Saewyc & Kishor, 2012). As well, research suggests boys and girls whose sexual partners are older are more likely to engage in riskier behaviours sooner than their peers, less likely to use contraception or barrier methods, and as a result, are more likely to develop STIs and become pregnant (Hines & Finkelhor, 2007; Loftus & Kelly, 2012; Oudekerk, Guernara, & Reppucci, 2014; Ryan, Franzetta, Manlove, & Schelar, 2008). Thus, the overall picture of sexual health for the majority of Canadian students is positive and encouraging, but there are gaps in our knowledge about groups who may be at increased risk.

There is also further room for improvement in sexual health; nearly 1 in 5 sexually active adolescents did not use protection the last time they had sexual intercourse. It is important to encourage ongoing efforts in communities across Canada, to ensure both effective, accurate sexual health education in early adolescence, and ready access to contraception and barrier methods for the small proportion of adolescents who are sexually active.

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Chapter 15

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Laura Lambe
Theresa McIver

Bullying and Fighting

THE IMPORTANCE OF UNDERSTANDING BULLYING AND FIGHTING

Bullying is a relationship problem. Bullying among youth has been defined as repeated, unwanted aggressive behaviour(s) by another youth or group of youth, involving an observed or perceived power imbalance. It can result in physical, psychological, social, or educational harm or distress being inflicted on the targeted youth (Gladen, Vivolo-Kantor, Hamburger & Lumpkin, 2014). This power imbalance can be established and maintained in a variety of ways, as bullying can take the form of physical, verbal, or relational abuse, or damage to property. Furthermore, it can be perpetrated either directly (in the presence of the targeted youth) or indirectly (aggressive behaviours not directly communicated to the targeted youth). As such, the very nature of bullying lends itself to a wide array of potential mechanisms to perpetrate bullying behaviour. Physical fighting is one facet of bullying behaviour that can occur independently as well, and its consequences can be extremely harmful.

Physical fighting, like bullying, is an extreme form of aggression and merits serious attention. However, unlike bullying, fighting is an aggressive behaviour that does not necessarily involve a power imbalance – it may involve people of a similar age and strength (Craig & Harel, 2004). Physical fighting is associated with increased risk for injury (Pickett et al., 2005), substance use, and other problem behaviours in adolescence (Rudatsikira, Muula, & Siziya, 2008). Despite their distinctions, both fighting and bullying represent serious relationship problems that can put youth at risk for other adverse outcomes.

Bullying puts young people at immediate and long-term risk for many emotional, behavioural and relationship problems. Bullying has broad impacts on the safety and welfare of all students involved – youth who are bullied, youth who bully others, and youth who know it is going on. These impacts 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 (Farrington & Ttofi, 2011). Victimization is associated with many physical and psychological health problems including anxiety, depression, difficulties sleeping, headaches, and self-harm behaviours (Arseneault, Bowes, & Shakoor, 2010; Due et al., 2005). Bullying others is also linked to additional problems, such as an increased risk of antisocial behaviour, gang involvement, and substance use (Farrington & Ttofi, 2011; Hemphill et al., 2011). To prevent these negative outcomes, we need to support youth's development of positive relationships.

Since bullying is defined as a relationship problem, online relationships must also be considered. This type of relationship is particularly important among youth, given the popularity of social media sites – by Grade 11, 95% of students are on *Facebook* (Steeves, 2014). Cyberbullying is associated with many of the same negative outcomes as traditional bullying (Tokunaga, 2010).

Developing positive relationships in adolescence is an important skill that lays the foundation for healthy relationships later in life. Adolescent maladaptive relationships that model aggression and power, can lead to future maladaptive relationships including dating violence (Foshee et al., 2014) and violence in adulthood (Ttofi, Farrington, & Lösel, 2012).

WHAT IS BEING REPORTED IN THIS CHAPTER?

To assess bullying and victimization, students were asked how many times they had been victimized at school in the past two months and how often they had bullied other student(s) at school during the same time period. Possible responses were: never, once or twice in the last two months, 2 or 3 times a month, about once a week, or several times a week. Those who reported being bullied more than once or twice in the last two months were classified as having been victimized. Those who reported taking part in bullying more than once or twice in the last two months were classified as having bullied others. Those who reported both experiences were classified as having both bullied others and been victimized.

In addition, there were questions about the types of victimization experienced, as shown in the following representative paraphrases from the questionnaire: 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: other students made sexual jokes, comments, or gestures to me; 5) body size: other students made fun of me because of my weight; and 6) electronic: someone sent mean instant messages, wall postings, emails and text messages, or created a Website that made fun of me, or someone took unflattering or inappropriate pictures of me without permission and posted them online. For questions about the type of victimization experienced, only those students who reported being victimized were included in the analyses.

Students were additionally 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 categories of bullying for 2014: 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 a month, once a week, or several times a week. We try to avoid using labels such as: bully, victim, and bully/victim. We also report how youth were victimized, the frequency and patterns in physical fights, and the associations between bullying involvement and relationships (with family, schools, friends, and community). 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 Size of the Bullying Problem in Canada

Bullying and victimization still remain a significant problem in Canada. **Figure 15.1** displays the prevalence of Canadian students involved with bullying. Percentages of students involved are presented separately for girls and boys in Grades 6 to 10. Girls consistently reported having been victimized more than boys across all grades. Conversely, boys generally showed slightly higher incidence of having bullied others and experiences of having been victimized combined with perpetration. Although relatively consistent across the grades, there appears to be a slight decline in prevalence of having been victimized with age for both boys and girls. In contrast, boys showed a slight increase in having bullied others as they grew older.

15.1 **Involvement of students in the three categories of bullying, by grade and gender (%)**

Both bullied others and been victimized | Been victimized | Bullied others
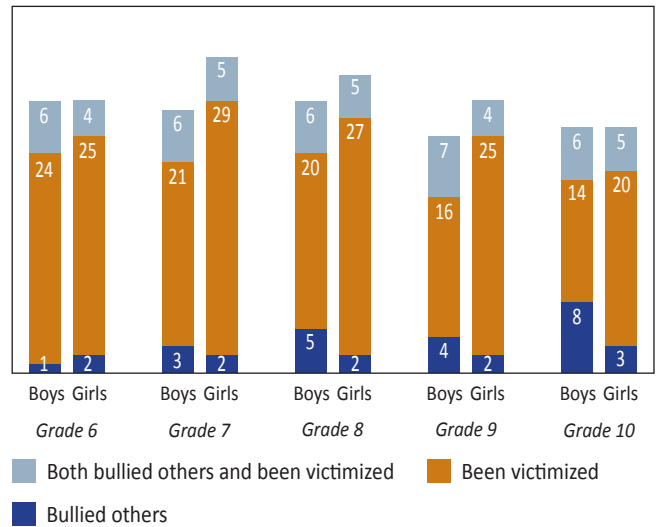
Figure 15.2 displays trends in the prevalence of bullying in 2006, 2010, and 2014. The prevalence of youth reporting being victimized at least twice a week has increased significantly from 2006 to 2014. Approximately one in four Canadian youth reported being victimized this frequently. There has been a decline in those who reported bullying others regularly, from 8% of youth in 2006 to 3% in 2014. For youth who experience both bullying and victimization, there has been a decrease from 9% in 2006 to 5% in 2014.

Figure 15.3 shows a consistent trend across Grades 7 to 10, with a higher incidence of being victimized in girls than boys. This trend holds true across all frequencies of being victimized, with the least difference between genders for those reporting victimization occurring once a week. While boys showed a general decrease in being victimized from Grade 7 to 10 for all frequencies of victimization, the percentage of girls who experienced being victimized only decreased slightly for victimization occurring several times a week.

15.2 **Involvement of students in the three categories of bullying, in 2006, 2010, and 2014 (%)**

2006 | 2010 | 2014
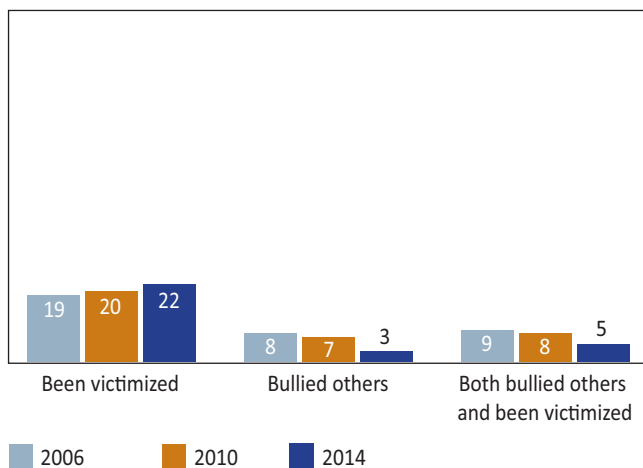
15.3 **Students who reported that they had been victimized, by grade, gender and frequency (%)**

Several times a week | Once a week | Once or twice a month
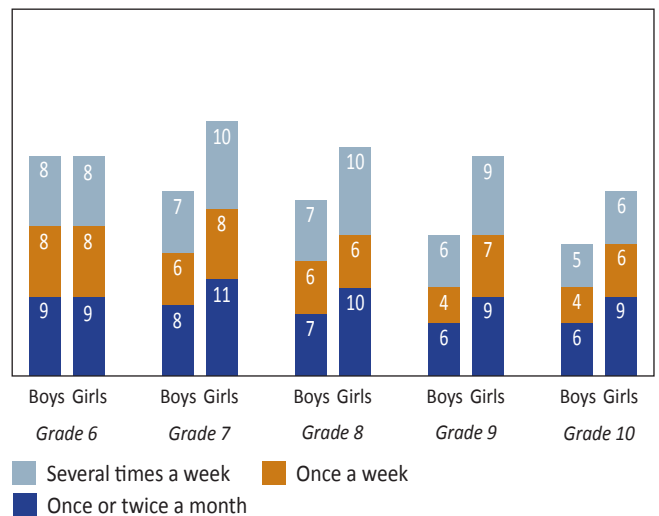
> **"[Girls] do a more emotional kind of thing so they'll exclude you and talk about you behind your back more whereas guys will actually physically hurt you."**
>
> *(Youth focus group participant)*

As shown in **Figure 15.4**, there was a general increase in the proportion of students who bullied others from Grade 6 to Grade 10, particularly among boys. Across grades, boys reported bullying others more than did girls. For boys, the prevalence of bullying others peaked in Grade 10 at 8%. Although there was a small dip in Grade 9 (1.8%), the prevalence of bullying others increased across grade and peaked in Grade 10 at 3% for girls. Similar to the victimization results, the majority of students indicated that they engaged in bullying others occasionally. However, a small minority (1% to 2%) of students reported bullying others frequently, several times a week.

As can be seen in **Figure 15.5**, the percentage of students who both bullied others and were victimized remained relatively stable from Grade 6 to 10. The percentage of boys involved in both victimization and bullying others ranged from 6% to 7%, while the prevalence for girls being victimized and bullying others was slightly less, ranging from 4% to 5%. The percentage of those youth who both bullied others and were victimized was lower for girls than boys at every grade.

15.4 **Students who reported that they had bullied others, by grade, gender and frequency (%)**

Several times a week · Once a week · Once or twice a month
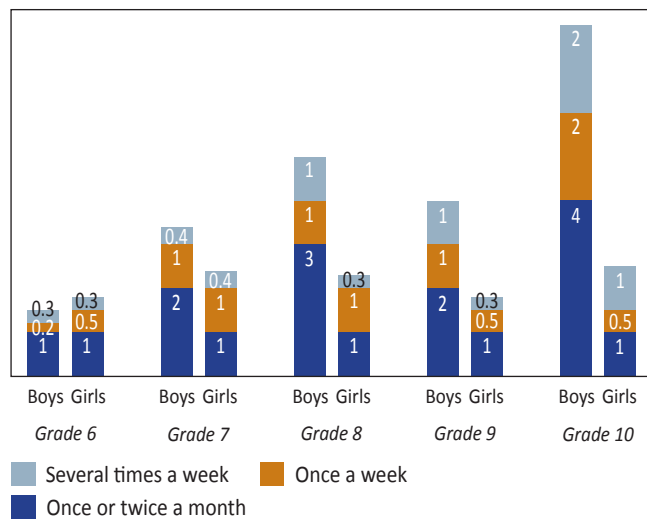
15.5 **Students who reported that they had both bullied others and been victimized, by grade and gender (%)**

Boys · Girls
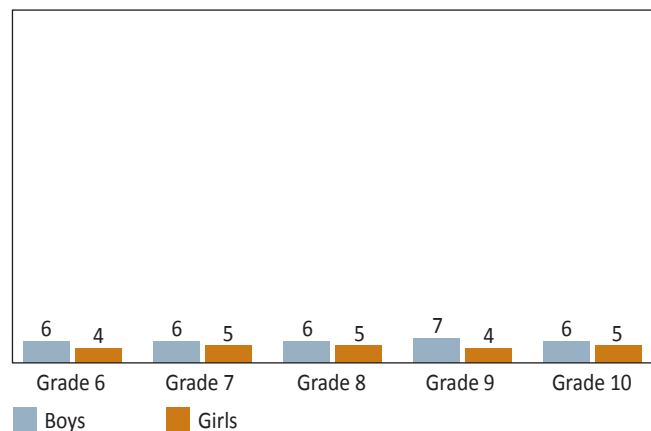
How Young People are Victimized

In the figures below, the percentages include only those adolescents who reported being victimized. Thus, the figures reflect the victimization experiences from their perspective. Bullying others takes many forms, with the two most common forms being teasing (**Figure 15.6**) and indirect bullying such as excluding or spreading lies about the youth being victimized (**Figure 15.7**). Overall, more boys than girls reported being teased in 2014; this number remained relatively constant from Grade 6 to Grade 10, with more than half of victimized boys reporting being teased. For girls, being teased increased and peaked in Grade 7 (54%), and then decreased to 40% in Grade 10. **Figure 15.7** shows the opposite pattern, as more girls than boys reported being victimized by indirect bullying. Of the girls who reported being victimized, indirect bullying was reported by over two thirds (ranging in percentage from 66% to 68%), whereas just over half of victimized boys reported this form of bullying. For boys, indirect bullying decreased from Grade 6 to 10 (from 54% to 46%). Among boys, this form of bullying decreased with age. Thus, there were both gender differences and age differences in forms of peer victimization experienced by Canadian adolescents.

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

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	52	52	54	52	52
Girls	43	54	53	46	40
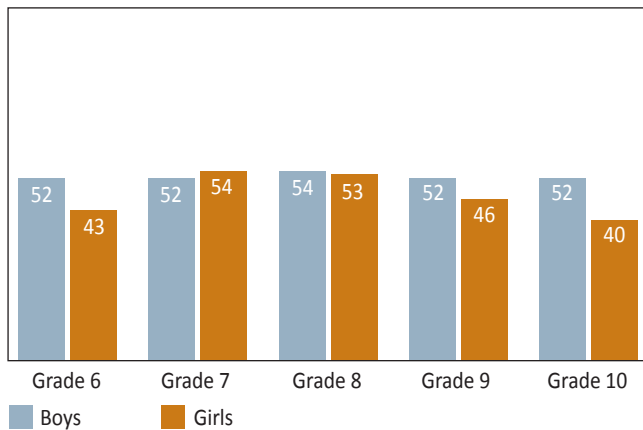
15.7 Indirect bullying in victimized students, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	54	51	55	52	46
Girls	67	68	68	68	66
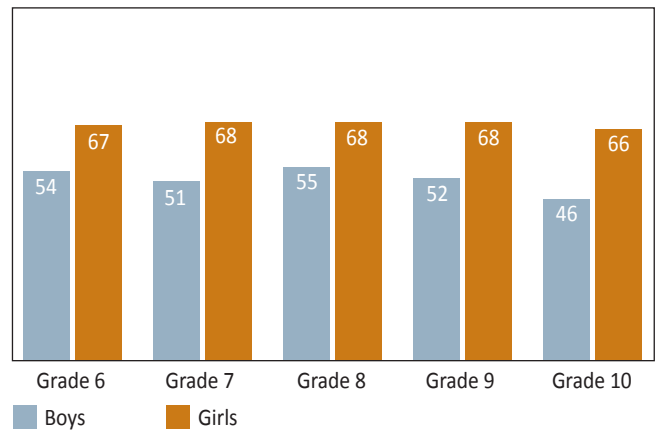
15.8 Physical bullying in victimized students, by grade and gender (%)

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	30	28	26	28	24
Girls	16	18	15	11	10
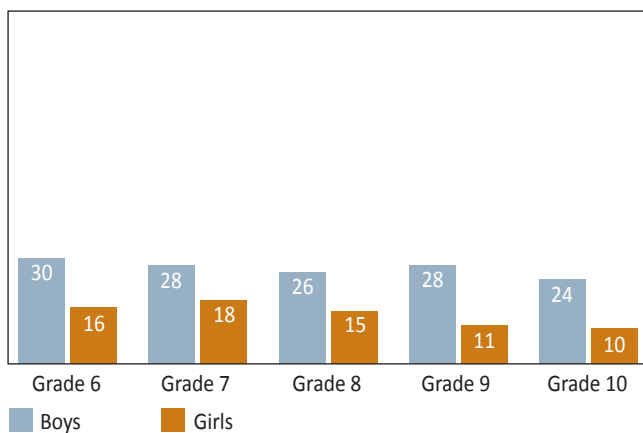
Among victimized youth, **Figure 15.8** illustrates a trend across grades in which boys consistently reported a higher prevalence of physical bullying than girls. For both boys and girls, there was a decline in physical victimization from Grade 6 to Grade 10 (30%-24% for boys and 16%-10% for girls). This pattern is consistent with the research which shows that as youth develop more social skills and emotional regulation, they tend to be bullied less.

Figure 15.9 reveals a developmental pattern of sexual harassment. The lowest proportion of victimized girls (23%) reported sexual harassment in Grade 6. Prevalence of sexual harassment for girls increased with age, peaking at 41% in Grade 10. Reports of sexual harassment in victimized boys were more stable across grade, ranging from 29% to 33%. Nonetheless, for both boys and girls, a significant proportion of youth were reporting experiencing unwanted sexual comments or behaviours.

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

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	30	29	32	33	30
Girls	23	26	28	36	41

Figure 15.10 shows that both boys and girls experienced victimization because of their body weight. For boys, this form of bullying increased from Grade 6 to Grade 7 (from 21% to 27%), and remained stable at 27% or 28% across the higher grades. For girls, bullying based on weight rose and then peaked in Grade 8 (28%), before decreasing to 24% in Grades 9 and 10.

As with other types of victimization, **Figures 15.11** and **15.12** (prevalence of ever being victimized) demonstrate a difference in the prevalence of victimization between boys and girls for types of electronic-based victimization (cyberbullying). Throughout Grades 6 to 10, girls consistently reported higher rates of victimization in the last 2 months than boys. In addition, **Figure 15.11** shows that, while the percentage of boys reporting this form of victimization was low, and relatively stable across time (ranging from 6% to 8%), there was a marked increase with age in the prevalence of this form of victimization for girls (growing from 11% in Grade 6 to 15% in Grade 10). The least difference in the percentage of boys and girls reporting this form of victimization was in Grade 6 (a difference of 4%), while Grade 10 showed the greatest difference between genders, with girls reporting this form of victimization

15.10 Students who reported that they were victimized because of their body weight, by grade and gender (%)

	Boys	Girls
Grade 6	21	19
Grade 7	27	26
Grade 8	27	28
Grade 9	27	24
Grade 10	28	24
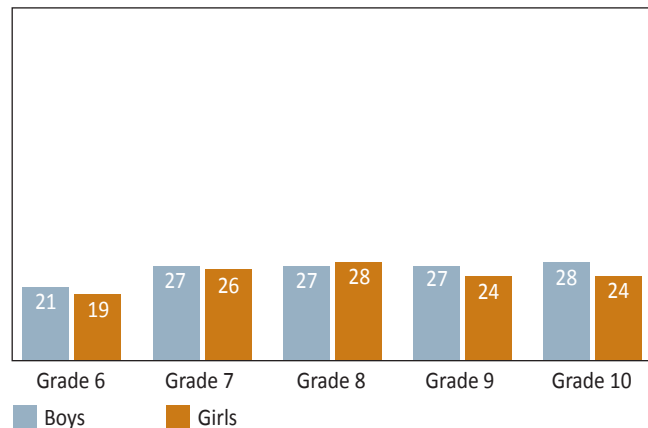
> **"I feel like these days bullying has become a thing in all grades. […] I think it gets worse as you grow up, the bullying between girls because its starting to become cyber bullying and anonymous so you don't even know who it is so you can't stop, you can't go to a teacher and say this person is doing this help me, because they don't know who it is."**
>
> *(Youth focus group participant)*

at more than two times the prevalence of that reported by boys (6% for boys compared to 15% for girls). Other forms of cyberbullying, such as that highlighted in **Figure 15.12**, can involve the use of pictures, leading to a slightly different pattern of victimization. Within the last two months, more girls than boys reported that someone took unflattering/inappropriate pictures of them and posted these pictures online. For both boys and girls, this percentage increased from Grade 6 to Grade 9 (from 5% to 9% for boys and 7% to 12% for girls), with a slight decrease in Grade 10.

15.11 Students who reported that someone sent mean instant messages, wall postings, emails and text messages, or created a website that made fun of them, by grade and gender (%)

	Boys	Girls
Grade 6	7	11
Grade 7	6	13
Grade 8	7	14
Grade 9	8	15
Grade 10	6	15
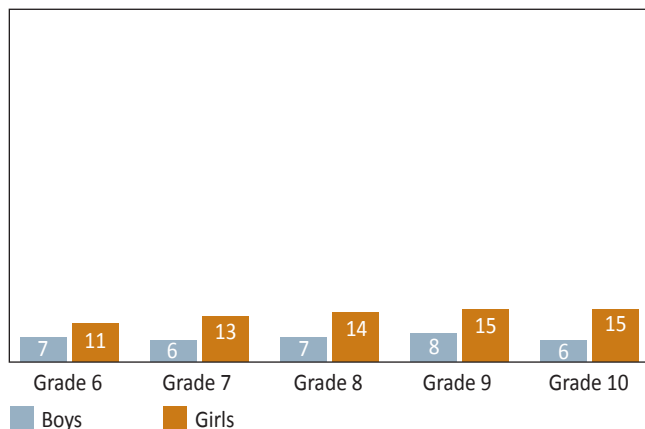
15.12 Students who reported that someone took unflattering or inappropriate pictures of them without permission and posted them online, by grade and gender (%)

	Boys	Girls
Grade 6	5	7
Grade 7	5	9
Grade 8	6	11
Grade 9	9	12
Grade 10	8	10
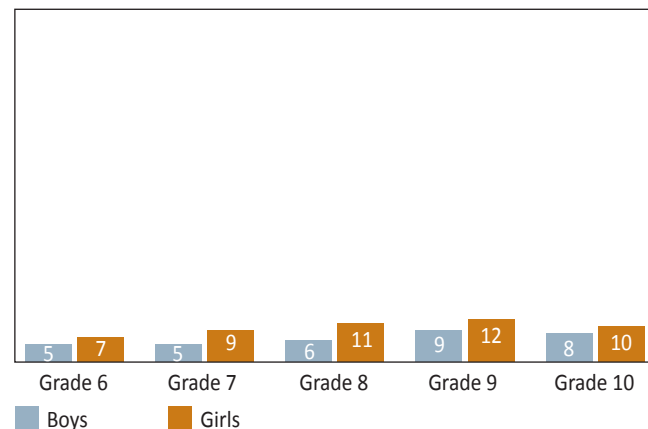
15.13 Prevalence of all types of electronic victimization combined (someone sent mean instant messages, wall postings, emails and text messages, or created a website that made fun of me and/or took unflattering or inappropriate pictures of me without permission and posted them online), by grade and gender (%)

Boys | Girls

	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Boys	10	8	10	12	10
Girls	14	18	20	22	20
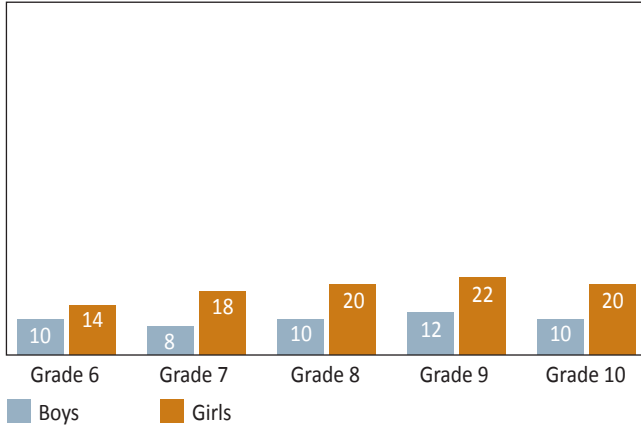
Figure 15.13 presents the prevalence of electronic victimization by combining all the questions assessing this construct. Across all grades, more girls than boys reported being victimized. For girls, the prevalence of being victimized increased from Grade 6 to Grade 8, with a slight decline in Grade 10. For boys, there was not a consistent increase in electronic victimization with grade.

FIGHTING

Frequency of Fights Among Canadian Students

Physical fighting is an extreme form of aggression and merits serious attention. **Figure 15.14** shows that, of the students who reported having at least one physical fight in the last 12 months, substantially more boys than girls in all grades reported physical fighting behaviour. This finding was true for all frequencies of fights in the past 12 months. For boys, there was a slight decrease in fighting behaviour with grade level. Meanwhile, fighting behaviour in girls was more stable across the grades. Across all grades, the highest percentage of both boys and girls reported having only 1 fight in the past 12 months. Despite the decrease in levels of fighting across grade, at least 30% of boys and 16% of girls, irrespective of grade, reported physically fighting at least once in the last 12 months.

15.14 Number of physical fights in the past 12 months, by grade and gender in 2014 (%)

Four or more | Three | Two | One
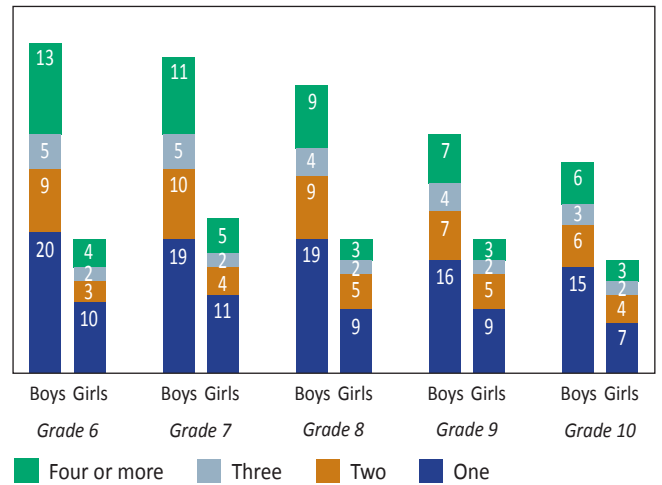
Fighting Behaviour

Figure 15.15 shows that physical fights were consistently more common among boys than girls – boys were twice as likely to report a physical fight than girls. The prevalence of physical fights decreased from Grade 6 to Grade 10 among both boys (from 47% to 30%) and girls (from 19% to 16%), demonstrating that this behaviour decreases with age. There has also been a decrease in the overall prevalence of physical fights for girls since 2002. In fact, the overall prevalence of physical fighting is the lowest it has been in 12 years – lower than that observed in 2002.

Table 15.1 presents information on the people with whom students reported having their most recent physical fight. Percentages of students who reported fighting with individuals in each category are separated in terms of grade and gender of the student. The greatest percentages of students overall reported fighting with either a sibling (44%-62% for girls; 17%-36% for boys) or a friend or someone they knew (23%-31% for girls; 46%-52% for boys). The percentage of both boys and girls reporting their last physical fight having been with a sibling dropped with age (with the exception of a slight increase for girls from Grade 9 and 10).

Girls were most likely to report having their last physical fight with a sibling followed by a friend. Girls were least likely to report that their last fight was with a total stranger (increasing from 1% to 6% from Grades 6 to 10), followed closely by fights with a boyfriend/girlfriend or date (increasing from 1% to 4%), and fights with a parent or other adult family member (ranging from 3% to 8%). Boys exhibited a similar pattern in fighting to girls with respect to whom they were engaged in the physical fight. They were most likely to report their last physical fight was with a friend, followed by a sibling. Also, the lowest percentage of boys reported that their last physical fight was with a boyfriend/girlfriend or date (1% in Grades 6 to 9 and 2% in Grade 10), followed by fights with parents or other adult family members (2%-4%), and then strangers (percentages climbing from 3% in Grade 6 to 16% in Grade 10).

15.15 Number of physical fights in the past 12 months, by grade and gender in 2002, 2006, 2010 and 2014 (%)
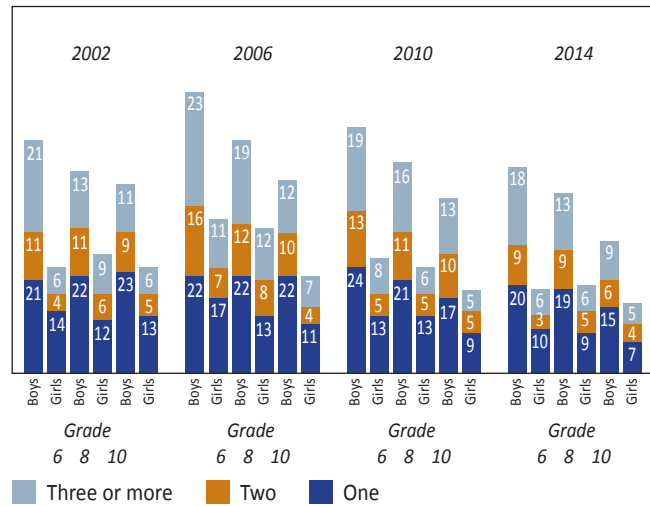
"In my school they're [fights] planned you see it all over twitter the night before. It's pretty funny and then it's at like a park near. The last time it happened, cops came."

(Youth focus group participant)

Table 15.1		The last time you were in a physical fight, with whom did you fight?, by grade and gender (%)					
		A total stranger	Parent or other adult family member	Brother or sister	Boyfriend/ girlfriend or date	A friend or someone I know	Someone not listed
Grade 6	Boys	3	3	36	1	47	10
	Girls	1	6	62	1	23	7
Grade 7	Boys	5	3	26	1	52	14
	Girls	1	3	52	4	31	9
Grade 8	Boys	6	3	23	1	52	16
	Girls	3	5	49	3	26	15
Grade 9	Boys	10	2	19	1	49	19
	Girls	5	8	44	3	29	12
Grade 10	Boys	16	4	17	2	46	16
	Girls	6	4	50	3	29	9

RELATIONSHIPS AND BULLYING

The quality of all types of relationships (families, schools, friends, and communities) is related to the prevalence of bullying. Children's relationship experiences affect not only their behavioural adaptation, but also their brain development and their genes. There is substantial evidence that the healthy development of children and youth depends on the quality of relationships they have within the family, school, peer group, neighbourhood, and broader social context. These relationships, if positive, provide children and youth with the opportunity to develop emotional and behavioural regulation, critical relationship skills, and capacities in many other domains of development. When children and youth do not have the advantage of growing up in caring, supportive, predictable, and positive relationships, they experience stressors that tend to undermine their physical, mental and social health and well-being (Pepler,Craig, &Haner, 2012). The importance of relationships was further assessed through the analyses of the HBSC data. Note: Descriptions of the four scales can be found in Appendix A. **Figures 15.16** to **15.19** show the percentage of students reporting high relationship support, separated in terms of gender and divided into the following categories: bullied others, been victimized, both bullied and been victimized, and neither.

15.16 Students in the high family support group, by bullying behaviour and gender (%)

	Bullied others	Been victimized	Both bullied others and been victimized	Neither bullied or victimized
Boys	22	32	22	35
Girls	15	25	15	35
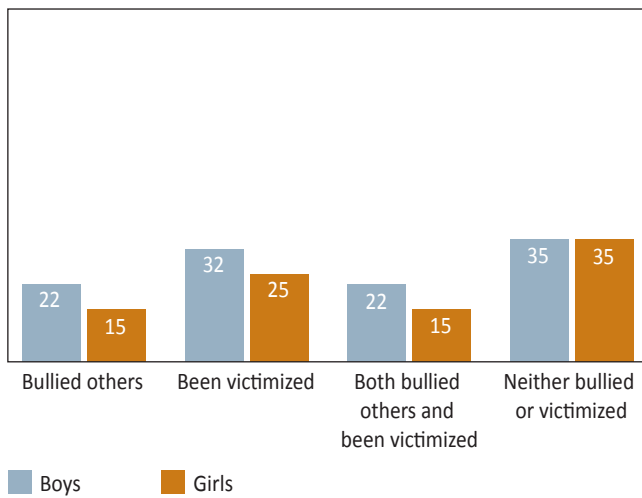
15.17 Students in the high school climate group, by bullying behaviour and gender (%)

	Bullied others	Been victimized	Both bullied others and been victimized	Neither bullied or victimized
Boys	20	25	14	36
Girls	17	20	13	38

15.18 Students in the high friend support group, by their bullying behaviour and gender (%)
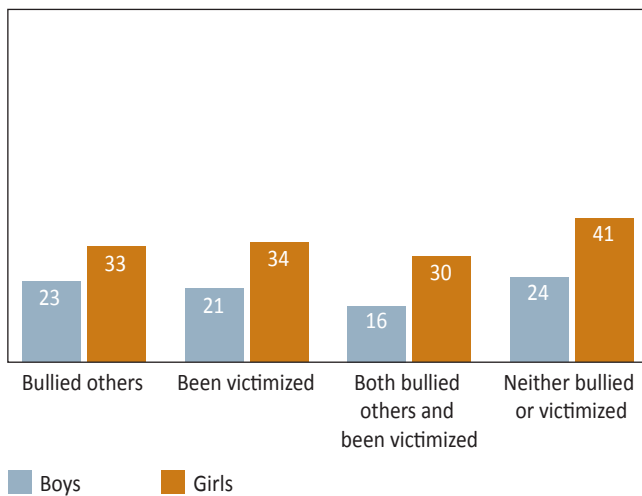
	Bullied others	Been victimized	Both bullied others and been victimized	Neither bullied or victimized
Boys	23	21	16	24
Girls	33	34	30	41

15.19 Students in the high community support group, by bullying behaviour and gender (%)

	Bullied others	Been victimized	Both bullied others and been victimized	Neither bullied or victimized
Boys	28	34	26	37
Girls	30	28	17	34
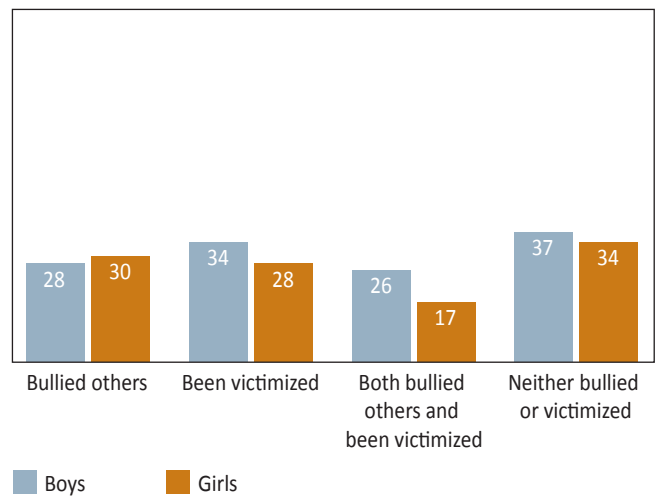
"I used to hide in the washroom for lunchtime. I don't like doing that. And so I was like ok I have to get them somehow to get them to accept that I'm going to do this cause I'm not going to like conform to them obviously. But it was like… it put me in a situation, in a state, where I was like oh my god and I couldn't focus on anything like schoolwork was just not my priority."

(Youth focus group participant)

As shown in **Figure 15.16**, youth who reported no bullying behaviour had a higher rate of being in the high family support group than youth involved in bullying (35% compared to 15%-32%). Students who were victimized reported a higher rate of being in the high family support group (25%-32%) compared to those who bullied others (15%-22%) and those who bullied others and were victimized (15%-22%). Among both boys and girls, those who bullied others and were victimized were the least likely to be in the high family support group.

Figure 15.17 shows that the highest percentage of students reporting being in the high school climate group were uninvolved in bullying. This finding was true of both boys (36%) and girls (38%). The lowest percentage of students to report being in the high school climate group (14% for boys and 13% for girls) was for those who were both victimized and bullied others. Percentages of students who reported a positive school climate were similar between those who were victimized and those who bullied others.

As shown in **Figure 15.18**, for all categories of bullying behaviour, a higher percentage of girls than boys reported being in the high friend support group. The lowest percentage of being in the high friend support group for both boys and girls was reported by those who were victimized and bullied others (16% for boys and 30% for girls). In contrast, the highest percentage of students reporting being in the high friend support group for both boys (24%) and girls (41%) was observed for students uninvolved in bullying.

Figure 15.19 shows that the rate of being in the high community support group was also highest among youth who reported no bullying behaviour relative to youth involved in bullying (34%-37% compared to 17%-34%). For youth involved in bullying, girls who bullied others had the highest rate of being in the high community support group (30%); among boys, those who were victimized had the highest rate of being in the high community support group (34%). Across genders, those who were victimized and bullied others had the lowest rate of being in the high community support group (17%-26%).

Overall, **Figures 15.16** to **15.19** illustrate that relationships matter to bullying. Regardless of the type of positive relationship, youth uninvolved in bullying consistently reported the greatest likelihood of being in the high support group. Thus, for both boys and girls, a higher likelihood of being in the high support group was associated with disconnection from bullying behaviour. Students who both bully others and are victimized may be at the greatest risk, given that this group consistently reported the lowest proportion of being in the high support group.

RELATIONSHIPS AND FIGHTING

We also examined the quality of relationships as they related to fighting. The results below further highlight the significance of different types of relationships to fighting behaviour. The association between quality of relationships and fighting is moderated by gender.

As shown in **Figure 15.20**, students who had no physical fights within the past 12 months also reported the greatest percentage of being in the high family support group. More boys than girls reported being in the high family support group across all frequencies of fighting. For both boys and girls, the percentage of students reporting being in the high family support group decreased as the frequency of physical fights increased, with those reporting three or more fights having the lowest percentage of being in the high family support group. This drop was most striking among girls.

As can be seen in **Figure 15.21**, a slightly higher percentage of boys than girls reported being in the high school climate group at almost every frequency of fighting. For both boys and girls, the highest percentage of students who reported being in the high school climate group was for those who reported being involved in no physical fights in the past 12 months. Furthermore, the percentage of students reporting being in the high school climate group decreases with higher frequency of fighting in the past 12 months. Thus, a student's perception of a positive school climate appears to be negatively associated with frequency of involvement in physical fights.

From **Figure 15.22**, we see that a higher percentage of girls than boys reported being in the high friend support group, at all frequencies of fighting. While the highest percentage of girls reporting being in the high friend support group was associated with those who reported no physical fights in the past 12 months, this result did not hold true for boys. A consistent percentage of boys reporting being in the high friend support group reported physical fights across all frequencies of fighting (approximately 21%-24%).

15.20 Students in the high family support group, by number of physical fights in the past 12 months and gender (%)
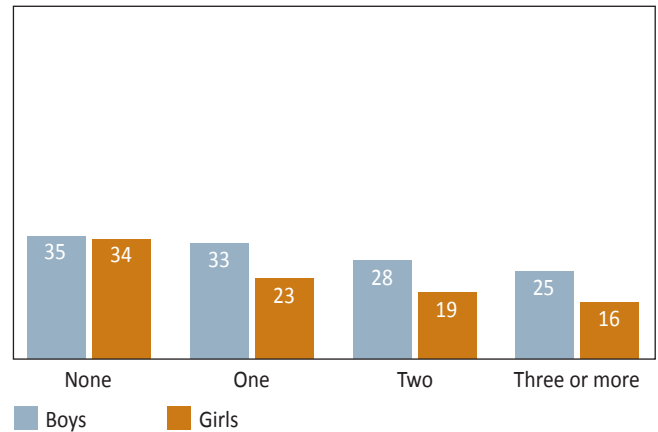
15.21 Students in the high school climate group, by number of physical fights in the past 12 months and gender (%)
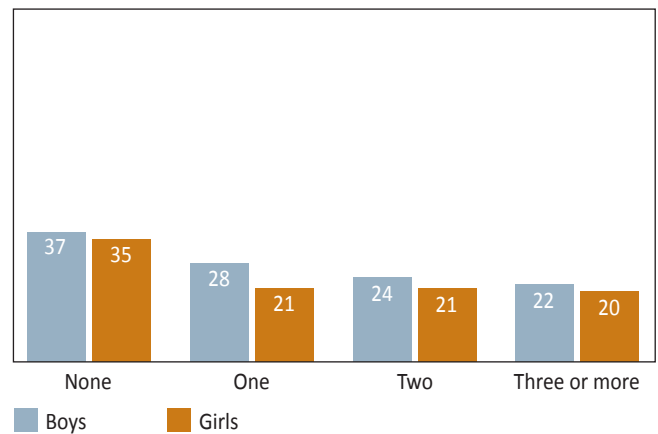
15.22 Students in the high friend support group, by number of physical fights in the past 12 months and gender (%)
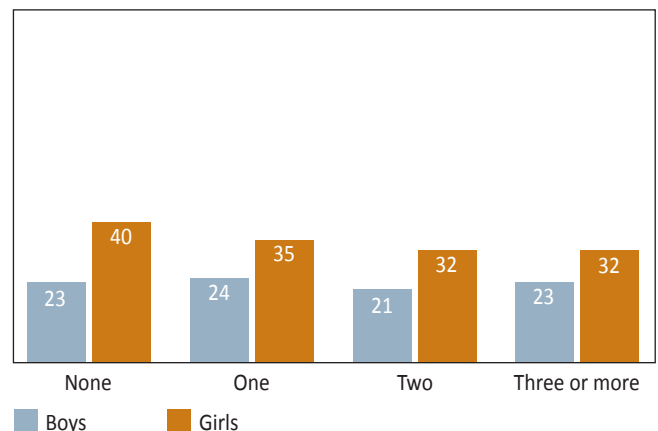
As shown in **Figure 15.23**, a higher percentage of boys reported being in the high community support group than girls across all frequencies of fighting. This result mirrors the trend observed for school and family support. Among boys, students who reported no physical fights had the highest proportion of being in the high community support group (37%), a percentage that decreased as the frequency of physical fights increased. Among girls, students who reported no physical fights had the highest proportion of being in the high community support group (33%). This number generally decreased as the frequency of physical fights increased, with the exception of three or more fights.

15.23 Students in the high community support group, by number of physical fights in the past 12 months and gender (%)

	None	One	Two	Three or more
Boys	37	36	34	30
Girls	33	27	21	24
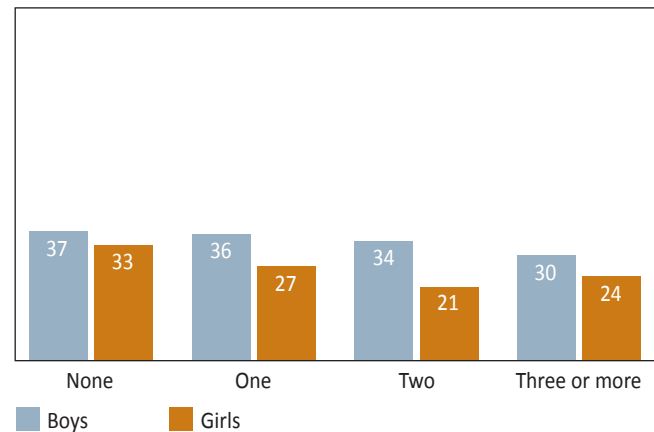
Overall, **Figures 15.20** to **15.23** illustrate that relationships also matter to fighting. Similar to the pattern observed for bullying, prevalence of being in the high support group was highest among those students who reported no physical fights in the past 12 months. For girls, this finding was consistent across types of support. For boys, being in the high friend support group was unique in that it remained stable across all frequencies of fighting. This finding implies a different association for friend support with fighting behaviour among boys compared to girls.

AREAS OF CONCERN

- The prevalence of being victimized has increased since 2006.
- Although both boys and girls experienced victimization by bullying at high levels, girls were particularly at risk. Boys, on the other hand, were at increased risk for bullying others and reporting both bullying others and victimization.
- The prevalence of electronic-based forms of bullying (cyberbullying) was a growing concern, especially in girls.
- The lowest percentage of students reporting being in the high support group was associated with those students who reported both bullying and being victimized
- Despite a general trend towards a decrease in prevalence of fighting over time, and lower prevalence in girls than boys, a substantial percentage of all students still reported having at least one physical fight in the past 12 months.
- Increased fighting behaviour was associated with a decrease in multiple forms of support.

ENCOURAGING FINDINGS

- There has been a significant decrease in the prevalence of youth who reported bullying others since 2006.
- There was a significant decrease in the prevalence of youth who reported experiencing both being victimized and bullying others since 2006.
- The prevalence of physical fighting has continued to decrease since 2006, and is even lower now than it was in 2002.
- Through promoting different types of relationships, it may well be possible to protect youth from being involved in bullying and/or fighting. All types of relationships are important and matter to youth development.

SUMMARY AND IMPLICATIONS

The decrease, since 2006, in the prevalence of bullying and in those categorized as both bullying others and being victimized is particularly good news. Over the last 10 years, there has been increased public awareness, increased implementation of policy at both the federal and provincial levels of government, an increase in the development and availability of evidence-based bullying prevention programs, and a more cohesive societal approach to the problem. Nonetheless, much work needs to be done to decrease the prevalence of victimization and to support youth who are victimized. Prevalence of students reporting victimization was substantially higher than those reporting bullying others (approximately 19% for boys and 25% for girls). It is not surprising that parents are more concerned about their child being bullied than they are with their adolescents' involvement in drug and alcohol use or teenage pregnancy. Given the long-term consequences that are associated with frequent victimization, this prevalence rate is particularly alarming and represents a serious public health problem (Primus, 2014).

Several gender-based differences emerged in the prevalence of various forms of victimization; two of the most striking were cyberbullying and physical fighting. Canadian youth are staying connected online more than ever before (Steeves, 2014). While social media does offer youth certain benefits (e.g., socialization and communication, enhanced learning opportunities, and accessing health information; O'Keefe & Clarke-Pearson, 2011), social media use also comes with the potential for certain risks, including cyberbullying. Although cyberbullying and traditional bullying differ in some aspects, children who experience online victimization are also those who tend to be targets for traditional bullying (Tokunaga, 2010). With the repercussions of cyberbullying being similar to traditional bullying (i.e., depression, anxiety, suicide, physical health problems, and fear), potentially impairing ability to concentrate and succeed academically, (Beran & Li, 2005; Tokunaga, 2010), more research into this aspect of bullying is an essential next step. Cyber victimization has unique and additive effects over off-line victimization, and youth are at even higher risk for negative outcomes if they experience cyber victimization. The prevalence of cyberbullying in various forms is an important consideration for developing bullying intervention initiatives to target the growing issue of electronic-based bullying, especially in girls. There are limited evidence-based interventions for cyberbullying, and much work research is required, given the significance of the social media to youth's relationships.

Future research into the perpetration of electronic-based bullying will play a critical role in tailoring bullying intervention programs to meet the evolving nature of students' social interactions.

It is important to find solutions to support these youth. The results from the role of relationships highlight a key direction for supporting these youth through prevention and intervention. There was a negative association between bullying involvement and perceived levels of support. Bullying is a relationship problem – thus, relationship solutions will reduce bullying involvement among youth. These solutions must therefore take into consideration the growing integration of electronic-based forms of social interaction.
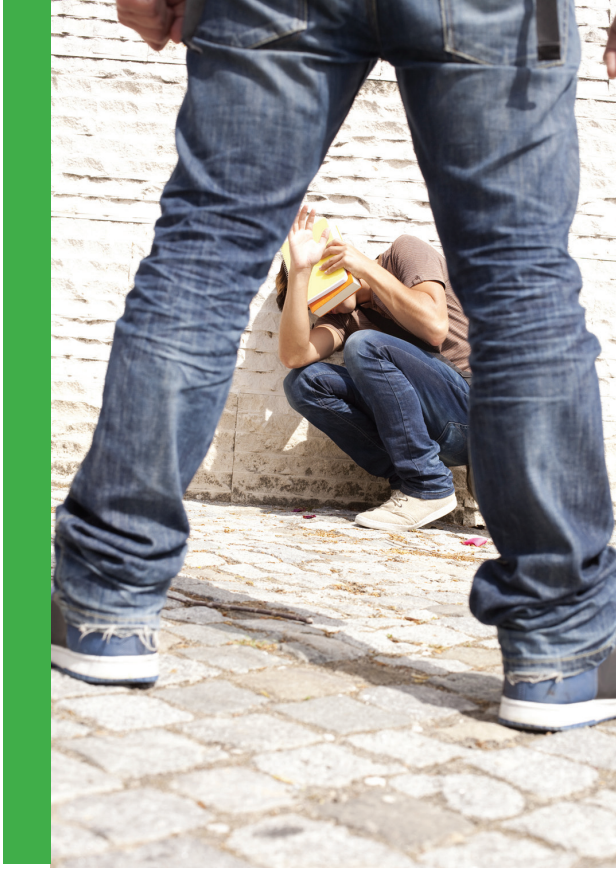
Fighting, another form of aggressive behaviour, also remains a concern. Although the trends from 2002 to present are promising, a large percentage of students still reported being involved in a physical fight. In addition to the physical injuries that can result from fighting, fighting represents a problem behaviour that is related to later delinquency and antisocial behaviour (Centers for Disease Control, 2010). As with other forms of aggression, involvement in physical fights can lead to negative outcomes for the perpetrator, as well as the individual being targeted. Also, like bullying, the quality of relationships protects against fighting behaviour. There was a negative association between perceived levels of support and involvement in physical fighting. The development of positive relationships may be a key factor in the continued reduction of physical fighting among Canadian youth, particularly for girls.

Both bullying and fighting negatively impact youth's ability to develop healthy, positive relationships. As involvement in physical fights and bullying behaviour increased, the percentage of youth reporting a high level of support decreased. Findings such as these highlight the importance of relationships with not only peers, but within the family, community, and school environment. It is crucial that the development of bullying prevention and intervention programs be based on research. To prevent bullying and fighting, providing youth, as well as individuals in their families, schools, and communities with evidence-based knowledge to promote healthy relationships is a promising approach. Adults, such as parents, teachers, and recreation leaders, play a critical role in promoting the development of positive relationships by creating environments that promote positive interactions. As bullying typically occurs within a group of peers, a focus on supporting youth to develop positive relationships among themselves will reduce the prevalence of bullying.

Moving forward, a focus on relationships may be critical to address bullying, victimization, and fighting behaviour. It is not always possible for all relationships to be of high quality. Consequently, it is incumbent on everyone to fill gaps and provide opportunities for youth to develop the skills, understanding, capacities, and attitudes for healthy relationships. Adults are responsible for promoting healthy relationships in the lives of children and youth (National Scientific Council on the Developing Child, 2004) and can create a nurturing relationship by staying attuned to children and their needs, and being appropriately responsive, positive, and supportive. Essentially, promoting child and youth health and well-being will be accomplished when our practices and policies are child-centered and child-friendly, with a focus on optimizing the development and well-being of all children and youth. Effective health promotion, prevention and targeted intervention efforts support the healthy development of children who are disadvantaged and lack healthy relationships. By establishing opportunities for positive relationship experiences, children with negative relationship experiences can develop in a healthy way into adolescence, setting the stage for good health throughout the lifespan.

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John Freeman

Chapter 16

Revisiting Relationships

THE IMPORTANCE OF UNDERSTANDING RELATIONSHIPS

As stated in Chapter 5 of this report, "Adolescent health is intricately linked to the social environment. There is broad consensus that the mechanisms that support or hinder health cannot be fully explained by individual characteristics but rather must be examined in a system of nested social structures" (Marmot et al., 2010). The current report examined how four contexts (home, school, friends, and community) connected to health outcomes. For each chapter from 6 through 15, the health outcome was linked to these contexts. While these individual chapters provide an understanding of the individual outcomes, they do not give a comprehensive view of relationships and health. Such is the purpose of this final chapter.

WHAT IS BEING REPORTED IN THIS CHAPTER?

In this chapter, we synthesize the findings across this report to create a fuller view of the nature of support (family support, friend support, school climate, and community support) and health and health behaviour outcomes. In each case, we examine the extent to which students with a positive outcome were likely to be over-represented by students in the high support group (that is, the percentage of students from the high support group with the positive outcome was significantly higher than the percentage of students from the high support group in the total sample). Additionally, we provide some possible explanations for the results in the concluding section.

SOURCES OF SUPPORT

Table 16.1 shows the relationships between the four types of support and health outcomes. Positive support (green) indicates that students with positive outcomes were more likely to be in the high support group than would be expected (that is, the percentage in the high support group was significantly higher than the percentage in the sample); neutral (yellow) indicates that the percentage of students with positive outcomes in the high support group was about what would be expected based on the percentage of the sample; negative support (red) indicates that students with positive outcomes were less likely to be in the high support group than would be expected (that is, the percentage in the high support group was significantly lower than the percentage in the sample). The letters "NR" in a box means the relationship was not reported in the body of this report but was calculated for this table.

Table 16.1   Relationships between family support, school climate, friend support and community support and selected measures

Legend: ▇ Positive Support   ▇ Neutral   ▇ Negative Support

	Family Support		School Climate		Friend Support		Community Support	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Students who reported they were physically active	NR (positive)	NR (positive)	NR (neutral)	NR (positive)	(positive)	(positive)	NR (positive)	NR (positive)
Students who reported less sedentary screen time	NR (positive)	NR (positive)	NR (positive)	NR (positive)	(neutral)	(neutral)	NR (positive)	NR (positive)
Students who reported receiving recommended nightly sleep	(positive)	(positive)	(positive)	(positive)	NR (neutral)	NR (positive)	NR (positive)	NR (positive)
Students who reported they did not have difficulty getting to sleep	(positive)	(positive)	(positive)	(positive)	NR (positive)	NR (positive)	NR (positive)	NR (positive)
Students who reported they did not go to school tired	(positive)	(positive)	(positive)	(positive)	NR (positive)	NR (positive)	NR (positive)	NR (positive)
Students who reported they never go to bed or school hungry for lack of food in home	(positive)	(positive)	(positive)	(positive)	(neutral)	(positive)	(positive)	(positive)
Students who reported they ate fruit daily	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)
Students who reported they drank non-diet soft drinks less often	(neutral)	(neutral)	(positive)	(positive)	(neutral)	(neutral)	(positive)	(positive)
Students who reported they ate in a fast food restaurant less often	(positive)	(positive)	(positive)	(positive)	(neutral)	(neutral)	(neutral)	(positive)
Students who reported they did not experience weight-related teasing	NR (positive)	NR (positive)	(positive)	(positive)	NR (positive)	NR (positive)	(positive)	(positive)
Students who reported normal weight on BMI	NR (neutral)	NR (neutral)	NR (neutral)	NR (neutral)	NR (neutral)	NR (neutral)	(positive)	(positive)
Students who reported they did not have serious medically treated injury	(neutral)	(neutral)	(positive)	(positive)	(neutral)	(negative)	(neutral)	(neutral)
Students who reported higher Life Satisfaction	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)
Students who reported higher Spiritual Health	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)
Students who reported they had not smoked cigarettes in the last 30 days	(positive)	(positive)	(positive)	(positive)	(neutral)	(positive)	(positive)	(positive)
Students who reported they had not drunk alcohol in the last 30 days	(positive)	(positive)	(positive)	(positive)	(neutral)	(positive)	(positive)	(positive)
Students who reported they had not used cannabis in the last 30 days	(positive)	(positive)	(positive)	(positive)	(neutral)	(positive)	(positive)	(positive)
Students who reported they had not had sexual intercourse	(neutral)	(positive)	(positive)	(positive)	(negative)	(neutral)	(positive)	(positive)
Students who reported that they neither bullied others nor were victimized	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)	(positive)
Students who reported that they were not in a physical fight	(positive)	(positive)	(positive)	(positive)	(neutral)	(positive)	(positive)	(positive)

NR   Relationships not specifically referred to in chapters 2 to 15. Results not appearing in the report may be obtained by contacting the Social Program Evaluation Group at Queen's University.

Family Support

The home represents the primary contact for most individuals in the social world, with early childhood experiences being critical in predicting health (Pungello et al., 2010; Trentacosta et al., 2008). Home influences continue beyond this developmental stage and connect to school graduation rates, teen parenthood, obesity levels, substance use, and even subsequent adult levels of income and employment (Duncan, Ziol-Guest, & Kalil, 2010; Fergus & Zimmerman, 2005; Gable & Lutz, 2004; Pungello et al., 2010). Family support is thus a key developmental asset for adolescents (Elgar, Craig, & Trites, 2012; Gutman & Eccles, 2007).

With the exception of serious injury reports and drinking non-diet soft drinks, where there was no relationship, students with positive outcomes were more likely than would be expected to be in the high family support group. These positive outcomes encompassed greater probability of being physically active, lower levels of sedentary behaviours, less difficulty in getting to sleep, lower likelihood of going to school tired, and higher probability of eating fruits once a day or more. Students who stated that they ate in a fast food restaurant less often or that they never went to school or to bed hungry were over-represented in the high family support group. Higher family support was also connected to achieving recommended sleep, lower levels of weight-related teasing, lower substance use (smoking, alcohol, and cannabis), lower participation in bullying behaviours (neither bullied others nor were victimized), and lower likelihood of being in a fight.

In some instances, the relationship of family support to the health behaviour was somewhat differentiated by gender. While family support distinguished greater versus lower likelihood of having sexual intercourse for girls, it did not do so for boys. Similarly, family support did not differentiate between boys reporting normal weight versus those who were overweight or obese.

Family support was most strongly related to spiritual health and life satisfaction, with students with better spiritual health and greater life satisfaction being much more likely to be in the high family support group than would be expected.

School Climate

In previous research, schools have consistently been linked with more positive developmental outcomes (e.g., Wang & Dishion, 2012), as the school environment can provide a safe and supportive context for adolescent growth (Reddy, Rhodes, & Mulhall, 2003; Sakiz, Pape, & Woolfolk Hoy, 2012; Shin, Daly, & Vera, 2007). A positive school climate is associated with better subjective well-being among adolescents (Bird & Markle, 2012; Van Ryzin, Gravely, & Roseth, 2009), while a negative school climate tends to increase the risk of substance use (Perra et al., 2012; Wang & Dishion, 2012).

The positive association between school climate and health was verified in the current study. School climate related to all the outcomes with which it was evaluated, with the exception of physical activity for boys and BMI for both genders, such that students with positive outcomes were more likely to be in the high school climate group than would be expected. This statement held true for sedentary behaviours, sleep health (getting enough sleep, difficulties in getting to sleep, and going to school tired), healthy eating (frequency of: fruit consumption, soft drink consumption, eating in a fast food restaurant, and going to bed or to school hungry), and serious injury. The relationship with school climate extended to less weight-related teasing, greater life satisfaction and spiritual health, and lower levels of substance use (smoking, alcohol, and cannabis). However, although the connection between positive school climate and positive outcomes was more consistent than that between positive family support and positive health outcomes, the relationship to family support tended to be stronger than the relationship to school climate.

School climate was most strongly related to bullying and fighting and more strongly related to these outcomes than was any of the other three contexts. Students who reported never having been bullied nor bullying others and never having been in a fight during the past year were heavily over-represented in the high school climate group.

Friend Support

Friends represent a crucial contextual factor for adolescents (Allen, Chango, Szwedo, Schad, & Marston, 2012), with adolescents turning increasingly to friends as they move through adolescence and seek greater autonomy from their parents (Dykas, Ziv, & Cassidy, 2008; Kobus, 2003; Marion, Laursen, & Zettergren, 2013; Nickerson & Nagle, 2005; Viner et al., 2012). Research on friend support and health, however, has shown inconsistent patterns, with the value of friend support being differentiated by the measure of health used (e.g., Fujimoto & Valente, 2012; Hahm et al., 2012; Hawton & O'Connor, 2012; Maxwell, 2002; Wouters et al., 2010). A similar finding emerges in this report.

Friend support was unrelated to some negative health behaviours, such as sedentary behaviours, soft drink consumption, and eating in a fast food restaurant. Friend support linked with weight-related teasing, going to bed or to school hungry, substance use (smoking, alcohol, and cannabis), bullying, and fighting in the expected direction for girls but was not related to these outcomes for boys. Girls who did not report having been seriously injured were less likely to be in the high friend support group than would be expected (no relationship between the two for boys). Boys who did not report having had sexual intercourse were less likely to be in the high friend support group than would be expected (no relationship between the two for girls).

Although friend support had mixed relationships with negative health behaviours, it was related in the expected direction to positive health behaviours. Adolescents who reported they were involved in physical activity, that they got the recommended hours of sleep at night, that they did not experience difficulty getting to sleep, that they did not go to school tired, that they ate fruit once a day or more, and that they neither were bullied nor bullied others were more likely to be in the high friend support group than would be expected. Students who indicated they had higher life satisfaction and spiritual health (with the latter particularly marked) were also over-represented in the high friend support group.

Community Support

Like other sources of support, community support is considered a developmental asset (Scales, 1999). Communities can support adolescents' health and health behaviours through providing a physically and psychologically safe environment (Vyncke et al., 2013), communicating health-facilitative messages (Ellen, Mijanovich, & Dillman, 2001), and promoting positive social norms (Leventhal & Brooks-Gunn, 2000). Community support has the potential to influence adolescents' physical health (Ferguson, 2006; Morgan & Haglund, 2009), mental health (Leventhal & Brooks-Gunn, 2000; McPherson et al., 2014), and academic outcomes (Leventhal & Brooks-Gunn, 2000; Rothon, Goodwin, & Stansfeld, 2012).

With the exception of serious injuries, and sedentary behavior, eating in a fast restaurant, and Body Mass Index (BMI) for boys, community support had consistent associations with positive health outcomes, although these relationships tended to be relatively weak compared to family support and school climate. Students who reported higher levels of physical activity, better sleep health (recommended number of hours of sleep, no difficulties getting to sleep, and not going to school tired), healthier eating (higher frequency of fruit consumption and lower frequency of soft drink consumption), and lower likelihood of going to school or to bed hungry were over-represented in the high community support group. Higher self-reported life satisfaction and spiritual health and lower weight-related teasing, bullying behaviours, and fighting were associated with being in the high community support group, as was lower reported substance use (smoking, alcohol, and cannabis) and decreased likelihood of reporting sexual intercourse.

SUMMARY AND IMPLICATIONS

Because the HBSC study is based on cross-sectional data (data collected from the same participants at one time point) rather than longitudinal data (data collected from the same participants across time points), conclusions about direction of causation are based primarily on logical, rather than statistical, analyses. Three possibilities could explain at least some of the findings in this report. First, participants' responses could be influenced by an overall positive attitude toward life that elevates feelings of support and reports of health/health behaviours. This explanation is partly justified by the consistent connection between each source of support and self-perceptions (e.g., life satisfaction and spiritual health). However, it is inconsistent with the small to medium correlations found among the four sources of support (see Appendix A; Cohen, 1992), and it is quite a poor explanation for links between supports and reports of fairly objective data (e.g., physical activity, food consumption frequency, sleep).

A second possibility arises from support being offered by others, especially adults, to adolescents who present in positive ways through their engagement in healthy behaviours and their limited or non-participation in risky behaviours. While this explanation may hold true in some instances, it does not take into account time sequences. A key requirement of causation is that the cause precedes the result, and it is almost impossible to argue that the supports, most especially, family support, the strongest type of support, came before adolescents' behaviours.

Therefore, the best explanation rests with adolescents who are supported being more likely to engage in positive behaviours, less likely to engage in risky behaviours, and more likely to feel good about their lives. Although it cannot be proven with these cross-sectional data, this explanation is most congruent with the largest number of findings.

Of the four types of support, family support is critical. Not only does it show the strongest relationship with a range of health outcomes, it is predictive of the other types of support, suggesting that family support is important for school climate, community support, and friend support. Additionally, family support has particularly large links to emotional well-being, such as spiritual health and life satisfaction. It is therefore important to develop supportive environments for parenting and home life.

School climate had positive effects on adolescent health and health behaviours across a broad range of outcomes but especially for reducing bullying and fighting, where school climate was crucial. Bullying prevention efforts across Canada seem to be having their intended effects, as also shown by the trend data on bullying. Community support had consistent but relatively weak associations with positive health outcomes. The associations also extended over a narrower range of health outcomes than those of family support and school climate, but a broader range than those of friend support. Not-for-profit youth organizations and community recreational facilities have the potential to enhance community support. Additionally, it is easier to intervene at the school and community level than on the family level. Furthermore, for those adolescents whose family support is low, the school and community provide possibilities for positive relationships with adults.

The effect of friend support on healthy outcomes was complicated. Students who engaged in more positive health behaviours and who felt better about themselves and were more spiritually healthy were more likely to be in the high friend support group. However, friend support had mixed and gender-differentiated relationships with negative health behaviours. These findings suggest that the type of friends may well be key in determining the effects of friend support. Friends who engage in risky health behaviours can still provide support but might well increase the likelihood of young people engaging in those same behaviours. Therefore, structured youth programming that increases the opportunities for youth to interact in positive ways should prove beneficial.

Do relationships matter for adolescent health? Students who reported better health outcomes were consistently more likely to report higher levels of family support, school climate, and community support. Students who were more positive about their lives and who reported engaging in more positive health behaviours were more likely to be in the high friend support group. The answer certainly appears to be yes.

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Appendix A

COMPOSITE MEASURES FOR FAMILY SUPPORT, SCHOOL CLIMATE, FRIEND SUPPORT, AND COMMUNITY SUPPORT

Family Support

The items that comprise the Family Support scale are listed in **Table A.1**. These items include having family members who try to help and who offer emotional support when needed, being able to talk to a family member about any problems, and having family members who are willing to help a young person make decisions.

The Cronbach's alpha for the Family Support scale is 0.91.
The percentages in the Low, Medium, and High groups are 34.5%, 33.2% and 32.3% respectively.

Table A.1 Items that comprise the Family Support scale	
My family really tries to help me.	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
I get the emotional help and support I need from my family.	
I can talk about my problems with my family.	
My family is willing to help me make decisions.	

School Climate

The items that comprise the School Climate scale are listed in **Table A.2**. Three of the items focus on students' perceptions about the school environment (the rules in this school are fair; our school is a nice place to be; and I feel I belong at this school). The fourth item asks "How do you feel about school at present?"

The Cronbach's alpha for the School Climate scale is 0.78.
The percentages in the Low, Medium, and High groups are 33.0%, 34.9% and 32.1% respectively.

Table A.2 Items that comprise the School Climate scale	
The rules of this school are fair.	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
Our school is a nice place to be.	
I feel I belong at this school.	
How do you feel about school at present?	1 = I don't like it at all, 2 = I don't like it very much, 3 = I like it a bit, 4 = I like it a lot

Friend Support

The four items that comprise the Friend Support scale are presented in **Table A.3** (my friends really try to help me; I can count on my friends when things go wrong; I have friends with whom I can share my joys and sorrows; and I can talk about my problems with my friends).

The Cronbach's alpha for the Friend Support scale is 0.92.
The percentages in the Low, Medium, and High groups are 34.1%, 34.6%, and 31.3% respectively.

Table A.3 Items that comprise the Friend Support scale	
My friends really try to help me.	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
I can count on my friends when things go wrong.	
I have friends with whom I can share my joys and sorrows.	
I can talk about my problems with my friends.	

Community Support

The five items that comprise the Community Support scale are presented in **Table A.4**. The items asked about the quality of social relationships, neighbourhood safety, and trust.

The Cronbach's alpha for the Community Support scale is 0.78.
The percentages in the Low, Medium, and High groups are 32.4%, 34.9%, and 32.7% respectively.

Table A.4 Items that comprise the Community Support scale	
People say 'hello' and often stop to talk to each other on the street.	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
It is safe for younger children to play outside during the day.	
You can trust people around here.	
There are good places to spend your free time (e.g., recreation centres, parks, shopping centres).	
I could ask for help or a favour from neighbours.	

RELATIONSHIPS AMONG SUPPORT MEASURES

Table A.5 presents the correlations among the four sources of support. Although all the correlations are positive and significant at the .001 level, the correlations between friend support and school support and between friend support and community support can best be described as "small," while the other correlations can be seen as "medium" (Cohen, 1992). The correlations with family support (.376-.405) were stronger than any of the other correlations (.255-.314).

Table A.5 Correlations among Sources of Support	Family Support	School Support	Friend Support	Community Support
Family Support	–			
School Support	.405	–		
Friend Support	.386	.255	–	
Community Support	.376	.314	.279	–

Note: All correlations are significant at the .001 level.

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