

Factors related to adolescents' self-perceived health

- Almost 30% of adolescents failed to rate their health as very good or excellent.
- At ages 15 to 17, girls are less likely than boys to report very good or excellent health.
- Obesity, daily smoking, inactivity and episodic heavy drinking are each associated with less favourable self-perceived health among adolescents.

Abstract

Objectives

This analysis examines self-perceived health among Canadian adolescents aged 12 to 17, and factors associated with ratings of very good/excellent health.

Data source

The data are from cycle 1.1 of the 2000/01 Canadian Community Health Survey (CCHS), conducted by Statistics Canada. The sample consisted of 12,715 adolescents aged 12 to 17.

Analytical techniques

Cross-tabulations were used to estimate the prevalence of various characteristics and health behaviours for the 12-to-14 and 15-to-17 age groups. Multiple logistic regression was used to model associations between very good/excellent self-reported health and selected characteristics.

Main results

In 2000/01, nearly 30% of 12- to 17-year-olds rated their health as poor, fair or good. At ages 15 to 17, girls were less likely than boys to report very good/excellent health and were more likely to have a chronic condition and to have experienced depression in the past year. When other factors were taken into account, the odds of reporting very good/excellent health were significantly lower for teens who were daily smokers, episodic heavy drinkers, physically inactive during leisure time, infrequent consumers of fruit and vegetables, or obese, compared with teens who did not have these characteristics.

Key words

adolescent behaviour, obesity, nutrition, smoking, alcohol consumption, exercise, lifestyle, health status indicators

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Compared with older age groups, mortality and morbidity rates are relatively low among Canadian adolescents, yet a surprisingly large percentage of young people describe their health as no better than “good”.¹⁻³ In 2000/01, close to 30% of 12- to 17-year-olds rated their health as poor, fair or good. Thus, at an age when very good or excellent health might be expected, this was not the case for one out of three adolescents.

Self-perceived health has been shown to be a reliable and valid indicator of physical and mental functioning,⁴⁻⁶ and even to be predictive of mortality.⁷ Considerable research has examined factors associated with self-perceived health, but most studies have focused on adults or the elderly; far less is known about self-perceived health during adolescence.

Based on data from the 2000/01 Canadian Community Health Survey (CCHS), this article describes levels of self-perceived health among younger (12 to 14) and older

Definitions

The Canadian Community Health Survey (CCHS) asked respondents, "In general would you say your health is excellent, very good, good, fair or poor?" For this analysis, adolescents were divided into two groups: those who reported very good or excellent health, and those who did not.

Two *age groups* were defined: 12 to 14, and 15 to 17.

Physical health was measured by the presence of diagnosed *chronic conditions*, excluding allergies. Respondents were asked if they had long-term conditions that had lasted or were expected to last six months or more and that had been diagnosed by a health professional. A checklist of conditions was read to respondents, and the following were considered in this analysis: asthma, fibromyalgia, arthritis/rheumatism, back problems excluding fibromyalgia and arthritis/rheumatism, high blood pressure, migraine, chronic bronchitis or emphysema, diabetes, epilepsy, heart disease, cancer, stomach or intestinal ulcers, stroke, urinary incontinence, bowel disorders, thyroid condition, chronic fatigue syndrome, chemical sensitivities, and any other long-term condition.

The CCHS measures a *major depressive episode (MDE)* with a subset of questions from the *Composite International Diagnostic Interview*.⁸ These questions cover a cluster of symptoms for depressive disorder, which are listed in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)*.⁹ Responses to these questions were scored and transformed into a probability estimate of a diagnosis of major depressive episode. If the estimate was 0.9 or more (that is, 90% certainty of a positive diagnosis), the respondent was classified as having had a depressive episode in the past year.

Household income groups were based on the number of people in the household and total household income from all sources in the 12 months before the 2000/01 interview:

Household income group	People in household	Total household income
Lowest	1 or 2	Less than \$15,000
	3 or 4	Less than \$20,000
	5 or more	Less than \$30,000
Lower-middle	1 or 2	\$15,000 to \$29,999
	3 or 4	\$20,000 to \$39,999
	5 or more	\$30,000 to \$59,999
Upper-middle	1 or 2	\$30,000 to \$59,999
	3 or 4	\$40,000 to \$79,999
	5 or more	\$60,000 to \$79,999
Highest	1 or 2	\$60,000 or more
	3 or more	\$80,000 or more

Household education was based on the highest level of attainment of any household member. Households in which at least one member had a postsecondary diploma or degree were classified as having *postsecondary graduation*.

Respondents were classified as *daily smokers* if they indicated that they smoked cigarettes daily.

Episodic heavy drinking was determined by asking respondents the number of times they had consumed five or more alcoholic drinks on one occasion in the past 12 months. Those who reported doing

so at least once a month over the previous year were classified as *episodic heavy drinkers*.

Leisure time activity level was determined from information about the frequency and duration of respondents' participation in a variety of physical activities during leisure time. For each reported activity, energy expenditure (EE) was calculated by multiplying the number of times a respondent engaged in the activity over a 12-month period (a 3-month recall period multiplied by 4) by the average duration in minutes and the energy cost of the activity (kilocalories expended per kilogram of weight per hour of activity). To calculate daily energy expenditure for the activity, the yearly estimate was divided by 365. This calculation was repeated for all leisure-time activities reported, and the resulting estimates were summed to yield average daily EE. Adolescents whose leisure-time EE was below 1.5 kcal/kg/day were defined as inactive.

The frequency of *fruit and vegetable consumption* was assessed by asking: "Think about all the foods you eat, both meals and snacks, at home and away from home.

- How often do you usually drink fruit juices such as orange, grapefruit or tomato? (for example, once a day, three times a week, twice a month)
- Not counting juice, how often do you usually eat fruit?
- How often do you usually eat green salad?
- How often do you usually eat potatoes, not including french fries, fried potatoes or potato chips?
- How often do you usually eat carrots?
- Not counting carrots, potatoes or salad, how many servings of other vegetables do you usually eat?"

Two categories were established: less than twice daily and at least twice a day.

Body mass index, or BMI, is calculated by dividing weight in kilograms by height in metres squared. Adolescents were classified as *obese* according to the age- and sex-specific BMI cut-offs defined by Cole et al.¹⁰

Age (years)	Obese is BMI greater than or equal to:	
	Boys	Girls
12.0	26.02	26.67
12.5	26.43	27.24
13.0	26.84	27.76
13.5	27.25	28.20
14.0	27.63	28.57
14.5	27.98	28.87
15.0	28.30	29.11
15.5	28.60	29.29
16.0	28.88	29.43
16.5	29.14	29.56
17.0	29.41	29.69
17.5	29.70	29.84
18+	30.00	30.00

Mid-year age points were assigned to all reported years of age (for example, 13.5 for 13-year-olds). Based on these cut-offs, a 13-year-old girl who was 152.2 cm (5 feet) tall would be considered obese if she weighed at least 65.9 kg (145 pounds).

15 to 17) adolescents, and considers variables associated with those assessments—physical and mental health, socio-economic status and lifestyle (see *Definitions and Methods*).

Boys' self-evaluations higher

Boys' self-evaluations of health tend to be more positive than those of girls. This is consistent with the difference between the sexes typically found at older ages.^{1,2,11-14} In 2000/01, 74% of boys aged 12 to 17 reported their health as being very good or excellent, compared with 69% of girls. The overall difference, however, stemmed from a gender gap among older teens. At ages 12 to 14, 73% of both boys and girls reported very good/ excellent health. By ages 15 to 17, the percentage of boys reporting this level of health was similar, but the figure for girls was only 66% (Chart 1, Appendix Table A).

This difference in self-perceived health has been attributed to girls' concerns related to reproduction, to their higher levels of emotional distress, to their greater preoccupation with other health matters, and to their attention to appearance, weight and social relationships,¹⁵⁻¹⁶ all of which intensify as they move from early- to- middle adolescence.

While gender is clearly associated with self-perceived health among older adolescents, many other factors may be involved. Some are well known

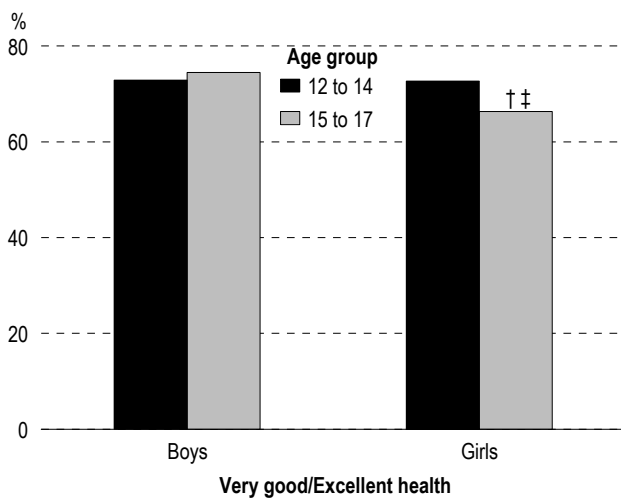
and can be altered only with difficulty or not at all, such as socio-economic status or the presence of a chronic condition. Other factors that could influence teenagers' assessments of their health are subject to modification, such as smoking, alcohol consumption, physical activity, nutrition and weight. However, these variables can be interrelated, a fact that should be taken into account in any attempt to determine which ones make a difference for self-perceived health. As well, the rapid physical and social transitions of adolescence mean that the factors affecting the perceptions of 12- to 14-year-olds may differ from those that are important for 15- to 17-year-olds.

Physical and mental health

To some degree, adolescent boys' and girls' self-perceived health reflects their actual physical and mental state.

In 2000/01, a substantial percentage of teenagers—29%—reported having at least one chronic condition (most commonly, asthma, bronchitis, back pain or migraine). The percentage of boys with a chronic condition did not differ significantly by age: 25% at ages 12 to 14; 27% at ages 15 to 17 (Chart 2, Appendix Table A). By contrast, among girls, the prevalence of chronic conditions was significantly higher at older ages: 36% aged 15 to 17 reported such a condition, compared with 27% aged 12 to 14.

Chart 1
Percentage of adolescents reporting very good/excellent health, by sex and age group, household population, Canada excluding territories, 2000/01



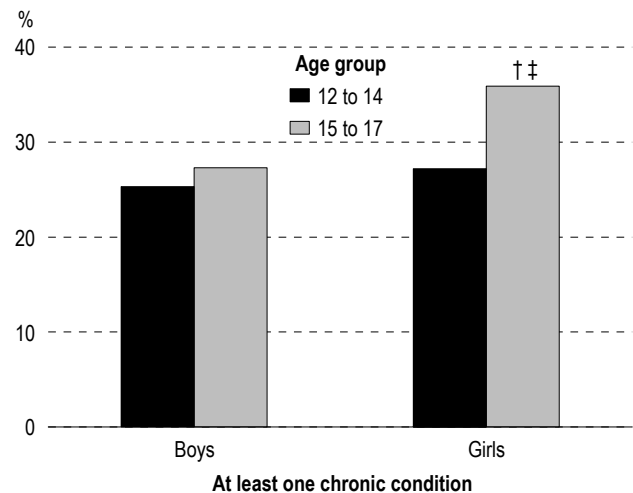
Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Note: Adjusted for multiple comparisons

† Significantly different from ages 12 to 14 of same sex ($p < 0.05$)

‡ Significantly different from boys in same age group ($p < 0.05$)

Chart 2
Percentage of adolescents reporting at least one chronic condition, by sex and age group, household population, Canada excluding territories, 2000/01



Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Note: Adjusted for multiple comparisons

† Significantly different from ages 12 to 14 of same sex ($p < 0.05$)

‡ Significantly different from boys in same age group ($p < 0.05$)

As might be anticipated, even when the sex of the adolescent and other potentially influential factors were

Table 1
Adjusted odds ratios for reporting very good/excellent health, by age group and selected characteristics, household population aged 12 to 17, Canada excluding territories, 2000/01

	12 to 14		15 to 17	
	Adjusted odds ratio	95% confidence interval	Adjusted odds ratio	95% confidence interval
Sex				
Boys	0.92	0.79, 1.07	1.34*	1.13, 1.59
Girls†	1.00	...	1.00	...
Chronic conditions				
At least one	0.54*	0.45, 0.64	0.61*	0.52, 0.72
None†	1.00	...	1.00	...
Major depressive episode in past year				
Yes	0.34*	0.23, 0.51	0.67*	0.51, 0.88
No†	1.00	...	1.00	...
Household income				
Lowest	0.57*	0.43, 0.77	0.57*	0.42, 0.78
Lower-middle	0.74*	0.58, 0.94	0.68*	0.52, 0.87
Upper-middle	0.79*	0.62, 0.99	0.75*	0.60, 0.93
Highest†	1.00	...	1.00	...
Highest education in household				
Postsecondary graduation	1.13	0.93, 1.36	1.28*	1.07, 1.53
Less than postsecondary graduation†	1.00	...	1.00	...
Daily smoker				
Yes	...	...	0.50*	0.40, 0.63
No†	...	...	1.00	...
Episodic heavy drinking				
Yes	...	...	0.75*	0.61, 0.94
No†	...	...	1.00	...
Leisure time				
Inactive	0.75*	0.62, 0.91	0.65*	0.54, 0.79
Active†	1.00	...	1.00	...
Fruit/Vegetable consumption				
Less than twice daily	0.54*	0.41, 0.70	0.62*	0.47, 0.80
At least twice daily†	1.00	...	1.00	...
Obese				
Yes	0.39*	0.27, 0.56	0.43*	0.30, 0.63
No†	1.00	...	1.00	...
Province				
Newfoundland	0.93	0.60, 1.43	1.31	0.90, 1.93
Prince Edward Island	0.73	0.47, 1.13	1.13	0.65, 1.98
Nova Scotia	1.10	0.76, 1.59	1.47*	1.01, 2.14
New Brunswick	0.97	0.66, 1.42	1.11	0.77, 1.61
Québec	0.91	0.71, 1.17	1.34*	1.06, 1.69
Ontario†	1.00	...	1.00	...
Manitoba	0.85	0.58, 1.25	0.97	0.70, 1.34
Saskatchewan	0.69*	0.52, 0.91	0.95	0.72, 1.26
Alberta	0.87	0.67, 1.14	0.84	0.65, 1.10
British Columbia	0.80	0.64, 1.01	0.84	0.67, 1.07

Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

† Reference category

* Significantly different from reference category (p < 0.05)

... Not applicable

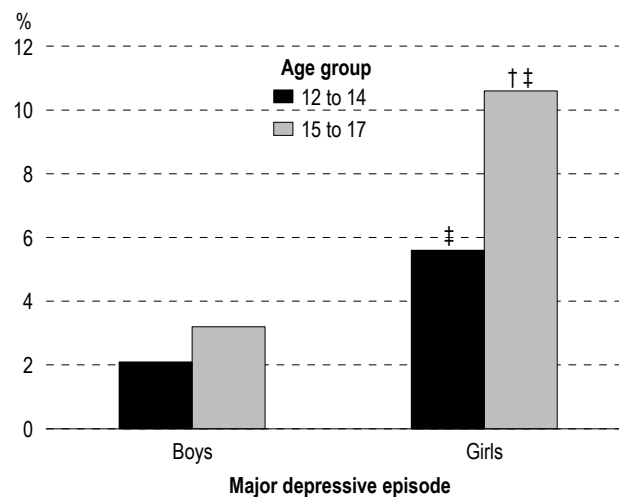
taken into account, having a chronic condition significantly lowered the odds that both younger and older teens would report very good/excellent health (Table 1).

Responses to a general question about health are, of course, based on more than actual physical condition. For example, earlier research has shown that, compared with severely depressed adolescents, those with lower levels of depression tend to report better health.^{2,13,14,17} As well, adolescents are more vulnerable to depression than are older people,¹⁷⁻²⁰ yet they are the least likely of any age group to get professional help.²¹

In 2000/01, close to 6% of girls aged 12 to 14 had suffered a major depressive episode (MDE) in the previous year, well above the 2% of boys in this age group who had been depressed (Chart 3, Appendix Table A). At ages 15 to 17, the proportion of girls who had had an MDE was a considerably higher 11%. By contrast, boys aged 15 to 17 were no more likely than those aged 12 to 14 to have been depressed.

For both younger and older age groups, depression was significantly associated with reduced odds that teenagers would report very good/excellent health, even accounting for other factors such as chronic conditions, socio-economic status, obesity, and health behaviours.

Chart 3
Percentage of adolescents experiencing major depressive episode in past year, by sex and age group, household population, Canada excluding territories, 2000/01



Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Note: Adjusted for multiple comparisons

† Significantly different from ages 12 to 14 of same sex (p < 0.05)

‡ Significantly different from boys in same age group (p < 0.05)

Socio-economic status

Considerable research has demonstrated links between socio-economic status and health.²²⁻³¹ Although most studies have focussed on adults, higher family income has been found to be positively associated with better self-evaluations of health among adolescents,¹⁴ and physical problems have been tied to adolescents' worry about family finances.¹¹

In 2000/01, 78% of adolescents in the highest income households reported very good/excellent health, compared with 64% in the lowest (data not shown). This difference prevailed among both younger and older adolescents (Table 2). The fact that at least one household member held postsecondary credentials also seemed to make a difference. A significantly higher percentage of adolescents in households where this was the case rated their health as very good/excellent, compared with those in households where no one had completed postsecondary schooling.

Even when factors such as sex, age, chronic conditions and health behaviours were taken into account, living in a less affluent household was associated with lower odds that younger and older adolescents would report very good/excellent health. A higher level of household education raised the odds of reporting very good/excellent health among older teens (Table 1).

Table 2

Percentage of adolescents reporting very good/excellent health, by age group, household income and highest level of education in household, household population, Canada excluding territories, 2000/01

	Age group	
	12 to 14	15 to 17
Total†	72.8	70.4
Household income		
Lowest	66.6*	62.0*
Lower-middle	71.9*	67.9*
Upper-middle	72.9	71.1*
Highest‡	78.2	77.8
Highest education in household		
Postsecondary graduation	74.2*	73.4*
Less than postsecondary graduation‡	69.8	64.4

Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

† Includes missing

‡ Reference category

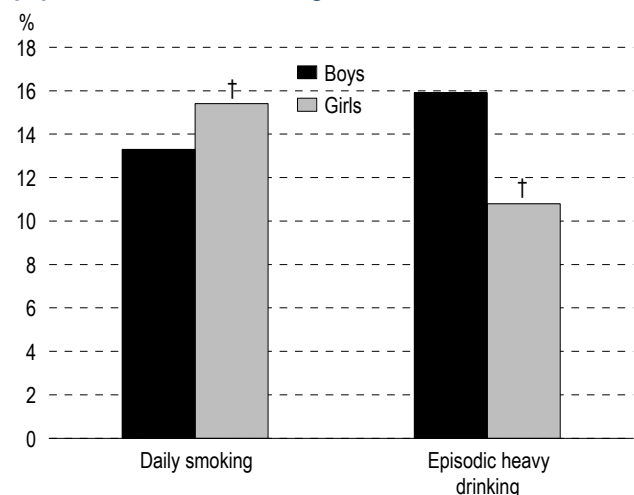
* Significantly different from reference category ($p < 0.05$)

Smoking and drinking

Consistent evidence links smoking with lower self-ratings of health in adolescence, but the findings for alcohol use have been mixed.^{12,14,32,33} Nonetheless,

Chart 4

Percentage of adolescents aged 15 to 17 reporting daily smoking and episodic heavy drinking, by sex, household population, Canada excluding territories, 2000/01



Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

† Significantly different from boys ($p < 0.05$)

even when demographic, socio-economic and other lifestyle factors were taken into account, 15- to 17-year-olds who were daily smokers or episodic heavy drinkers (five or more drinks on one occasion at least once a month) had lower odds of reporting very good/excellent health, compared with those who did not engage in these practices (Table 1). (The small sample of 12- to 14-year-olds who were daily smokers or episodic heavy drinkers precluded analysis for this group.)

The results of other studies suggest that, at some level, adolescents may be aware of the health impact of smoking,^{1,34} and recognize the potentially harmful effects of excessive alcohol consumption. Nonetheless, 14% of 15- to 17-year-olds were daily smokers; the percentage of girls who smoked (15%) was slightly yet significantly higher than the percentage of boys (13%) (Chart 4, Appendix Table A). Overall, almost as many adolescents of these ages—13%—reported episodic heavy drinking, though in this case, the practice was significantly more common among boys (16%) than girls (11%).

These relatively high rates of smoking and heavy drinking seem to confirm the widespread perception that, despite some recognition of the health risks, adolescents have a reduced sense of personal vulnerability to the consequences of risky behaviour,^{16,35} or are willing to disregard them.

Physical activity, nutrition and obesity

Beyond smoking and drinking, other aspects of lifestyle—notably, physical activity, nutrition and

Methods

Data sources

The data in this analysis are from cycle 1.1 of Statistics Canada's biennial Canadian Community Health Survey (CCHS). Data collection for cycle 1.1 began in September 2000 and continued over 14 months. The sample used for this analysis covers the household population aged 12 to 17 in all provinces, except persons living on Indian reserves, on Canadian Forces bases, and in some remote regions.

The area frame designed for the Labour Force Survey is the primary sampling frame of the CCHS. A multistage stratified cluster design was used to sample dwellings within the area frame. A list of the dwellings was prepared, and a sample was selected from the list. The majority (83%) of the sampled households came from the area frame, and face-to-face interviews were held with respondents randomly selected from households in this frame. In some areas, a random digit dialling technique and/or a list frame of telephone numbers was used to conduct telephone interviews with the remaining 17% of the targeted sample.

In about 82% of the households selected from the area frame, one person was randomly selected; two people were randomly chosen in the remaining households. For households selected from the telephone frames, one person was randomly chosen. The response rate for the combined frame was 84.7%. A total of 6.4% of the interviews were obtained by proxy. More detailed descriptions of the CCHS design, sample and interview procedures can be found in a published report.³⁶

Out of the 12,847 CCHS respondents in the 12-to-17 age range, 132 (1.0%) were excluded from this analysis because data for at least one of the following were missing: self-reported health, smoking, drinking, and chronic conditions (Appendix Table B).

Analytical techniques

Cross-tabulations were used to estimate the prevalence of various characteristics and health behaviours for the 12-to-14 and 15-to-17 age groups. Proportions were estimated using the CCHS sample weights so that the findings are representative of the Canadian population for each sex/age group combination. Multiple logistic regression was used to model associations between very good/excellent self-reported health and adolescents' characteristics. Separate analyses were performed for younger and older adolescents.

Based on a review of the literature and availability from the CCHS, the following independent variables were included in the model: the presence of at least one chronic condition, major depressive episode in past year, household income, highest education in household, daily smoking, episodic heavy drinking, physical activity

during leisure time, daily fruit and vegetable consumption, obesity, and province of residence. To adjust for potential bias due to missing data and to ensure an adequate sample size, the regression models included missing categories for depression, household income, leisure-time activity, fruit and vegetable consumption and obesity, but their odds ratios are not shown.

Because of the small number of cases, variables for daily smoking and episodic heavy drinking were not included in the analyses for 12- to 14-year-olds.

To account for survey design effects, standard errors and coefficients of variation were estimated with the bootstrap method.³⁷⁻³⁹ Results with a p-value of less than 0.05 were considered significant. Multiple comparisons were used to test for statistical differences between estimated rates.

Limitations

The data used for this analysis were self- or proxy-reported; the information was not verified by direct measures or independent sources and may therefore be inaccurate. For example, reports of chronic conditions were not validated against clinical records, nor was it possible to confirm if adolescents who reported engaging in specific activities actually did so, or with the frequency and duration claimed. Recall errors could also have affected reported levels for variables such as physical activity and fruit and vegetable consumption. As well, it is possible that respondents may have provided what they considered socially desirable answers to questions on issues such as physical activity, smoking, drinking and weight.

Data from the CCHS are cross-sectional and refer to one point in time. As a result, while relationships between variables can be described, causality and temporal associations cannot be inferred. Similarly, no conclusions can be made about apparent changes in relationships between risk factors and self-perceived health as adolescents move from the younger to the older age group.

The nutrition questions in the CCHS were developed for the Behavioral Risk Factor Surveillance System by the United States Centers for Disease Control,⁴⁰ and are limited to fruit and vegetable consumption. While this information may be indicative, it does not necessarily represent an adolescent's eating habits. As well, the questions ask the number of times fruits or vegetables were consumed, but not the amounts. Because portion sizes were not specified, compliance with daily intake recommendations, such as those in the Canada Food Guide,⁴¹ cannot be assessed.

Not all factors that might be associated with self-perceived health are available from the CCHS, so they could not be considered in the analysis; for example, family relationships, academic achievement, self-esteem, and peer group influences.

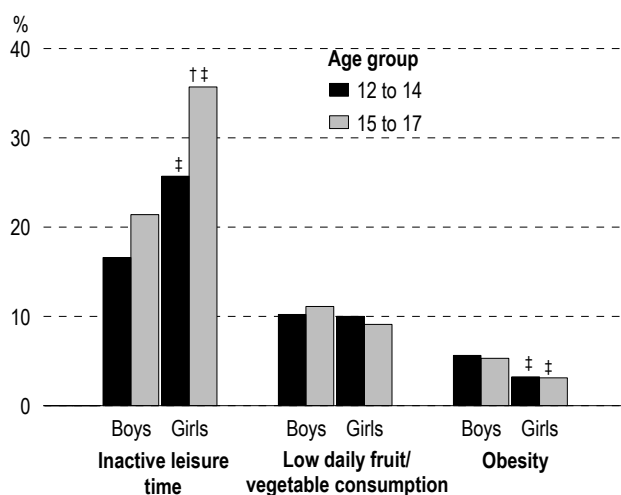
obesity—are related to adolescents' self-perceived health.

Earlier studies^{42,43} have linked physical inactivity in adolescence with lower levels of self-perceived health. Conversely, regular participation in sports and exercise has been found to be positively related to better self-reported health,^{2,13} a relationship that may reflect a sense of competence,¹³ as much as physical functioning. Similarly, results of the analysis of CCHS data indicate that even when the effects of other potentially influential variables were controlled, inactivity was associated with lower odds that younger and older adolescents would report very good or excellent health (Table 1).

Nonetheless, a substantial proportion of Canadian adolescents spend their leisure time in sedentary pursuits. Inactivity tends to be more common among girls than boys, and increases with age among both sexes. In 2000/01, 17% of boys and 26% girls aged 12 to 14 reported a level of energy expenditure during leisure time that placed them in the inactive category. At ages 15 to 17, the figures were higher: 21% of boys and 36% of girls were inactive (Chart 5, Appendix Table A).

Whether they were younger or older, boys or girls, around 10% of adolescents reported eating fruit or vegetables less than twice a day. Teens with this level of fruit and vegetable consumption had significantly lower odds of reporting very good/

Chart 5
Percentage of adolescents reporting inactive leisure time, low daily fruit/vegetable consumption and obesity, by sex and age group, household population, Canada excluding territories, 2000/01



Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Note: Adjusted for multiple comparisons

† Significantly different from ages 12 to 14 of same sex ($p < 0.05$)

‡ Significantly different from boys in same age group ($p < 0.05$)

excellent health, compared with teens reporting higher levels of consumption. These results persisted even when other variables that might be related were taken into account, including smoking and chronic conditions.

In 2000/01, 1 in 25 Canadian teenagers had a body mass index that placed them in the obese range. Although girls were less likely to be physically active, a higher percentage of boys were obese: 5% versus 3%. And as might be expected, being obese significantly reduced adolescents' odds of reporting very good/excellent health.

Provincial variations

For the total population, levels of self-perceived health, along with other indicators such as life expectancy, disease prevalence and lifestyle risk factors,^{1,44} vary among the provinces. Therefore, it is no surprise that in 2000/01, the proportion of adolescents reporting very good/excellent health also differed by province: from 66% in Saskatchewan to 74% in Nova Scotia (data not shown).

However, when adjustments were made to account for chronic conditions, depression, socio-economic status and lifestyle, few significant provincial differences in adolescent self-reported health emerged (Table 1). For 12- to 14-year-olds, only those in Saskatchewan had significantly lower odds of reporting very good/excellent health, compared with those in the reference province, Ontario. At ages 15 to 17, the only provincial differences were in Nova Scotia and Québec, where the odds of reporting very good/excellent health were significantly higher.

Concluding remarks

If there is any time in an individual's life when he or she might be expected to be in the best of health, it is during youth. And according to the 2000/01 Canadian Community Health Survey, a majority of Canadian adolescents rated their health as "very good" or "excellent." Yet close to a third considered their health to be no better than "good."

No single factor accounts for an adolescent's self-perceived health. Not surprisingly, the presence of chronic conditions and depression reduced the odds of reporting very good/excellent health. And as is true for adults,⁶ adolescents' self-perceived health is linked to socio-economic factors. Lower levels of income and educational attainment in a household were associated with low odds of reporting very good/excellent health, particularly for older adolescents. In addition, smoking, episodic heavy drinking, inactivity, nutrition and obesity were each independently associated with lower ratings of health.

Lower ratings were relatively common among older adolescent girls, a striking contrast to boys whose level of self-perceived health was stable from age 12 through 17. In the older age group, girls were more likely than boys to report a chronic condition, and whether they were aged 12 to 14 or 15 to 17, girls were more likely than boys to have experienced a recent episode of depression.

Lifestyle may also play a role in this difference. Girls were more likely than boys to be sedentary in their leisure time. And while both sexes tended to become less active as they got older, by ages 15 to 17, well over a third of girls, compared with just over a fifth of boys, were inactive. Also, at these ages, a significantly higher percentage of girls than boys were daily

smokers. On the other hand, obesity and episodic heavy drinking were more common among boys.

Some of the factors associated with adolescent health—for instance, smoking, drinking, inactivity and nutrition—are already the focus of separate wide-ranging programs designed to promote healthy living. Others require concerted action that addresses underlying socio-economic conditions.

The risk factors examined in this analysis not only have an impact on self-perceived health in adolescence, but also have long-term implications for health in adulthood. An understanding of these factors can benefit both the individuals concerned and the health care system that will eventually have to deal with the consequences. ■

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Appendix

Table A

Percentage of adolescents reporting selected health characteristics and risk factors, by sex and age group, household population, Canada excluding territories, 2000/01

	Both sexes			Boys			Girls		
	Total	12 to 14	15 to 17	Total	12 to 14	15 to 17	Total	12 to 14	15 to 17
	%			%			%		
Very good/Excellent health	71.5	72.8	70.4 [†]	73.7	72.9	74.5	69.3 [‡]	72.7	66.3 ^{‡‡}
At least one chronic condition	29.0	26.2	31.6 [†]	26.3	25.3	27.3	31.9 [‡]	27.2	35.9 ^{‡‡}
Major depressive episode in past year	5.4	3.8	6.9 [†]	2.7	2.1	3.2	8.3 [‡]	5.6 [‡]	10.6 ^{‡‡}
Daily smoker	...	...	14.3	...	...	13.3	...	...	15.4 [‡]
Episodic heavy drinking	...	...	13.3	...	...	15.9	...	...	10.8 [‡]
Inactive leisure time	24.9	21.0	28.5 [†]	19.1	16.6	21.4	31.1 [‡]	25.7 [‡]	35.7 ^{‡‡}
Consume fruit/vegetables less than twice daily	10.1	10.1	10.1	10.6	10.2	11.1	9.5	10.0	9.1
Obese	4.2	4.4	4.1	5.4	5.6	5.3	3.0 [‡]	3.1 [‡]	2.9 [‡]

Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Notes: Adjusted for multiple comparisons. Because of small numbers, percentages of daily smokers and episodic heavy drinkers were not calculated for ages 12 to 14.

[†] Significantly different from ages 12 to 14 of same sex ($p < 0.05$)

[‡] Significantly different from boys in same age group ($p < 0.05$)

... Not applicable

Table B
Distribution of selected characteristics, by age group, household population aged 12 to 17, Canada excluding territories, 2000/01

	12 to 14			15 to 17		
	Sample size	Estimated population		Sample size	Estimated population	
		'000	%		'000	%
Total	6,247	1,140	100.0	6,468	1,261	100.0
Self-reported health						
Very good/Excellent	4,491	830	72.7	4,480	888	70.4
Poor/Fair/Good	1,756	310	27.2	1,988	373	29.6
Sex						
Boys	3,178	595	52.2	3,225	633	50.2
Girls	3,069	545	47.8	3,243	629	49.9
Chronic conditions						
At least one	1,726	299	26.2	2,086	398	31.6
None	4,521	841	73.8	4,382	864	68.5
Major depressive episode in past year						
Yes	231	43	3.8	522	87	6.9
No	5,926	1,085	95.2	5,842	1,154	91.5
Missing	90	12	1.0	104	21	1.7
Household income						
Lowest	742	139	12.2	626	123	9.8
Lower-middle	1,374	248	21.8	1,277	257	20.4
Upper-middle	1,871	320	28.1	1,980	358	28.4
Highest	1,488	285	25.0	1,501	308	24.4
Missing	772	148	13.0	1,084	216	17.1
Highest education in household						
Postsecondary graduation	4,252	778	68.2	4,312	842	66.8
Less than postsecondary graduation	1,995	362	31.8	2,156	420	33.3
Daily smoker						
Yes	...	...	...	1,019	181	14.4
No	...	...	...	5,449	1,081	85.7
Episodic heavy drinking						
Yes	...	...	...	1,041	168	13.3
No	...	...	...	5,427	1,093	86.7
Leisure time						
Inactive	1,276	239	21.0	1,767	360	28.5
Active	4,065	721	63.2	4,051	762	60.4
Missing	906	180	15.8	650	140	11.1
Fruit/Vegetable consumption						
Less than twice daily	577	115	10.1	702	127	10.1
At least twice daily	5,561	1,006	88.2	5,673	1,119	88.7
Missing	109	19	1.7	93	16	1.3
Obese						
Yes	296	50	4.4	319	52	4.1
No	5,665	1,037	91.0	5,992	1,181	93.7
Missing	286	53	4.6	157	29	2.3
Province						
Newfoundland	213	21	1.8	258	25	2.0
Prince Edward Island	145	6	0.5	128	6	0.5
Nova Scotia	305	38	3.3	273	37	2.9
New Brunswick	232	27	2.4	279	32	2.5
Québec	1,018	253	22.2	1,075	280	22.2
Ontario	1,878	439	38.5	1,879	492	39.0
Manitoba	421	40	3.5	472	49	3.9
Saskatchewan	404	42	3.7	448	46	3.6
Alberta	781	128	11.2	779	133	10.5
British Columbia	850	145	12.7	877	161	12.8

Data source: 2000/01 Canadian Community Health Survey, cycle 1.1

Note: Because of rounding, detail may not add to totals.

... Not applicable