

Exercise and Leisure Activities

Much progress has been made in recent years on the promotion of physical activity among adults, and there is general agreement on the amount and type of activity that is beneficial for health. The evidence base for the effect of physical activity on young people, however, is not as strong as that for adults, and there is still debate about what is most appropriate. Nevertheless, it is clear that adolescence is the time when an active lifestyle is established that can carry over into adulthood.

Regular physical activity can have multiple outcomes in young people for their current and future health and well-being. It has a favourable effect on sleep quality and can also enhance self-esteem, both of which are factors in youth's coping mechanisms. The potential social and psychological benefits of physical activity for some young people can be limited, however, by an overemphasis on competitive performance. If appropriately structured, physical activity may enhance social and moral development. There are small but significant benefits of increased physical activity in reducing body fat. Physical activity also has a small but beneficial association with serum lipid and lipoprotein concentrations and blood pressure. In addition, weight-bearing and strength-enhancing physical activity can promote skeletal health in young people. However, physical activity can also increase the risk of musculo-skeletal injuries.

When the physical activity levels of youth from 24 countries were compared in the 1994 HBSC survey, Canadian youth ranked in the upper third of the countries. Gender differences were pronounced in all participating countries with far more boys than girls being regularly active. Ironically, in 1994, Canada ranked above Sweden, the country often referred to as the model of appropriate physical activity.

Figure 8.1

Factors associated with exercise

Students who exercise are more likely to	Grade 6		Grade 8		Grade 10	
	M	F	M	F	M	F
Be well integrated socially	○	○	○	○	○	○
Feel healthy	○	—	○	○	●	○
Have a good diet	○	○	—	○	○	○
Feel confident	—	○	—	○	○	—
Spend fewer hours watching television	—	—	—	○	—	○

Correlation coefficient: ○ .15 to .24 ○ .25 to .34 ● .35 to .44 ● .45+

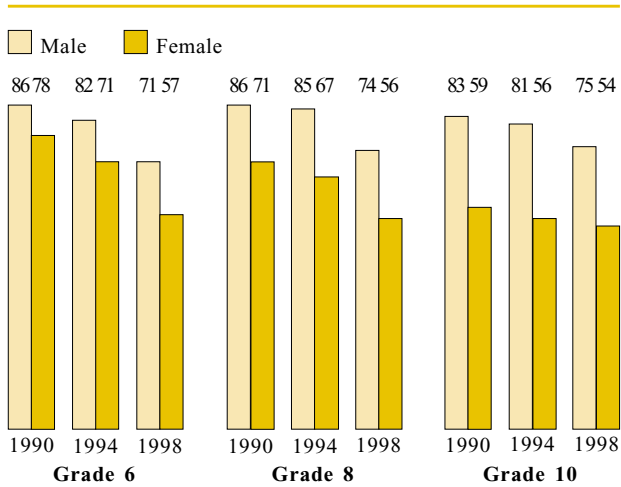
A related issue is the proportion of time youth spend in more passive leisure activities such as watching television and videos, and playing computer games. In this chapter physical activity frequency and duration and time spent in other leisure activities are examined.

Frequency of Physical Activity

Daily physical activity is believed to be the ideal conditioning strategy as it builds cardio-vascular endurance, reduces the risk of chronic diseases, such as hypertension and osteoporosis, and may become habitual (Jonas, 1995). Figure 8.1 indicates that the more our respondents exercised the greater the likelihood they would feel healthy, have a healthy diet, and have positive peer relationships. Girls who exercised regularly were less likely to spend an excessive amount of time watching television.

Figure 8.2

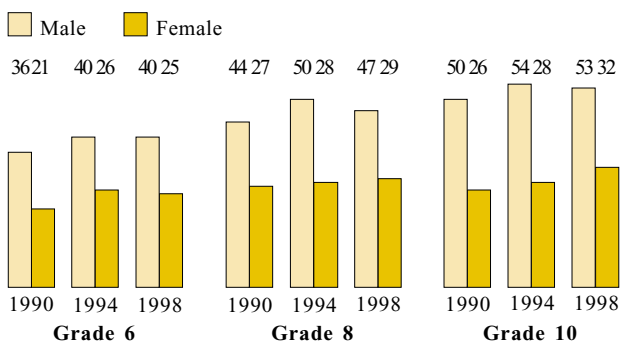
Students who exercised two or more times a week outside school hours (%)



Students were asked how often they exercise in their free time, outside of school hours, until they are out of breath or they sweat (Figure 8.2). One-half to three-quarters of the girls and three-quarters or more of the boys exercised twice or more a week. Boys in all three age groups and across all three years were more likely than girls to exercise regularly; the gender differences varied from 8 to 25 percent.

Figure 8.3

Students who exercised four or more hours a week outside school hours (%)



In all three grade groups, smaller proportions of males exercised twice or more a week in the 1998 group than in the other two years. This was also true for the Grade 6 and 8 girls. Thus, there was a consistent decline in exercise frequency from 1990 to 1998. Overall, the frequency of exercise in youth has clearly decreased over the three survey administrations. There was also a clear decrease in exercise frequency with age.

Duration of Physical Activity

In order for physical activity to have the maximum effect on health, it must be of sufficient duration to improve or maintain cardio-vascular fitness, flexibility and coordination skills (Curtis and Russell, 1997). Students were asked how many hours a week they exercise in their free time, outside of school hours, until they are out of breath or they perspire (Figures 8.3 and 8.4).

Smaller proportions of students exercised for longer periods of time than exercised frequently. Approximately one-quarter of girls and one-half of boys exercised to a level where a training effect could occur. Boys in all three age groups and across all three years were more likely than girls to exercise four or more hours a week with the differences between males and females varying from 14 to 26 percent.

Boys in each of the three grade groups surveyed in 1990 were less likely to exercise four or more hours a week than those surveyed in the other two years. This pattern also held for the Grade 6 girls. For the Grade 8 girls there were no differences across survey years and for the Grade 10 girls there was an increase in exercise of four or more hours a week from 1990 to 1998.

In 1998, the proportion of boys exercising four or more hours a week generally increased across the grade levels from a low of 40 percent in Grade 6 to a high of 52 percent in Grade 10 (Figure 8.4). This was also true of the girls, but with a lesser overall increase and with a leveling off in Grades 7, 8 and 9.

These data demonstrate that, from 1990 to 1998, slightly more students engaged in intensive physical activity of more than four hours per week, but that significantly fewer students frequently exercise. Thus, students were still getting the same or more exercise, but less frequently. One explanation for this finding may be that students are moving to more structured exercise activities, for example, they may be joining teams or clubs or going on supervised outings. Students may be moving away from casual exercise with friends after school, such as riding bikes, playing street hockey and skipping.

Figure 8.4

Students who exercised four or more hours a week outside school hours, 1998 (%)

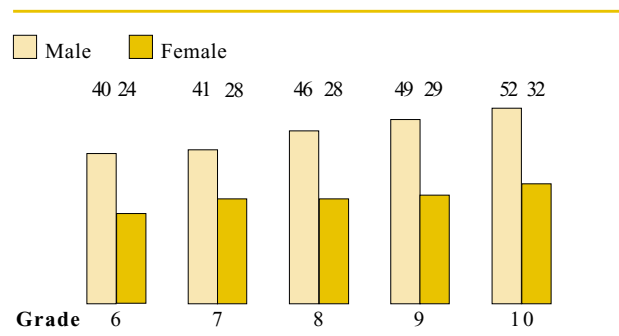
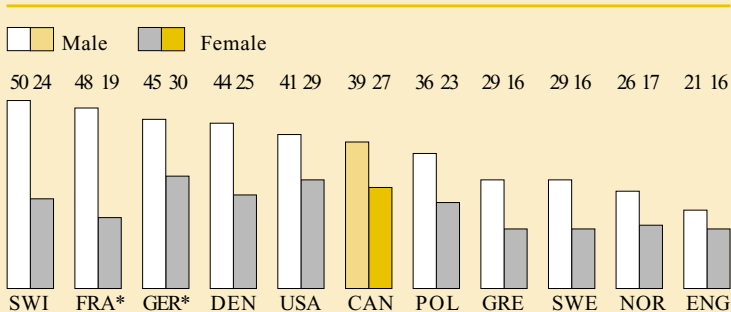


Figure 8.5

Eleven year olds who exercised four or more hours a week outside school hours by country, 1998 (%)



*France and Germany are represented by regions: see Chapter 1 for details.

On the measure of exercise duration, Canadian 11-year-old males are in the mid-range, ahead of Scandinavian countries. For girls, Canada ranks below only Germany and the United States.

Figure 8.6

Students who watched television four or more hours a day (%)

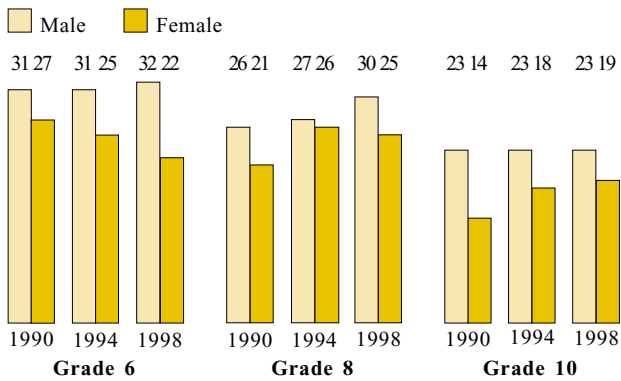
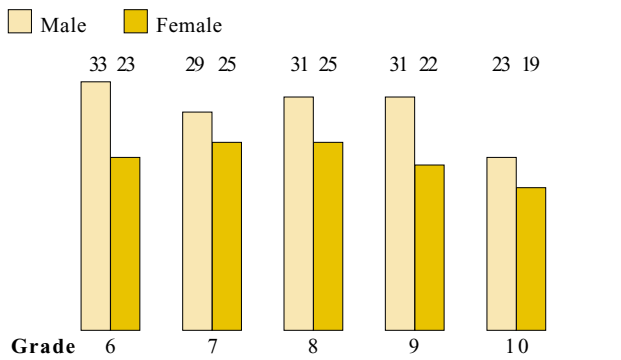


Figure 8.7

Students who watched television four or more hours a day, 1998 (%)



Structured activities occur less often due to the organization and scheduling involved. However, structured physical activity may last just as long as, or even longer than, physical activity around the home, because of the investment of all concerned in setting up and participating in structured activities. This general explanation may also explain the trend towards greater physical activity duration in older students who, if they are exercising, may be more likely to be involved in structured physical activities such as competitive sports.

Watching Television and Videos

Almost all students watch some television, but it is probably unhealthy to watch four or more hours a day because it may be at the expense of more beneficial physical or creative activities. The students were asked how much, on average, they watched television each day. Figures 8.6 and 8.7 present the proportions of students who watched television four or more hours a day. Generally, 20 to 30 percent of students regularly watched a significant amount of television, with more males doing so. While for Grade 6 females, there was a slight decrease in time spent watching TV, the levels of TV watching among Grade 6 males were consistent across the three survey years with just under one-third watching four or more hours a day. Slightly more Grade 8 males were likely to watch television this often in 1998 than in the other two years, while fewer Grade 8 females watched television to this degree in 1990 than in the other two years. The Grade 10 males were similar across the three survey years and there was a slight increase in the proportion of Grade 10 females who watched TV four or more hours a day from 1990 to 1998.

Among the Grade 6 students, males watched more television than females with the gap increasing over time. In 1990 and 1998, Grade 8 males were more likely to watch four or more hours of television daily,

while there were no gender differences in 1994. More Grade 10 males were likely to watch television than females, but this gap decreased over time.

The proportions of males watching television four or more hours a day was quite similar across Grades 6 to 9, with a drop-off in Grade 10. This was also true of the females, but with a smaller drop at Grade 10, which may reflect increasing school workloads, employment at part-time jobs and other social interests.

Overall, there have been few variations in television watching over the three surveys. In 1998, slightly fewer students in upper grades, and slightly more Grade 10 males watched television four or more hours a day.

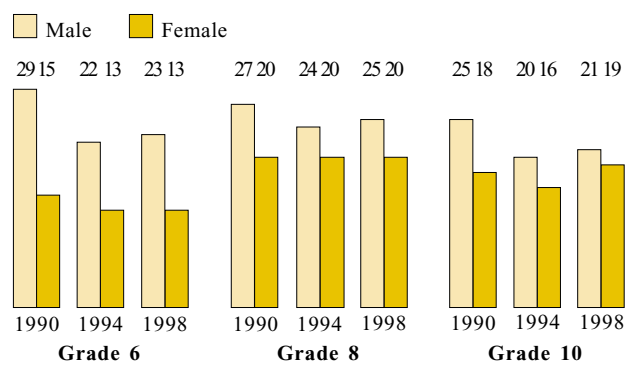
The patterns for watching videos were similar, although the proportions of students were somewhat less (13 to 29 percent). In all three grade groups across the three survey years, proportionally more males than females indicated they watched videos four or more hours a week (Figure 8.8).

Comparing across grades using the 1998 survey data, video watching peaked for the females in Grade 8 and for the males in Grade 9, though differences from grade to grade were small.

Video watching has decreased slightly overall since 1990, especially for males, and may be linked with an increase in other types of leisure activities such as playing computer games and using the Internet.

Figure 8.8

Students who watched videos four or more hours a week (%)



Computer Games

In contrast to watching television and videos, playing computer games was much more prevalent among males than females for all grades and years (Figures 8.9 and 8.10). For Grade 6 students, there was a slight decline in playing computer games from 1990 to 1994

Figure 8.9

Students who played computer games four or more hours a week (%)

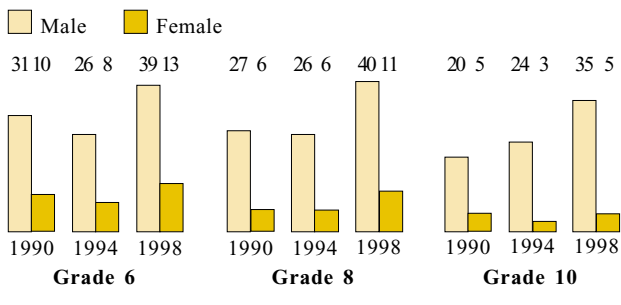
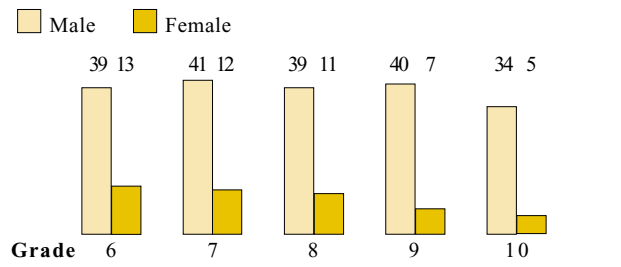


Figure 8.10

Students who played computer games four or more hours a week, 1998 (%)



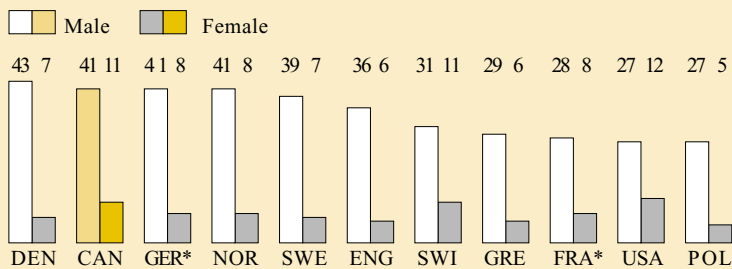
and a marked increase from 1994 to 1998. For the Grade 8 students, there were similar proportions playing computer games four or more times a week in the first two survey years and again a higher proportion in 1998. For the Grade 10 students, the proportion of females, which was low, was similar across the three years while the proportion of males playing computer games increased steadily.

In all grade groups, the increase in proportions of males playing computer games intensively from 1994 to 1998 was substantial; about one-third more of them were in this category in 1998. For the females, computer game playing seems to be an activity for the more junior grades. The proportion of females in 1998 who played four or more hours a week declined from a high of 13 percent in Grade 6 to a low of 5 percent in Grade 10. For males, computer game playing is quite consistent through Grades 6 to 9 and begins to decline in Grade 10.

Young peoples' recent increased participation in playing computer games may be related to a number of factors. They have more access to this form of leisure activity due to the proliferation of homecomputing, e-mail and computer game systems. Significant technological advances in computer games have made them more realistic, interesting and challenging (Hollingsworth and Eastman, 1997; Downes and Reddacliff, 1997).

Figure 8.11

Thirteen year olds who played computer games four or more hours a week by country, 1998 (%)



*France and Germany are represented by regions: see Chapter 1 for details.

A higher proportion of Canadian thirteen year olds indicated they play computer games intensively than their counterparts in any of the other countries in the 1998 survey. On the male side, the Danes were more likely to play four or more hours a week followed by Canadians, Germans and Norwegians. The higher proportion of Canadian girls playing computer games intensively is exceeded only by the American girls.



Summary

Substantial proportions of Canadian youth participated in physical activity twice or more a week outside of school, but the proportions are lower for girls and, for both genders, frequency of physical activity decreased with age. Ironically, it was also found that more students are exercising four or more hours a week outside of school: this means that they are exercising less often but for longer periods when they do. Boys were nearly twice as likely to exercise regularly out of school than girls and the rates increased from grade to grade. There was also a clear decline over the three surveys in the proportion of youth who exercised twice a week or more.

This decrease in exercise frequency may explain the increased amount of time given to other leisure activities, especially playing computer games. Television watching declines as students get older, perhaps due to casual employment, but over 20 percent still watched four hours or more per day by Grade 10. Boys were more likely to spend a large amount of time watching television than girls. Over the three surveys, and especially between 1994 and 1998, there was a dramatic increase in the proportion of boys who played computer games for four hours per week or more. The proportion of girls who played computer games at least four hours per week is relatively low, although Canadian girls led many other countries in this activity.