

National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

2.1 Description of the Survey and Reports

The National Population Health Survey (NPHS) Highlights on the Physical Activity of Canadians are based on Cycle 2 results (1996/97) and include separate reports on each of the following:

- 2.1 Description of the Survey and Reports
- 2.2 Overview of Results
- 2.3 Profile of Canadians
- 2.4 Profile of the Provinces
- 2.5 Youth and Young Adults Aged 12 to 24
- 2.6 Baby Boomers Aged 40 to 54
- 2.7 Older Adults Aged 55 and Over
- 2.8 *Active* Canadians
- 2.9 *Inactive* Canadians
- 2.10 Non-Leisure Physical Activity
- 2.11 Being Physically Active for Health Reasons

These Highlights provide descriptive information from the NPHS and follow an earlier series on the Smoking Behaviour of Canadians, released in January 1999. Other core issues covered by the NPHS, such as alcohol, injuries, stress, medications, depression, preventive health practices, sexual health, social support, health status, and access to services, may be the focus of future highlight reports. The federal and provincial governments can also develop issue supplements for the NPHS (e.g. nutrition; asthma 1994/95; health services and road safety 1996/97), which identify additional areas for possible highlight reports.

Background

The NPHS is a household-based survey conducted every two years by Statistics Canada. It collects cross-sectional and longitudinal information about health status and health determinants, including health behaviour, use of health services, and socio-demographic information.

The NPHS originally surveyed a sample of 20,725 households. A minimum of 1,200 households was needed in each province to ensure reliable estimates by sex and age groups. In 1994/95 and 1996/97, some provinces chose to increase the number surveyed in their

province. Thus, the data from each cycle consist of a combination of cross-sectional (one-time only) and longitudinal (follow-up) participants.

Data collection for Cycle 2 began in June 1996 and was completed in August 1997. Extended information for longitudinal analysis was gathered from a selected panel of 13,093 individuals together with limited information on each household member living with the individual at the time of the survey. The NPHS will collect information every two years from the panel selected in 1994/95, for up to two decades.

These Highlights are based on the cross-sectional files, except where comparisons are made between the 1994/95 and 1996/97 data.

Target Population

The target population of the NPHS is household residents of all ages in all provinces and territories, except persons living on Indian reserves, on Canadian Forces bases, or in some remote areas of Ontario and Quebec. Separate surveys are conducted for the territories, for operational reasons. A separate institutional survey component covers long-term residents of hospitals and residential care facilities.

For these reports on physical activity in Canada, the target population was provincial residents aged 12 and over. The final sample size for Cycle 2 was 69,524 (13,093 original panel participants; 56,431 provincial buy-ins from Ontario, Manitoba, and Alberta). The sample represents 24.6 million Canadians in private households in 1996/97.

Methods

To assess physical activity, the NPHS uses the self-report method, which is the most popular and practical method for large populations. It has shown good reliability and fair validity. A modified version of the widely used Minnesota Leisure-Time Physical Activity questionnaire was the instrument chosen.

A similar, modified questionnaire, but with a 12-month rather than a three-month recall period and a longer list of activities, is used in the Physical Activity Monitor surveys conducted by the Canadian Fitness and Lifestyle Research Institute, the other major source of data on the leisure-time physical activity of Canadians. Estimates from the NPHS are systematically lower than those from the Physical Activity Monitor, although the patterns by age, sex, and income, and region are very similar. Although each method produces reliable estimates, the differences preclude direct comparisons of results from the two surveys.

Microdata

Separate public use microdata files containing the cross-sectional results for both cycles (1994/95 and 1996/97) of the NPHS are available for purchase from Statistics Canada or the provincial ministries. The data can also be accessed through university data archives.

All analyses for the NPHS Highlights are based on cases included in the master share file provided by Statistics Canada to Health Canada. This file includes only respondents who agreed to share their results with Health Canada; few refused. Nevertheless, the sample size for the 1996/97 Health Canada share file was slightly smaller than what is available through Statistics Canada's public use file and may result in small differences in estimates.

Terminology

- **Leisure-Time Physical Activity** - physical activity not related to work (e.g. gardening, swimming, home exercises).
- **Non-Leisure Physical Activity** - includes physical activity at work, commuting to/from work or school, and/or while doing daily chores around the house.
- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
- **Physical Activity Index** - total energy expenditure for all leisure-time physical activities. *Active*: ≥ 3.0 kcal/kg/day; *Moderate*: 1.5-2.9 kcal/kg/day; *Inactive*: < 1.5 kcal/kg/day. A daily average of 3.0 kcal/kg/day or more is recommended for optimal health benefits (consult Canada's Physical Activity Guide to Healthy Active Living, available at www.paguide.com).
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- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

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National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

2.2 Overview of Results

Prevalence of Leisure-Time Physical Activity

In 1996/97, only 21% of Canadians aged 12 and over (4,923,000) were classified as sufficiently physically *active* during their leisure time to achieve optimal health benefits (see Terminology). Another 23% were *moderately* active, and 57% were *inactive*. There has been little change since 1994/95, when 20% of Canadians were considered *active*, 22% *moderately* active, and 58% *inactive*.

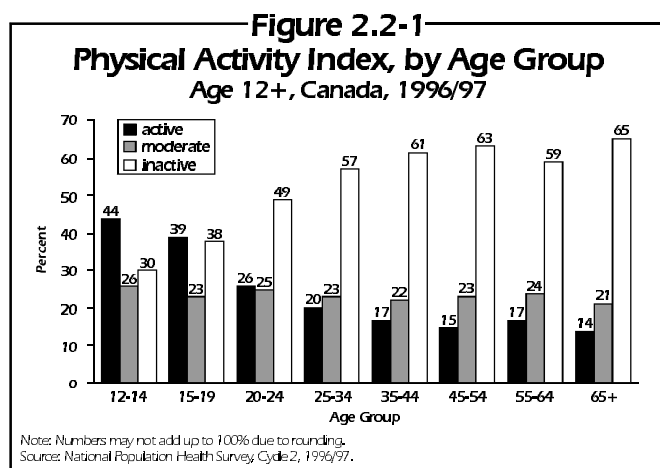
Overall, 24% of men versus 18% of women were classified as physically *active*. The proportion of *active* Canadians markedly dropped up to age 24, and then remained relatively stable across the older age groups (Figure 2.2-1).

Changes in Leisure-Time Physical Activity

The Physical Activity Index was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97 (see Terminology). Overall, 19% of men compared with 14% of women maintained either their *moderately* active or *active* status from one survey to the next, and 38% and 46% respectively remained *inactive*. Another 6% of men and 5% of women increased their physical activity, and 16% of both men and women started being *active* or *moderately* active. Six percent of men and 4% of women reduced their physical activity, and 16% of men and 15% of women lapsed into inactivity.

Leisure-Time Physical Activities and Non-Leisure Physical Activities

The most popular form of leisure-time physical activity was walking, reported by 66% of those aged 12 and over. This was observed for both sexes, all age groups and all levels of physical activity. British Columbia was the leading province for six of the 10 most frequently reported activities in Canada, suggesting a variety of physical recreational pursuits in that province. Interestingly, the more active that Canadians were during their non-leisure time, the more active they were during their leisure time, except for those with the most physically demanding daily activities (see Figure 2.2-2). This belies the conventional wisdom that people with sedentary jobs compensate during their leisure time, or that workers with physically demanding jobs prefer to rest during their hours off.



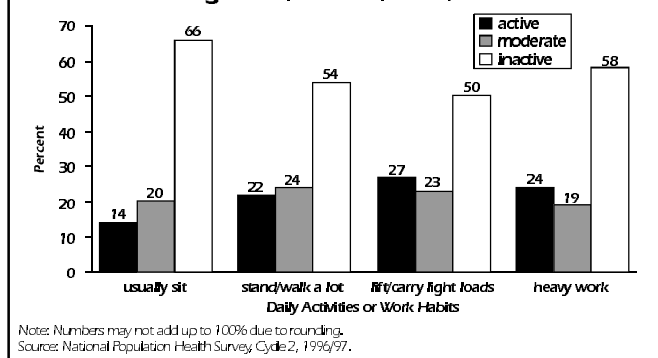
British Columbia had the highest proportion of *active* people (27%), followed by Alberta with 26%; Prince Edward Island had the lowest proportion (15%).

Early retirement appears to encourage physical activity, as retired baby boomers aged 40 to 54 had the highest proportion of *active* people (29%) compared with all other employment status categories. However, fewer retired older adults aged 55 and over were *active* (18% versus 23%).

Body Mass Index

The mean Body Mass Index (BMI; see Terminology) for men aged 20 to 64 was 26.0 kg/m² and for women was 24.4 kg/m². According to this index, 8% of Canadians aged 20 to 64 were underweight in 1996/97, and 43% had an acceptable weight. Another 19% had some excess weight, 17% were overweight and the remaining 13% were categorized as obese.

Figure 2.2-2
Physical Activity Index,
by Daily Activities or Work Habits
Age 12+, Canada, 1996/97



According to the BMI, more men had some excess weight or were overweight than women (25% and 21% vs. 14% and 12% respectively). The same proportion of men and women were obese (13% vs. 12%). The proportion of overweight or obese Canadians increased with age.

New Brunswick had the highest (62%), and Quebec the lowest (45%) proportion of people with a weight above acceptable.

A higher percentage of *active* than *inactive* Canadians had an acceptable weight (46% vs. 42%); *active* Canadians were also less likely to be obese than *inactive* Canadians (9% vs. 14%).

Being Active for Health Reasons

In 1996/97, 31% of Canadians reported that during the previous year they had increased their physical activity for health reasons. Overall, 24% thought that this was the most important thing they should do to improve their physical health; lack of time was the most common barrier. Despite this, 36% reported that they intended to start or increase physical activity in the year after the interview.

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- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

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National Population Health Survey Highlights

Physical Activity of Canadians

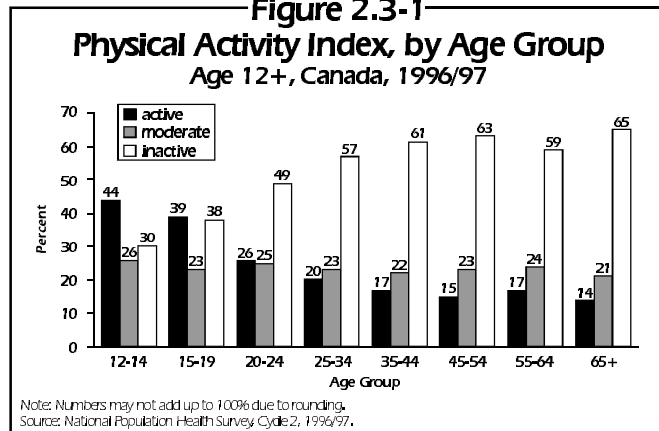
Cycle 2, 1996/97

2.3 Profile of Canadians

Prevalence of Leisure-Time Physical Activity

In 1996/97, 21% of Canadians aged 12 and over (4,923,000) were classified as sufficiently physically *active* during their leisure time to achieve optimal health benefits (see Terminology); another 23% were *moderately* active, and 57% were *inactive*. These results are similar to those of 1994/95, when 20% were *active*, 22% were *moderately* active, and 58% were *inactive*. Overall, more men than women were classified as *active* (24% vs. 18%). The percentage of active Canadians dropped markedly up to age 24 (Figure 2.3-1).

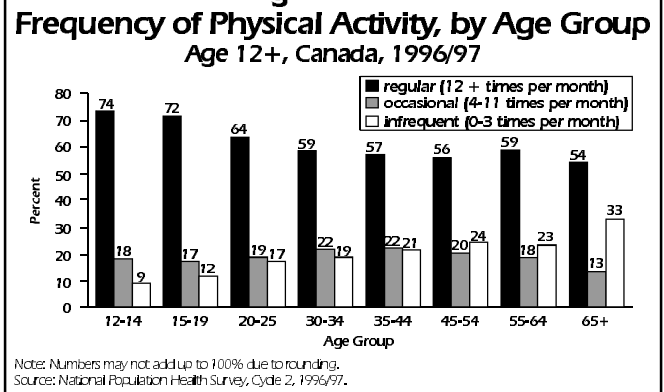
Figure 2.3-1



Although only 21% of Canadians were classified as active, 60% (14,229,000) reported that they regularly participated in leisure-time physical activity (see Terminology - Frequency of Physical Activity). Another 19% reported occasional participation, and the remaining 21% reported infrequent physical activity (Figure 2.3-2).

There was no difference in the percentage of men and women who reported regular activity in 1996/97 (60% vs. 59% respectively), although such regular activity declined with age.

Figure 2.3-2



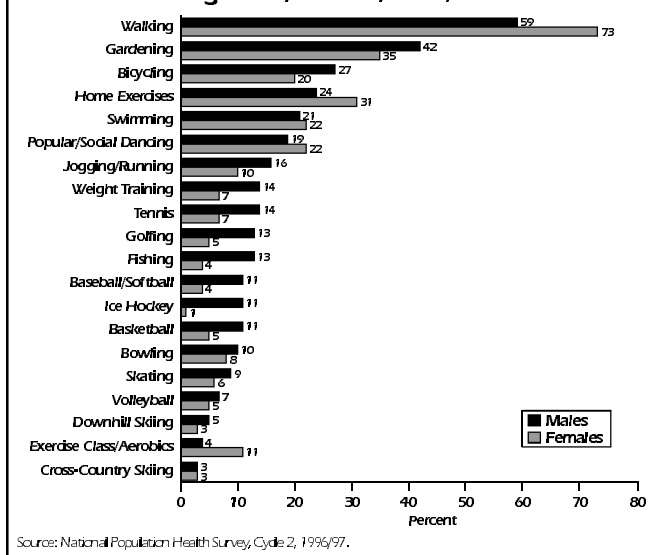
Changes in Leisure-Time Physical Activity

The Physical Activity Index was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97 (see Terminology). Nineteen percent of men compared with 14% of women maintained either their moderately active or active status from one survey to the next. Overall, 5% decreased their leisure-time physical activity, and 15% lapsed into inactivity, with no difference between men and women. Similarly, 5% of Canadians increased such activity, and 16% started being active or moderately active. Finally, 38% of men and 46% of women remained inactive for both cycles of the survey.

Forms of Leisure-Time Physical Activity

In 1996/97, the most popular form of leisure-time physical activity among Canadians aged 12 and over was walking (66%), followed by gardening and home exercises (39% and 28%). Men and women differed slightly in their leisure-time physical activities (Figure 2.3-3). Eleven percent participated in no leisure-time physical activities, 22% in one, 19% in two, 25% in three or four, and 23% in five or more.

Figure 2.3-3
Leisure-Time Physical Activities, by Sex
 Age 12+, Canada, 1996/97



Physical Activity and Income Adequacy

There were more active people in the highest income adequacy level (26%) (see Terminology) than in the lowest (20%), lower middle (20%) or upper middle (20%) income adequacy levels.

Body Mass Index

The mean Body Mass Index (BMI; see Terminology) for men aged 20 to 64 was 26.0 kg/m² and for women was 24.4 kg/m². According to this index, 43% of Canadians were of an acceptable weight, 19% had some excess weight, 17% were overweight and 13% were considered obese. The remaining 8% of Canadians were underweight.

More women than men were classified as underweight (14% vs. 3% respectively) or as having an acceptable weight (49% vs. 38%), whereas more men than women had some excess weight and were overweight (25% and 21% vs. 14% and 12% respectively). The same propor-

Terminology

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- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

tion of men and women were obese (13% vs. 12%). The proportion of overweight or obese Canadians increased with age. A higher percentage of active than inactive Canadians had an acceptable weight (46% vs. 42%); active Canadians were also less likely to be obese than inactive Canadians (9% vs 14%).

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National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

2.4 Profile of the Provinces

Prevalence of Leisure-Time Physical Activity

In 1996/97, 21% of Canadians aged 12 and over (4,923,000) were classified as sufficiently physically active during their leisure time to achieve optimal health benefits (see Terminology). British Columbia had the highest proportion of active people (27%) and Prince Edward Island the lowest (15%) (Figure 2.4-1). The percentage of active men was consistently higher than that of active women, except in Saskatchewan.

Although only 21% of Canadians were classified as active, 60% (14,229,000) reported that they regularly participated in leisure-time physical activity (see Frequency of Physical Activity in Terminology) (Figure 2.4-2).

Forms of Leisure-Time Physical Activity

Table 2.4-1 presents the 10 most frequently reported activities, and reveals the provinces in which each activity was mentioned the most and the least.

Body Mass Index

Nationally, the mean Body Mass Index (BMI; see Terminology) was 26.0 kg/m² for men aged 20 to 64 and 24.4 kg/m² for women. Although the overall BMI averages for the provinces varied little, there was wide variability when BMI was analyzed by category (Figure 2.4-3). This presumably reflects a range of factors including diet and heredity as well as physical activity.

Action Taken and Intended to Be Taken to Improve Health

In the provinces, as in Canada overall, almost

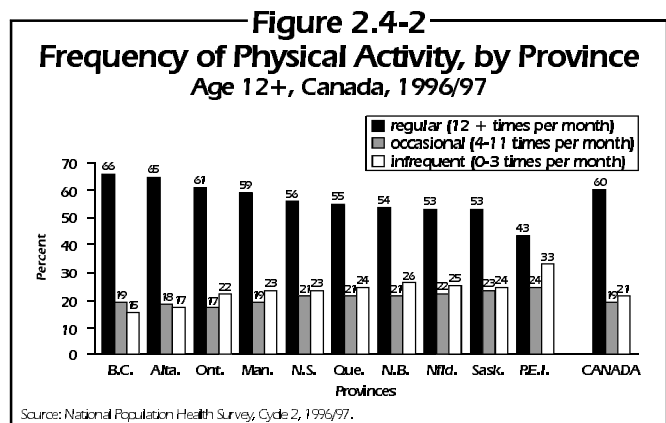
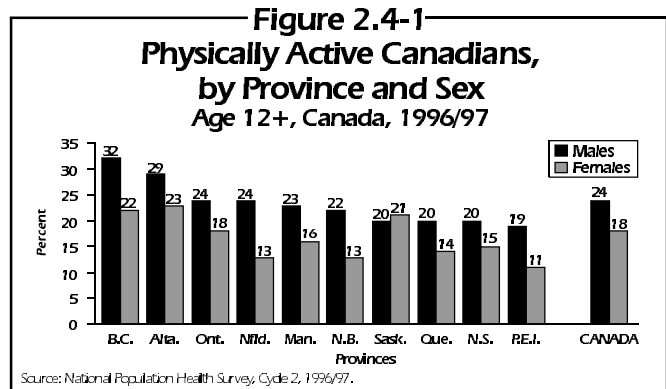
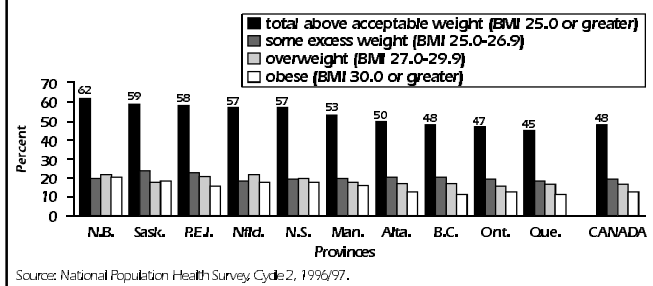


Table 2.4-1
Ten most frequently reported leisure-time physical activities in Canada, with the provinces in which each was reported the most/least

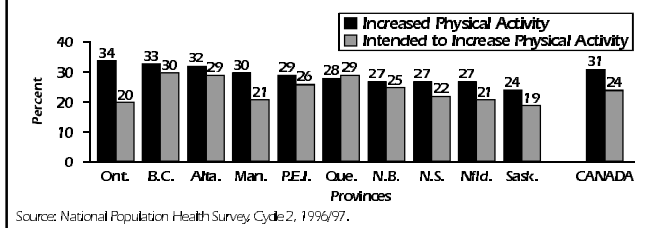
Activity	Canada	Most frequently reported in	Least frequently reported in
Walking	66%	British Columbia 72%	Prince Edward Island 59%
Gardening	39%	Manitoba 51%	Ontario 32%
Home Exercises	28%	British Columbia 36%	Prince Edward Island 20%
Bicycling	23%	British Columbia 28%	Prince Edward Island 15%
Swimming	22%	British Columbia 28%	Saskatchewan 18%
Popular/Social Dancing	21%	Nova Scotia 34%	Quebec 15%
Jogging/Running	13%	Alberta 18%	Quebec 10%
Weight Training	11%	British Columbia 16%	Quebec 7%
Golfing	9%	British Columbia 15%	Newfoundland 3%
Bowling	9%	New Brunswick 13%	Ontario 6%

Figure 2.4-3
Body Mass Index, by Province
 Age 20-64, Canada, 1996/97



half of the participants had taken some action in the previous year to improve their health (ranging from 40% in Saskatchewan to 50% in Ontario). The most frequently reported action was an increase in physical activity (Figure 2.4-4). Almost a quarter reported that they intended to increase physical activity in the next year.

Figure 2.4-4
Percentage of Canadians who Increased Physical Activity in Previous Year, and who Intended to Increase Physical Activity in Next Year, by Province
 Age 12+, Canada, 1996/97



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National Population Health Survey Highlights

Physical Activity of Canadians

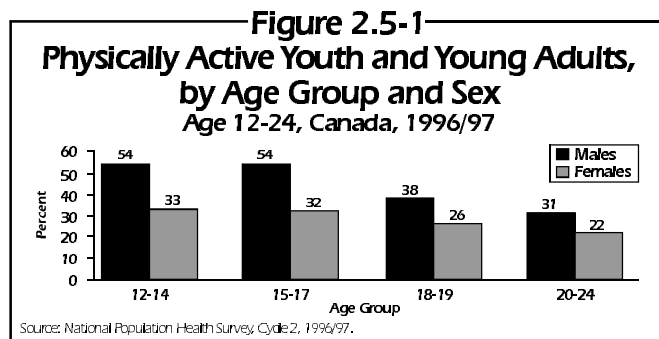
Cycle 2, 1996/97

2.5 Youth and Young Adults Aged 12 to 24

Prevalence of Leisure-Time Physical Activity

In 1996/97, 35% (1,742,000) of youth and young adults aged 12 to 24 were classified as sufficiently physically active during their leisure time to achieve optimal health benefits (see Terminology). Another 24% were moderately active, and 40% were inactive in 1996/97. These results are similar to those of 1994/95, when 34% were active, 25% were moderately active, and 41% were inactive respectively.

Boys and young men were consistently more likely to be active in their leisure time than girls and young women (Figure 2.5-1). The percentage of active youth declined with age.



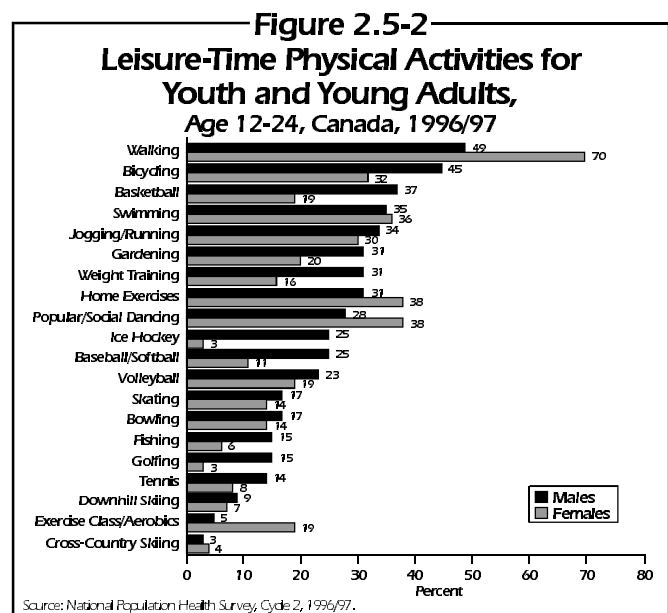
Although only 35% of youth and young adults were classified as active, 69% (3,413,000) reported regular participation in leisure-time physical activity (see Frequency of Physical Activity in Terminology); 18% reported occasional and 13% infrequent participation. Seventy-two percent of males compared with 66% of females engaged in physical activity regularly, and 16% and 20% respectively did so occasionally. The overall percentage who regularly participated in physical activity declined during the teen years. The proportions who reported regular, occasional or infrequent physical activity did not change between 1994/95 and 1996/97.

Changes in Leisure-Time Physical Activity

The Physical Activity Index was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97 (see Terminology). Thirty-two percent of young men compared with 19% of young women maintained either their moderately active or active status from one survey to the next. Fewer young men (17%) than young women (29%) remained inactive for both cycles of the survey. The rest of the results were similar for both sexes: 19% increased their activity, and 17% started participating in physical activity in their leisure time. Another 18% decreased their activity, and 19% lapsed into inactivity. These results reveal considerable personal change in leisure-time physical activity compared with Canadians overall.

Forms of Leisure-Time Physical Activity

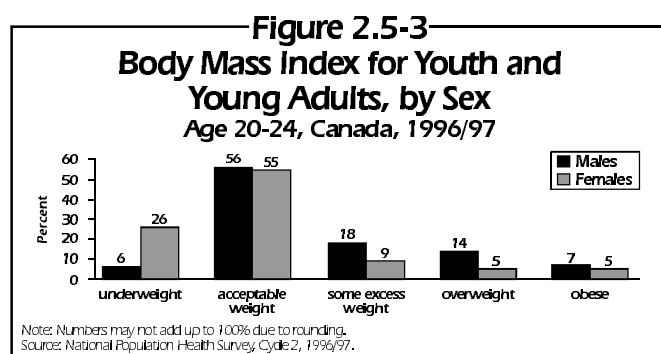
Walking was the most frequently reported activity among both sexes, but more females than males reported walking (Figure 2.5-2). Compared with Canadians overall, those aged 12 to 24 were more likely to



participate in team sports and to bicycle, swim, do popular or social dance, jog or run, skate, and play tennis. Home exercises, gardening, weight-training, bowling, exercise classes or aerobics, fishing, and golfing were all less frequently reported in this age group than among Canadians overall. Bicycling, swimming, jogging/running, basketball, and volleyball declined in frequency with age in young people, whereas walking, home exercises, and gardening remained stable.

Body Mass Index

In the 20 to 24 age group, the mean Body Mass Index (BMI; see Terminology) was 24.4 kg/m² for men and 22.5 kg/m² for women. Figure 2.5-3 shows the BMI classifications by sex. The proportions of young men and women in the acceptable weight or obese categories were similar for both sexes. Young women were far more likely to be classified as underweight and young men to have some excess weight or to be overweight. However, people tend to over-report their height and under-report their weight; moreover, men's greater muscle and bone mass accounts for some of the difference between men's and women's BMI.



Terminology

- **Leisure-Time Physical Activity** - physical activity not related to work (e.g. gardening, swimming, home exercises).
- **Non-Leisure Physical Activity** - includes physical activity at work, commuting to/from work or school, and/or while doing daily chores around the house.
- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
- **Physical Activity Index** - total energy expenditure for all leisure-time physical activities. **Active:** ≥ 3.0 kcal/kg/day; **Moderate:** 1.5-2.9 kcal/kg/day; **Inactive:** < 1.5 kcal/kg/day. A daily average of 3.0 kcal/kg/day or more is recommended for optimal health benefits (consult Canada's Physical Activity Guide to Healthy Active Living, available at www.paguide.com).
- **Frequency of Physical Activity** - self-reported monthly frequency of physical activities lasting more than 15 minutes per occasion. **Regular:** ≥ 12 times per month; **Occasional:** 4-11 times per month; **Infrequent:** 0-3 times per month.
- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m²). This index was not calculated for Canadians aged < 20 or > 64, or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: **Underweight:** < 20.0 kg/m²; **Acceptable Weight:** 20.0-24.9; **Some Excess Weight:** 25.0-27.0; **Overweight:** 27.1-29.9 kg/m²; **Obese:** 30.0 kg/m² or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.5 Youth and young adults aged 12 to 24.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

2.6 Baby Boomers Aged 40 to 54

Prevalence of Leisure-Time Physical Activity

In 1996/97, 16% of baby boomers aged 40 to 54 (993,000) were classified as sufficiently physically *active* during their leisure time to achieve optimal health benefits (see Terminology). Another 22% were *moderately* active, and 62% were *inactive*. These results are similar to those of 1994/95, when 15% were *active*, 22% were *moderately* active, and 63% were *inactive*.

In 1996/97, there was no difference in the proportion of men and women who were classified as *active* (17% vs. 15%), *moderately* active (22% vs. 23%) and *inactive* (61% vs. 62%) in their leisure time.

Although only 16% of baby boomers were classified as *active*, 57% (3,487,000) reported regular participation in leisure-time physical activity (see Frequency of Physical Activity in Terminology). Another 20% reported occasional and 23% infrequent physical activity. In 1994/95, fewer adults aged 40 to 54 regularly participated in physical activity (52%); 24% participated occasionally, and 25% infrequently. In 1996/97, more women than men regularly engaged in physical activity (59% vs. 54%), and more men (22%) than women (18%) did so occasionally. There was no difference in men and women with regard to infrequent leisure-time physical activity (24% vs. 23%).

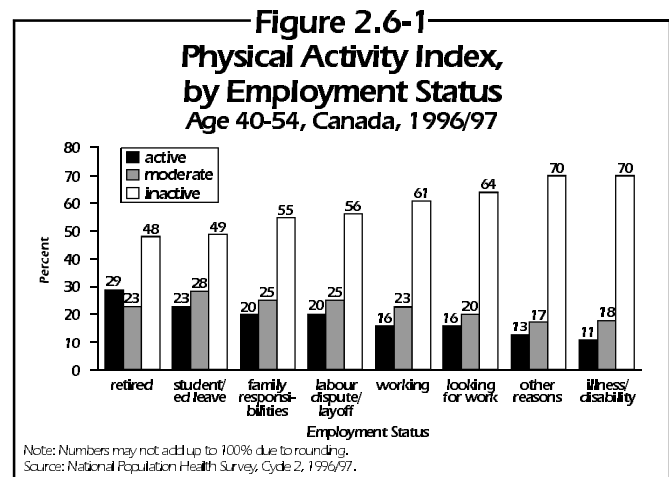
Changes in Leisure-Time Physical Activity

The Physical Activity Index was used to determine changes in leisure-time physical activity for the same persons from 1994/95 to 1996/97 (see Terminology). Nineteen percent of men and 14% of women aged 40 to 54 maintained either their *moderately* active or *active* status from one survey to the next. Fewer men (45%) than women (51%) remained *inactive* in both cycles of the survey. For both sexes, 5% increased their activity, and 15% started participating in leisure-time physical activity. Another 4% decreased physical activity, and 13% lapsed into inactivity.

Physical Activity, Marital Status, Income Adequacy and Employment Status

In 1996/97, there was no difference in the proportion of *active*, *moderately* active, or *inactive* baby boomers by marital status (data not shown). However, 23% of those in the highest income adequacy level (see Terminology) were *active* compared with 15% in the lowest, 14% in the lower middle and 15% in the upper middle.

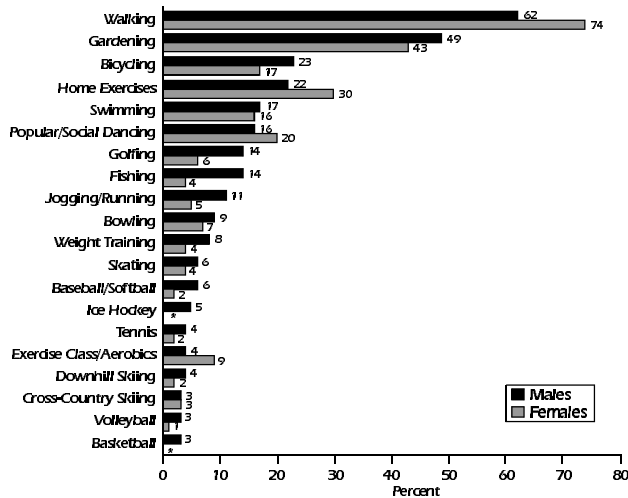
The highest proportion of *active* boomers were among those who were retired (29%; Figure 2.6-1). The lowest proportion was among boomers who were not working because of an illness or a disability (11%).



Forms of Leisure-Time Physical Activity

The most popular form of leisure-time physical activity among boomers was walking (Figure 2.6-2). Gardening ranked second. Most activities were more frequently reported by men than women. Walking, gardening, golfing, fishing, and cross-country skiing were all more popular in this age group than among Canadians overall.

Figure 2.6-2
Leisure-Time Physical Activities for
Baby Boomers,
Age 40-54, Canada, 1996/97

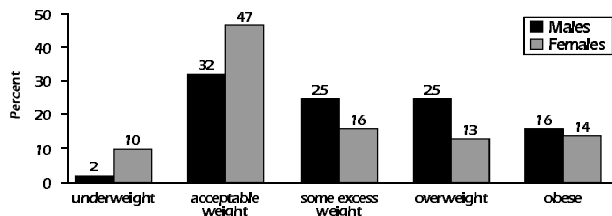


^a value not reportable due to low frequency and high sampling variability.
 Sources: National Population Health Survey, Cycle 2, 1996/97.

Body Mass Index

The mean Body Mass Index (BMI; see Terminology) for men aged 40 to 54 was 26.6 kg/m² and for women was 25.0 kg/m². Figure 2.6-3 reveals the proportions by BMI category. Women were more likely than men to be classified as underweight or to have an acceptable weight, and men were more likely to have some excess weight or be overweight.

Figure 2.6-3
Body Mass Index for Baby Boomers, by Sex
Age 40-54, Canada, 1996/97



Sources: National Population Health Survey, Cycle 2, 1996/97.

Terminology

- **Leisure-Time Physical Activity** - physical activity not related to work (e.g. gardening, swimming, home exercises).
- **Non-Leisure Physical Activity** - includes physical activity at work, commuting to/from work or school, and/or while doing daily chores around the house.
- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
- **Physical Activity Index** - total energy expenditure for all leisure-time physical activities. **Active:** ≥ 3.0 kcal/kg/day; **Moderate:** 1.5-2.9 kcal/kg/day; **Inactive:** < 1.5 kcal/kg/day. A daily average of 3.0 kcal/kg/day or more is recommended for optimal health benefits (consult Canada's Physical Activity Guide to Healthy Active Living, available at www.paguide.com).
- **Frequency of Physical Activity** - self-reported monthly frequency of physical activities lasting more than 15 minutes per occasion. **Regular:** ≥ 12 times per month; **Occasional:** 4-11 times per month; **Infrequent:** 0-3 times per month.
- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m²). This index was not calculated for Canadians aged < 20 or > 64, or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: **Underweight:** < 20.0 kg/m²; **Acceptable Weight:** 20.0-24.9; **Some Excess Weight:** 25.0-27.0; **Overweight:** 27.1-29.9 kg/m²; **Obese:** 30.0 kg/m² or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.6 Baby boomers aged 40 to 54.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

Physical Activity of Canadians

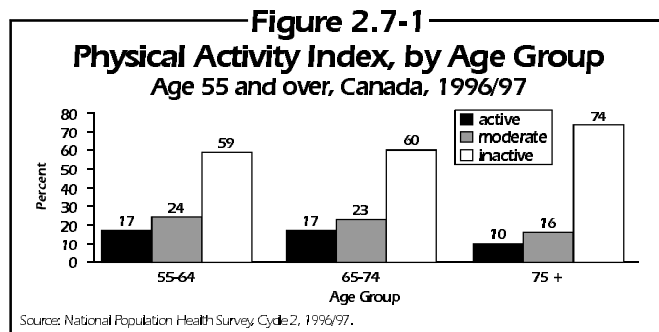
Cycle 2, 1996/97

2.7 Older Adults Aged 55 and Over

Prevalence of Leisure-Time Physical Activity

In 1996/97, 15% (882,000) of older adults aged 55 and over were classified as sufficiently physically *active* during their leisure time to achieve optimal health benefits (see Terminology). Another 22% were *moderately* active, and 63% were *inactive*. These results are similar to those obtained in 1994/95; when 16% were *active*, 21% were *moderately* active, and 62% were *inactive*.

Overall, more older men than women were classified as physically *active* in their leisure time (19% vs. 13%). The percentage of those physically *active* decreased with age (Figure 2.7-1).



Although only 15% of older adults were classified as *active*, 56% (3,201,000) reported regular participation in leisure-time physical activity (see Frequency of Physical Activity in Terminology); 15% reported occasional and 29% reported infrequent physical activity.

Changes in Leisure-Time Physical Activity

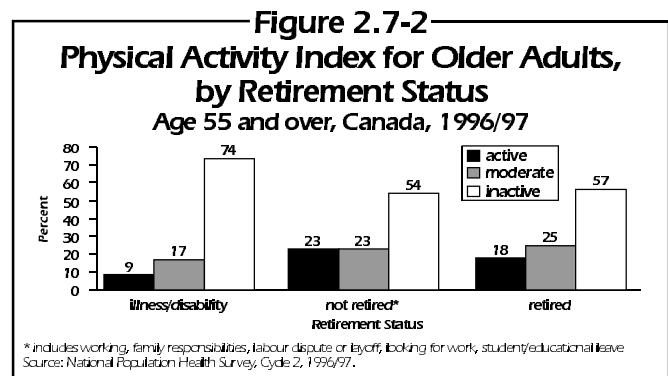
The Physical Activity Index was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97 (see Terminology). Fifteen percent of older adults maintained either their *moderately* active or *active* status from one survey to the next; 4% increased and 15% started participation in physical activity. Another 4% decreased their leisure-time physical activity, and 16% lapsed into inactivity. These results were the same for both older men and women. Finally, fewer older

men (40%) than women (51%) remained *inactive* for both cycles of the survey.

Physical Activity, Income Adequacy Level, Marital Status and Retirement Status

Older adults in the highest income adequacy level (see Terminology) were more likely (21%) than those in the lowest (12%) to be *active*. There were no differences in physical activity by marital status, except that slightly more widowed/separated/divorced adults than married adults were *inactive* (66% vs. 61%).

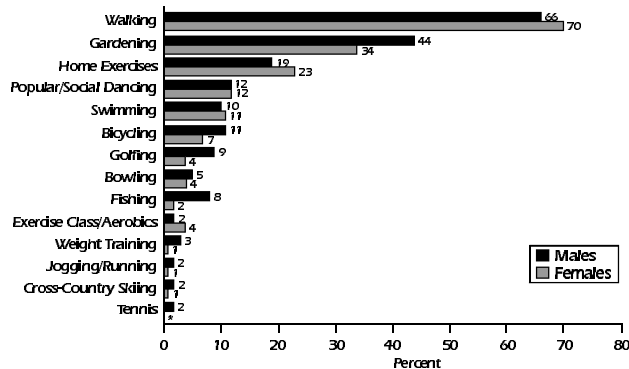
Older Canadians were classified as being retired, not retired, or on disability/illness. Retired Canadians were less likely to be *active* than those who were not retired (Figure 2.7-2). The mean ages of these two groups were not different. The lowest proportion of *active* older Canadians was among those unable to work because of a disability or illness.



Forms of Leisure-Time Physical Activity

In 1996/97, 68% (3,907,000) of older Canadians reported walking as a leisure-time physical activity (Figure 2.7-3). Gardening and home exercises ranked second and third, 39% and 21% reporting this activity. More older men than women reported participating in most leisure-time physical activities. A smaller proportion of older Canadians than Canadians overall reported partic-

Figure 2.7-3
Leisure-Time Physical Activities
of Older Adults
Age 55 and over, Canada, 1996/97



* value not reportable due to low frequency and high sampling variability.
 Note: Not all activities are listed here due to the low frequency of reporting and resulting high sampling variability.
 Source: National Population Health Survey, Cycle 2, 1996/97.

ipating in leisure-time physical activities, except for walking (68% vs. 66%).

Body Mass Index

The mean Body Mass Index (BMI; see Terminology) for older men was 26.5 kg/m² and for women was 26.0 kg/m². According to this index, 5% of older adults were classified as underweight, 37% had an acceptable weight, 21% had some excess weight, 21% were overweight, and 16% were obese. Women were slightly more likely than men to be classified as underweight (7% vs. 2%) or as having an acceptable weight (41% vs. 32%), and men were more likely to be classified as having some excess weight (26% vs. 17%) or as being overweight (24% vs. 19%). There was relatively no difference in the proportion of obese men and women in this age group (15% vs. 17%).

Terminology

- **Leisure-Time Physical Activity** - physical activity not related to work (e.g. gardening, swimming, home exercises).
- **Non-Leisure Physical Activity** - includes physical activity at work, commuting to/from work or school, and/or while doing daily chores around the house.
- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
- **Physical Activity Index** - total energy expenditure for all leisure-time physical activities. **Active:** ≥ 3.0 kcal/kg/day; **Moderate:** 1.5-2.9 kcal/kg/day; **Inactive:** < 1.5 kcal/kg/day. A daily average of 3.0 kcal/kg/day or more is recommended for optimal health benefits (consult Canada's Physical Activity Guide to Healthy Active Living, available at www.paguide.com).
- **Frequency of Physical Activity** - self-reported monthly frequency of physical activities lasting more than 15 minutes per occasion. **Regular:** ≥ 12 times per month; **Occasional:** 4-11 times per month; **Infrequent:** 0-3 times per month.
- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m²). This index was not calculated for Canadians aged < 20 or > 64, or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: **Underweight:** < 20.0 kg/m²; **Acceptable Weight:** 20.0-24.9; **Some Excess Weight:** 25.0-27.0; **Overweight:** 27.1-29.9 kg/m²; **Obese:** 30.0 kg/m² or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.7 Older adults aged 55 and over.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

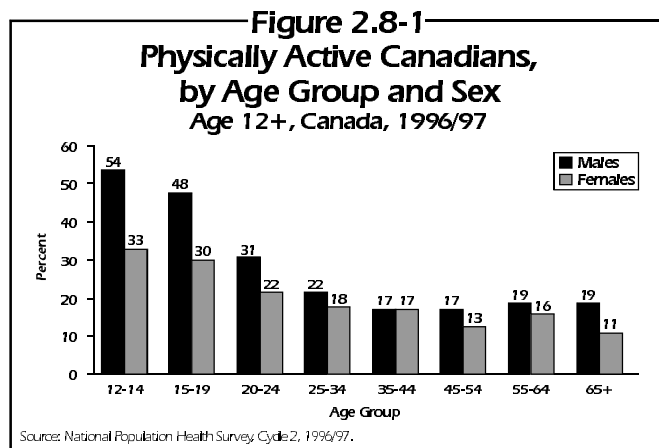
2.8 Active Canadians

Prevalence of Leisure-Time Physical Activity

In 1996/97, 21% of Canadians aged 12 and over (4,923,000) were considered sufficiently physically active during their leisure time to achieve optimal health benefits (see Terminology). These results are similar to those of 1994/95, when 20% of Canadians were considered physically active.

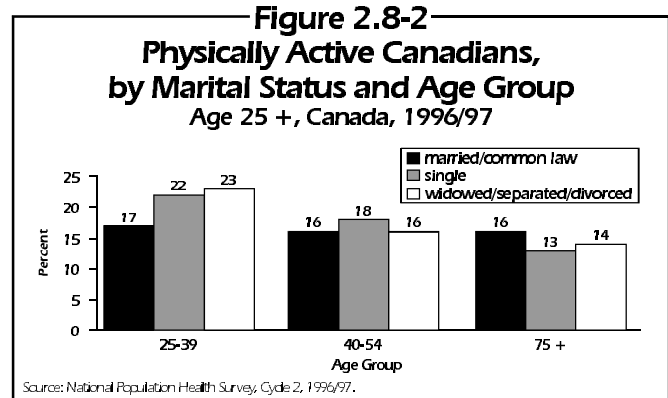
Which Canadians are Active?

Men were more likely to be physically active than women (24% vs. 18%). The percentage of Canadians who were physically active declined markedly among youth and young adults and then remained relatively constant (Figure 2.8-1). Both patterns are typical of population surveys in Canada and most other industrialized nations.



There were more physically active Canadians in the highest income adequacy level (26%) (see Terminology) than in the lowest (19%), lower middle (19%), and upper middle (20%) income adequacy levels.

More single and widowed/separated/divorced Canadians aged 25-39 were active than those in the same age group who were married or living common law or with a partner (Figure 2.8-2).



Changes in Leisure-Time Physical Activity

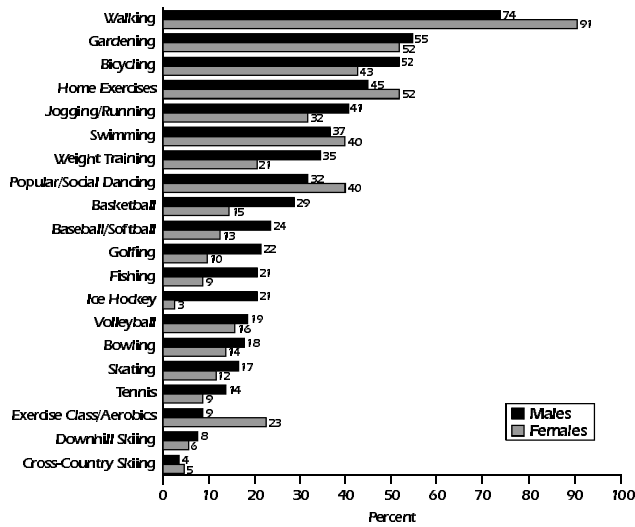
The Physical Activity Index was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97 (see Terminology). Nearly half of those classified as active (48%) in 1994/95 remained active in 1996/97. Twenty-four percent of those who were moderately active and 9% of those who were inactive in 1994/95 increased their leisure-time energy expenditure sufficiently to be classified as active in 1996/97. Conversely, 25% of active Canadians in 1994/95 had reduced their energy expenditure by 1996/97. Twenty-seven percent of active Canadians in 1994/95 lapsed to the inactive category in 1996/97.

Forms of Leisure-Time Physical Activity

The most popular form of leisure-time physical activity among active Canadians was walking (Figure 2.8-3). Consistently, a higher proportion of active Canadians reported participating across all physical activities than did Canadians overall. The activities associated with the highest intensity were more popular among active Canadians than Canadians overall: jogging/running, basketball, baseball/softball, and volleyball. Conversely, activities associated with lower intensity were lower in popularity: golfing, bowling and fishing. The majority (57%) of active Canadians participated in five or more

Figure 2.8-3

Leisure-Time Physical Activities of Active Canadians, by Sex Age 12+, Canada, 1996/97



Source: National Population Health Survey, Cycle 2, 1996/97.

different leisure-time physical activities, 25% participated in three or four, 11% in two, and 7% in only one.

Body Mass Index

In 1996/97, the mean Body Mass Index (BMI; see Terminology) for *active* men was 25.7kg/m² and for *active* women was 23.7 kg/m². According to this index, 9% of *active* Canadians were classified as underweight, 46% had an acceptable weight, 21% had some excess weight, 15% were overweight, and 9% were obese. Not surprisingly, these results reveal that a slightly higher proportion of *active* than *inactive* Canadians had an acceptable weight (46% vs. 42%), and a lower proportion were obese (9% vs. 14%).

Terminology

- **Leisure-Time Physical Activity** - physical activity not related to work (e.g. gardening, swimming, home exercises).
- **Non-Leisure Physical Activity** - includes physical activity at work, commuting to/from work or school, and/or while doing daily chores around the house.
- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
- **Physical Activity Index** - total energy expenditure for all leisure-time physical activities. *Active*: ≥ 3.0 kcal/kg/day; *Moderate*: 1.5-2.9 kcal/kg/day; *Inactive*: < 1.5 kcal/kg/day. A daily average of 3.0 kcal/kg/day or more is recommended for optimal health benefits (consult Canada's Physical Activity Guide to Healthy Active Living, available at www.paguide.com).
- **Frequency of Physical Activity** - self-reported monthly frequency of physical activities lasting more than 15 minutes per occasion. *Regular*: ≥ 12 times per month; *Occasional*: 4-11 times per month; *Infrequent*: 0-3 times per month.
- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m²). This index was not calculated for Canadians aged < 20 or > 64, or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: *Underweight*: < 20.0 kg/m²; *Acceptable Weight*: 20.0-24.9; *Some Excess Weight*: 25.0-27.0; *Overweight*: 27.1-29.9 kg/m²; *Obese*: 30.0 kg/m² or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.8 Active Canadians.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

Physical Activity of Canadians

Cycle 2, 1996/97

2.9 Inactive Canadians

Prevalence of Leisure-Time Physical Activity

In 1996/97, 57% of Canadians aged 12 and over were classified as *inactive* on the basis of the total reported energy they had expended during their leisure-time physical activities (see Terminology). These results are similar to those of 1994/95, when 58% were *inactive*.

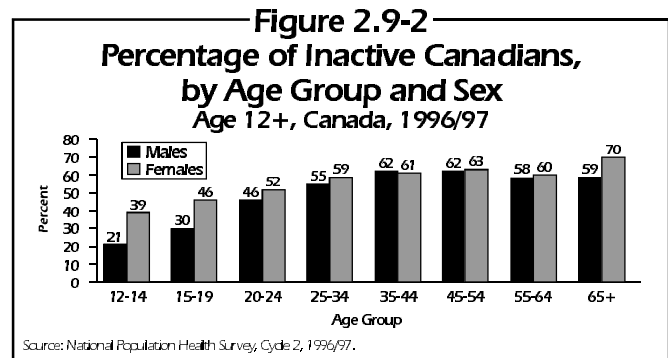
The *inactive* category was further broken down into four energy expenditure categories: 0 kcal/kg/day, 0.1-0.4 kcal/kg/day, 0.5-0.9 kcal/kg/day, and 1.0-1.4 kcal/kg/day.

An estimated 22% of *inactive* Canadians aged 12 and over (about 12% of Canadians overall) expend no energy at all during their leisure time (0 kcal/kg/day). Although 57% of Canadians aged 12 and over were considered *inactive*, 78% of them expended some energy by participating in leisure-time physical activities to varying degrees: 25% expended very low energy (0.1-0.4 kcal/kg/day), 28% expended 0.5-0.9 kcal/kg/day, and 24% expended 1.0-1.4 kcal/kg/day, not quite enough to be classified as *moderately* active.

Which Canadians were inactive?

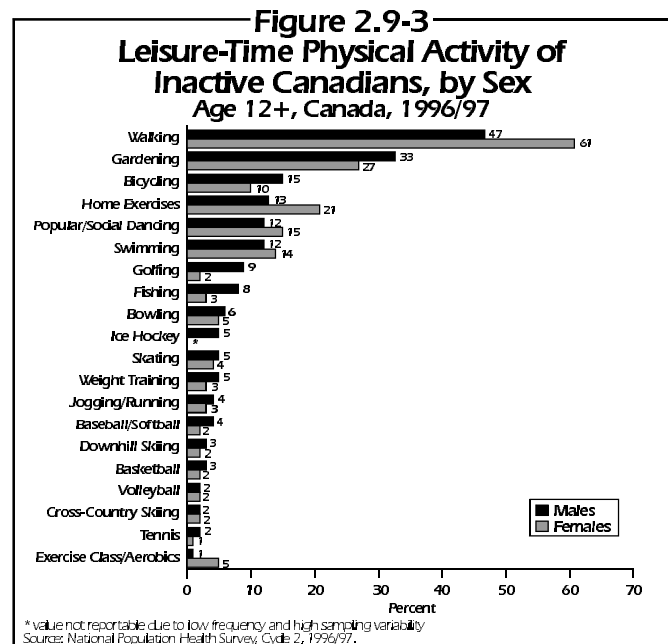
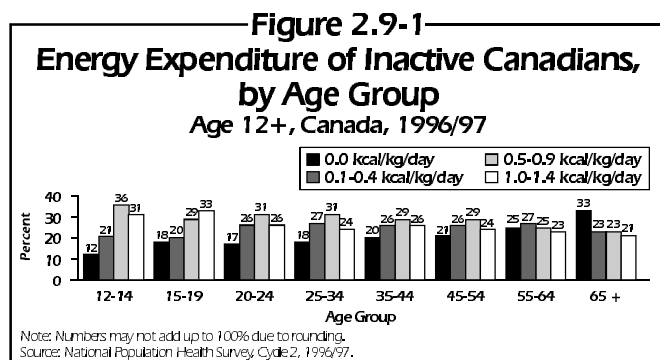
There was no difference in the proportion of *inactive* men and women for each energy expenditure category in the *inactive* group. Figure 2.9-1 reveals a shift in energy expenditure with age. The proportion of *inactive* Canadians increased with age until the 35-44 age group, at which point it stabilized for men and increased for

women (Figure 2.9-2). Overall, more women than men were *inactive* (60% vs. 54%).



Forms of Leisure-Time Physical Activity

The most popular form of exercise among *inactive* Canadians was walking, followed by gardening (Figure 2.9-3). Consistently, a lower percentage of *inactive* Canadians reported participating in each physical activity compared with Canadians overall. Among *inactive*



Canadians the activities associated with the lowest intensity were more popular: popular/social dancing, bowling and fishing, and those associated with higher intensity were lower in popularity: jogging/running, basketball and volleyball.

Changes in Leisure-Time Physical Activity

The Physical Activity Index (see Terminology) was used to determine changes in leisure-time physical activity from 1994/95 to 1996/97. Seventy-three percent of those classified as *inactive* in 1994/95 remained *inactive* in 1996/97. Eighteen percent of *inactive* Canadians in 1994/95 increased their energy expenditure sufficiently to be classified as *moderately* active in 1996/97, and 9% increased it enough to be classified as *active*. However, 43% of *moderately* active and 27% of *active* Canadians in 1994/95 lapsed into the *inactive* category in 1996/97.

Body Mass Index

The mean Body Mass Index (BMI; see Terminology) for *inactive* men was 26.1 kg/m² and for *inactive* women was 24.7 kg/m². According to this index, 9% of *inactive* Canadians were classified as underweight, 42% had an acceptable weight, 19% had some excess weight, 17% were overweight and 14% were obese. There were more obese *inactive* Canadians than obese Canadians overall. There were fewer *inactive* than *active* Canadians in the acceptable weight category (42% vs. 46%). The proportion of *inactive* Canadians in the obese category was higher than among *active* and *moderately* active Canadians (14% vs. 9% and 11% respectively).

Activity Limitation

In Canada, 16% of Canadians aged 12 and over reported that they were limited in the amount or kind of activity they could do because of a long-term physical or mental condition or a health problem. Among Canadians with an activity limitation, 65% were classified as *inactive*

Terminology

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- **Energy Expenditure** - a summary measure based on the number of times the individual took part in each of the self-reported leisure-time physical activities, the average duration per session, and the energy requirement of the activity (based on the lowest intensity value of each activity.) Energy expenditure is expressed in kcal/kg/day.
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- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m²). This index was not calculated for Canadians aged < 20 or > 64, or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: **Underweight:** < 20.0 kg/m²; **Acceptable Weight:** 20.0-24.9; **Some Excess Weight:** 25.0-27.0; **Overweight:** 27.1-29.9 kg/m²; **Obese:** 30.0 kg/m² or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

compared with 55% of Canadians with no activity limitation. Canadians with an activity limitation were more likely to expend no energy at all during their leisure time than those with no activity limitation (31% vs. 20%).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.9 Inactive Canadians.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

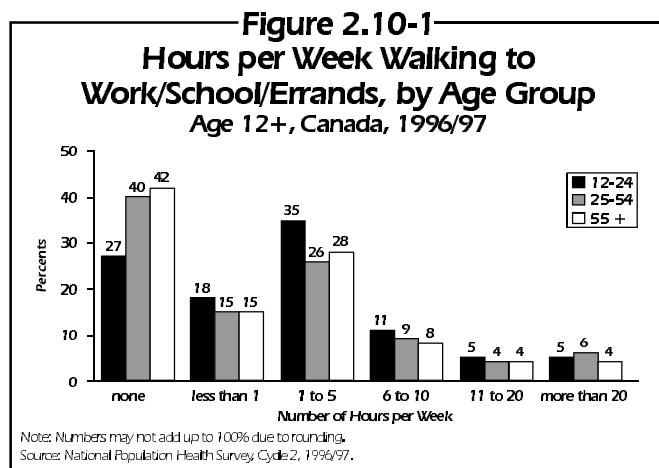
Physical Activity of Canadians

Cycle 2, 1996/97

2.10 Non-Leisure Physical Activity

Time Spent Walking or Biking to Work/School/Errands

In 1996/97, in a typical week, 62% of Canadians spent some time walking to work or to school or while doing errands (see Non-Leisure Physical Activity in Terminology). Fifteen percent of Canadians walked for less than an hour per week, 28% from 1 to 5 hours per week, 9% from 6 to 10 hours per week, 5% from 11 to 20 hours per week, and 6% for more than 20 hours. More women than men reported non-leisure walking (65% vs. 59%). As with leisure-time physical activity, the proportion of Canadians walking during their non-leisure time declined with age (Figure 2.10-1).



Only 9% of Canadians spent some time biking to work, to school or to run errands. Four percent biked for less than an hour per week, 4% from 1 to 5 hours, and 1% for 6 or more hours per week. Non-leisure biking was slightly more popular among men (11%) than women (7%). The proportion of Canadians who biked during their non-leisure time also declined with age.

Usual Daily Activities or Work Habits

Table 2.10-1 gives Canadians usual daily activities or work habits in the three months before the interview. The proportion of men and women who spent most of

Table 2.10-1
Daily activities/work habits by sex

	Usually sit (%)	Stand or walk a lot (%)	Usually lift/carry light loads (%)	Heavy work/carry heavy loads (%)
Overall	27	51	17	5
Males	26	47	18	9
Females	27	55	16	2

their day sitting was similar, but more women than men spent their day standing, or walking a lot. More men did heavy work.

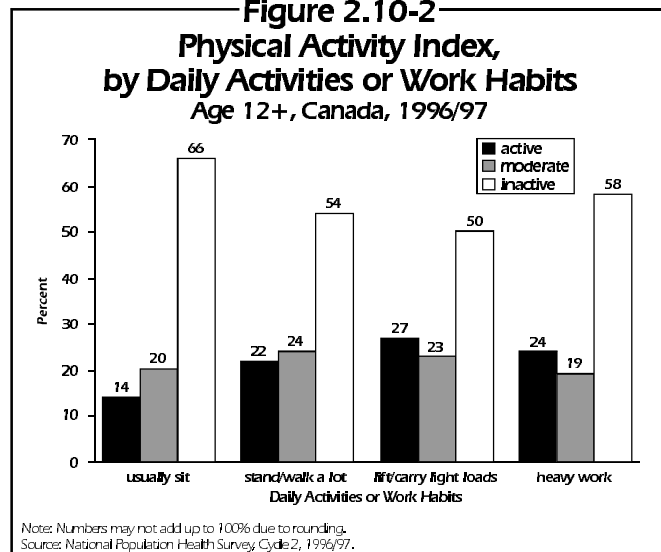
The occupations in which the most Canadians reported that they usually sat and did not walk around much were natural science (49%), transportation (41%), social science (40%), and managerial and administrative (40%). Occupations that involved a lot of standing or walking were teaching (69%), medicine (60%), sales (56%), and services (55%). The most lifting and carrying of light loads was reported by people working in fishing (36%), farming (35%), machining (32%), and forestry (28%). The work that involved carrying very heavy loads was reported more often in the occupations of forestry (31%), mining (30%), construction (28%), and machining (26%). These patterns suggest that the intensity of work activity is reported with reasonable accuracy.

Leisure-Time Activities Compared With Non-Leisure Time Activities

The more Canadians were required to be active at work (or during their usual daily activities), the more active they were likely to be during their leisure time, except for those with the most physically demanding daily activities. Canadians who usually spent most of their non-leisure time sitting were also the most likely to be classified as *inactive* during their leisure time. Those who usually spent their day lifting or carrying light loads or had to climb stairs or hills were the least likely to be *inactive*. The highest proportion of *active* Canadi-

ans were in the lifting or carrying light loads category, and in the heavy work category (Figure 2.10-2). This belies the conventional wisdom that people with sedentary jobs compensate for this during their leisure time, or that workers with physically demanding jobs prefer to rest during their hours off.

Figure 2.10-2
Physical Activity Index,
by Daily Activities or Work Habits
 Age 12+, Canada, 1996/97



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- **Frequency of Physical Activity** - self-reported monthly frequency of physical activities lasting more than 15 minutes per occasion. **Regular:** ≥ 12 times per month; **Occasional:** 4-11 times per month; **Infrequent:** 0-3 times per month.
- **Body Mass Index (BMI)** - a measure calculated from self-reported weight divided by the square of self-reported height (kg/m^2). This index was not calculated for Canadians aged < 20 or > 64 , or pregnant women, since their changing body weight and/or height can affect BMI ratings. According to the Canadian standard, BMI was categorized as follows: **Underweight:** < 20.0 kg/m^2 ; **Acceptable Weight:** 20.0-24.9; **Some Excess Weight:** 25.0-27.0; **Overweight:** 27.1-29.9 kg/m^2 ; **Obese:** 30.0 kg/m^2 or more. BMI provides information about body density, but does not account for all factors of body composition such as lean body mass and actual body fat.
- **Income Adequacy** - an indicator of socio-economic status based on both household income and the number of persons living in the household (Statistics Canada).

Suggested Citation: Health Canada. *Physical activity of Canadians. 2.10 Non-leisure physical activity.* National Population Health Survey Highlights, November 1999;2.

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National Population Health Survey Highlights

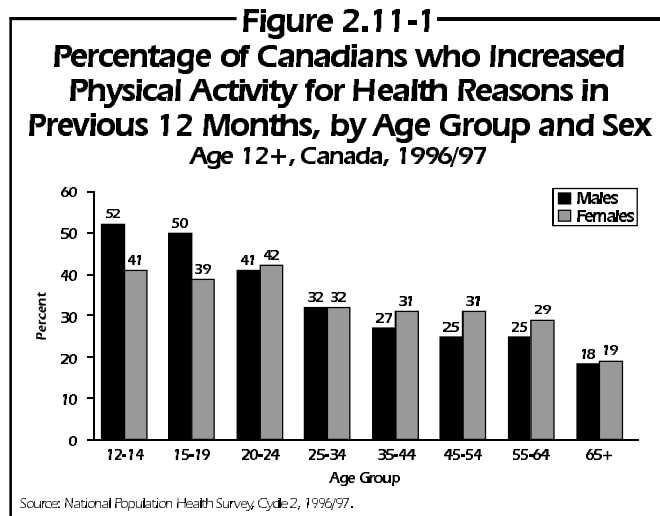
Physical Activity of Canadians

Cycle 2, 1996/97

2.11 Being Physically Active for Health Reasons

Taking Action to Improve Health

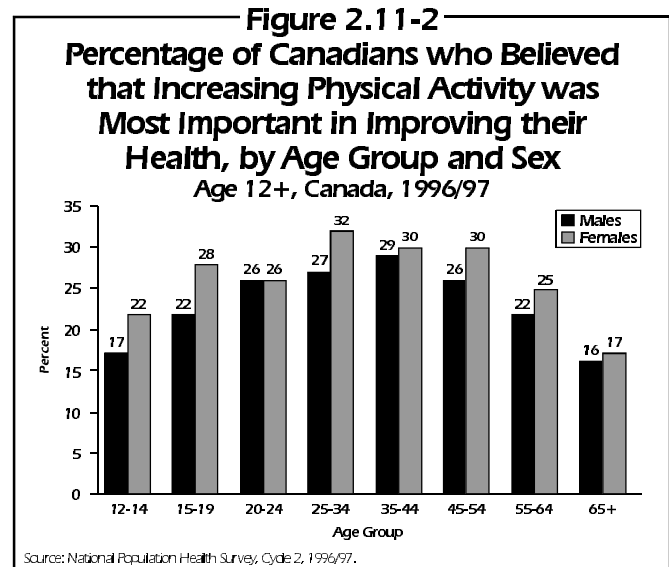
An estimated 47% of Canadians aged 12 and over in 1996/97 reported having taken some action in the previous 12 months to improve their health; slightly more women than men reported this (50% vs. 45%). Among those who reported taking some action, 65% said that the most important change they had made was to increase physical activity. This represented 31% of Canadians overall. The proportion of Canadians who took action to improve their health decreased with age, as did the proportion of Canadians who increased physical activity (Figure 2.11-1). The highest proportion (40%) of Canadians who reported having increased physical activity were in the *inactive* category of the Physical Activity Index (see Terminology), compared with 29% in the *moderately* active and 31% in the *active* categories.



Perceived Need to Take Action to Improve Health

More than half of Canadians (55%) stated that they should do something to improve their health. Of these, 47% stated that they should increase physical activity,

representing 26% of Canadians overall (Figure 2.11-2). Physical activity was the most frequently reported perceived need, followed by quitting smoking, improving eating habits and losing weight. Sixty-seven percent of those who reported that they should do more physical activity to improve their health were classified as *inactive*. Another 14% were in the *active* category, and the remaining 20% were in the *moderately* active category.



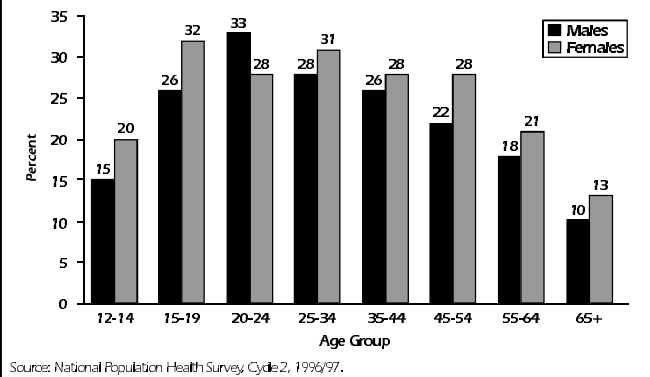
Of Canadians who stated that they needed to increase physical activity, almost half (46%) reported that there was something stopping them from doing so. The most frequent reason given was lack of time, followed by lack of willpower or self-discipline, disability or health problem, fatigue, and financial considerations.

Intended Action to Improve Health

More than 36% of Canadians stated that they intended to do something to improve their physical health in the next year. Of these, the majority (66%) reported that they intended to start or increase physical activity. This represents 24% of Canadians overall. The proportion intending to start or increase their physical activity was

Figure 2.11-3

Percentage of Canadians who Intended to Start or Increase Physical Activity in the Year Following the Survey, by Age Group and Sex
Age 12+, Canada, 1996/97



consistently higher among women than men and varied across the age groups (Figure 2.11-3). Sixty percent of Canadians intending to start or increase physical activity in the next year were in the *inactive* category, 18% were in the *active* category, and the remaining 23% were in the *moderately* active category.

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