

Good health entails physical function, as well as the ability to carry out activities and roles as a member of society. But it also includes mental and emotional well-being. Moreover, these domains of health overlap. Sickness and injury can bring about emotional difficulties such as depression,^{1,2} while stress and anxiety may manifest themselves in physical illness.^{3,4}

Data about the prevalence of stress, emotional problems and chronic conditions provide some indication of the people who are vulnerable and in need of support. Thus, the information is important not only in terms of disease prevalence and mortality, but also from a public health perspective.

STRESS AND WELL-BEING

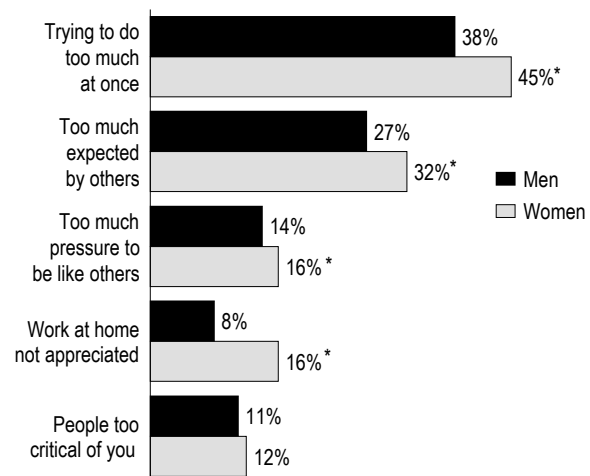
Although women generally live longer than men, throughout their lives women are more subject to a wide range of chronic conditions.⁵ The consequences of these conditions are often associated with activity limitations and poor health. However, the impact of those problems and responses to them differ for males and females.

Personal stress

Work, family and social commitments often contribute to a sense of time pressure, feeling that one has not met others' expectations, and feeling unappreciated. The resulting stress can influence the onset and progression of physical illness (see *Stress and disease*).

In the National Population Health Survey (NPHS), personal stress was defined as: trying to take on too much at once; feeling pressure to be like other people; feeling that others expect too much; feeling that your work around the home is not appreciated; and feeling that others are too critical of you. In 1994/95 (the most recent data available), 45% of women aged 18 or older reported that they were trying to do too much at once; 38% of men felt this way. Similarly, a third of women,

Percentage of population aged 18 or older experiencing personal stress, by type of stress, 1994/95



Data source: National Population Health Survey, household component
* Difference between sexes is statistically significant ($p \leq 0.05$).

Stress and disease

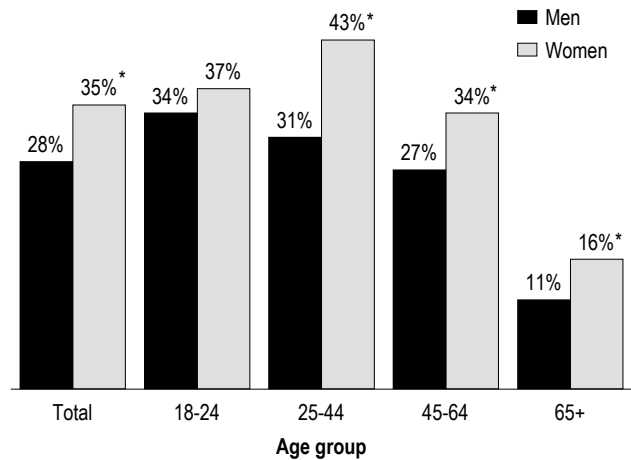
Although the exact mechanisms are not fully understood, the negative emotional and cognitive effects of stress may alter the immune response and increase susceptibility to disease.^{6,7} Stress can also play a role in the onset and course of autoimmune diseases such as rheumatoid arthritis.^{6,8} In addition, stress may prompt changes in health behaviour as individuals try to cope.^{7,9} For example, someone under pressure may take up smoking or begin to smoke more. Excessive eating, an unhealthy weight gain, and increased alcohol consumption are other potential responses.

Longitudinal data from the National Population Health Survey (NPHS) show that feeling personal stress in 1994/95 was predictive of developing chronic conditions over the next four years, even when age, socio-economic status and several health-related behaviours (smoking, drinking, body mass index, leisure-time physical activity) were taken into account. Men who had experienced high personal stress in 1994/95 had about twice the odds of having been diagnosed with migraine, ulcers or arthritis by 1998/99, compared with those who had not reported high personal stress. For women, high personal stress in 1994/95 was associated with significantly high odds of a new diagnosis of chronic bronchitis/emphysema (2.0), ulcers (1.6), asthma (1.6), back problems (1.5), or arthritis (1.3) by 1998/99.

More generally, men and women who experienced high personal stress had significantly low odds of having "continuing good health." To be in this healthy state, individuals had to rate their health as very good or excellent in each of the three NPHS cycles: 1994/95, 1996/97 and 1998/99. Compared with people who had not reported high personal stress in 1994/95, the odds of continuing good health were low among men (0.7) and women (0.5) who had experienced that level of stress.

As well, women who were under high personal stress in 1994/95, but had not experienced a major depressive episode in the preceding year, had high odds of reporting such an episode in 1996/97 (2.6) and in 1998/99 (1.8), compared with women who had not been under high stress. For men, however, high personal stress in 1994/95 was not significantly related to subsequent depressive symptoms.

Population aged 18 or older experiencing high[†] personal stress, by age group, 1994/95



Data source: National Population Health Survey, household component
[†] Replied "yes" to two or more personal stress items.

* Difference between sexes is statistically significant ($p \leq 0.05$).

but just over a quarter of men, said that others expected too much of them. Women were also more likely than men to feel pressure to be like others, or that their work around the home was not appreciated.

Not surprisingly, then, high personal stress—defined as experiencing at least two of these forms of stress—was more common in women than men. And though personal stress tended to decline at older ages, in each age group, a larger proportion of women than men were affected.

Work stress

Employment can have a positive effect on health as a result of steady or increased income, access to job-related benefits such as paid sick leave or drug and dental insurance plans, and a sense of self-esteem.

But having a job can also mean exposure to work stress, which can affect physical and emotional well-being^{5,9-11} (see *Stress at work*). Work stress stems from a number of sources: physically demanding labour, low support from co-workers and supervisors, job strain, and job insecurity.

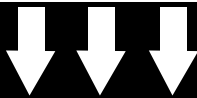
In 1994/95, about 4 in 10 Canadian workers aged 15 to 64 reported that their jobs were physically

demanding. As might be anticipated, this was more common among men than women. The proportions of workers in such jobs declined with age, and the difference between men and women disappeared from age 45 on.

Close to 3 in 10 workers reported low support from their co-workers. Among workers aged 45 or older, there was no difference between men and women, but from ages 15 to 44, women were more

likely than men to feel they had low co-worker support.

Around 2 in 10 workers experienced job strain. That is, they were in hectic jobs, subject to conflicting demands, and had little freedom in controlling the pace of their work or in deciding how to carry out their duties. Job strain tended to decrease with age, but at all ages, women were more likely than men to report it.



Stress at work

Work stress is linked to a variety of health problems, although the effects sometimes vary by sex.^{9,12,13} According to the 1994/95 National Population Health Survey (NPHS), several types of work stress were independently associated with various health problems.¹⁴ Work stress variables examined in relation to health problems included physical demands of the job, work strain, low co-worker support, low supervisor support, and job insecurity. The analysis controlled for occupation, full- or part-time employment, personal characteristics, health behaviours, and psychological variables. The personal characteristics were age, marital status, education, household income, and presence of children younger than 12 in the household. The health behaviours comprised smoking status and level of leisure-time physical activity. The psychological variables were recent negative life events, chronic strain, lack of closeness, and sense of mastery.

Not surprisingly, the odds of having suffered a work injury in the past 12 months were significantly high for men (3.3) and women (1.9) who had physically demanding jobs, compared with male and female workers whose jobs did not involve strenuous exertion.

Men experiencing high job strain in 1994/95 had high odds of suffering migraine (1.6) that year, compared with men who did not experience high job strain. As well, increasing levels of job strain among men were associated with increasing psychological distress, that is, feelings of sadness, nervousness, and that everything was an effort.

The odds of migraine were significantly high (1.5) among men with low co-worker support, compared with men receiving more support from their colleagues.

Among women, the odds of having had a work injury in the past year were significantly elevated for those who reported high job strain (1.2) or low co-worker support (1.8), compared with women who did not report these forms of work stress. In addition, at successively lower levels of co-worker support, women's psychological distress increased. And compared with women who did not perceive their job to be insecure, those who did had high odds of reporting migraine (1.4) in 1994/95.

Data for people followed over time showed that job strain was associated with subsequent depression. This association takes into account the effects of several potentially confounding variables: age, education, household income, smoking, alcohol consumption, leisure-time physical activity, body mass index, and personal stress. Controlling for these variables, the odds were high that men and women who experienced job strain in 1994/95 would, in 1996/97, report symptoms of having had a major depressive episode (2.7 and 1.8, respectively), compared with men and women who did not have job strain.

As well, the odds of having continuing good health (very good or excellent self-rated health in each of the three NPHS cycles) were significantly low for men (0.7) and women (0.8) who experienced job strain in 1994/95, compared with male and female workers who did not experience job strain.

Percentage of workers aged 15 or older reporting work stress or job dissatisfaction, by age group, 1994/95

Type of work stress/Job dissatisfaction	Age group			
	Total workers	15-24	25-44	45+
		%		
High physical demands				
Men	44*	56*	45*	38
Women	37	44	37	35
Low co-worker support				
Men	27	26	29	22
Women	31*	32*	34*	25
High job strain				
Men	17	25	18	11
Women	28*	37*	29*	20*
High job insecurity				
Men	18	17	19	15
Women	19	20	20	16
Low supervisor support				
Men	16	14	16	15
Women	15	18	14	13
Job dissatisfaction				
Men	8	10	8	8*
Women	9	12	10*	4

Data source: National Population Health Survey, household component
 * Differences between sexes is statistically significant ($p \leq 0.05$).

Substantial proportions of workers felt that their jobs were insecure (18%) or that they received little support from their supervisors (15%). The likelihood of being in either situation was about the same for men and women.

Overall, just 1 in 10 workers expressed job dissatisfaction. At ages 25 to 44, such sentiments were more common among women than among men. But at older ages, a larger percentage of men than women said they were dissatisfied with their job.

High physical demands, job strain, job dissatisfaction and job insecurity tended to be most common among people in low-income households, where equally large percentages of men and women were affected. At higher income levels, the various types of work stress were reported less frequently, but differences emerged between the sexes. In middle- and high-income households, men were more likely than women to report high physical demands, whereas women were more likely than

men to report job strain. As well, women in high-income households were more likely than their male counterparts to report high job insecurity and low co-worker support.

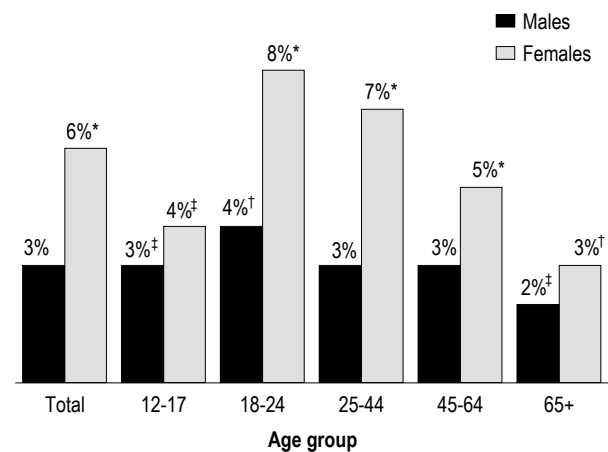
Depression

A major depressive episode is characterized by a depressed mood and/or lack of interest in most activities, accompanied by symptoms such as appetite or sleep disturbance, decreased energy, difficulty concentrating, and feelings of worthlessness and/or suicidal thoughts—all lasting at least two weeks.¹⁵ Understandably, such symptoms disrupt not only the lives of the people affected, but of those around them.

In 1998/99, an estimated 4% of Canadians aged 12 or older reported symptoms strongly suggesting that they had suffered at least one episode of depression during the previous year. The prevalence of depression among females was twice that among males: 6% versus 3%.

For both sexes, the prevalence of depression peaked at ages 18 to 24, and dropped at successively older ages. However, from ages 18 to 64, the prevalence was much higher among women than men. There was no gender gap among teenagers (12 to 17) and seniors.

Prevalence of depression in past year, population aged 12 or older, by age group, 1998/99



Data source: National Population Health Survey, household component
 † Coefficient of variation between 16.6% and 25.0%
 ‡ Coefficient of variation between 25.1% and 33.3%
 * Difference between sexes is statistically significant ($p \leq 0.05$).

Chronic conditions

Although the prevalence of most chronic conditions and diseases increases with age, the health consequences of specific conditions vary. Some, such as heart disease and cancer, can be fatal. Others, such as Alzheimer's disease and urinary incontinence, contribute to serious physical limitations and dependency and may eventually lead to institutionalization. By contrast, arthritis and back problems rarely result in death or institutionalization, although they can bring considerable pain and severely compromise quality of life (see *Impact of chronic conditions*).

Generally, non-fatal conditions tend to be more common among females. For instance, in 1998/99, larger percentages of females than males aged 12 or older reported having arthritis, non-arthritic back problems, migraine, and urinary incontinence. These are conditions that entail a substantial burden of illness, as they involve distressing symptoms, disability and considerable medical care. Diabetes, however, was more common among males than

females, perhaps a reflection of the higher prevalence of overweight/obesity among men.

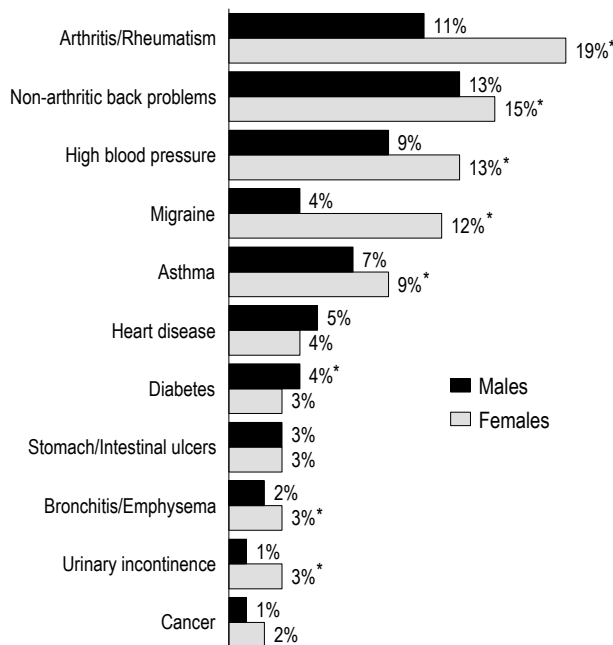
The two leading causes of death—heart disease and cancer—were reported much less frequently than other chronic conditions, and overall differences between the sexes were not significant.

Even among 12- to 24-year-olds, a male/female disparity in the prevalence of chronic conditions was evident. At these ages, females were more likely than males to suffer from migraine and back problems.

Chronic conditions were more prevalent at ages 25 to 44 than among younger people, and sex differences were notable. Higher percentages of women than men had migraine and arthritis, while diabetes affected a higher percentage of men.

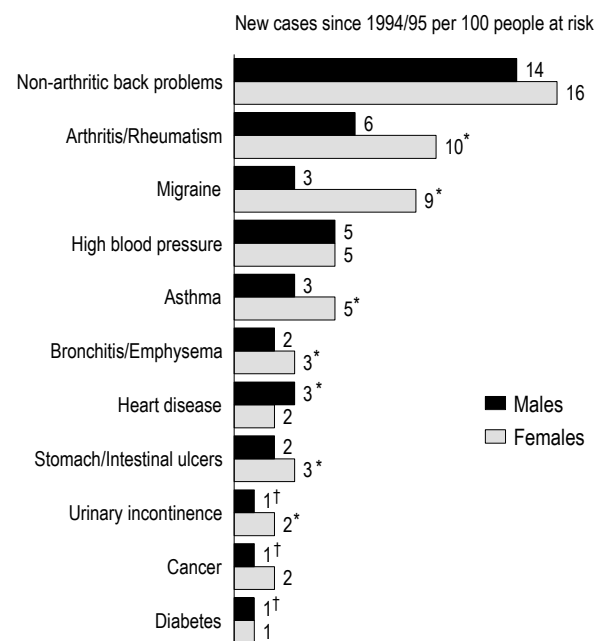
At ages 45 to 64, disparities between the sexes were pronounced. Women in this age range were more likely than their male contemporaries to report arthritis, migraine, asthma and bronchitis/emphysema. Cancer, too, was more prevalent among women, which may be partially attributable to breast cancer. By contrast, men were more likely

Prevalence of chronic conditions, population aged 12 or older, 1998/99



Data sources: 1998/99 National Population Health Survey, household component
 * Difference between sexes is statistically significant ($p \leq 0.05$).

Four-year cumulative incidence of chronic conditions, population aged 12 to 64, 1998/99



Data source: National Population Health Survey, household component
 † Coefficient of variation between 16.6% and 25.0%
 * Difference between sexes is statistically significant ($p \leq 0.05$).

than women to have been diagnosed with heart disease.

Among seniors, some of the sex differences that existed at younger ages disappeared. For example, the prevalence of asthma, bronchitis/emphysema, heart disease and cancer was the same for elderly men and women. However, a higher percentage of women than men aged 65 or older had arthritis, high blood pressure, and migraine. Senior men were more likely than senior women to have diabetes.

The prevalence of most of these chronic conditions was higher among people in low-income

households than among those in more affluent households. The exceptions were migraine, which was more common at higher income levels, and cancer, which did not vary by income. However, many male–female differences in prevalence persisted regardless of income.

For instance, at all income levels, females were more likely than males to have arthritis, urinary incontinence and migraine, and in lower- and middle-income households, high blood pressure. Conversely, asthma was more common among females than males only in the highest income group.



Impact of chronic conditions

The presence of a chronic condition affects not only how well a person feels, but also the ability to carry out normal activities and to live independently. According to the National Population Health Survey (NPHS), in 1994/95, the odds were high that people aged 45 or older who had various chronic conditions would have an activity limitation, compared with people of the same age who did not have those specific conditions. The odds of reporting an activity limitation that year were particularly high for people with heart disease (4.6), chronic bronchitis/emphysema (3.4), arthritis (3.2) or back problems (2.8). The odds of activity limitation were also significantly high for those with cancer or asthma (both 2.1), migraine (1.7), or ulcers (1.5).

Longitudinal NPHS data show that the longer-term impact of these chronic conditions can be daunting. People who had not been limited in 1994/95 had significantly high odds of developing an activity limitation by 1998/99 if, in 1994/95, they had had heart disease (2.9), diabetes (2.3), migraine (2.0), or arthritis or back problems (both 1.5), compared with people who did not have these conditions. As well, the odds of describing one's health as at least good in 1994/95, but poor or fair in 1998/99, were high among people with heart disease or diabetes (both 2.1), arthritis or bronchitis/emphysema (both 1.7) or high blood pressure (1.6).

As might be expected, some conditions were more predictive of death than others. Compared with people who were not afflicted in 1994/95, the odds of having died by 1998/99 were high for those who had cancer (3.3), bronchitis/emphysema (2.1), heart disease (1.9), or diabetes (1.7).

Much of the sex difference in health status, therefore, appears to stem from the higher overall prevalence of many chronic conditions in women than in men, rather than from any difference in how the sexes respond to or tolerate such conditions. In fact, in 1994/95, men and women who had the same disease had equal odds of having an activity limitation or reporting poor or fair health.

In the long run, however, women seem to be more resilient. When men and women of the same age and with the same conditions in 1994/95 were compared, the odds that men would report their health as poor or fair in 1998/99 were 1.3 times the odds for women, and their odds of having died by that date were 1.4 times as great. Even including the population in health institutions, and accounting for other medical, psychosocial, behavioural, social and demographic factors, the odds of having died between 1994/95 and 1998/99 remained higher for men.

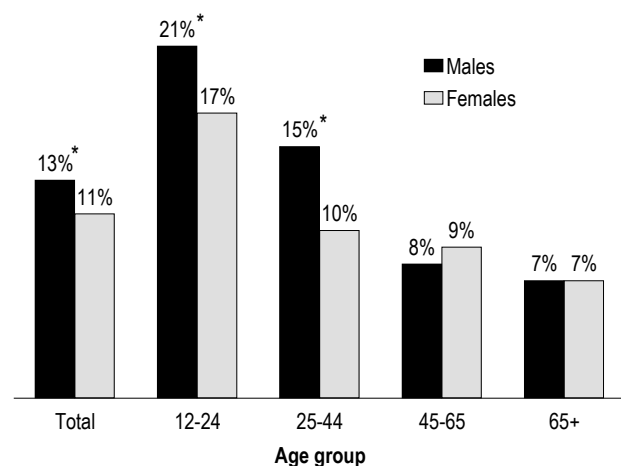
Heart disease was a special case. In lower-income households, women were more likely than men to be afflicted; in higher-income households, a larger percentage of men than women reported heart disease.

Females aged 12 to 64 were more likely than males to report a new diagnosis of arthritis, migraine, asthma, bronchitis/emphysema, ulcers, or urinary incontinence between 1994/95 and 1998/99. On the other hand, although substantial numbers of people developed back problems and high blood pressure, the gap between the sexes was not significant. (To avoid bias arising from differences in the attrition of senior men and women due to mortality and institutionalization, new cases were examined only for people aged 12 to 64 who were living in households in 1994/95.)

Injury

Injuries are a major cause of activity limitation and often require medical care and a period of recovery. This can impose heavy burdens (physical, emotional and financial) on the individuals who are injured and on the people who care for them. In 1998/99, 12% of Canadians aged 12 or older reported that in the previous year they had had at least one injury serious enough to limit their normal activities. Males were more likely than females to have been injured.

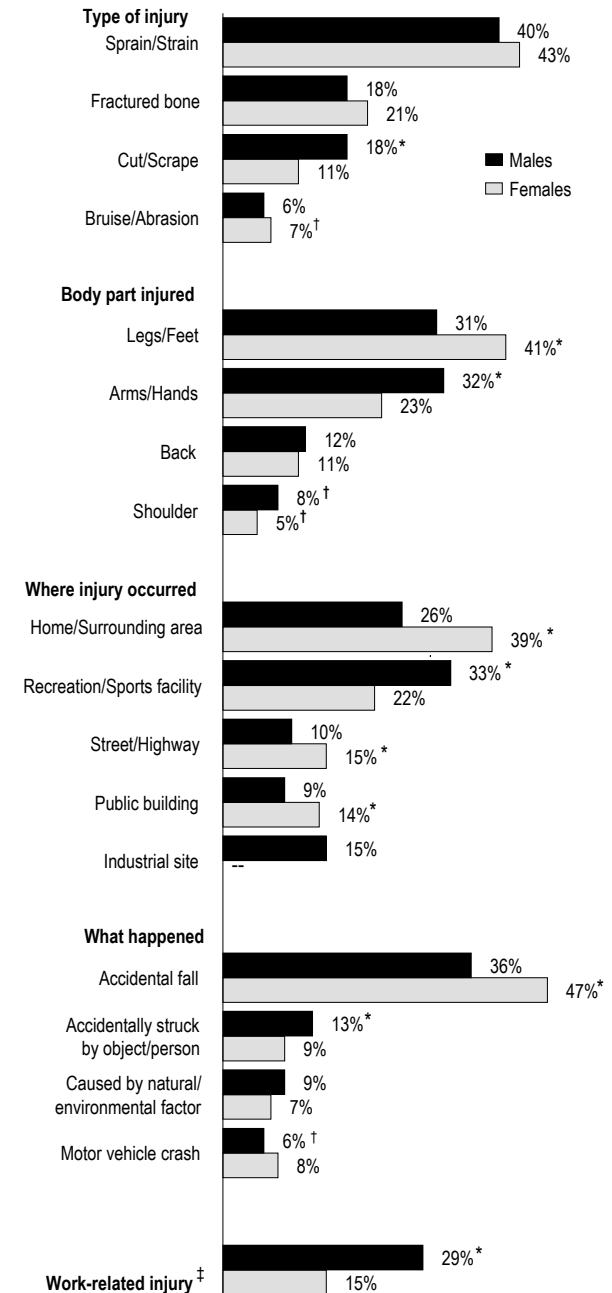
Percentage of population aged 12 or older injured† in past year, by age group, 1998/99



Data source: National Population Health Survey, household component
 † Excluding repetitive strain injuries
 * Difference between sexes is statistically significant ($p \leq 0.05$).

Injuries were particularly common among younger people (12 to 24). Up to age 44, higher proportions of males than females reported having been injured. With increasing age, however, injury

Characteristics of most serious injury, population aged 12 or older injured in past year, 1998/99



Data source: National Population Health Survey, household component
Note: Because "other" category is not shown, detail may not add to 100%.
 † Coefficient of variation between 16.6% and 25.0%
 ‡ Population aged 15 or older
 * Difference between sexes is statistically significant ($p \leq 0.05$).
 -- Coefficient of variation greater than 33.3%

rates declined, especially among men, so that from 45 on, differences between the sexes were not significant.

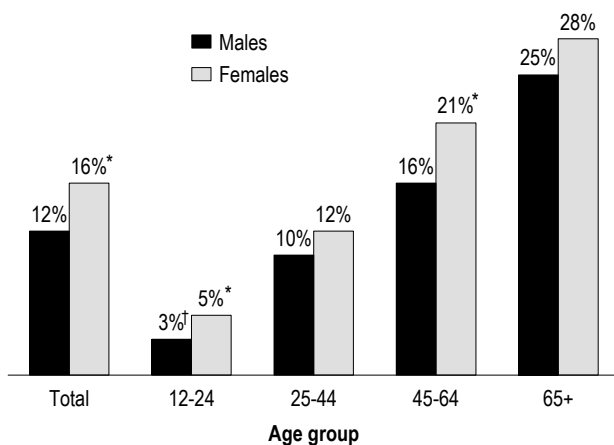
About four in ten injuries to females happened at home. One out of three injuries to males occurred in recreational or sports settings, a reflection of their greater participation in vigorous leisure-time activities. Males were also more likely than females to sustain injuries at work, which is not surprising, given that a higher percentage of men than women had a physically demanding job.

Falling was the most frequent cause of injury for both males and females in all age groups, and it accounted for a significantly larger proportion of injuries to females than males at age 25 or older. Being accidentally struck by an object or person was more common among males than females. There were no sex differences in the proportions of injuries caused by natural and environmental factors or by motor vehicle crashes.

Pain

Chronic pain can affect not only physical health, but also emotional well-being. It can invade all aspects of an individual's life—at home and at work; in personal and business relationships. In addition, chronic pain has implications for health care use, since people afflicted spend more time in hospital

Prevalence of chronic pain, population aged 12 or older, by age group, 1998/99



Data source: National Population Health Survey, household component

† Coefficient of variation between 16.6% and 25.0%

* Difference between sexes is statistically significant ($p \leq 0.05$).

and see physicians more often than those who are not afflicted.¹⁶

Many of the conditions that are more prevalent among females—migraine and arthritis, for instance—can be painful. Therefore, it is not surprising that in 1998/99, 16% of females aged 12 or older reported that they usually suffer from pain. The corresponding figure for males was 12%.

Chronic pain was most common among seniors, but the difference between men and women in this age range was not statistically significant: 25% and 28%, respectively. The age ranges in which females were more likely than males to experience chronic pain were 12 to 24 and 45 to 64.

Activity limitation and dependency

In 1998/99, 14% of the household population aged 12 or older had a long-term activity limitation; that is, a physical or mental condition that had lasted or was expected to last at least six months and that limited them at home, at school, at work, or in other settings (see *Impact of chronic conditions*). As expected, the likelihood of having an activity limitation rose with age, from 6% of 12- to 24-year-olds to 30% of seniors. Overall, the percentage of females (15%) with a limitation significantly exceeded the percentage of males (13%). However, 12- to 24-year-olds were the only age group in which the proportion of females with a limitation was significantly higher than the proportion of males.

Just 2% of the household population aged 12 or older were so limited that they depended on others to carry out activities of daily living, including washing or dressing themselves, eating, or moving about in their home. Overall, a slightly but significantly higher percentage of females relied on others for such help (2.4% versus 1.8% of males). Dependency was most common at age 65 or older (7%), but there was no difference between the percentages of senior men and women who lived in households and who were dependent.

For every 100 people who had not been limited in 1994/95, 9 had a limitation by 1998/99. And of every 100 people who had been independent in 1994/95, 2 had become dependent by 1998/99. Not surprisingly, new cases of activity limitation or

dependency were most likely at older ages. Overall, females were more likely than males to have developed an activity limitation, but there was no difference between the sexes in the percentages who had become dependent.

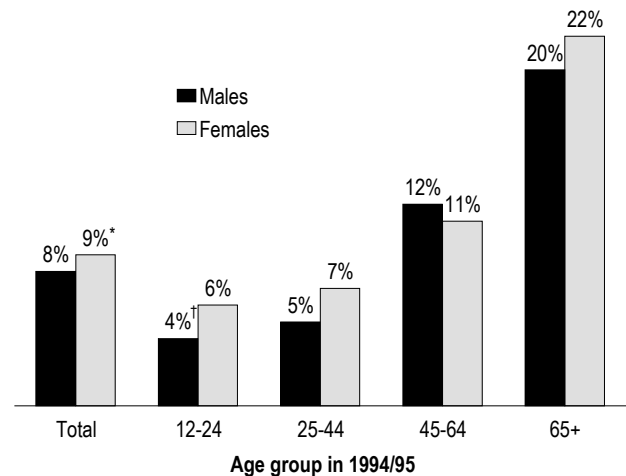
Activity limitations and dependency are not necessarily long-lasting. In fact, nearly half of people who reported a limitation in 1994/95, and 60% who had been dependent, reported that they were no longer in those situations by 1998/99. This may reflect the natural resolution of some conditions (back problems, for example) and effective treatment of others (such as arthritis), resulting in improvements in functional ability.

The likelihood that a limitation or dependency would disappear did not differ between the sexes. However, people in low-income households were least likely to report the disappearance of an activity limitation.

While the disappearance of activity limitation and dependency was most typical at younger ages, over one-third of seniors who had been limited or dependent in 1994/95 were free of those problems by 1998/99.

Both the incidence and disappearance of activity limitation include people who had been institutionalized by 1998/99. The incidence and

Population aged 12 or older who developed long-term activity limitation between 1994/95 and 1998/99, by age group



Data source: National Population Health Survey

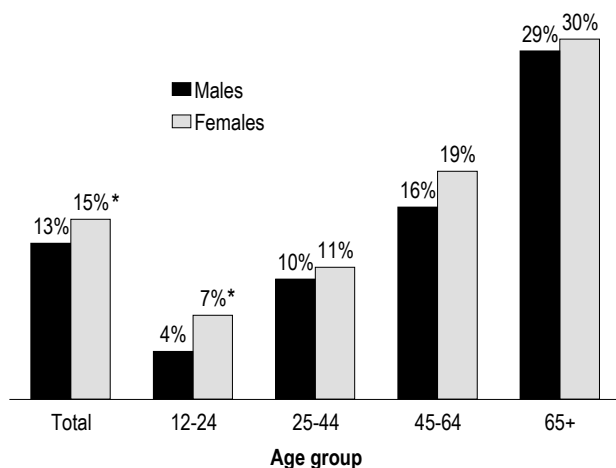
Note: Percentage of people with limitation by 1998/99 among those free of limitation in 1994/95. Includes people who had entered a long-term health care institution by 1998/99.

† Coefficient of variation between 16.6% and 25.0%

* Difference between sexes is statistically significant ($p \leq 0.05$).

disappearance of dependency, however, pertain only to people who remained in private households; those who had been institutionalized by 1998/99 were excluded from the analysis.

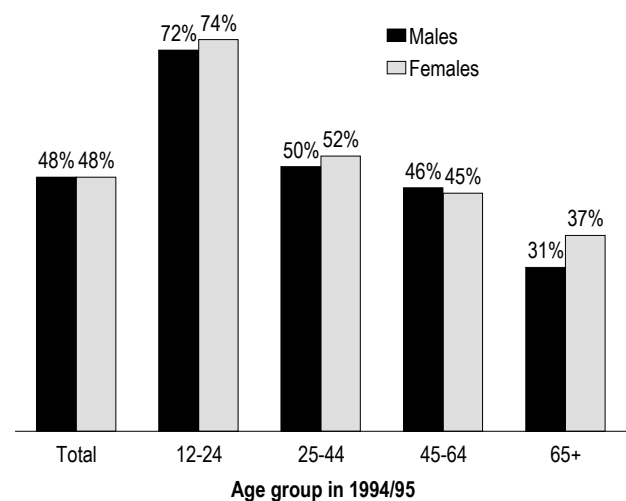
Population aged 12 or older with long-term activity limitation, by age group, 1998/99



Data source: National Population Health Survey, household component

* Difference between sexes is statistically significant ($p \leq 0.05$).

Population aged 12 or older who became free of long-term activity limitation between 1994/95 and 1998/99, by age group



Data source: National Population Health Survey

Note: Percentage of people free of limitation by 1998/99 among those with limitation in 1994/95. Includes people who had entered a long-term health care institution by 1998/99.

Social support

Social support often helps people cope with stress and illness, and it sometimes influences physical health.^{17,18} There are several types of social support, including affection, social interaction, emotional or informational support, and tangible support.

Affection is having someone who shows you love, who hugs you, and who makes you feel wanted. Social interaction means that you can have a good time, do something enjoyable, get your mind off things, or simply relax with family or friends. Emotional or informational support comes from people who understand you and your problems, whose advice you really want, and with whom you can share worries and fears. Tangible social support is more concrete—having someone to do specific tasks in a time of need: to help if you are confined

Population aged 12 or older with social support most or all of the time, by type of support, 1998/99

Type of social support	Males	Females
	%	
Tangible		
Having someone:		
To help if you were confined to bed	78*	75
To take you to the doctor if necessary	85	87
To prepare your meals if you could not	83*	78
To help with daily chores if you were sick	80*	77
Affection		
Having someone:		
To show you love and affection	85	89*
To hug you	76	81*
To love you and make you feel wanted	82	85*
Social interaction		
Having someone:		
To have a good time with	83	84
To get together with for relaxation	79	81
To help get your mind off things	78	78
To do something enjoyable with	83	83
Emotional/Informational		
Having someone:		
To listen when you need to talk	83	86*
To give you advice in a crisis	78	82*
To give you information to help you understand a situation	79	83*
To confide in or talk to about yourself or your problems	80	85*
Whose advice you really want	74	79*
To share your most private worries and fears	75	81*
To suggest how to handle a personal problem	78	82*
Who understands your problems	78	82*

Data source: National Population Health Survey, household component
* Difference between sexes is statistically significant ($p \leq 0.05$).

to bed; to take you to the doctor; and to prepare meals and do chores if you are unable to do so. In 1998/99, most Canadians aged 12 or older had access to each of these forms of social support.

However, the likelihood of having the various kinds of support differed by sex. Higher percentages of females than males had someone to show them love and affection, to hug them, and to make them feel wanted. As well, females were more likely to have people who would do such things as listen when they needed to talk, give advice in a crisis, and understand their problems. To some degree, the relatively high prevalence of personal and job stress, depression, and painful chronic conditions among women may be buffered by greater social support.

On the other hand, males were more likely than females to have someone to help them if they were confined to bed and to prepare meals and help with chores if they could not—in other words, tangible social support.

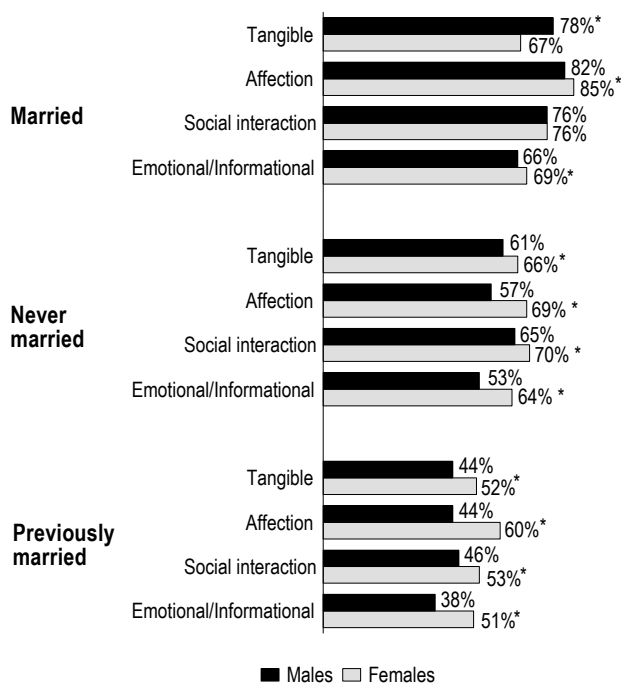
Up to age 45, females were more likely than males to have sources of affection and of emotional and informational support. From age 25 on, men were

Population aged 12 or older with social support most or all of the time, by type of support and age group, 1998/99

Type of support	Age group					
	Total	12-17	18-24	25-44	45-64	65+
	%					
Tangible						
Males	70*	69	69	71*	73*	65*
Females	65	75	72	65	63	57
Affection						
Males	72	71	69	75	75	63
Females	77*	79*	80*	82*	75	65
Social interaction						
Males	70	67	77	72	72	58
Females	71	76*	78	74	70	59
Emotional/Informational						
Males	59	55	61	62	60	53
Females	65*	71*	72*	67*	63	55

Data source: National Population Health Survey, household component
* Difference between sexes is statistically significant ($p \leq 0.05$).

Percentage of population aged 18 or older with social support most or all of the time, by marital status and type of support, 1998/99



Data source: National Population Health Survey, household component

Note: Refers to those who had support most or all of the time on each component of specific type of support.

* Difference between sexes is statistically significant ($p < 0.05$).

more likely than women to have tangible support. Among seniors, levels of support were relatively low, and except for tangible support, did not differ by sex.

The availability of social support is strongly related to marital status. Married men and women were most likely to have each of the four types of support; previously married people (divorced/separated/widowed), least likely. But in each marital status category, the percentage of females with support was the same or higher than the percentage of males. The exception was tangible support among married people: 78% of married men had such support, compared with 67% of married women. Moreover, the higher percentage of married men than married women with tangible support prevailed in all age groups older than 25.

Concluding remarks

For both sexes, personal and work stress are predictive of mental and physical health problems. Women, however, are much more likely than men to experience stress. This may reflect social expectations and the division of labour in the workplace and at home. The fact that women are more likely than men to experience stress may account for their higher prevalence and incidence of health problems.

But while women are more likely than men to suffer an array of debilitating and painful chronic conditions that are highly associated with activity limitation, the longer-term impact of these conditions is not the same for each sex. Once afflicted, women seem to be more resilient.

At most ages, notably the senior years, women were no more likely than men to have activity limitations or to be dependent. And given the same specific condition and the same age, men are more likely to report ill health and more likely to die than their female counterparts. In some measure, this may have to do with women's greater tendency to build support networks, perhaps to cope with stress and to deal with the effects of painful chronic diseases.

References

- 1 Fishbain DA, Cutler R, Rosomoff HL, et al. Chronic pain-associated depression: Antecedent or consequence of chronic pain? A review. *The Clinical Journal of Pain* 1997; 13(2): 116-37.
- 2 Ruoff GE. Depression in the patient with chronic pain. *The Journal of Family Practice* 1996; 43(6): S25-34.
- 3 Goldberg L, Comstock CW. Life events and subsequent illness. *American Journal of Epidemiology* 1976; 104: 146-58.
- 4 Lerner DJ, Levine S, Malspeis S, et al. Job strain and health-related quality of life in a national sample. *American Journal of Public Health* 1994; 84(10): 1580-5.
- 5 Verbrugge LM. The twain meet: Empirical explanations of sex differences in health and mortality. *Journal of Health and Social Behaviour* 1989; 30: 282-304.
- 6 Cohen S, Herbert TB. Health psychology: Psychological factors and physical disease from the perspective of human psychoneuroimmunology. *Annual Review of Psychology* 1996; 47: 113-42.

- 7 Cohen S, Tyrell DA, Smith AP. Psychological stress and susceptibility to the common cold. *The New England Journal of Medicine* 1991; 325(9): 606-12.
- 8 Koehler T. Stress and rheumatoid arthritis: A survey of empirical evidence in human and animal studies. *The Journal of Psychosomatic Research* 1985; 29(6): 655-63.
- 9 Hellerstedt WL, Jeffery RW. The association between job strain and health behaviours in men and women. *International Journal of Epidemiology* 1997; 26(3): 575-83.
- 10 Karasek RA, Theorell T. *Healthy Work: Stress, Productivity and the Reconstruction of Working Life*. New York: Basic Books, 1990.
- 11 Stansfeld SA, Fuhrer R, Head J, et al. Work and psychiatric disorder in the Whitehall II study. *Journal of Psychosomatic Research* 1997; 43(1): 73-81.
- 12 Roxburgh S. Gender differences in work and well-being: Effects of exposure and vulnerability. *Journal of Health and Social Behaviour* 1996; 37: 265-77.
- 13 Hall EM. Gender, work control and stress: A theoretical discussion and an empirical test. *International Journal of Health Services* 1989; 19(4): 725-45.
- 14 Wilkins K, Beaudet MP. Work stress and health. *Health Reports* (Statistics Canada, Catalogue 82-003) 1998; 10(3): 47-62.
- 15 Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry* 1994; 51(1): 8-19.
- 16 Millar WJ. Chronic pain. *Health Reports* (Statistics Canada, Catalogue 82-003) 1997; 7(4): 47-53.
- 17 Berkman L, Syme SL. Social networks, host resistance and mortality: A nine-year study of Alameda County residents. *American Journal of Epidemiology* 1979; 109: 186-204.
- 18 Munroe SM, Bromet EJ, Connell MM, et al. Social support, life events, and depressive symptoms: A 1-year prospective study. *Journal of Consulting and Clinical Psychology* 1986; 54(4): 424-31.