

Stress at work

by **Cara Williams**

This article has been adapted from "Sources of workplace stress," *Perspectives on Labour and Income*, June 2003, vol. 4, no. 6, Statistics Canada Catalogue no. 75-001-XIE.

An employee sits at her desk. Her inbox is overflowing with unread e-mails, her phone is ringing insistently, and she is racing against time to complete a report for the next morning. The demands of the job are making her anxious. At a nearby construction site workers fear layoff because winter is approaching. Meanwhile, on the other side of town, staff in a warehouse are nervous about the introduction of a new computer-based inventory control system. These are just a few examples of the sources of stress that people may encounter in the workplace.

According to research, workers in high-strain jobs have higher rates of a wide variety of diseases than their counterparts in low-strain jobs.¹ But the costs of workplace stress are not limited to those who experience it. The *Journal of Occupational and Environmental Medicine* reports that health care expenditures are nearly 50% greater for workers who report high levels of stress.² Stress can also be costly to employers because, if prolonged, it can result in increased absenteeism or a decline in productivity. The Canadian Policy Research Networks estimates that stress-related absences cost employers about \$3.5 billion each year.³

Using data from the 1994 and 2000 General Social Surveys (GSS), this article examines triggers of workplace stress among employed Canadians. With focus on the most recent period, it highlights some of the differences between self-employed and employed workers, full-time and part-time employees and various occupation groups. The article also looks at certain demographic characteristics and their association with stress triggers at work.

Workers less worried about layoffs in 2000

The Canadian Centre for Occupational Health and Safety defines workplace stress as "the harmful physical and emotional responses that can happen when there is conflict between job demands on the employee and the amount of control an employee has over meeting these demands."⁴ Specifically, the most commonly cited source of stress in the workplace is lack of time or excessive

1. Wilkins, K. and M. Beaudet. Winter 1998. "Work stress and health." *Health Reports* (Statistics Canada Catalogue no. 82-003) 10, 3: 47-52.
2. As cited on the National Institute for Occupational Safety and Health Web site. www.cdc.gov/niosh/stresswk.html (accessed May 8, 2002).
3. For more information, see Duxbury, L. and C. Higgins. October 2001. "Work-life balance in the new millennium: Where are we? Where do we need to go?" Canadian Policy Research Networks discussion paper no. W/12.
4. See www.ccohs.ca/oshanswers/psycho-social/stress.html (accessed May 8, 2002).

CST What you should know about this study

Most of the data in this article come from the 2000 General Social Survey (GSS) on access to and use of information technologies. The GSS is an annual telephone survey covering the population aged 15 and over living in private residences in the 10 provinces. Data were collected over a 12-month period from approximately 25,100 respondents. The question on work stress was asked only of people who had worked at some time during this period. These individuals represented 16.9 million Canadians.

Full-time workers: individuals who generally worked 30 or more hours each week.

Part-time workers: individuals who generally worked less than 30 hours per week.

Work stress questions:

Has the following thing in your work environment caused you excess worry or stress in the past 12 months?

- Too many demands or too many hours
- Risk of accident or injury

- Poor interpersonal relations
- Threat of layoff or job loss
- Having to learn new computer skills
- Anything else

The article also uses the 1994 General Social Survey on education, work and retirement. Data were collected over a 12-month period from about 11,900 individuals. Respondents were asked about their work stress if they held a job at the time of the survey. This resulted in a weighted count of about 8.9 million individuals. The workplace stress questions asked in 1994 were the same as those asked in 2000, excluding the question on having to learn new computer skills.

Data from the 1999 Workplace and Employee Survey (WES) was used to determine the percentage of employees with access to an Employee Assistance Program. WES, conducted during the 12-month period ending March 1999, is designed to explore a broad range of issues relating to employers and their employees.

CST Over one-third of Canadians cited excessive demands as the most common source of workplace stress



* 1994 data are not available for the computer skills category.
Source: Statistics Canada, General Social Survey.

workload demands. Other triggers include fear of accident or injury, poor interpersonal relationships with co-workers or supervisors, the threat of layoff or job loss or having to learn computer skills.

Despite different economic circumstances, most triggers of workplace stress were similar in both 1994 and 2000. For example, risk of accident or injury was cited by 14% of workers in 1994 and 13% in 2000, while too many demands or hours was reported by 34% of working Canadians in both years as a source of workplace stress. Threat of layoff or job loss was the exception. During the expanding economy of 2000, when jobs were relatively plentiful, only 13% of workers cited fear of job loss or layoff as a source of workplace stress compared with 22%

in 1994, a period following prolonged recession and high unemployment.

Too many demands and long hours most common source of workplace stress

Heavy workloads and long hours at work can infringe on personal time. New technologies such as the Internet and e-mail have “permanently wired employees to their jobs.”⁵ Thus it is not surprising that in 2000, the most common source of stress was too many demands and/or too many hours at work, reported by about one-third

(34%) of workers. Some 15% of respondents cited poor interpersonal relations, 13% stated risk of accident or injury and about 11% reported that having to learn new computer skills was a source of work stress. Fear of job loss or layoff was considered the cause of workplace stress by 13% of workers; of these, more than 4 in 10 felt that it was somewhat or very likely that they would lose their job or be laid off sometime in the next year.

Individuals may experience stress in their work environment from more than a single source. For example, while about 26% of employees felt

stress from one trigger and 16% of paid employees had two triggers, more than 10% cited three or more sources of stress in their work environment. This relatively high incidence of multiple stressors may be one of the reasons that employee assistance programs are becoming a popular way for

5. MacBride-King, J. and K. Bachmann. August 1999. *Solutions for the Stressed-out Worker*. Ottawa: The Conference Board of Canada.

CST One in four rotating shift employees worry about the risk of accident or injury

	Total '000	Too many demands/ hours	Risk of accident/ injury	Poor interpersonal relations	Threat of layoff/ job loss %	Having to learn computer skills	Other
Work arrangements							
Class of worker							
All workers	16,800	34	13	15	13	11	6
Self-employed	2,800	37	12	10	8	11	10
Employees	14,000	34	13	16	14	11	6
Employees only							
Hours of work							
All employees ¹	14,000	34	13	16	14	11	6
Full-time	11,500	37	14	17	15	12	6
30-35 hours/week	1,900	29	11	15	15	11	6
36-40 hours/week	6,100	33	14	17	16	12	6
41 or more hours/week	3,600	47	16	18	13	13	6
Part-time	2,300	20	9	11	10	7	5
1-15 hours/week	900	16	6	10	8	4 ^E	4 ^E
16-29 hours/week	1,400	22	11	12	11	9	5
Work schedules							
Regular daytime	9,500	35	11	15	14	12	6
Rotating shift	1,800	35	24	20	16	11	5
Regular evening or night	1,400	27	16	16	12	5	4
Irregular/split shift	900	35	17	16	13	11	5 ^E
Other/on call	300	21	11 ^E	15 ^E	13 ^E	F	9 ^E

1. Full-time and part-time employees.

^E High sampling variability.

F Sample too small to provide reliable estimate.

Source: Statistics Canada, General Social Survey, 2000.

employers to help their employees deal with stress.

Self-employed Canadians report different workplace stresses

Canadians often look to self-employment as an alternative to the traditional employee–employer relationship. Indeed, 2000 GSS data indicate that about 2.8 million Canadians were their own boss sometime during the year. The reasons for choosing self-employment vary from individual to individual. Some might do so because they are unable to find other work, while others may be motivated by the entrepreneurial pull. Whatever the reason, self-employment offers a different environment in which to work.

Data from the 2000 GSS show that, perhaps because they choose the people they work with, self-employed individuals are significantly less likely than employees to report poor interpersonal relationships (10% versus 16%) as a source of workplace stress. And while self-employed Canadians are also less likely to cite fear of job loss (8% versus 14%), they are slightly more likely to feel stress as a result of too many demands or excessively long hours at work (37% versus 34%).

Full-time workers more likely to report workplace stress

The majority of workers in Canada work full-time, that is, 30 or more hours in a week. Of the 14 million employees aged 15 and older who had worked sometime in the last 12 months, more than 80% regularly worked full-time. Perhaps because they spend more time at paid work, full-time employees were significantly more likely than their part-time counterparts to cite workplace stresses such as working too many hours, fear of injury, fear of layoff, poor interpersonal relationships, or having to learn new computer skills. Nearly half (47%) of full-time workers who worked more

than 40 hours per week reported stress from too many demands or too many hours in their work environment compared with 22% of part-timers who worked 16 to 29 hours a week.

Rotating shift workers more likely to worry about accidents at work

Research has shown that shift workers are more likely to have accidents or on the job injuries. Indeed, many of the largest industrial accidents have occurred in the early morning hours and have been attributed to staff falling asleep, making impaired judgments or having delayed reaction times as a result of not getting enough sleep.⁶ Even though many shift workers work a “typical” 8-hour day, they do so at different times, something that may interfere with their sleep and wake cycles. Many are never able to catch up on sleep and are more likely than others to have sleep problems.⁷ While virtually all types of shift workers were more likely than daytime workers to worry about accidents and injury on the job, rotating workers had the highest likelihood: 24% versus 11%.

Most shift workers were just as likely as daytime workers to cite too many demands or hours in the work environment as causes of stress (35%). The exceptions were regular evening or night shift workers (27%) and those who worked “other” types of schedules, including on-call (21%), who were slightly less likely to feel that way.

Managers stress over hours, while primary industry workers worry about safety

Individuals in management and professional occupations⁸ tended to cite too many demands or long hours, while workers in the trades, transport and primary occupations reported the risk of accident or injury as sources of stress. Workers in health related occupations were the most likely to

complain of excessive demands and long hours — fully 50%. In addition, one-third of these individuals also felt that the risk of accident or injury was a source of workplace stress, possibly because of risk of infection, long hours and irregular shifts. Workers in health related occupations were also much more likely than employees in general to cite multiple sources of workplace stress (42% versus 26%).

The advent of new technologies has facilitated communications and enabled firms to grow and evolve. However, the continuous change, which accompanies technological advances, requires constant skills upgrading, something that many Canadians find stressful. While in general only about 11% of employees feel stress as a result of having to learn computer skills, 20% of workers in the social sciences or education related occupations felt this way. Occupations in the sciences, education, health and professional fields have the highest use of computers (86%) and primary occupations the lowest (24%).⁹

Poor interpersonal relationships at work can be a major source of stress. This is especially true in today’s workplace where employees are often expected to work in groups or as part

6. For more information on the sleep patterns of shift workers see Williams, C. Spring 2001. “You snooze, you lose? — Sleep patterns in Canada.” *Canadian Social Trends*: 10-14.

7. According to the 2000 GSS, about one-quarter of regular night shift workers and one-third of those who worked split shifts had problems going to sleep, compared with 14% of regular daytime workers.

8. Includes occupations in business, financial, administrative, health, sciences and education fields.

9. For more information, see Marshall, K. Summer 2001. “Working with computers.” *Perspectives on Labour and Income* (Statistics Canada Catalogue no. 75-001-XPE) 13, 2: 9-15.

	Total number of employees '000	Too many demands/hours	Risk of accident/injury	Poor interpersonal relations %	Threat of layoff/job loss	Having to learn computer skills	Other
All	14,000	34	13	16	14	11	6
Occupation type							
Management	900	48	5	17	12	13	6
Business, financial, administrative	2,600	38	6	17	16	17	6
Natural and applied sciences	1,000	45	8	16	18	17	7
Health	600	50	33	21	15	16	9
Social sciences/education	1,000	48	10	17	11	20	10
Art/culture/sport	300	25	10 ^E	16	13 ^E	12 ^E	7 ^E
Sales and services	3,600	28	13	16	12	7	4
Trades, transport and equipment	1,800	26	24	16	16	6	5
Primary industries	400	24	20	10 ^E	12 ^E	7 ^E	F
Manufacturing and processing	1,200	24	17	15	18	8	5

^E High sampling variability.

^F Sample too small to provide reliable estimate.

Note: Percentages will not add to 100 because multiple responses were allowed.

Source: Statistics Canada, General Social Survey, 2000.

of a team. But even professions where team work is not required include potentially stressful relationships with co-workers, supervisors, subordinates or clients. On average, 16% of employees felt that poor interpersonal relations were a source of stress at work. This compares with about 10% of primary industry workers and 21% of workers in health occupations who felt this way. The likelihood of feeling stressed at work as a result of poor interpersonal relationships did not vary significantly from the average in most other occupations.

Workplace stress varies with age and sex

Both age and sex can be a factor in the type of workplace stress an individual experiences. For example, young

workers just entering the labour market may not be subject to the same pressures that workers in mid-career feel, and older workers may have yet other sources of stress to contend with. Along the same lines, stress triggers may differ for men and women.

Age makes a big difference when it comes to dealing with technological advances, particularly the computer. Young Canadians have grown up with computers in their homes and schools and are comfortable with nearly every aspect of this technology. Older workers, however, are more likely to find computer technology to be an intimidating necessity that causes stress. Data from the 2000 GSS support this notion. About 16% of workers age 45 and over felt that having to learn computer skills was a source of stress

at work, compared with only 8% of 15- to 24-year-old employees.

Young workers between the ages of 15 and 24 were also significantly less likely than their older counterparts to cite too many hours or too many demands as a source of stress (25% versus 37%). This is not surprising given that young employees are new in the workforce, often work only part-time and are not as likely to have the often-conflicting demands of work and family.

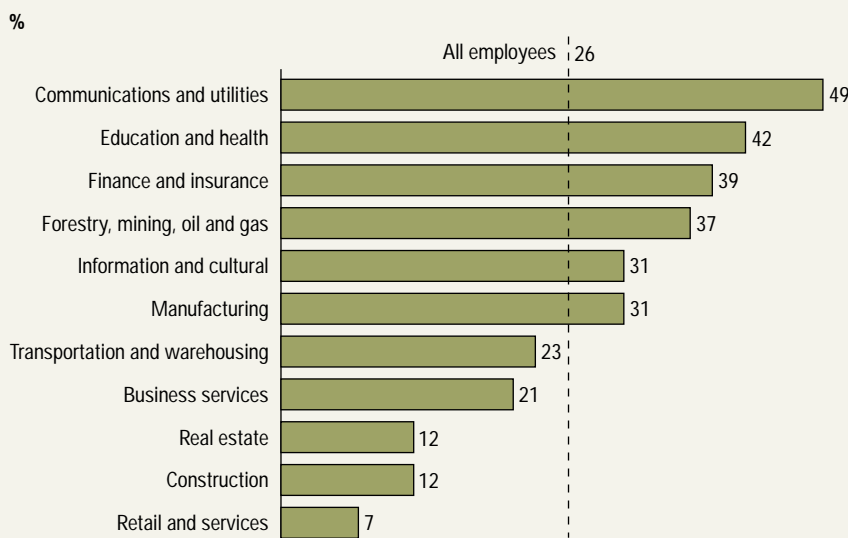
On the other hand, young Canadians do have their own work stress triggers. For example, 22% of 15- to 24-year-old male workers felt that accident or injury was a source of stress in their work environment, compared with about 15% of older men. This may be due to young workers' relative

Incidence of stress in the workplace is common. According to the 2001 Canadian Mental Health Survey,¹ 51% of respondents felt that work was a major or moderate source of stress. But not all stress is negative and research has shown that individuals function best in a work setting that places reasonable demands on them. In fact, many Canadians view stress in a positive light. About 4 in 10 respondents of the Canadian Mental Health Survey said that workplace stress had a positive impact on their performance, while about 3 in 10 reported that it had a negative effect.

To minimize stress for those who suffer its consequences, many employers have instituted programs and policies that are designed to reduce stress or deal with it before it becomes a problem. Indeed, data from the 1999 Workplace and Employee Survey indicate that slightly more than one-quarter (26%) of employees surveyed in Canada had access to some type of employee assistance plan. Rates varied from 49% of employees in the communication and utilities industries to about 7% in the retail and services industries. However, recently these programs have come under fire for only dealing with the symptoms of stress and not taking the extra step of addressing its causes.²

1. The 2001 Canadian Mental Health Survey was conducted by COMPAS on behalf of the Canadian Mental Health Association.
2. Rosolen, D. February 2002. "Stress test." *Benefits Canada*. www.benefitscanada.com/Content/2002/02-02/stress.html (accessed May 8, 2002).

Employees in the communications and utilities industries had most access to Employee Assistance Programs



Source: Statistics Canada, Workplace Employee Survey, 1999.

inexperience and the fact that they are more likely to have jobs in the industries where accidents and injuries are more prevalent.

Both men and women had a similar likelihood of feeling stress because of poor interpersonal relationships, threat of job loss or having to learn computer skills. However, women between the ages of 45 and 64 were significantly more likely than men this age to report feeling stressed as a result of too many demands or too many hours. Women's traditional role as principal caregivers to children and their propensity to do much of the unpaid housework may account for this. However, regardless of their family structure (whether they lived alone, with a child, with a partner or with a partner and a child), too many demands or hours stressed out women more than men. On the other hand, at virtually all ages, men were more likely to cite fear of accident or injury as a source of stress.

Occupation and work schedule strong predictors of workplace stress

Logistic regression was used to examine the relationship between a number of explanatory variables¹⁰ and stress in the workplace stemming from too many demands or hours, and from fear of accident or injury. Not surprisingly, work status, occupation, work schedule, age and sex were each strong predictors of workplace stress. For example, the odds of feeling stress because of fear of accident or injury were 7.2 times higher for employees working in health occupations than for those in the management, business, finance or sciences fields. On the other hand, marital status and the

10. Certain variables were excluded and other categories, such as occupation, were re-grouped into larger groups for the regression analysis.

Odds ratio	Sources of workplace stress	
	Too many demands/hours	Risk of accident or injury
Sex		
Male	0.9*	1.3*
<i>Female</i>	<i>1.0</i>	<i>1.0</i>
Age		
Under 35	1.4*	1.3*
35 to 54	1.6*	1.2*
<i>55 and over</i>	<i>1.0</i>	<i>1.0</i>
Children 14 and under in household		
Yes	1.1	1.0
<i>No</i>	<i>1.0</i>	<i>1.0</i>
Marital status		
Married or common-law	1.0	0.9
Divorced, widowed, separated	1.0	1.0
<i>Single, never-married</i>	<i>1.0</i>	<i>1.0</i>
Work status		
Part-time	0.4*	0.6*
<i>Full-time</i>	<i>1.0</i>	<i>1.0</i>
Work schedule		
Regular daytime	0.9*	0.6*
<i>Shift work</i>	<i>1.0</i>	<i>1.0</i>
Occupation		
<i>Management, business, finance, sciences</i>	<i>1.0</i>	<i>1.0</i>
Health related	1.6*	7.2*
Social sciences, sales, culture	0.9*	2.0*
Trades, primary, processing and manufacturing	0.5*	3.5*

* Significantly different from benchmark group (p < 0.05).

Note: This table presents the odds of working Canadians with various characteristics feeling stress in the workplace as a result of too many demands/hours or fear of accident or injury, relative to the odds of a benchmark group, when all other variables in the model are held constant (odds ratio). The benchmark group is shown in italics for each characteristic. A logistic regression was used to isolate the effect of selected variables on feeling stressed.

Source: Statistics Canada, General Social Survey, 2000.

presence of children 14 years and under did not significantly contribute to feelings of being stressed at work because of too many demands or hours.

Summary

The effects of stress are well documented. Research has shown that

while occasional bouts of stress are not likely to have lasting adverse effects, regular or constant doses of it tend to lead to negative health implications.

The most common source of workplace stress cited by working Canadians is too many demands or

excessively long hours on the job. Self-employed and full-time workers are most likely to feel the time crunch of too many demands or hours, while shift workers and employees in the health occupations tend to worry more about the risk of accident or injury. Women 45 and older feel stressed about hours and demands, while men of all ages worry more about accident or injury on the job. Finally, older workers worry much more than their younger counterparts about computer technology in the workplace. In an attempt to address the human and financial costs associated with stress, many employers have implemented employee assistance programs into the workplace.



Cara Williams is a senior analyst with Labour and Household Surveys Analysis Division, Statistics Canada.