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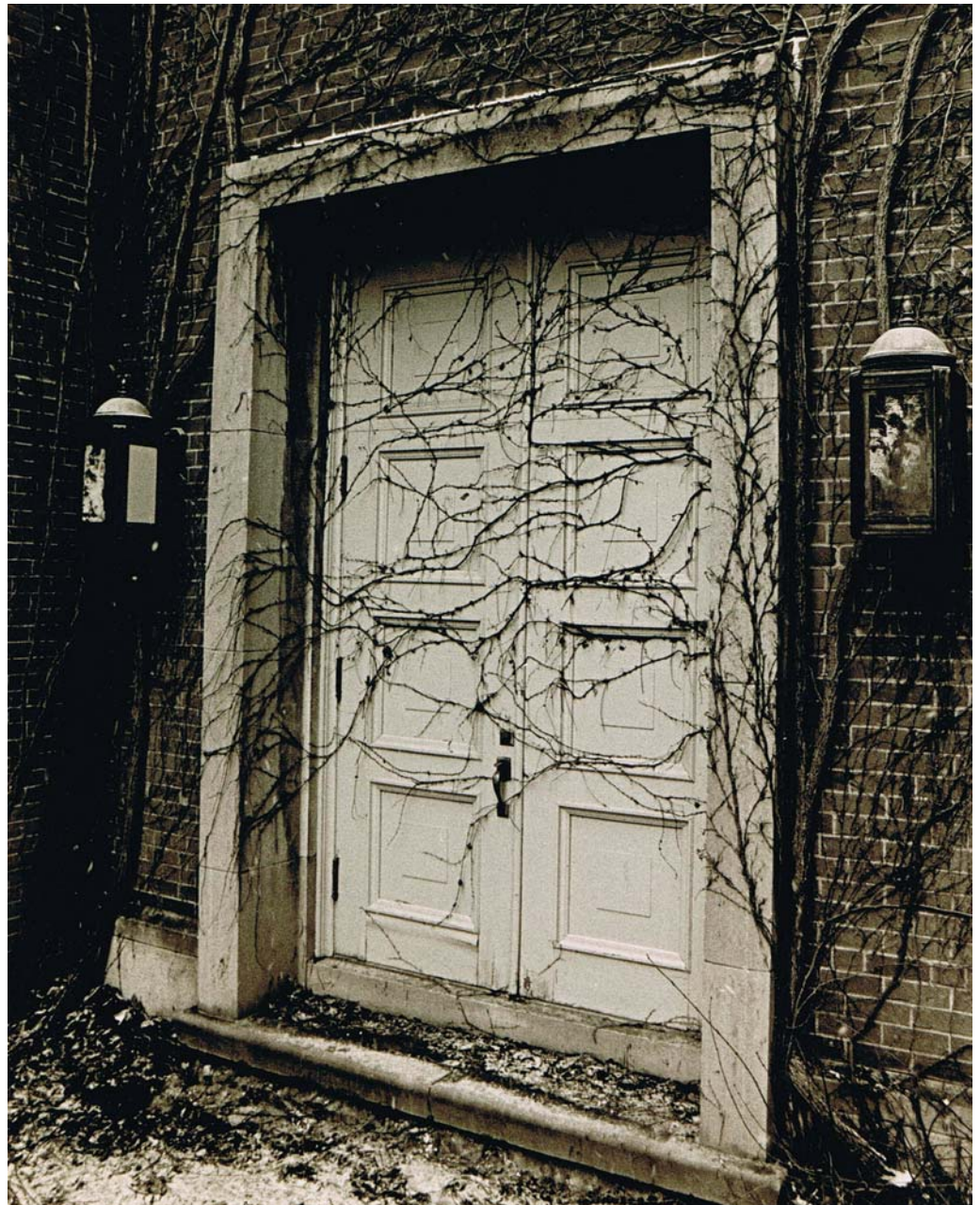
ON LABOUR AND INCOME

JULY 2006

Vol. 7, No. 7

■ CONVERGING
GENDER ROLES

■ IS THE WORKPLACE
BECOMING SAFER?



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Perspectives on Labour and Income

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F	too unreliable to be published

Highlights

In this issue

■ Converging gender roles

- In 2005, persons aged 25 to 54 spent a total of 8.8 hours a day working at their job and doing housework or other unpaid household tasks, up from 8.2 hours in 1986. For men, most of the increase came from unpaid work (up from 2.1 to 2.5 hours). For women, the entire increase was in the form of paid work (up from 3.3 to 4.4 hours).
- Women with children significantly increased their daily participation in paid labour, from 39% in 1986 to 45% in 2005. While only half of men (with and without children) participated in daily housework in 1986, roughly 7 in 10 did so by 2005.
- The number of dual-earner couples increased between 1986 and 2005, as did their average time spent on paid work and housework. By 2005, wives put in 46% of the total time couples spent at jobs and 62% of the time they spent on housework.
- The division of labour within dual-earner couples becomes more equal as wives bring in more personal income. When wives had an income of \$100,000 or more, each partner spent about 6.5 hours a day at paid work and 1.5 hours on housework.

- In addition to feeling more time-stressed, dual-earner women with children were significantly less satisfied with their work-life balance than dual-earner women without children, or dual-earner men with and without children.

■ Is the workplace becoming safer?

- Between 1990 and 2001, work injury claim rates declined 4.6% in Ontario (from 5.2 to 2.5 per 100 full-time equivalents) and 3.0% in British Columbia (from 6.1 to 4.1).
- Although injury rates declined more for men than for women over the period, women still had lower overall rates in both provinces.
- The service sector had lower injury rates than the goods sector in both provinces in 1990 and 2001, with B.C.'s rates continuing to be slightly higher than Ontario's in each category.
- In both provinces, injury rates continued to be highest for young workers aged 15 to 24 and lowest for workers over 50.

Perspectives

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Converging gender roles

Katherine Marshall

Families are the cornerstone of any society. Their supply of paid labour is vital to the economy, as is their unpaid labour in raising the next generation. The dynamics of who does which type of labour within families continue to change. Women's expanding economic role has been the main impetus for eroding the cultural idea that men should be primarily responsible for paid work while women look after unpaid household and family duties. Today's couples have a much more equal partnership in the sharing of financial, child care and household responsibilities.

Understanding the changing division of labour within families is crucial in developing effective policies. Employers may be well over the idea that women's earnings are simply pin money for the family, but accepting that men's work schedules are increasingly affected by home responsibilities, such as picking up children from daycare, staying home with a sick child, or taking parental leave, is relatively new. Changing workplace practices, such as on-site daycare and flexible work arrangements, as well as labour legislation such as parental, maternity and compassionate care leave confirm that "WLB (work-life balance) has emerged as a critical public policy issue in Canada" (HRSDC [2005?]). The increasing number of dual-earner families and a heavier overall workload make balancing a job and home life that much more difficult.

The division of labour within families is also of interest from a sociological point of view. Women's entrenched participation in the labour market was expected to launch "a revolution in the gendered division of labor," but the rate of change has been slow (Cooke 2004). Tension from multiple daily demands and a longer workday can arise when 'second-shift' duties are discussed and divided. An imbalance in the division of household labour has been linked to marital conflict, reduced physical and mental well-being, and lower wages (Cooke 2004; Coverman 1983).

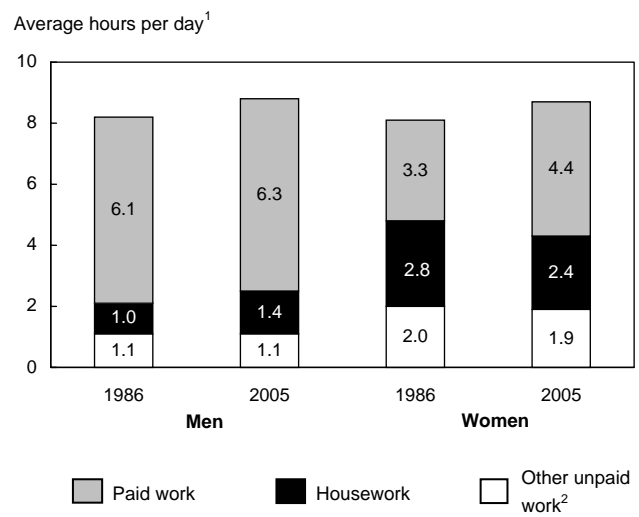
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Time-use surveys can illuminate overall trends in the hours men and women spend on paid work and housework, as well as on child care and other unpaid household labour. Time-use diaries permit analysis of the types of activities done on a daily basis, and for how long. The study targets those aged 25 to 54 as they are the most likely to be employed and have dependent children at home, leaving them challenged for time. The latter part of the article focuses on the hours of work, the division of labour, and the well-being of dual-earner families (see *Data sources and definitions*).

More time at the office, particularly for women

The average daily time spent on paid work, housework and other unpaid household duties (including child care) for those aged 25 to 54 has increased steadily

Chart A Time spent on paid and unpaid work has shifted among those 25 to 54, particularly women



¹ Numbers may not add due to rounding.

² Primary child care and shopping for goods and services.
 Source: Statistics Canada, General Social Survey

Data sources and definitions

Every year since 1985, the **General Social Survey (GSS)** has interviewed Canadians aged 15 and over living in the 10 provinces on a wide range of social issues. Using a 24-hour diary, the GSS collected detailed information on time use in four different years using varying sample sizes: 1986 (16,400), 1992 (9,800), 1998 (10,700) and 2005 (19,600). Individual activities were recorded sequentially throughout the day and subsequently coded to an international listing. Each day of the week is sampled. Therefore, calculations are usually averaged over a 7-day period (see below). While the 1986 survey collected data during the months of November and December, the remaining cycles covered a 12-month period. Most time-use surveys include sections on the perception of time and indicators of well-being.

The **Labour Force Survey (LFS)** collects information on labour market activity every month during a one-week period from all persons 15 years and over. It includes questions about the usual and actual weekly hours spent at a person's main job and any other job. The **LFS participation rate** for a particular group (for example, women aged 25 to 54) is the labour force in that group expressed as a percentage of the population for that group.

Replacing the Family Expenditure Survey in 1997, the annual **Survey of Household Spending (SHS)** collects data on the expenditures, income and characteristics of families and individuals living in private households. The SHS category 'domestic help' includes, for example, housekeepers, cleaners, paid companions and housesitters.

Paid work (time use) includes the work activities of all jobs or businesses, while **related paid activities** include looking for work, delays at work, and coffee breaks. **Commute to work** is the total time spent travelling to and from the workplace. **Total paid work** covers paid work, related paid activities, and commuting.

Core housework (time use) includes meal preparation, meal clean-up, indoor cleaning, and laundry. Core activities are those that are most likely done on a daily basis and generally demand the most time. **Non-core housework** includes things such as outdoor cleaning, mending or sewing, interior or exterior maintenance and repair, gardening, pet and plant care, household paperwork, or unpacking groceries. **Total housework** consists of core and non-core activities.

Primary child care (time use) consists of activities directly involving children, such as feeding, helping, teaching, reading to, talking or playing with, medical care, and any related travel such as taking children to school or driving them to sports or other activities.

Activity participation rate (time use) indicates the proportion of the population (or sub-population) that reported spending some time on the activity on diary day. The participation rate is a daily rate and, unless otherwise specified, is an average over a seven-day week.

Average time spent on activities (time use) of the population or a sub-population refers to the total time all respondents reported spending on a given activity divided by the population, and averaged over a seven-day week. The time spent by participants refers to only those who participated in that activity on diary day, but again averaged over seven days.

Dual-earners are defined here as married or common-law couples in which the main activity of both partners in the previous seven days was 'employed.' Both partners had to be currently living in the same household and not on vacation from their job during the previous week. Since the analysis focuses on the division of labour by sex, same-sex couples were excluded.

Total paid work and housework time within couples is the sum of minutes both partners spent on paid work and related paid activities, and on core and non-core housework, on diary day. This calculation uses the 24-hour diary reporting for the respondent's time, and the time-related questions asked of the respondent for their partner's time. For example, if the respondent reported that their partner worked on diary day, a follow-up question asked the exact start and end times of all shifts worked on that day. (Since respondents were not asked to report any commute time for their partners, commute time for both partners is excluded from the total paid work calculation.)

Respondents were also asked to estimate the total number of hours their partner spent on core and non-core housework in the previous week. Therefore, average daily time spent on housework by the partner was calculated by adding the total weekly core and non-core hours, dividing this amount by 7, and then (based on established housework activity patterns), multiplying by 0.11 if diary day was a weekday, and 0.22 if diary day was a Saturday or Sunday. Calculations of the average time both partners spent on paid and unpaid work at the household level are very consistent with individual level data—that is, using only diary data for respondents by sex. Knowing the work dynamic within a couple is important for understanding the individual work pattern and well-being of each of the partners.

The **target population** includes all respondents aged 25 to 54 at the time of the survey. This is the core working-age group and also the group most likely to have dependent children living at home, thus increasing the likelihood of their having significant employment and home responsibilities. In order to clearly examine the amount of paid and unpaid labour done by those living alone or in a couple, households with extra members, such as grandmothers or boarders, were excluded.

over the past two decades, rising from 8.2 hours in 1986 to 8.8 hours in 2005. All of the increase comes from paid labour, which rose from an average of 4.7 hours per day in 1986 to 5.4 hours in 2005, while unpaid work dropped slightly. These findings refute the theories that advanced technology and growth in productivity capacity would invariably lead to increased leisure time.¹

Both men and women have added to their overall workday since 1986 (Chart A). Most of the 0.6 hour increase for men has come from unpaid work, rising from 2.1 to 2.5 hours, although their paid labour also rose (from 6.1 to 6.3 hours). The 0.7 hour increase for women has come entirely from paid work (3.3 to 4.4 hours), despite a half hour drop in unpaid work (4.8 to 4.3 hours). Although gender differences in the division of labour are still evident, they are slowly breaking down.

Converging labour force participation rates

The jump in the average time women spend in paid labour is attributable not only to time spent on the job, but also to an increase in their participation rate. Canadian women have one of the highest participation rates in the world, a rate that is converging with men's. For example, while the difference in labour force participation rates for men and women aged 25 to 54 was 24 percentage points in 1986 (94% for men versus 70% for women), in 2005 it stood at 10 points (91% versus 81%) (Chart B). Time-use data on average daily participation rates show a similar trend,

with the women's rate rising from 44% in 1986 to 51% in 2005, and men's decreasing from 68% to 65% (Table 1).²

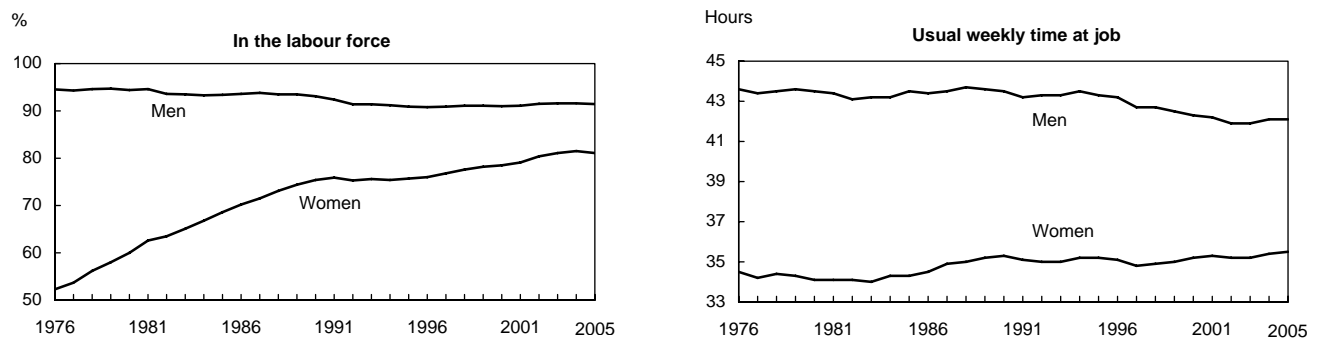
Men's participation in housework up, women's down

The proportion of those doing some housework daily, be it making sandwiches for lunch, vacuuming, or taking out the garbage, increased from 72% in 1986 to 79% in 2005. However, this increase is entirely attributable to men, whose participation rose from 54% to 69%, while women's remained steady at around 90%. Changes in the daily participation rate for core housework (meal preparation, meal clean-up, indoor cleaning, and laundry) are the most noticeable—40% to 59% for men, and 88% to 85% for women.

Even though the proportion of people doing housework of some kind has increased, the amount of time spent at it has decreased (from an average of 2.7 hours per day in 1986 to 2.5 hours per day in 2005) (Chart C). All of the decrease comes from core housework. Labour-saving devices such as dishwashers, and semi-prepared or pre-packaged food items (such as pre-washed bags of salad, already peeled carrots, or frozen dinners) as well as numerous take-out options, may be helping to cut down the time spent in kitchens.

Still, given the trend toward ever bigger homes,³ it seems puzzling to witness a reduction in time spent on housework. Canadians are not alone in this; a remarkably similar trend has been observed in the United

Chart B Women have increased their labour force participation dramatically, but men still put in more hours on the job



Source: Statistics Canada, Labour Force Survey

Converging gender roles

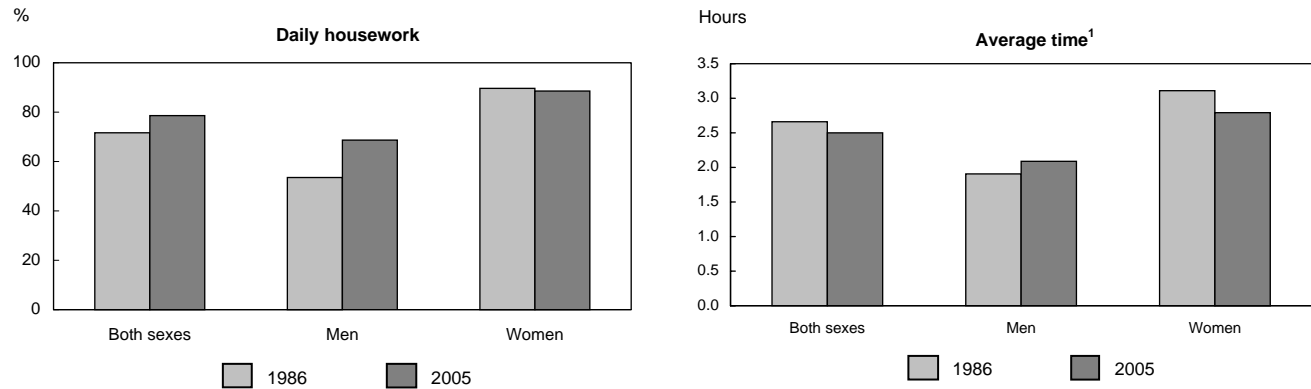
Table 1 Participation in, and time spent on, paid work, housework and other unpaid work

	Men 25 to 54				Women 25 to 54			
	1986	1992	1998	2005	1986	1992	1998	2005
	Average hours per day (population) ¹							
Total paid and unpaid	8.3	8.6	8.9	8.8	8.1	8.4	8.5	8.8
Paid work and related	6.1	6.1	6.3	6.3	3.3	3.6	4.0	4.4
Work	4.9	5.1	5.1	5.3	2.8	3.0	3.2	3.7
Related activities	0.7	0.6	0.6	0.4	0.3	0.3	0.4	0.3
Commute	0.5	0.5	0.5	0.6	0.3	0.3	0.3	0.4
Housework	1.0	1.4	1.4	1.4	2.8	2.9	2.6	2.4
Core	0.4	0.5	0.7	0.7	2.5	2.3	2.2	1.9
Non-core	0.6	0.9	0.7	0.7	0.3	0.6	0.5	0.5
Other unpaid	1.1	1.1	1.2	1.1	2.0	1.9	2.0	1.9
Child care	0.4	0.4	0.5	0.5	0.9	1.0	1.0	1.0
Shopping and services	0.7	0.6	0.7	0.6	1.1	0.9	1.0	0.9
	Average hours per day (participants) ¹							
Total paid and unpaid	8.7	8.9	9.1	9.2	8.3	8.5	8.6	8.9
Paid work and related	9.0	9.4	9.5	9.7	7.6	8.0	8.2	8.5
Work	7.7	8.1	8.1	8.5	6.7	6.9	7.1	7.5
Related activities	1.4	1.2	1.3	1.1	1.1	1.0	1.0	1.1
Commute	0.9	0.8	0.9	1.0	0.7	0.7	0.8	0.9
Housework	1.9	2.0	1.8	2.1	3.1	3.1	2.8	2.8
Core	1.1	1.0	1.0	1.2	2.9	2.6	2.4	2.3
Non-core	2.2	2.3	2.2	2.5	1.3	1.6	1.4	1.8
Other unpaid	2.4	2.1	2.1	2.2	2.9	2.8	2.8	2.9
Child care	1.5	1.6	1.8	1.8	2.1	2.2	2.3	2.5
Shopping and services	2.3	1.8	1.7	1.9	2.4	2.0	1.9	2.0
	Participation (%)							
Total paid and unpaid	94	96	98	96	98	99	99	98
Paid work and related	68	65	67	65	44	45	48	51
Work	64	63	63	62	41	43	46	49
Related activities	46	48	51	39	29	33	36	30
Commute	61	57	59	58	39	40	43	46
Housework	54	67	77	69	90	93	94	89
Core	40	52	69	59	88	91	92	85
Non-core	26	38	36	31	23	37	42	35
Other unpaid	46	51	56	49	69	68	71	66
Child care	23	28	30	27	44	44	43	39
Shopping and services	32	33	39	31	45	47	51	45

¹ Time averaged over seven days; numbers may not add due to rounding.

Source: Statistics Canada, General Social Survey

Chart C Overall, more people are doing some daily housework, but they are spending less time at it



¹ By those who did some housework.
Source: Statistics Canada, General Social Survey

States. Between 1975 and 1995 the average weekly hours Americans spent on housework dropped from 15.5 to 13.7. Furthermore, “women’s and men’s hours spent in housework have converged over the period, primarily due to the steep decline in women’s hours of housework” (Bianchi et al. 2000). One reason for the overall decline could be today’s service-oriented economy. From take-out meals to snow removal, groundskeeping and housecleaning, people buy many goods and services once produced in the home. Housework standards may also be falling and people are less bothered if their house fails the ‘white-glove’ dust test. In the same vein, people’s priorities may have changed as to how they want to spend their time (Bianchi et al. 2000).

Overall, participation rates for other types of unpaid labour—primary child care and shopping for goods and services—have remained relatively stable over the past 20 years. The average time spent has trended upward for child care and downward for shopping. However, the participation rate and time spent on child care for those with children at home shows a more noticeable increase, particularly among men (see *Sharing the caring*).

Marriage today less likely to alter women’s labour market behaviour

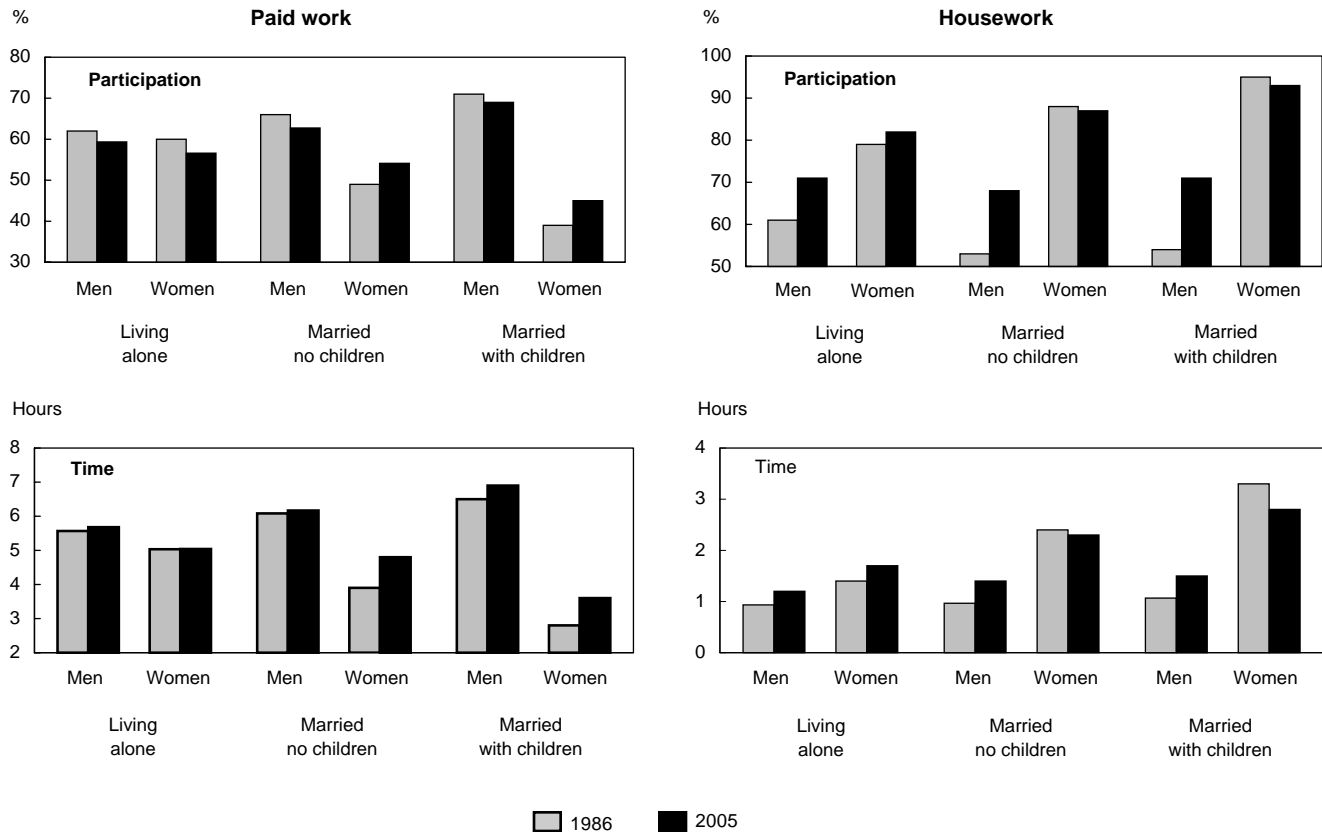
In both 1986 and 2005, married men with children had appreciably higher daily participation rates for paid labour than men living alone—roughly 70% versus

60% (Chart D).⁵ On the other hand, in 1986, married women (with or without children) were significantly less likely to participate in paid labour (39% and 49% respectively) than those living alone (60%). By 2005, however, no statistically significant difference was seen between married women without children and those living alone. And while the difference between married women with children and those living alone was 21 percentage points in 1986, the difference in 2005 was down to 12 points.

Similar patterns emerge for daily hours spent on paid work. While married men with children spent significantly more time on paid work than men living alone in both 1986 and 2005, women with children spent significantly less than their counterparts living alone. However, while paid work hours were significantly different in 1986 for women living alone and married women without children (5.0 and 3.9 respectively), no significant difference was evident in 2005 (5.0 and 4.8).

Married women, with or without children, significantly increased the average time they spent at paid labour between 1986 and 2005. Therefore, although married men (with or without children) still spent more time at paid work than women in the same circumstances, the difference has narrowed. For example, married men without children spent an average of 2.2 hours more time at paid labour than women in 1986 (6.1 versus 3.9 hours), but by 2005 the difference had dropped to 1.4 hours (6.2 versus 4.8).

Chart D Daily participation in, and time spent on, paid work and housework, by living arrangements



Note: Except paid work for those living alone, all other differences between men and women are statistically significant.
 Source: Statistics Canada, General Social Survey

More married men now doing housework

In all family types, daily participation rates for housework continue to be significantly higher for women than for men. However, the gap is narrowing. For example, among married men with children, the participation rate rose from 54% to 71%. Furthermore, while the presence of a wife lessened men's involvement in housework in 1986 (single men had a participation rate of 61%, and married men 53%), 2005 saw roughly 7 in 10 married men, both with and without children, participating in housework. The increase in husbands' participation is a logical reaction to the reality that most wives are now engaged in paid labour, and for longer hours, and therefore have less time to

do housework. The significant increase in participation among men living alone may be partly attributable to changing cultural norms, whereby both men and women have been taught life skills formerly reserved for the opposite sex. "It is likely more acceptable for men to cook and clean, indeed, welcomed, for men to show competence at making a home-cooked meal, for example" (Bianchi et al. 2000).

From the standpoint of time, married women, particularly those with children, continue to do significantly more housework than married men, but the overall difference has lessened. In 1986, women with children did 2.2 hours more per day than their male counterparts (3.3 versus 1.1 hours), with the difference

Sharing the caring

As the roles of men and women with respect to paid labour and household maintenance continue to converge, so too does the responsibility for nurturing children. Once excluded from delivery rooms, men are now not only labour coaches, but active participants in the multitude of tasks associated with caring for babies and young children. As with housework, a key impetus behind men's increasing role in child care is the increasing participation of women in the labour force. In 1976, 36% of couples with dependent children at home were dual-earner families; by 2005 the proportion had increased to 69% (Table A). Greater sharing of financial responsibility has led to "a pattern of convergence whereby women and men increasingly come to see themselves not only as co-parents but as co-providers for their children." (Daly 2004, p. 7). To some extent this attitude has become reality. Although still less involved in primary child care than women, men have significantly increased their participation. Primary care includes direct

Table A Husband–wife families with children under 16 at home

	1976		1986		1992		2005	
	'000	%	'000	%	'000	%	'000	%
Total	2,832	100	2,737	100	2,766	100	2,743	100
Dual-earner	1,021	36	1,453	53	1,595	58	1,879	69
Single-earner ¹	1,520	54	898	33	699	25	573	21
Mother at home	1,496	98	860	96	639	91	511	89
Father at home	25	2	38	4	60	9	63	11
Other ²	290	10	386	14	472	17	290	11

¹ Stay-at-home parent must not be looking for work, but must be able to work and not attending school.

² Includes no-earner families and single-earner families with an unemployed spouse.

Source: Statistics Canada, Labour Force Survey

Table B Average time¹ spent on primary child care by married persons aged 25 to 54

	Men		Women	
	1986	2005	1986	2005
	Hours			
With children under 19 at home	0.6(*)	1.0*(*)	1.4	2.0*
At least one child under 5	1.0(*)	1.6*(*)	2.6	3.4*
All children 5 to 18	0.3(*)	0.6*(*)	0.7	1.2*
	Participation rate (%)			
With children under 19 at home	38(*)	52*(*)	67	72*
At least one child under 5	57(*)	73*(*)	92	94
All children 5 to 18	25(*)	40*(*)	52	60*

¹ Population.

* Significant difference with 1986 at the .05 level or less.

(*) Significant difference between men and women at the .05 level or less.

Source: Statistics Canada, General Social Survey

involvement such as reading to children, taking them to the park, helping with homework, or driving them to activities (see *Data sources and definitions*). For example, while just over 90% of women with pre-school children reported doing primary child care in both 1986 and 2005, men's involvement jumped from 57% to 73%. However, unlike housework where the average time spent has increased for men but dropped for women, time spent on child care has increased for both sexes. Overall, in 2005, fathers with children under 19 at home spent about 1.0 hour per day on child care (up from 0.6 in 1986) and mothers 2.0 hours (up from 1.4 hours) (Table B).⁴ Despite the increasing time spent on paid labour, both have also increased their direct involvement with their children. However, studies have suggested that fathers and mothers provide different types of care. While "there is a trend of convergence in the amount of time" mothers and fathers are involved with their children, "women continue to carry most of the responsibility dimension that involves the planning, scheduling, orchestrating and coordination of family activities" (Daly 2004, p. 12).

Another indication of change is the number of families with a stay-at-home father. Although families with a stay-at-home parent have declined substantially since 1986, the proportion with a father in this role has increased from 4% in 1986 to 11% in 2005 (Table A). Furthermore, since an amendment to the Employment Insurance Act in 2000 increased the length of paid parental leave from 10 to 35 weeks, fathers' participation in the program has risen from 3% to 11%. The more than 1 in 10 fathers now taking a formal employment leave to be home with their newborn is not only a "statistically significant increase, but also a socially significant one" (Marshall 2003).

decreasing to 1.3 hours by 2005 (2.8 versus 1.5 hours). This narrowing is the result of married men with children spending significantly more time on housework, and married women spending significantly less.

Dual-earners

The steady rise in women's labour force participation means that in most couples, even those with dependent children at home, both spouses are now employed. The proportion of dual-earners among husband-and-wife families with children under 16 at home rose from 36% in 1976, to 58% in 1992, to 69% in 2005 (see *Sharing the caring*). Without a doubt, juggling home and work responsibilities is more challenging when both parents are employed. Society has a vested interest in ensuring that these individuals are able to meet this challenge, since the consequences of being overburdened affect not only the health and well-being of individuals and their family, but also the ability to be effective in the workplace. Unmanageable responsibilities in either sphere can have negative spillover effects, such as inattentiveness at home or lack of productivity at the workplace (Daly 2004).

Not only has the number of dual-earners increased since 1992, so too has the average daily amount of time these couples spend on paid work and housework combined (up 0.5 hours per day, a result of 0.7 hours more paid work but 0.2 hours less housework) (Table 2).⁶ This net change within couples was due to an increase in husbands' paid work and housework (0.3 hours and 0.1 hours respectively), and an increase in wives' paid work and decrease in housework (0.4 hours and -0.2 hours respectively).⁷

In both 1992 and 2005, each partner in dual-earner couples did 50% of the combined paid work and housework each day (Table 3). However, wives did 45% of total paid work but 65% of housework in 1992. By 2005 these proportions stood at 46% and 62%.

As in the general population, men in dual-earner families have increased their participation in housework (from 70% in 1992 to 74% in 2005), while the women's rate has dropped (from 94% to 90%).

Children widen the gap...

Several factors are associated with who does what in a dual-earner family, and how much time they spend. For example, school-aged children at home add an

average of 1.2 hours to a family's workday, pushing it to more than 8 hours for both parents (Table 3). However, fathers tend to add both paid work and housework (0.4 and 0.3 hours respectively) compared with men without children at home, whereas women add only housework (0.6 hours more than women without children).

... and education narrows it

When only the wife in a couple has a university degree, her share of housework decreases to 59%, compared with 62% overall. Although not a strong finding, this is consistent with other studies, which have found that "increases in wife's education, as a proxy for wage rate, tend to be associated with an increased share of housework for the husband" (Anxo and Carlin 2004, p. 30). Also, lower levels of education for both partners add to the length of the total workday (paid work and housework). Families in which neither partner graduated from university worked an average 16.3

Table 2 Participation in, and time spent on, paid work and housework in dual-earner families

	Participation		Time per day ¹	
	1992	2005	1992	2005
	%		Hours	
Total				
Both	99	99	15.3	15.8
Husband	99	98	7.7	7.9
Wife	100	99	7.6	7.8
Paid work				
Both	72	72	11.5	12.2*
Husband	71	73	6.3	6.6
Wife	72	70	5.2	5.6
Housework				
Both	82	82	3.8	3.6
Husband	70	74	1.3	1.4
Wife	94	90*	2.4	2.2
Wife's share	50	50		
Paid work	45	46		
Housework	65	62*		

¹ Figures may not add due to rounding. Based on household reporting; participation based on respondent reporting.

* Significantly different from 1992 at the .05 level or less.

Source: Statistics Canada, General Social Survey

Table 3 Total average time spent on paid work and housework within dual-earner couples

	Total paid and housework			Paid			Housework			Wife's proportion of time		
	Both	Husband	Wife	Both	Husband	Wife	Both	Husband	Wife	Total	Paid	Housework
Total dual-earners	15.8	7.9	7.8	12.2	6.6	5.6	3.6	1.4	2.2	50	46	62
Hours												
No children under 19 at home (ref)	15.2	7.6	7.6	12.1	6.4	5.7	3.1	1.2	1.9	50	47	61
At least one under 5	15.3	7.7	7.6	11.8	6.4	5.5	3.5*	1.3	2.1*	50	46	62
All between 5 and 18	16.4*	8.3*	8.2*	12.5	6.8*	5.7	4.0*	1.5*	2.5*	50	45	63
%												
Both have university degree (ref)	15.2	7.6	7.6	12.2	6.4	5.8	3.1	1.2	1.9	50	47	60
Wife only	15.0	7.6	7.4	11.5	6.2	5.3	3.5*	1.4	2.1	49	46	59
Husband only	14.9	7.5	7.3	11.6	6.3	5.3	3.3	1.2	2.1	49	46	62
Neither have a degree	16.3*	8.2*	8.1*	12.5	6.8	5.7	3.8*	1.4*	2.4*	50	46	62
Wife's income ¹												
Less than \$30,000 (ref)	16.4	8.3	8.1	12.5	7.0	5.5	3.9	1.2	2.7	50	44	68
\$30,000 - \$59,999	15.4*	7.6	7.7	12.1	6.4	5.6	3.3*	1.2	2.1*	50	47	64*
\$60,000 - \$99,999	15.6	7.9	7.7	11.9	6.4	5.5	3.6	1.5	2.2*	49	46	60*
\$100,000 or more	16.3	8.3	8.1	13.2	6.7	6.5	3.2 ^E	1.6 ^E	1.6 ^{EE}	49	49*	50*
Husband's income ¹												
Less than \$30,000 (ref)	16.0	8.4	7.6	12.1	6.5	5.6	3.9	1.9	2.1	47	46	52
\$30,000 - \$59,999	15.9	8.0	7.9	12.3	6.5	5.8	3.6	1.5	2.1	50	47	59
\$60,000 - \$99,999	15.5	7.9	7.6	11.7	6.2	5.5	3.8	1.7	2.1	49	47	55
\$100,000 or more	16.1	8.1	8.0	12.6	6.8	5.9	3.5	1.4	2.1	50	47	61
Both full-time (ref)	16.1	8.0	8.1	12.5	6.6	5.9	3.5	1.4	2.1	50	47	60
Husband full-time, wife part-time	14.1*	8.0	6.1*	10.3*	6.9	3.4*	3.9	1.1*	2.7*	43*	33*	71*
Husband part-time, wife full-time	12.2*	4.2*	8.0	8.7*	2.7 ^{EE}	6.0	3.5	1.5	2.0 ^E	66*	69*	58

¹ Based on respondent information only as the income of the spouse was not collected.
 * Significantly different from reference group (indicated by 'ref') at the .05 level or less.
 Source: Statistics Canada, General Social Survey, 2005

hours per day compared with 15.2 hours for those in which both had a university degree. Most of the added time came from housework.

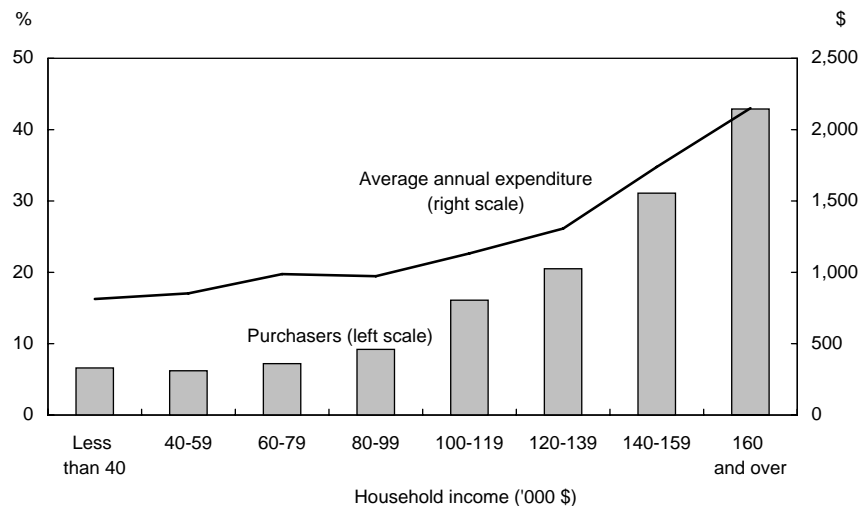
Parity in labour when wives have high income

High personal income, for either sex, is associated with spending more time at a job and less on housework. For example, compared with women whose annual income was less than \$30,000, those with \$100,000 or more did one hour more of paid work, and one hour less of housework per day. (Both did an average of 8.1 hours of total work per day.)

Longer job hours often bring higher earnings, which in turn can offer some relief from housework by providing the means to hire someone else to do it. In 2004, only 7% of households with income less than \$40,000 paid for domestic help, spending an average of \$813. This compared with 43% of households with \$160,000 or more, who spent \$2,150 (Chart E).

When wives have an income of \$100,000 or more, the division of paid labour and housework between partners is more likely to be split equally. In these couples, each partner spent about 6.5 hours per day on paid work and 1.5 hours on housework.

Chart E Higher income households are more likely to hire domestic help



Source: Statistics Canada, Survey of Household Spending, 2004

Furthermore, a wife's income is likely to influence the husband's time spent on housework as well as her own. For him, time spent doing housework rises along with her income, while for her, the time falls. On the other

hand, regardless of her husband's income level, a wife's time spent on housework stays the same. These findings partly support the 'relative resources' theory of the division of housework, which suggests that partners with relatively high education and income have more power to get out of doing housework (Bianchi et al. 2000). Other research has shown that high-income households are more likely to buy domestic help, especially if the wife is the primary earner. The latter are twice as likely to hire help than high-income households in which the husband is the main earner (Palameta 2003).

Finally, even though dual-earner partners working full time both contribute 8 hours of total labour each day, husbands are more likely than wives to spend more time at a job (6.6 versus 5.9 hours) and less time on housework (1.4 versus 2.1 hours). Past research has found that

Table 4 Indicators of well-being for couples aged 25 to 54

	Satisfied with work-life balance		Not time stressed		Satisfied with life generally	
	Men	Women	Men	Women	Men	Women
	%					
Husband sole earner						
No children under 19	78	...	64(*)	75	84	85
At least one under 19	69 *	...	61	55*	82	85
Wife sole earner						
No children under 19	...	82	79(*)	58	74	83
At least one under 19	...	73	77(*)	59	80	81
Dual-earners						
No children under 19	78	76	62(*)	53	88	88
At least one under 19	77(*)	67*	58(*)	45*	87	86
Both full-time	77(*)	69	60(*)	45	87	87
Husband full-time, wife part-time	78	86	57	65	89	88
Wife full-time, husband part-time	F	61	F	F	F	88

* Significant difference between those with and without children at the .05 level or less.

(*) Significant difference between men and women at the .05 level or less.

Source: Statistics Canada, General Social Survey, 2005

not only are wives in these families more likely to do most of the housework, but they also feel most responsible for anticipating, planning and organizing what needs to be done (Marshall 1993). Findings show that husbands or wives who work part time and have a spouse working full time have a shorter overall workday (paid work and housework) than their spouse. However, many are likely spending a considerable amount of time on child care.

Although time-stressed, employed parents satisfied with life overall

Both children and work arrangements within families influence work–life balance (WLB) satisfaction and stress caused by lack of time. Sole earners in couples with children at home had some of the lowest WLB satisfaction rates (69% for sole-earner fathers and 73% for mothers) (Table 4). Dual-earner fathers reported the highest satisfaction rate (77%), significantly higher than dual-earner mothers, who had the lowest (67%).

Men and women in dual-earning families, with and without children, feel most stressed about not having enough time. Given that children require a great deal of time and energy, it is not surprising to find that when both parents are employed, only 58% of fathers and 45% of mothers did not feel stressed for lack of time. Except in couples with dependent children and the husband as sole earner, women reported being significantly more stressed for time than men.

Interestingly, compared with other women, those in dual-earner couples and working part time express the highest WLB satisfaction (86%), are some of the least

time-stressed (65%), and have a high overall life satisfaction rate (88%). On the other hand, women in dual-earner couples working full time are much less likely to feel satisfied with their WLB (69%) and more likely to feel pressed for time (only 45% did not feel time-stressed). However, despite the pressure of having children at home and each partner having a paid job, dual-earner men and women are the most likely to report high levels of satisfaction with their life as a whole.

Parenting and long hours more burdensome for women

Not surprisingly, the longer a couple spends on an average weekday working at their jobs and doing housework, the more difficult it is to find balance in life with time enough to accomplish everything.⁸ Women generally tend to feel more time-stressed than men, regardless of length of workday or presence of children (Table 5). For example, among couples with the longest workday and children at home, two-thirds of the women felt time-stressed compared with one-half of the men. Research has found that mothers, regardless of employment status, consistently feel more time-crunched than fathers (Zukewich 2003).

Longer workdays and the presence of children also affect women more than men in terms of WLB satisfaction. Only 52% of women with children in couples with long hours felt satisfied with their WLB, the lowest rate overall. In contrast, 71% of their male counterparts were satisfied. However, although overall life satisfaction fell somewhat as the workday lengthened

Table 5 Indicators of well-being for dual-earners by combined length of workday

	Satisfied with work–life balance		Not time-stressed		Satisfied with life generally	
	Men	Women	Men	Women	Men	Women
No children under 19 at home			%			
Less than 18 hours	77	74	69	51 (*)	90	85
18.0 to 21.9	78	79	64	53	87	89
22 or more	77	66	50*	50	83	84
With children under 19 at home						
Less than 18 hours	80	73	61	49 (*)	95	89
18.0 to 21.9	80	68 (*)	61	42 (*)	86	85
22 or more	71	52*(*)	49*	36*(*)	86	80

* Significantly different from couples with less than 18 hour day and no children at the .05 level or less.

(*) Significantly different from men at the .05 level or less.

Source: Statistic Canada, General Social Survey, 2005

for both men and women in dual-earner families (with or without children), the difference was not significant, and the vast majority (80% or more) felt satisfied with their life as a whole.

Conclusion

While women's entry into the job market has been dramatic, men's entry into housework has been gradual, prompting some to call the latter a 'stalled revolution' (Cooke 2004). However, this study shows that, although gender differences persist in the division of labour, they are steadily diminishing. Since 1986, of the total time spent on paid and unpaid work, women aged 25 to 54 have proportionally increased their average daily time at a job (4.4 hours of 8.8 in 2005), while men have increased their time on housework (1.4 of 8.8 hours in 2005). As women's job attachment has increased, so too has men's involvement in housework and child care. Women's increasing hours in paid labour (and thus income), combined with "normative changes in the direction of equality and sharing" (Beaujot 2006, p. 24) is likely to further reduce gender differences in the division of labour in the future.

However, not only are more men and women sharing the economic and domestic responsibilities in families, but most are also increasing the length of their paid workday. This has helped position work-life balance among the top 10 issues in collective bargaining. It has risen in importance because of the "increased recognition of the costs of work-life imbalance in terms of workplace injury rates and the general health of workers, as well as the development and well-being of children and aging parents" (Canadian Association of Administrators of Labour Legislation 2002, p. 4). Dual-earner couples who worked long days doing their job plus housework and who had dependent children at home were less satisfied with their work-life balance. They also felt more time-stressed, particularly women. However, despite these stage-of-life pressures, the majority of dual-earner husbands and wives felt satisfied with their life as a whole.

Increasingly, employees are legally entitled to various kinds of paid and unpaid leave for family responsibilities. As well, more workplaces are offering flexible work arrangements, health promotion and employee assistance programs, and other family support such as on-site child care. It has been shown that employees

with flextime arrangements feel considerably less time-stressed than those without this benefit (Fast and Frederick 1996). In short, changing work arrangements in the home are inspiring alternative work arrangements at the office.

Perspectives

■ Notes

- 1 For a discussion of the different theories of leisure, see Gershuny and Fisher (2000).
- 2 While both the GSS and the LFS show women's average hours at paid work increasing, the LFS shows men's hours falling but the GSS shows them increasing. It is difficult to explain this difference, but some of it may be due to the different collection methods of the two surveys (see *Data sources and definitions*).
- 3 According to the census, the average number of rooms per dwelling increased from 5.8 in 1986 to 6.3 in 2001. Although square footage is not collected, this increase does suggest larger homes.
- 4 Average daily time spent on primary child care for participants has also steadily increased.
- 5 Married couples also include common-law couples.
- 6 A comparison of dual-earners couples from the first time use survey in 1986 was not possible since information about spouse's main activity was not collected.
- 7 The increase in paid work between 1992 and 2005 would have been larger if commuting to work had been included. This activity increased during this time but was not part of the calculation of work time within dual-earner couples (see *Data sources and definitions*).
- 8 This section looks at the total paid work and housework time couples do on an average weekday (Monday through Friday). This is arguably the most hectic part of the week. Women's total labour as a proportion of the couple's total work day (paid work and housework combined) was around 50% for all lengths of days (6 hours of a 12-hour day, or 10 hours of a 20-hour day).

■ References

Anxo, Dominique and Paul Carlin. 2004. "Intra-family time allocation to housework: French evidence." *International Journal of Time Use Research* 1, no. 1 (August): 14-36.

- Beaujot, Roderic. 2006. "Gender models for family and Work." *Horizons* 8, no. 3 (April): 24-26.
- Bianchi, Suzanne M., Melissa A. Milkie, Liana C. Sayer and John P. Robinson. 2000. "Is anyone doing the housework? Trends in the gender division of household labor." *Social Forces* 79, no.1 (September): 191-228.
- Canadian Association of Administrators of Labour Legislation (CAALL). 2002. *Work-Life Balance: A Report to Ministers Responsible for Labour in Canada*. Gatineau, Quebec: CAALL.
- Cooke, Lynn Prince. 2004. "The gendered division of labor and family outcomes in Germany." *Journal of Marriage and Family* 66 (December): 1246-1259.
- Coverman, Shelley. 1983. "Gender, domestic labor time, and wage inequality." *American Sociological Review* 48, no. 5 (October): 623-637.
- Daly, Kerry. 2004. *The Changing Culture of Parenting*. Contemporary Family Trends series. Ottawa: The Vanier Institute of the Family.
- Fast, Janet E. and Judith A. Frederick. 1996. "Working arrangements and time stress." *Canadian Social Trends* (Statistics Canada, catalogue no. 11-008-XPE) (Winter): 14-19.
- Gershuny, Jonathan and Kimberly Fisher. 2000. "Leisure." In *Twentieth-Century British Social Trends*, 3rd edition. Edited by A.H. Halsey with Josephine Webb. pp. 620-649. London: Macmillan.
- Human Resources and Social Development Canada (HRSDC). [2005?]. *Addressing Work-Life Balance in Canada*. http://www.hrsdc.gc.ca/asp/gateway.asp?hr=/en/lp/spila/wlb/awlb/01table_of_contents.shtml&hs=
- Marshall, Katherine. 1993. "Employed parents and the division of housework." *Perspectives on Labour and Income* (Statistics Canada, catalogue no. 75-001-XPE) 5, no. 3 (Autumn): 23-30.
- . 2003. "Benefiting from extended parental leave." *Perspectives on Labour and Income* (Statistics Canada, catalogue no. 75-001-XIE). March 2003 online edition.
- Palameta, Boris. 2003. "Who pays for domestic help?" *Perspectives on Labour and Income* (Statistics Canada, catalogue no. 75-001-XIE). August 2003 online edition.
- Zukewich, Nancy. 2003. *Work, parenthood and the experience of time scarcity*. Days of our Lives series. Catalogue no. 89-584-XIE. Ottawa: Statistics Canada.

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Is the workplace becoming safer?

F. Curtis Breslin, Peter Smith, Mieke Koeboorn and Hyunmi Lee

Jobs in Canada are increasingly characterized by brain power rather than brawn. Despite the recent resurgence in some 'blue-collar' sectors (notably construction, oil and gas), the long-term shift has been away from resource and manufacturing industries to service-producing industries. Moreover, with an increasingly educated workforce, the structure and activities of many jobs are changing within sectors. Over the course of the 1990s, for example, the proportion of employees using computers on the job doubled from 30% to 60% (Marshall 2001). Have such changes resulted in fewer injuries on the job?

For more than a decade, compensation claims for lost work days have generally declined in North America and Europe. Over a six-year period in the 1990s, lost-time claim rates declined in Ontario by 28.8% (Mustard et al. 2003). Similar declines were seen elsewhere for claims related to specific conditions such as low-back pain and upper-extremity disorders (Silverstein et al. 1998; Murphy and Volinn 1999). Even though the declines are encouraging, the rate of decrease may not be uniform for all workers (Silverstein et al. 1998; Ostry 2000; Smith and Mustard 2004). For example, over a nine-year period, the proportion of women submitting claims for certain hand/wrist and elbow disorders more than doubled (Silverstein et al. 1998).

Workplace injuries among young workers aged 15 to 24 are of particular interest. Numerous U.S. and Canadian studies have shown youths to be at higher risk for work injuries than older workers. However, whether youths show a different relative risk for work injury between jurisdictions and how that risk changes over time has yet to be systematically examined. Initiatives such as media campaigns have been implemented in Canada and the U.S. to increase young workers' awareness of work safety (WorkSmartOntario 2006;

LOHP 1998). Differences in the scope and effectiveness of these initiatives may also lead to varying rates of decline for workers of different ages.

Although Canada may continue to become less reliant on jobs in the goods-producing sector, which has traditionally had higher injury rates, regional differences in economic structure and industry mean that dissimilar injury claim rates are likely to persist.

Using the Labour Force Survey to estimate the working population as well as work injury data from Ontario's Workplace Safety and Insurance Board and British Columbia's WorkSafeBC, this article examines injury claim rates to determine whether the two provinces show comparable claim trends over time; whether the injury risk differs by industry, sex or age; and whether injury rates changed between 1990 and 2001 (see *Data sources and definitions*).

Work injury claim rates generally declining

Overall, between 1990 and 2001, work injury rates declined in both British Columbia and Ontario (Chart). These findings are generally consistent with previous North American and European studies. In Ontario, the decline was 4.6% per year (from 5.2 to 2.5 per 100 full-time equivalents) and in British Columbia, 3.0% per year (from 6.1 to 4.1). The absolute decline was somewhat larger in the early 1990s than in the latter half of the decade, especially in Ontario. Possible reasons for the slowing in the rate of decline could be related to changes in occupational health and safety enforcement, a slowing of 'de-industrialization' (the movement away from the primary and manufacturing sectors to more service-oriented jobs), as well as changes in the process for determining insurance premiums (for example, experience rating programs) and improvements in technology and equipment. These, coupled with the reductions not being predominantly due to changes in claim reporting practices (Mustard et al. 2003), support the notion that an important reduction in injury risk has occurred in the two provinces.

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Data sources and definitions

Ontario claims

Ontario's Workplace Safety and Insurance Board (WSIB) is the single payer workers' compensation insurance authority in Ontario and covers approximately 65% to 70% of labour force participants (AWCBC 2005). The remaining 30% to 35% include the self-employed, domestic workers, federal government workers,¹ the majority of the finance industry, and workers associated with interprovincial commerce. The WSIB requires lost-time claims to be submitted for any injury occurring during paid employment that results in an absence from regular work following the day of the accident, loss of wages/earnings, or a permanent disability/impairment.

Between 1990 and 2001, 1.5 million short-term and long-term disability claims were submitted to the WSIB. Records with no age, sex or industry were removed. Almost 33,000 claims (2%) were missing information on industry, and 270,000 (18%) were from industries with partial or complete voluntary coverage. These claims were removed since the workforce insured in these industries cannot be estimated. In addition, 11,000 claims (1%) had missing information on age or sex. This left a total of 1.2 million lost-time claims.

Each lost-time claim included injury date, sex, age at time of injury, and industry. The industry was coded to the Standard Industrial Classification 1980 (Statistics Canada 1986). Workplaces were grouped into two categories: goods and services. Goods-producing industries comprised agriculture, fishing, forestry, mining and oil, manufacturing, and construction. Service industries comprised transportation; communication; trade; finance and insurance; real estate; business services; government services; education; health and social services; and accommodation, food and beverages.

British Columbia claims

WorkSafeBC insures approximately 90% of workers in British Columbia. The remaining 10% include certain government employees (AWCBC 2005). WorkSafeBC defines a lost-time claim as an injury that "disables a worker from earning full wages at the work at which the worker was employed." (Section 5(2) of the British Columbia Workers' Compensation Act). It goes on to say that compensation is payable from the first working day following the day of the injury, while a health-care benefit only is payable for day of the injury.

Between 1990 and 2001, 908,000 short-term and long-term lost-time claims were reported to WorkSafeBC. Of these, 4,000 (0.5%) had industry code problems. An additional 22,000 (2.4%) were missing information on age or sex, leaving almost 900,000 lost-time claims. Although the coding system used is based on the Standard Industrial Classification System 1980 (SIC80), it has been modified to include specific industry groups that are more prevalent in B.C. (e.g., classification unit 703016 – *tree planting or cone picking* is not specifically included in the SIC80, but rather is under 0511 – *other forestry services*). However, these additions did not affect the allocation of each claim under the broad category of goods or services. A full description of the allocation procedures used is available from the authors.

Denominators

Denominators for lost-time claims were estimated using Statistics Canada's **Labour Force Survey** (LFS). The LFS is a monthly survey that uses a rotating panel design (respondents remain in the panel for six months) to estimate month-to-month changes in Canadian labour force participation among the civilian, non-institutionalized population aged 15 and older. The survey collects information on both employment status and hours worked.

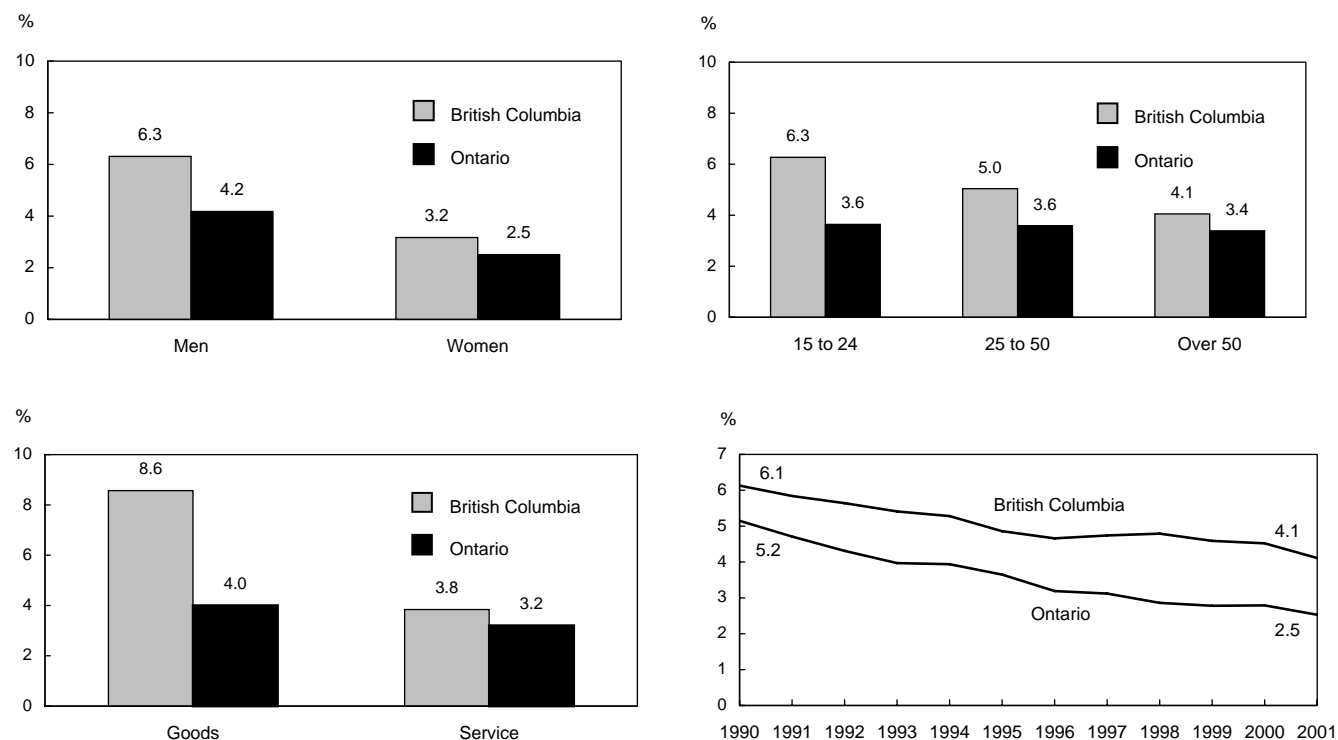
Federal government employees and the self-employed were not included in the denominator for either Ontario or British Columbia. Denominator estimates for Ontario were further adjusted to represent differing insurance coverage across industry groups. Methods for this adjustment have been more extensively described elsewhere (Smith, Mustard and Payne 2004).

Given the notable difference in missing industry codes between Ontario and British Columbia (2% versus 0.2% of claims), a sensitivity analysis was performed to determine whether adding these claims (which did contain information on age and sex) would substantially alter claim rates. That is, it was assumed that all claims missing industry data in Ontario were from workplaces with mandatory coverage. Including these in the calculation of age-sex rates did not substantively alter any of the conclusions in this paper.

Unadjusted rates of lost-time claims per 100 full-time equivalents (FTEs) per year were calculated by each age, sex, and industry combination. A **full-time equivalent** employee was estimated to represent 2,000 hours worked per year. Adjusted claim rates were calculated using direct standardization methods (Hennekens and Buring 1987). This method corrects crude injury rates to account for, in the case of this analysis, differences between Ontario and British Columbia in industry, age, and male-female composition of the labour force. That is, the rate of injury for male labour force participants, as presented in Table 2, is the rate expected if male workers in Ontario and British Columbia had identical participation rates across industry and age groups. A similar procedure was used to calculate adjusted claim rates across age and industry groups. The percentage change in adjusted lost-time claim rates per 100 FTEs was calculated between 1990 and 2001 and compared between provinces.

The claim rates calculated with LFS denominators tended to be higher than those reported by the respective compensation boards. For example, in 2001, the overall claim rate for British Columbia was reported as 3.6 per 100 workers whereas using LFS data as the denominator led to a rate of 4.1 per 100 FTEs (AWCBC 2005). The Association of Workers' Compensation Boards of Canada report also shows the 2001 Ontario claim rate of 2.4 per 100 workers while the LFS method led to a rate of 2.5 per 100 FTEs. This pattern suggests that LFS denominators, adjusted to directly estimate the hours contributed by part-time and full-time workers, provide a smaller estimate of the provincial workforce than the payroll method of calculating denominators.

Chart Lost-time claims per 100 full-time equivalent employees, 1990 to 2001



Sources: Workplace Safety and Insurance Board (Ontario); WorkSafeBC; Statistics Canada, Labour Force Survey

Variation between Ontario and British Columbia in overall work injury trends may be partly explained by differences in patterns of economic change. For example, British Columbia, which had higher initial rates and smaller subsequent declines, continues to have a large primary industry employment base (agriculture, fisheries, forestry, mining). Compared with Ontario, B.C. may have experienced less of a shift away from these higher risk industries toward the relatively safer service and retail sectors (Ostry 2000). This pattern does not appear to be the entire story, however, because even within sectors, declines varied. Most notably, the service industry in British Columbia showed a reduction in claim rates that was less than Ontario's. The extent to which these provincial variations represent differences in hazard exposure or safety improvement warrants further investigation.

Injury claim rates lower for women and older workers

While injury claim rates were lower for women than for men in both British Columbia and Ontario, the difference was more pronounced in British Columbia (Table). For example, in 2001, the adjusted claim rate for men in B.C. was 5.4 per 100 full-time equivalents and only 3.0 for women. This compares with 2.8 and 2.0 in Ontario. Interestingly, the men's claim rate in B.C. was almost double Ontario's, even after being adjusted for industry and age. Additionally, although claim rates decreased for both men and women in the two provinces between 1990 and 2001, the reduction was more pronounced in Ontario—more than 50% for men and about 40% for women. In British Columbia, the comparable figures were 38% and 10%, suggesting that factors other than changing industry and age composition play a role in injury claim rates.

Table Adjusted lost-time claims per 100 full-time equivalent employees

	1990 ¹	2001 ¹	Change
Age group		%	
British Columbia			
15 to 24	9.6	6.7	-30.0
25 to 50	7.2	4.8	-34.1
Over 50	5.5	3.7	-33.5
Ontario			
15 to 24	5.5	3.0	-45.4
25 to 50	5.2	2.5	-51.7
Over 50	4.7	2.3	-50.9
Sex			
British Columbia			
Men	8.8	5.4	-38.3
Women	3.3	3.0	-9.9
Ontario			
Men	6.1	2.8	-53.4
Women	3.3	2.0	-40.6
Industry			
British Columbia			
Goods	9.9	6.0	-39.7
Service	4.5	3.6	-19.8
Ontario			
Goods	5.9	2.7	-53.9
Service	4.5	2.4	-47.3

¹ Claim rate adjusted for all other variables included in the table.
Sources: Workplace Safety and Insurance Board (Ontario); WorkSafeBC; Statistics Canada, Labour Force Survey, 1990 to 2001

Of particular interest are young workers, who historically have had a higher risk of workplace injuries. Several factors may account for this. First, they are relatively inexperienced (Breslin and Smith 2006). Secondly, they are often concentrated in the service and retail industry (NRC/IM 1998), so de-industrialization may not cause their work injury rates to fall to the same degree as for adult workers (Loomis et al. 2004). Finally, they are often in precarious jobs (part-time, temporary or contract work) and may not receive work-safety training, which is often targeted to full-time employees (Quinlan, Mayhew and Bohle 2001). Injury prevention initiatives have been implemented in Canada and the United States to increase young workers' awareness of work safety and hopefully reduce their injury rates.

In both British Columbia and Ontario, injury rates were highest for young workers aged 15 to 24 in 1990. As with overall injury rates, injury rates for these workers were higher in B.C. than in Ontario. In B.C., for every 100 full-time equivalents aged 15 to 24, almost 10 had experienced some type of workplace injury, while the corresponding figure in Ontario was slightly less than 6.

Injury rates for young workers fell significantly between 1990 and 2001—by 30% in B.C. and more than 45% in Ontario. However, the decrease was smaller than for any other age group and their rates remained the highest, indicating that the focus on injury prevention among young workers continues to be important.

Older workers still had the lowest injury rates per 100 full-time equivalents. In 2001, the rate was 3.7 per 100 in British Columbia and 2.3 in Ontario, even after adjusting for differences in industry, age, and male-female composition of the workforce.

Claim rates lower in the service industry

Industries were broken down into goods-producing and service-producing. Goods-producing industries were agriculture, fishing, forestry, mining and oil, manufacturing, and construction. Service industries were transportation; communication; trade; finance and insurance; real estate; business services; government services; education; health and social services; and accommodation, food and beverages.

Not surprisingly, the service sector had lower injury rates than the goods sector in both provinces in 1990 and 2001, with B.C.'s rates continuing to be slightly higher than Ontario's in each category. Again, although injury rates decreased in both provinces over the period for both goods- and service-producing industries, declines were much more pronounced in Ontario, even after controlling for age and sex. One explanation may have to do with industry mix. For example, the composition of goods-producing industries within each province is significantly different, with employment in British Columbia more concentrated in 'riskier' sectors such as forestry and mining, while Ontario's is centered around manufacturing industries, which have seen many technological improvements.

Traditionally, injury rates have been higher in the goods sector than in services. This holds in both provinces, although substantial declines in injury rates have been

seen, suggesting improved safety measures (Conway and Svenson 1998). However, the adjusted claim rate in B.C. in 2001 for the service sector was 3.6 per 100, while in Ontario the goods-producing industry was lower at 2.7. As well as being a result of differences in industry composition within the goods and service sectors, differences between the provinces may be, in part, a result of different claim reporting practices by employers and compensation boards.

Finally, these overall declines could partly be due to the different nature of injuries in goods and services. Compensation systems may not be as sensitive at picking up chronic injuries, common to service-type work, compared with acute injuries, associated more with resources and manufacturing.

Summary

Overall, work injury claim rates declined in both Ontario and British Columbia between 1990 and 2001. However, declines were not uniform by province, industry, or demographic group.

Although men's injury rates declined more than women's, women still had lower overall rates in both provinces. Additionally, the youngest age group, which had the highest initial claim rates, had larger absolute declines than the oldest age group. However, the percentage decline for young workers was the lowest of all age groups.

Injury rates declined in both goods and service industries in both provinces. The decline was much more pronounced in Ontario and may be partly a result of greater de-industrialization in the Ontario economy—that is, a move away from goods-producing industries toward services.

The general decline in the overall claim rates of both provinces is encouraging. Nevertheless, differences in trends and relative risks among worker subgroups in the two provinces serve to draw attention to opportunities to reduce the injury risks workers encounter.

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Note

1 Federal government employees in Ontario are indirectly covered by the WSIB. Claims are assessed by the WSIB, but compensation is paid by the federal government.

References

Association of Workers' Compensation Boards of Canada (AWCBC). 2005. *2001 Key Statistical Measures*. Mississauga, Ont.: AWCBC. http://www.awcbc.org/english/board_data-key.asp.

Breslin, F. Curtis and Peter M. Smith. 2006. "Trial by fire: A multivariate examination of the relationship between job tenure and work injuries." *Occupational and Environmental Medicine* 63, no. 1 (January): 27-32.

Conway, Hugh, and Jens Svenson. 1998. "Occupational injury and illness rates, 1992-96: Why they fell." *Monthly Labor Review* 121, no. 11 (November): 36-58.

Hennekens, Charles H. and Julie E. Buring. 1987. *Epidemiology in medicine*. Philadelphia: Lippincott, Williams and Wilkins.

Labor Occupational Health Program (LOHP). 1998. *Teens, Work, and Safety: A Curriculum for High School Students*. Center for Occupational and Environmental Health. Berkeley: University of California.

Loomis, D., D.B. Richardson, J.F. Bena and A.J. Bailer. 2004. "Deindustrialisation and the long term decline in fatal occupational injuries." *Occupational and Environmental Medicine* 61, no. 7 (July): 616-621.

Marshall, Katherine. 2001. "Working with computers." *Perspectives on Labour and Income* (Statistics Canada Catalogue 75-001-XIE). May 2001 online edition.

Murphy, Patrice L. and Ernest Volinn. 1999. "Is occupational low back pain on the rise?" *Spine* 24, no. 7: 691-697. April 1.

Mustard, Cameron A., Donald Cole, Harry Shannon, Jason Pole, Terry Sullivan and Richard Allingham. 2003. "Declining trends in work-related morbidity and disability, 1993-1998: A comparison of survey estimates and compensation insurance claims." *American Journal of Public Health* 93, no. 8 (August): 1283-1286.

National Research Council and the Institute of Medicine (NRC/IM). Committee on the Health and Safety Implications of Child Labor. 1998. *Protecting Youth at Work: Health, Safety, and Development of Working Children and Adolescents in the United States*. Washington, D.C.: National Academy Press.

- Ostry, Aleck. 2000. "From chainsaws to keyboards: Injury and industrial disease in British Columbia." In *Injury and the New World of Work* edited by Terrence Sullivan. p. 27-45. Vancouver: UBC Press.
- Quinlan, Michael, Claire Mayhew and Philip Bohle. 2001. "The global expansion of precarious employment, work disorganization, and consequences for occupational health: A review of recent research." *International Journal of Health Services* 31, no. 2: 335-414.
- Silverstein, B., E. Welp, N. Nelson and J. Kalat. 1998. "Claims incidence of work-related disorders of the upper extremities: Washington state, 1987 through 1995." *American Journal of Public Health* 88, no. 12 (December): 1827-1833.
- Smith, Peter M. and Cameron A. Mustard. 2004. "Examining the associations between physical work demands and work injury rates between men and women in Ontario, 1990–2000." *Occupational and Environmental Medicine* 61: 750-756.
- Smith, Peter M., Cameron A. Mustard and Jennifer I. Payne. 2004. "Methods for estimating the labour force insured by the Ontario Workplace Safety and Insurance Board: 1990–2000." *Chronic Diseases in Canada* 25, no. 3/4 (Summer/Fall): 127-137. (Public Health Agency of Canada)
- Statistics Canada. 1986. *Canadian Standard Industrial Classification for Companies and Enterprises, 1980*. Catalogue no. 12-570-XPE. Ottawa.
- WorkSmartOntario. 2006. *Ontario Young Worker Health and Safety Initiatives/Programs Inventory*. Toronto: Ontario Ministry of Labour. Contact: sue.boychuk@mol.gov.on.ca.