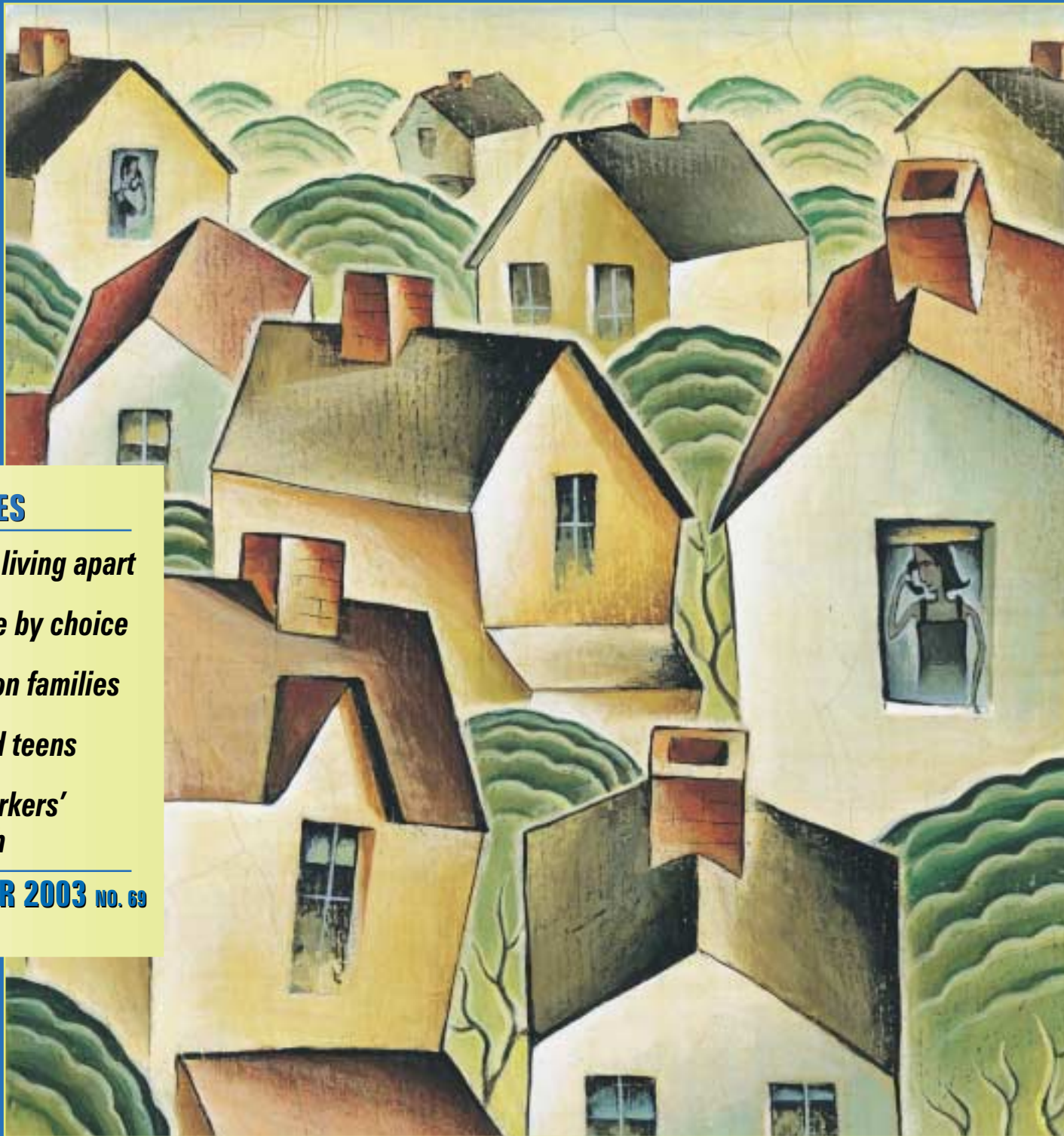




CANADIAN

CATALOGUE  
NO. 11-008

# SOCIAL TRENDS



## FEATURES

*Couples living apart*

*Childfree by choice*

*Update on families*

*Tech and teens*

*Shift workers' health*

**SUMMER 2003** NO. 69

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# CANADIAN SOCIAL TRENDS

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# Couples living apart

by Anne Milan and Alice Peters



Most people want to share an intimate connection with another person but the framework within which relationships occur has changed dramatically. Traditionally, marriage was the only acceptable social institution for couples. In recent decades, however, people have been marrying at increasingly older ages, divorce and separation rates have grown, and living together without marriage has become more common. Now it is not unusual for relationships to form and dissolve and new partnerships to be created over the course of the life cycle.

Previously, social norms prescribed that a couple should marry and live in the same household. When a couple could not live together, it was assumed that the living

arrangement was not ideal and was only temporary.<sup>1</sup> In today's society, unmarried couples who live in separate residences while maintaining an intimate relationship are referred to as non-resident partners or "living apart together" (LAT) couples. This type of relationship may be seen as part of the "going steady" process, often as a prelude to a common-law union or marriage. Alternatively, LAT unions may be viewed as a more permanent

1. Levin, I. and J. Trost. 1999. "Living apart together." *Community, Work and Family* 2, 3: 279-94.

living arrangement by individuals who do not want, or are not able, to share a home. This article uses data from the 2001 General Social Survey to examine the characteristics of individuals in LAT relationships.

### One in 12 Canadians “lives apart together”

In 2001, 8% of the Canadian population aged 20 and over were in LAT relationships. LAT arrangements were most common for 20- to 29-year-olds (56%). It is not surprising that many of those in LAT couples are young adults. Individuals are postponing union formation until later than did earlier generations due to uncertain job prospects, the pursuit of higher education, and the “crowded nest” phenomenon,<sup>2</sup> where adult children return to (or never leave) the parental home. While most young adults eventually enter a union,<sup>3</sup> being part of a LAT arrangement may meet their immediate relationship needs.

### LATs are not just for the young

While the majority of those in LAT relationships were young adults, in 2001 44% of people in such unions were aged 30 and over. About one in five (19%) of those in LAT arrangements were in their thirties, 14% were in their forties and the remaining 11% were aged 50 and over. For older individuals, a LAT arrangement may be a way for them to keep their own households and still have a relationship.

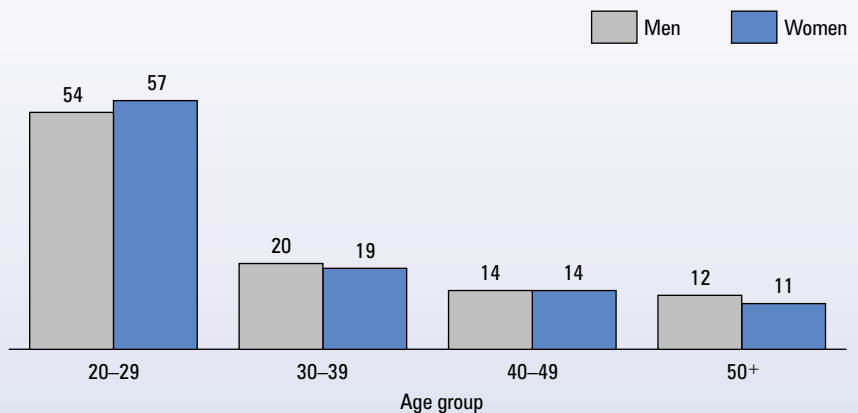
Cultural and family expectations affect perceptions of whether it is appropriate for older individuals to marry again after divorce or widowhood. Previous research has found that many older people do not wish to marry their dating partners.<sup>4</sup> Some believe that maintaining their own homes prevents an unequal division of domestic labour and caregiving while allowing them to retain their independence. Others view their home

## CST What you should know about this study

Data in this article come from the 2001 General Social Survey. The survey interviewed a representative sample of over 24,000 Canadians aged 15 years and older, living in private households in the 10 provinces. This particular study is based on a sample of about 2,190 individuals aged 20 and over who were not living with a spouse (married or common-law) at the time of the survey. These respondents were asked, “Are you in an intimate relationship with someone who lives in a separate household?” It is not possible to determine the duration of this type of relationship.

## CST Most of those in living apart together (LAT) arrangements are young people

% in LAT arrangements



Source: Statistics Canada, General Social Survey, 2001.

as a physical or symbolic base from which to carry out their various social activities with friends, adult children, or grandchildren. In all of these situations, a LAT arrangement could be an alternative to remarriage or cohabitation for seniors. Adults entering their middle years and beyond in the early decades of the 21<sup>st</sup> century will have experienced a greater diversity of relationship and marital experiences over their lifetimes than did earlier generations.<sup>5</sup> This may result in an increased share of LAT relationships among older adults in the future.

2. See, for example, Boyd, M. and D. Norris. Spring 1999. “The crowded nest: Young adults at home.” *Canadian Social Trends*. p. 2-5.

3. Statistics Canada. 2002. *Changing Conjugal Life in Canada* (Statistics Canada Catalogue no. 89-576-XIE).

4. Caradec, V. 1997. “Forms of conjugal life among the ‘young elderly.’” *Population: An English Selection* 9: 47-73.

5. Cooney, T. and K. Dunne. 2001. “Intimate relationships in later life, current realities, future prospects.” *Journal of Family Issues* 22, 7: 838-858.

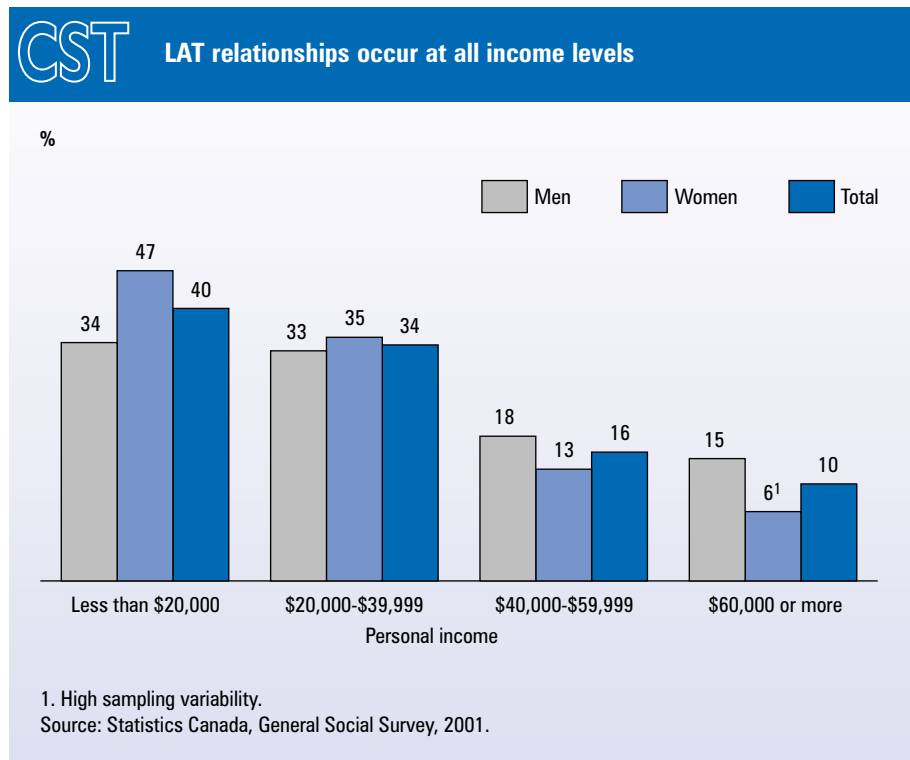
## Most people in LATs are in the labour force

The main activity of the majority of LATs aged 30 or more in the year prior to the survey was either working or looking for work. For those aged 30 to 39, 87% were in the labour force, as were 90% of those in their forties. A large share of individuals in their twenties who were in LAT relationships were also in the labour force (62%), while 33% were students. For those individuals aged 50 and older, 54% were in the labour force while 36% were retired.

Given that two households are more expensive to maintain than one, it might be expected that LAT relationships occur more often among those who are financially secure. In some cases, however, there may be social subsidies or income transfers supporting lower income people who do not live with partners, such as widowed seniors or those who have young children. Although it was more pronounced at the lower end of the scale, people at all levels of income were involved in LAT relationships in 2001: 40% had personal incomes below \$20,000, 34% between \$20,000 and \$40,000, 16% between \$40,000 and \$60,000, and 10% had personal incomes greater than \$60,000. This reflects the large proportion of LATs in their twenties who may be either students or who have not been in the labour force for a very long period of time.

## Caring for others is a common reason for not living with a partner

One reason why LAT couples do not share a residence is because they are responsible for the care of other persons.<sup>6</sup> For example, one or both members of the couple may have children. Not wishing to bring another adult into the household because of the children or having difficulty attracting a live-in partner could be compelling reasons for a LAT relationship. Women are more likely to be



lone parents or to retain custody of children following a union dissolution.<sup>7</sup> In 2001, 23% of women in LAT relationships lived in a household with children, while only 5% of men did so.

Living with and/or having the responsibility of caring for an aging parent could be another reason for a couple to not co-reside. In 2001, 36% of those in LAT relationships lived with a parent or parents (38% of men and 34% of women). While many young adults might live with their parents in order to save expenses, older individuals who share a home with their parents are likely providing some form of parental care. An earlier study found that the responsibility for eldercare has shifted from institutions to families. In 1996, 2.1 million Canadians looked after older family members; two-thirds were between the ages of 30 and 59.<sup>8</sup>

According to one study, two-thirds (66%) of members in LAT couples claim their living separately is due to external pressures, usually family- or work-related; 34% report it is in order

to retain their independence.<sup>9</sup> In these cases, a LAT relationship is a viable alternative to bringing another person into the household. These individuals may prefer to stay in familiar surroundings, continue their responsibilities for children or parents, or work, all while maintaining an intimate relationship.

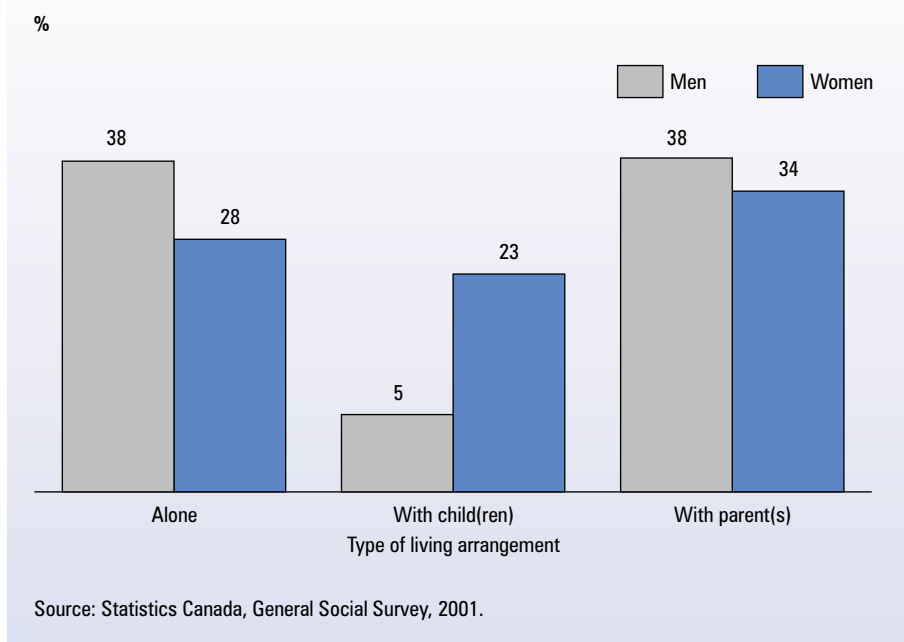
Although many LATs share a home with other family members, overall, roughly one-third lived alone (28% of women and 38% of men), and the proportion increased with age. In

6. Levin and Trost.

7. Statistics Canada. 2002. *Family History* (Statistics Canada Catalogue no. 89-575-XIE); Statistics Canada. 2002. *Divorces* (Statistics Canada Catalogue no. 84F0213XPB).

8. Frederick, J.A. and J.E. Fast. Autumn 1999. "Eldercare in Canada: Who gives how much?" *Canadian Social Trends*. p. 26-30.

9. Villeneuve-Gokalp, C. September/October 1997. "Vivre en couple chacun chez soi." *Population* 5: 1050-1082.



2001, about 16% of 20- to 29-year-old men and women in LAT relationships lived alone, with the proportion rising to 79% of men and 72% of women aged 50 and over. Establishing new living arrangements can be stressful for seniors (for example, following widowhood<sup>10</sup>). Furthermore, for a couple to move in together requires decisions about where to live and what possessions to keep or share.<sup>11</sup>

### Many LATs would like to live common-law

About one-half of those in a LAT couple, regardless of whether they are men or women, expect to live common-law with their current partners at some future point. The remainder either do not want their relationship to develop further, or else they are undecided. Age also has an impact on the extent to which people in LAT relationships expect to live common-law. While 57% of those aged 20 to 29 in LAT relationships anticipate that their relationship will develop further, the proportion decreases for those aged 30 to 39 (46%), and 40 to 49

(48%), and drops off to 26% for those 50 and older. This is consistent with the finding that older individuals may be more set in their ways and prefer to maintain their own residences while engaging in a relationship.<sup>12</sup>

The expectation of living common-law with their LAT partner also depends on living arrangements. Approximately one-half of females in LAT relationships who were either living in households with children, or with their parent(s), thought they would live in a common-law union at some point with their current LAT partner. A British study found that one-third of never-married, childless women under 35 are in LAT relationships, and about 30% of those women do not plan to live together or get married to their present partner.<sup>13</sup> The greater participation of women in the labour force and their subsequent financial autonomy may reflect a reduced willingness to commit to a union that could infringe on their existing relationships with family, friends or other social networks. However, only 32%<sup>14</sup> of males in LAT relationships who were living in households with

children thought they would live in a common-law union with their current partner, compared to 60% of males who lived with their parent(s).

### LAT relationships are not necessarily “till death do us part”

Those in LAT relationships held somewhat different views on the importance of a lasting relationship than did those who were married or in common-law unions. The proportion of women in LAT relationships, for example, who felt that it is very important to have a lasting relationship for a happy life was lower (62%) than that of women who were living common-law (72%) and women who were married (81%). The results were similar for men: 53% in LAT relationships believed it was very important to have a lasting relationship compared to 64% of men living common-law and 76% of married men. Perhaps not surprisingly, persons who were divorced or separated were least likely to believe that it was very important to have a lasting relationship in order to be happy (34% of women and 39% of men).

Those in LAT relationships were also less likely to feel that it is very important to have at least one child for a happy life than were people in other types of relationships. Only never-married men (25%) and women (29%) were less inclined than those in LAT relationships to believe that having children is very important in

10. Bess, I. Summer 1999. “Widows living alone.” *Canadian Social Trends*. p. 2-5.

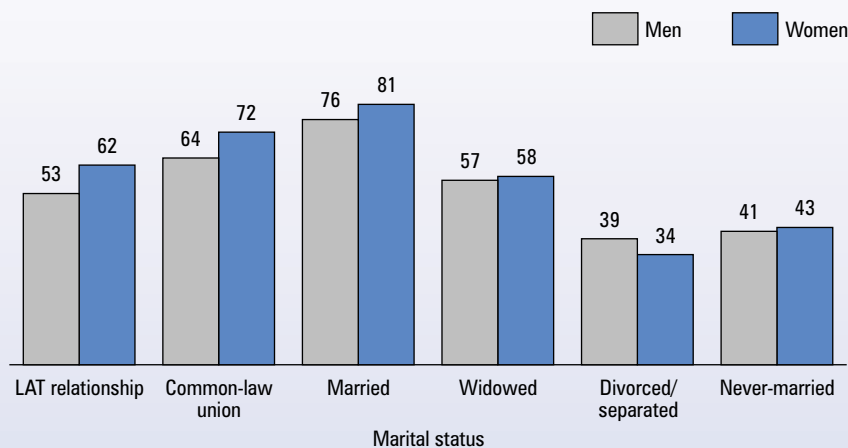
11. Levin and Trost.

12. Caradec.

13. Ermisch, J.F. 2000. *Personal Relationships and Marriage Expectations: Evidence from the 1998 British Household Panel Study*. Colchester, England: Institute for Social and Economic Research.

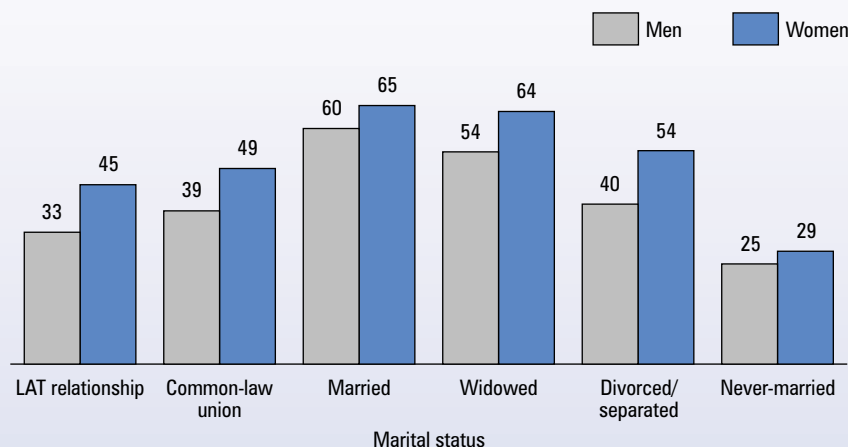
14. High sampling variability.

% who believe it is very important to have a lasting relationship



Source: Statistics Canada, General Social Survey, 2001.

% who believe it is very important to have children



Source: Statistics Canada, General Social Survey, 2001.

order to be happy in life. The proportion of women in LAT relationships, for example, who felt that it is very important to have children was lower (45%) than that of women who were living common-law (49%) and women who were married (65%). The results were similar for men: 33% in LAT relationships believed it was very

important to have a child compared to 39% of men living common-law and 60% of married men.

**Summary**

Being in an intimate relationship with someone from a separate household may be seen as part of the “going steady” process for the young and

never-married. However, older and previously married individuals are also involved in this type of relationship. Labour market changes, higher educational attainment, changing family responsibilities and living arrangements, increased divorce and separation rates, higher standards of living, and higher life expectancy all may contribute to the prevalence of LAT relationships.

For some, being in an intimate relationship with someone from a separate household is a way of respecting the autonomy of each. Living apart could also allow both parties the time to be sure of their commitment to the relationship before proceeding further.<sup>15</sup> Others may have had the experience of living previously in a “traditional” couple, and they now wish to try an alternative arrangement with a new partner. For yet others who care for children or elderly parents, or have educational or employment commitments in different locations, separate homes may be a practical solution while still engaging in a relationship. Regardless of whether it is a temporary or permanent arrangement, “living apart together” is a way for Canadians to balance their needs for independence with their needs for intimacy.

15. Bawin-Legrow, B. and A. Gauthier. 2001. “Regulation of intimacy and love semantics in couples living apart together.” *International Review of Sociology* 11, 1: 39-46.



# Childfree by choice

by Susan Stobert and Anna Kemeny

*"We are a group of adults who all share at least one common desire: we do not wish to have children of our own... We choose to call ourselves 'childfree' rather than 'childless,' because we feel the term 'childless' implies that we're missing something we want — and we are not. We consider ourselves child-FREE — free of the loss of personal freedom, money, time and energy that having children requires."*

*Thus starts the introductory paragraph of "childfree.net," one of the many Internet sites devoted to providing support and information to individuals who have decided not to have children. Such a support network may be much needed. Although choosing to stay childless may be easier in some ways than it was 30 years ago, having children is still overwhelmingly the norm — 65% of families have children. Those who opt to stay childfree constitute a small minority that often feel obliged to justify their decision to others. It appears that our "kidcentric" society tends to leave those without children feeling inadequate, left out, judged or misunderstood.<sup>1</sup>*

CST

## What you should know about this study

Data in this article come from the 2001 General Social Survey (GSS) on family and friends. In addition to providing a wealth of information on various socio-demographic characteristics of individuals and families, the GSS covered topics such as marital history, common-law unions, biological, adopted and stepchildren, leaving the family home and fertility intentions, to name just a few. The survey was conducted between February and December 2001, and interviewed more than 24,000 respondents aged 15 and over living in private households in the 10 provinces.

One of the questions respondents were asked is "Are you planning on having children?" It is important to realize, however, that birth intentions are not necessarily the same as subsequent actions. As individuals — particularly women — age, it is not unusual for them to change their minds and decide to enter parenthood after all.

Nonetheless, the trend towards fewer children or no children forges ahead. For a variety of reasons — greater education and higher labour force participation for women, effective birth control, and later marriage to name just a few — the fertility rate has been steadily declining over the past century (with the exception of the baby boom). Indeed, the total fertility rate per woman dropped from 3.5 children in 1921 to 1.5 in 1999.<sup>2</sup> In addition to women having fewer children, more are not having children at all.

Who are Canada's young childfree adults? Using data from the 2001 General Social Survey (GSS), this article

looks at the socio-demographic characteristics — marital status, religion, country of birth, education and income — of Canadians aged 20 to 34 who intended to stay childfree at the time of the survey. It also examines these individuals' childhood experiences and the

1. [www.childfree.net](http://www.childfree.net) (accessed November 2002); Clausen, C. July/August 2002. "To have or not to have." *Utne Reader*. [www.utne.com](http://www.utne.com) (accessed November 2002).
2. Bélanger, A. (ed.) 2002. *Report on the Demographic Situation in Canada* (Statistics Canada Catalogue no. 91-209-XPE). p. 23.

importance they place on marriage, children and career.

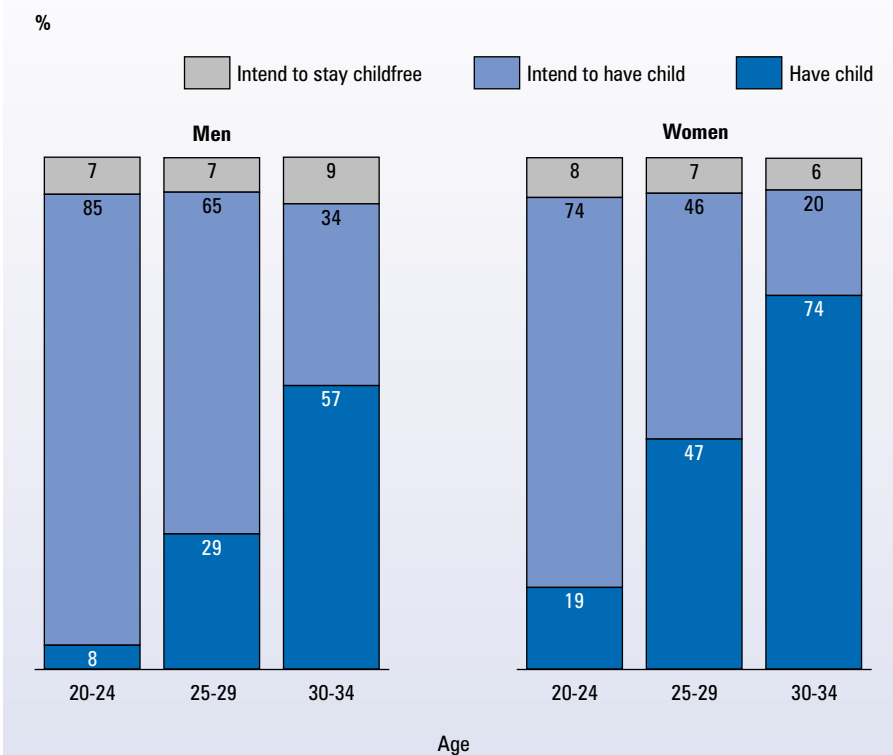
### Only a small proportion of young Canadians intend to remain childfree

The vast majority of young Canadians report that they intend to have at least one child. In 2001, only 7% of Canadians aged 20 to 34, representing 434,000 individuals, indicated that they did not intend to have children. Although men and women differ in terms of when they become parents — for example, among 30- to 34-year-olds, 72% of women have a child compared with just 54% of men — the proportion not wishing to have children is quite consistent: 7% for women, 8% for men.

While the proportion of Canadians who have children increases with age (18% of 20- to 24-year-olds had one or more children compared with 64% of 30- to 34-year-olds), the percentage of those who do not intend to have any stays surprisingly constant over these 15 years: about 7% and 8% for women and men, respectively. However, between the ages of 20 and 34, the proportion of individuals who do not currently have a child but intend to have one in the future drops markedly from 75% to 27%.

The reasons for not intending to have children are diverse. For some, medical conditions may preclude the possibility. Others, despite never having consciously decided to forego children, may now find themselves in a situation that is not conducive to child rearing, such as not having met the right partner, living with a partner who does not want children, or having a career that is too fulfilling or demanding to allow time for the care of a child. Then there are those who always knew they would not want children. This group includes individuals who simply do not like kids, as well as those who cite religious or environmental reasons for their decision to stay childfree.<sup>3</sup>

## CST The intention to remain childfree stays constant between the ages of 20 and 34



Source: Statistics Canada, General Social Survey, 2001.

While the reasons for not planning a family may result from any of the above points, childlessness arising from medical problems is very rare in this age group; only about 2% of young Canadians reported that either they or their partner could not bear children. It is therefore more likely that 20- to 34-year-olds would plan on having no children because they actively chose not to or because of any number of unanticipated circumstances mentioned earlier.

### Nearly one in 10 singles expects to have no children

According to data from the GSS, a clear relationship exists between marital status and fertility intentions. Almost always, single (never-married) individuals are more likely to report that they do not expect to have children than those who are in committed

relationships. In 2001, some 9% of singles reported not expecting to have children compared with 5% of those in a marriage or common-law relationship.

This, of course, is not unexpected. Although parenthood outside of marriage is increasing, and decisions about parenthood and marital status are becoming less interdependent, most childbearing still occurs in a committed relationship. According to Heaton and colleagues, “the practical considerations of caring for children while making a living are most easily resolved in a partnership, and children

3. Cain, M. 2001. *The Childless Revolution: What It Means to be Childless Today*. Cambridge, Massachusetts: Perseus Publishing. p. 15-23.

	% of 20- to 34-year-olds intending to stay childfree
Total	7
Men	8
Women	7
Married/common-law	5
Single (never married)	9
Have religious affiliation	6
No religious affiliation	12
Born in Canada	8
Born outside Canada	5
University or college degree	7
High school graduate	7
Less than high school education	7

Source: Statistics Canada, General Social Survey, 2001.

tend to be better off if they live in a household with two parents.”<sup>4</sup>

### Religious Canadians more likely to want children

Religious traditions are generally linked with values and attitudes that support marriage and parenthood. Research shows that there is a positive association between religious participation and traditional attitudes about family formation. For example, data from the 1995 GSS found that weekly attenders of religious services — both men and women — placed greater importance on lasting relationships, being married, and having at least one child than those who never attended.<sup>5</sup>

Indeed, the 2001 GSS confirms that Canadians with no religious affiliation (another measure of religiousness) are more likely not to plan a family than their religious counterparts: Among 20- to 34-year-olds, 12% of those with no religious affiliation expected to stay childfree versus 6% of religious Canadians.

Different cultures give rise to different realities, values and aspirations.

While in many developed countries families have been getting smaller, in several other parts of the world large families are still the norm. Women’s roles, economic conditions, religion, social security systems and the availability of effective contraceptives are just a few of the possible factors that may affect fertility. Many of these factors vary from place to place. The decision to have or not to have children does, therefore, depend at least partly on the country where an individual was born. Indeed, according to data from the 2001 GSS, place of birth did make a difference when it came to planning families: 5% of persons born outside Canada reported not intending to have children compared with 8% of their Canadian-born counterparts.

### Education, income and the expectation to have children interrelated

The relationship between income, education and childlessness is not straightforward. On the one hand, more educational attainment, and the higher earnings that generally result from it, increase the opportunity cost

(e.g. lost wages) of having children. On the other hand, raising a child is an expensive undertaking; it is estimated that it costs over \$150,000 to raise a child to the age of 18 in Canada and those with greater economic resources can more easily meet these expenses.<sup>6</sup> Because of these two competing tendencies, the effects of income and education tend to cancel out each other.<sup>7</sup>

According to the 2001 GSS, individuals’ level of education did not seem to be associated with their fertility intentions. Whether people aged 20 to 34 were college or university graduates or had a less than high school education, 7% in each group expected not to have children. Those in the middle of the educational spectrum — high school graduates or those with some college or trade school courses — also showed the same trend: 7% intended to stay childfree.

Education also may influence attitudes and behaviours for non-economic reasons, particularly for women. Results of numerous studies indicate that women are likely to delay having children if they pursue academic studies and, likewise, are more likely to delay educational attainment if they become parents. Time constraints tend to inhibit the mutual roles of student and parent; as well, education may alter beliefs about the importance of children and may offer alternative goals, especially for women. In contrast,

4. Heaton, T., C. Jacobson and K. Holland. May 1999. “Persistence and change in decisions to remain childless.” *Journal of Marriage and the Family* 61, 2: 533.

5. Clark, W. Autumn 1998. “Religious observance, marriage and family.” *Canadian Social Trends*. p. 2-7.

6. Vanier Institute of the Family. *Profiling Canada’s Families*. Chapter 59. [www.vifamily.ca/profiling](http://www.vifamily.ca/profiling) (accessed December 4, 2002).

7. Heaton et al. p. 532.

	% of 20- to 34-year-olds intending to stay childfree
Had a happy childhood	7
Did not have a happy childhood	9
Reported being close to their father	7
Reported not being close to their father	8
Reported being close to their mother	7
Reported not being close to their mother	10
Happiness in life depends on being married	4
Happiness in life does not depend on being married	15
Happiness in life depends on being part of a couple	6
Happiness in life does not depend on being part of a couple	26
Happiness in life depends on having a child	1
Happiness in life does not depend on having a child	35
Happiness in life depends on having a job	7
Happiness in life does not depend on having a job	5

Source: Statistics Canada, General Social Survey, 2001.

increased earning potential that often results from higher education may be greater for men. And favorable economic conditions increase the likelihood that men will get married and have children.<sup>8</sup>

### Importance couples place on relationship affects plans to have children

Childhood experiences are believed to affect nearly all facets of life including adult relationships, parent-child interactions and, one might expect, the desire to have children. Interestingly, data from the 2001 GSS show that memories of a happy childhood make no difference in the decision to have a family; although 7% of those who had a happy childhood, and 9% of those who did not, expected to stay childfree, this difference was not statistically significant. Similarly, memories of being emotionally close to one's mother or father were not associated with different patterns of family planning.

The importance individuals placed on marriage, however, did have a significant impact on plans to start, or not to start, a family. While only 4% of Canadians who rated marriage as important or very important to their happiness reported not wanting children, 15% of those who felt that marriage was not very important or not at all important to their state of happiness did so.

The difference was even more pronounced between those who felt that being part of a couple was important or very important for their happiness and those who did not. Just 6% of individuals who felt that their happiness in life depended on a lasting relationship as a couple expected to stay childfree compared with 26% of those who stated that being part of a couple was not important or not at all important for their happiness.

### Summary

Canadians between the ages of 20 and 34 who choose to stay childfree

represent a small, but significant, proportion of the population. Many diverse reasons account for why individuals decide not to have children, including never having wanted one, not finding themselves in the right circumstances, and religious or environmental concerns.

Despite a weakening link between children and marriage, childbearing is still associated with a committed relationship, and it is reasonable to find less childlessness among those who are married. Individuals without a religious affiliation are more likely to plan on not having children than do their religious counterparts. As well, Canadians who feel that being married or being part of a couple is not at all important to their happiness are considerably more likely to expect to stay childfree than those to whom these relationships are very important.

8. Heaton et al. p. 532-33.



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# Update on families

This article is adapted from *Profile of Canadian Families and Households: Diversification Continues*, published as part of the October 22, 2002 data release on families from the 2001 Census. This document is available from the Statistics Canada Web site at [www12.statcan.ca/english/census01/products/analytic/companion/fam/pdf/96F0030XIE2001003.pdf](http://www12.statcan.ca/english/census01/products/analytic/companion/fam/pdf/96F0030XIE2001003.pdf).

With the release of data from the 2001 Census, much new information on the state of Canadian families has become available. This update outlines the major changes that have occurred within families and their living arrangements over the last 20 years.

Canadians continue to marry and have children. However, marital histories are becoming more complex. Common-law unions, lone-parent families, smaller households and people living alone are on the rise.

In 2001, the proportion of “traditional families” — mom, dad and kids — continued to decline, while families with no children at home were on the rise. Married or common-law couples with children aged 24 and under living at home represented only 44% of all families in Canada, down from 55% in 1981. At the same time, couples who had no children living at home accounted for 41% of all families in 2001, up from 34% in 1981. In 2001, lone-parent families increased to 16% of all families from 11% in 1981.

Behind this shift in living arrangements are diverse factors, such as lower

fertility rates, delayed childbearing or a rise in the number of childless couples. In addition, because life expectancy is increasing, couples have more of their lives to spend together as “empty-nesters” after their children have grown up and left home.

## **Common-law relationships more frequent, especially among the young**

The proportion of couples who live in common-law arrangements is on the rise. In 2001, 16% of all couples lived common-law up from 6% in 1981. The rate in 2001 is substantially higher than that in the United States, where 8% of couples lived common-law, but is much lower than in Sweden (30%) and Norway (24%). The trend toward common-law was strongest in Quebec, where 30% of all couples lived in common-law unions in 2001, a rate similar to that in Sweden.

Although common-law relationships are most popular among the young, they are also becoming more acceptable among older generations. In 2001, 48% of 20- to 29-year-olds who lived as a couple were in a common-law union, compared with 5% of

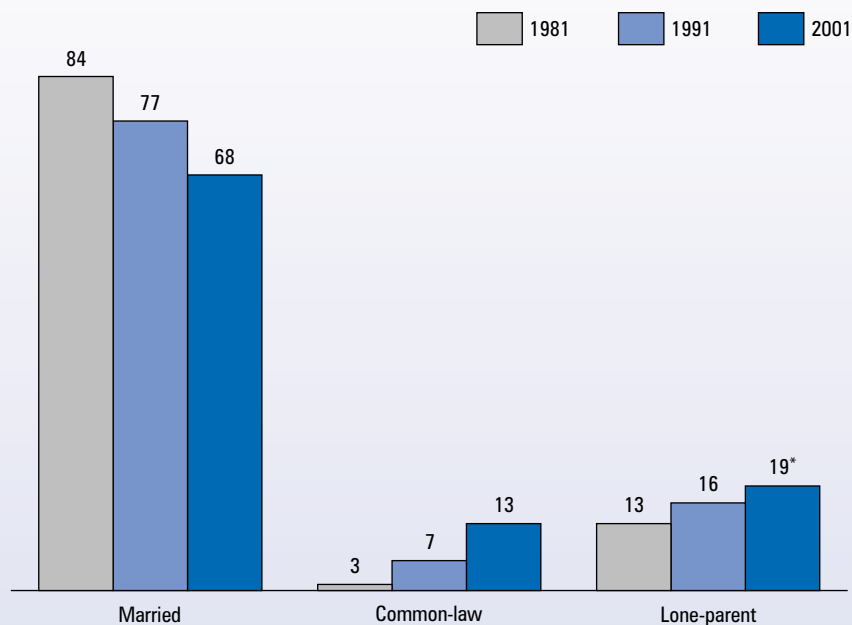
those aged 55 years or older. Common-law unions continue to be less stable than marriages. According to the 2001 General Social Survey (GSS), women whose first union was common-law were twice as likely to experience a separation as those whose first union was marriage.<sup>1</sup>

## **More children living in common-law and lone-parent families than before**

It has become more acceptable to bring up children in common-law relationships, although childbearing is still more common in marriages. In 2001, 46% of common-law families included children, whether born in the current union or in a previous relationship. In 1981, this percentage was 34%. In terms of children, about 13% of those under the age of 15 lived in a common-law family in 2001, compared with 3% in 1981. This national average, however, masks large differences between the provinces. While in

1. Statistics Canada. 2002. *Changing Conjugal Life in Canada* (Statistics Canada Catalogue no. 89-576-XIE). p. 6.

% of children aged 0-14



\* Includes about 1% of children with other living arrangements.  
Source: Statistics Canada, Censuses of Population.

Quebec, 29% of children under age 15 lived with common-law parents, only 8% of children in the rest of Canada had this living arrangement.

According to the National Longitudinal Survey of Children and Youth, children are experiencing parental separation at increasingly younger ages. Furthermore children born into common-law unions are more apt to see the separation of their parents. Research suggests that children who experience the separation or divorce of their parents during their childhood are more likely to separate themselves later in their adult lives.<sup>2</sup>

In 2001, about 19% of children did not live with both parents. Most of these children lived with a lone parent, the majority of whom were lone mothers. Only about 1% of children under age 15 lived with neither parent — these children usually stayed with other relatives.

### Households becoming smaller

Canadian households continue to shrink as fewer people live in large households and more people live alone. In 2001, the average household size fell to 2.6 from 2.9 in 1981. One and two-person households have increased in the last two decades. By 2001, 13% of the population aged 15 and over lived alone compared with 9% in 1981.

### Seniors more likely to live alone and less likely to live in health care institutions

In 2001, most senior men (61%) and about one-third (35%) of senior women lived with a spouse or partner and no children, little change from two decades earlier. The percentage of seniors residing with their adult children remained unchanged for men at 13%, but increased for women to 12% in 2001 from 9% in 1981.

Seniors were also more likely to live alone. In 2001, 35% of senior women and 16% of men aged 65 and over lived alone compared with 32% of women and 13% of men in 1981.

The percentage of seniors living in health care institutions has decreased to 9% in 2001 from 10% in 1981 for senior women and to 5% from 7% of senior men over the same time period.

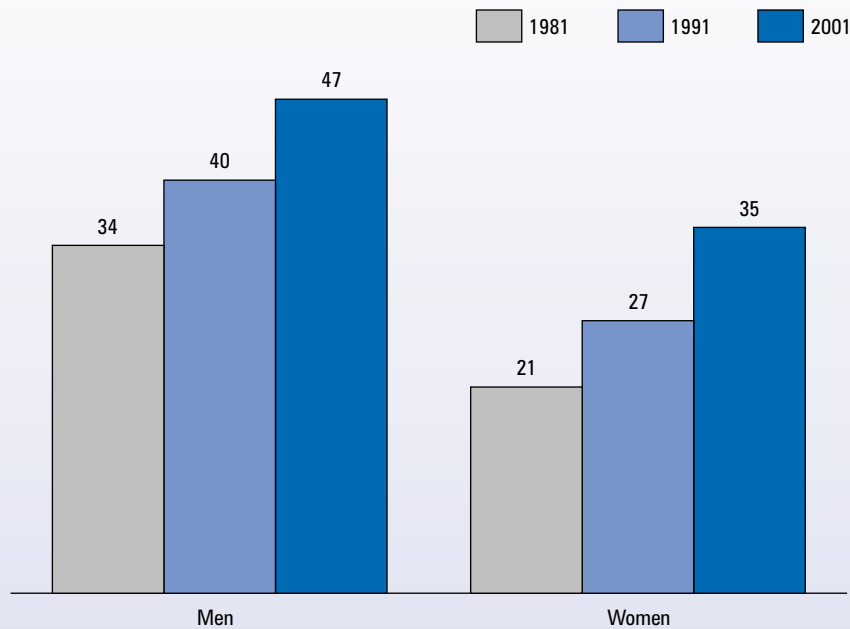
### Young adults living with their parents

The new economy, with its intensified competition and rapid technological advances, has increased the need for higher skill levels and more education. More schooling, falling marriage rates, rising age at first marriage and the growth of common-law unions (which are more likely to dissolve than marriages) have extended the period during which young adults live with their parents. Young adults are increasingly remaining in or returning to the parental home. In 2001, 41% of 20- to 29-year-olds lived with their parents, a large increase from 27% in 1981. Young men in their early twenties are the most likely to live at home, with 64% doing so, compared with 52% of young women aged 20 to 24.

The fact that young adults continue to live with their parents has contributed to the decline in unions (marriage or common-law) among young adults. While the percentage of young adults in common-law unions has increased over the past 20 years, the percentage in marriages has declined by more, resulting in fewer unions among people in their twenties. In 2001, 35% of 20- to 29-year-olds were in a marriage or in a common-law

2. Statistics Canada. 2002. *Profile of Canadian Families and Households: Diversification Continues* (Statistics Canada Catalogue no. 96F0030XIE2001 003). p. 7.

% of 20- to 29-year-olds who live with their parents



Source: Statistics Canada, Censuses of Population.

union compared with 52% in 1981. Men in this age group are less likely to be married or in a common-law union than women.

### Stepfamilies<sup>3</sup>

Many couples in new marriages or common-law unions have children from previous relationships. In 1998-99, nearly 7% of Canadian children under the age of 15 were living in a stepfamily.<sup>4</sup> Most of these children were part of a blended family,<sup>5</sup> which most often included the couple's biological children and the wife's children from a previous relationship.

### Summary

The Canadian family is continuing to be reshaped. More and more people are in common-law unions or form a lone-parent family. Children are increasingly being raised in these two types of families. The traditional

family, although the single largest group, has declined in popularity from two decades ago. Family trends in the 21<sup>st</sup> century will continue to evolve. Stay posted.

3. Stepfamilies refer to families in which at least one child is from a previous relationship of one of the parents.
4. National Longitudinal Survey of Children and Youth, 1998-99.
5. Blended families contain children of both spouses from one or more previous unions, or one or more children from the current union and one or more children from previous unions.



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# Tech and teens: Access and use

by J. Douglas Willms and Bradley A. Corbett

This article was adapted from "Information and communication technology: Access and use," which appeared in *Education Quarterly Review*, vol. 8, no. 4. (Statistics Canada Catalogue no. 81-003). It was based on a paper presented at the Pan-Canadian Education Research Agenda conference on May 2, 2002, which is available at the Council of Ministers of Education, Canada (CMEC) Web site at [www.cmec.ca/stats/pcera/RSEvents02/Bcorbett\\_OEN.pdf](http://www.cmec.ca/stats/pcera/RSEvents02/Bcorbett_OEN.pdf).

Students' use of technology in education is expected to improve their academic performance, increase their technological skills, and decrease inequities between groups.<sup>1,2</sup> Many educators believe that teaching that incorporates technology is necessary to prepare students for work in the information age. The new economy has intensified competition among nations, and rapid technological advances require a skilled workforce able to cope with constant changes in the workplace as well as in day-to-day living. As society becomes more complex, people require higher skill levels while literacy requirements increase dramatically. Elementary and secondary schools have a central role to play in laying a solid foundation on which subsequent knowledge and skills can be built.<sup>3</sup>

This study uses data from the 2000 Programme for International Student Assessment (PISA) to examine Canadian 15-year-old students' use of information and communication technologies (ICT) at home and at school. Canadian students' results are compared with those of students from other countries in the Organisation for Economic Co-operation and Development (OECD). In addition, the paper examines home and school factors affecting learning, including the availability of ICT at home and at school.

## Nine out of 10 Canadian 15-year-old students have access to a home computer

According to the 2000 PISA, Canada ranked 11<sup>th</sup> among the 32 OECD countries in access to home computers. About 88% of 15-year-old Canadian students had access to a computer at home, compared with 91% in Australia, 83% in the United States, 82% in Finland and 67% in Japan.<sup>4</sup> Internet access at home is less prevalent here in Canada and abroad. Only 69% of Canadian students had

home Internet access. Still, this is comparable with Australia (67%) and the United States (69%) and considerably

1. Pelgrum, W.J. and R.E. Anderson. 1999. *ICT and the Emerging Paradigm for Lifelong Learning: A Worldwide Educational Assessment of Infrastructure, Goals, and Practices*. Enschede, The Netherlands: International Association for the Evaluation of Education Achievement.
2. Industry Canada. 1997. *Preparing Canada for a Digital World*. [www.strategis.ic.gc.ca/SSG/ih01650e.html](http://www.strategis.ic.gc.ca/SSG/ih01650e.html) (accessed February 25, 2002).
3. Human Resources Development Canada, Council of Ministers of Education, Canada and Statistics Canada 2001. *Measuring Up: The Performance of Canada's Youth in Reading, Mathematics and Science. OECD PISA Study — First Results for Canadians Aged 15* (Statistics Canada Catalogue no. 81-590-XPE). [www.statcan.ca/english/freepub/81-590-XIE/81-590-XIE.pdf](http://www.statcan.ca/english/freepub/81-590-XIE/81-590-XIE.pdf).
4. These countries were selected for the following reasons: Australia, because it is quite similar to Canada in its socio-economic status; Finland, because it ranked first in reading performance; Japan, because it ranked first in mathematics; and the United States, because of its geographic proximity to Canada.

This study uses data from the 2000 Programme of International Student Assessment (PISA). Conducted in 32 countries, PISA is a school-based survey that tests the knowledge and skills of 15-year-old students in reading, mathematics and science at or near the end of their compulsory education.<sup>1</sup>

In most countries, about 5,000 students from 150 to 250 schools were surveyed. In Canada, nearly 30,000 students from more than 1,100 schools were interviewed during April and May 2000 to enable interprovincial comparisons and within-province analyses.

Students' access to and use of information and communication technologies at home are related to their socio-economic status. The PISA index of socio-economic status (SES) included several measures describing economic, social and cultural aspects of students' families. It was measured using a statistical composite of parental education, parental occupation status,<sup>2</sup> classical cultural possessions<sup>3</sup> and educational resources<sup>4</sup> in the home, and family wealth (based on household possessions).<sup>5,6</sup>

### What is an odds ratio?

Odds ratios measure the strength of association between two variables. The value of an odds ratio can range from zero to infinity, where an odds ratio of 1.0 indicates there is no association between the variables being studied. In this study, the odds of having home computer is one area examined in logistic regression models including several socio-economic and demographic explanatory variables. Sex, family structure and immigration status are categorical explanatory variables where the odds ratio represents the odds of having a home computer for

a group (e.g. girls) relative to a reference group (e.g. boys). An odds ratio of less than 1.0 indicates that girls have lower odds of having a home computer than boys after accounting for all other variables in the model.

Parental education, parental occupation status and the number of siblings are continuous variables included in the model. An odds ratio for them indicates the change in the odds from a one point increase in the continuous variable. For example, an odds ratio of 1.04 for parents' occupational status indicates that the odds of having a home computer increases by 4 percentage points for each one point increase in parental occupational status after accounting for all other variables in the model.

1. Organisation for Economic Co-operation and Development (OECD). 2001. *Knowledge and Skills for Life: First Results from the OECD Programme for International Student Assessment (PISA) 2000*. Paris: OECD.
2. The International Socio-Economic Index of Occupational Status was used to scale students' occupational status. It yields scores on a scale ranging from 16 to 90, where low values represent low occupational status and high values represent high status.
3. The Index of possessions related to "classical culture" was based on the availability in the home of classical literature (e.g. Shakespeare), books of poetry and works of art.
4. The Index of Home Educational Resources was based on the availability in the home of a dictionary, a quiet place to study, a study desk, text books and the number of calculators in the home.
5. The Family Wealth Index was based on the availability at home of a dishwasher, a room of their own, educational software, and a link to the Internet; and the numbers of cell phones, televisions, computers, automobiles and bathrooms at home.
6. Organisation for Economic Co-operation and Development. 2001.

higher than Finland (54%) and Japan (38%). Only Sweden (82%) and Iceland (81%) exceeded Canadian students' connectivity at home.

### Education-related possessions influence literacy

International assessments of educational achievement conducted by the

International Association for the Evaluation of Education Achievement (IEA) and the OECD over the past 20 years have consistently shown a strong relationship between students' academic achievement and the number of books in the home.<sup>5</sup> Similarly, the development of literacy skills and educational outcomes are associated

5. Human Resources Development Canada, Council of Minister of Education, and Statistics Canada. 2000. *op.cit.* p. 33; Organisation for Economic Co-operation and Development (OECD). 2002. *Reading for Change — Performance and Engagement Across Countries — Results from PISA 2000*. Paris: OECD. p. 131.

	Canada	Australia	Finland	Japan	United States
	% of 15-year-olds				
Computer at home	88	91	82	67	83
Link to Internet at home	69	67	54	38	69
Educational software	77	80	51	16	76
Calculator	99	99	99	99	98
Quiet place to study	94	90	93	82	91
Own desk	85	90	95	96	78
Musical instrument	72	70	70	80	67
Low family socio-economic status	8	8	12	13	14

Source: Organisation for Economic Co-operation and Development, Programme of International Student Assessment, 2000.

students in these five countries had their own desk and a quiet place to study, and about 70% had a musical instrument — Japan was the exception, with 80% of its students owning an instrument.<sup>6</sup>

**Socio-economic characteristics make a difference**

The diffusion of many new technologies in society has not been equitable. Researchers theorized that people who are innovative and quick to adopt new technology tend to be younger and better educated, and earn higher incomes than others.<sup>7</sup> Recent studies suggest that disparities among socio-economic groups in their access to ICT are narrowing, but the current inequality between students of lower and higher socio-economic status remains a concern.<sup>8</sup>

Students whose parents had more prestigious occupations and higher levels of education were more likely to have access to both a computer and the Internet at home. For each additional year of parents’ education, the likelihood of having a computer at home increased by 18% and of having a link to the Internet by 15%.

Having a home computer and a link to the Internet were nearly universal among students with high socio-economic status (SES), regardless of whether they were girls or boys. Rates of access were much lower

	Computer at home	Link to the Internet at home
	Odds ratio	
Girls compared to boys	0.85	0.87
Parents’ occupational status	1.04	1.03
Parents’ education (years)	1.18	1.15
Lone-parent families compared to two-parent families	0.40	0.54
Guardian families <sup>1</sup> compared to two-parent families	0.33	0.44
Number of siblings	0.95	0.93
Immigrants compared to Canadian-born	1.50	1.77

1. A mother and a male guardian, a father and a female guardian or two guardians. This includes step- and foster families as well as families where grandparents or other relatives are guardians of the child.

Source: Organisation for Economic Co-operation and Development, Programme of International Student Assessment, 2000.

with other educational resources. For example, students have superior outcomes if they own software or a musical instrument, have a desk of their own and a quiet place to study. As educational systems fully incorporate ICT into curriculum and teaching, access to the Internet at school and at home may become as

important a predictor of literacy as the number of books in the home or other educational possessions.

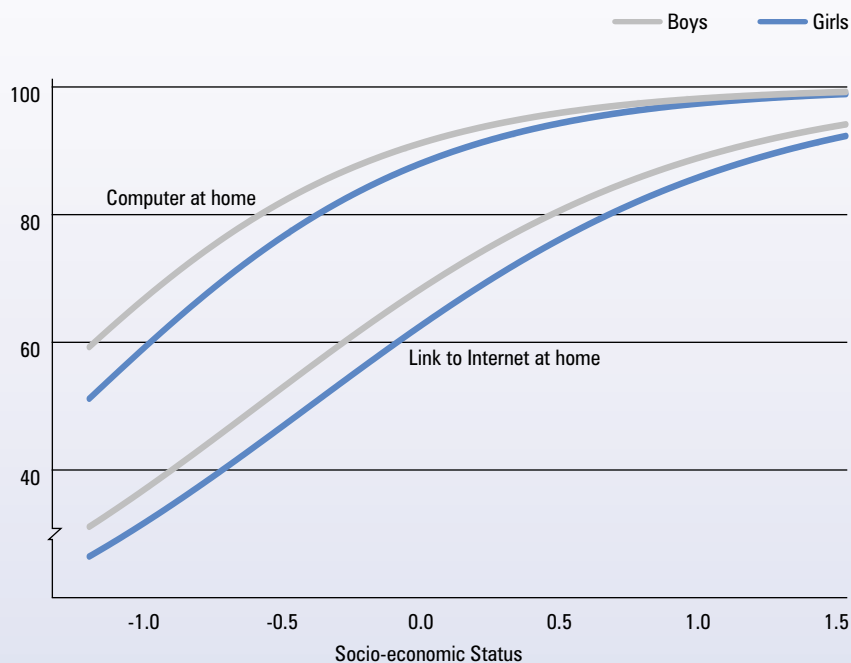
While rates of educational software ownership differed widely among Australia, Finland, Japan, the United States and Canada, other educational possessions showed considerably less variation. Nearly all 15-year-old

6. Canada was expected to fare well in these comparisons, as only 8% of Canadian students came from families with low socio-economic status — a rate similar to Australia’s but considerably lower than those of the other three countries.

7. Rogers, E.M. 1983. *Diffusion of Innovations*. Third edition. New York: Macmillan Publishing Company, Inc.

8. National Telecommunications and Information Administration. 2002. *A Nation Online: How Americans Are Expanding Their Use of the Internet*. [www.ntia.doc.gov/ntiahome/dn/index.html](http://www.ntia.doc.gov/ntiahome/dn/index.html) (accessed September 9, 2002).

% of 15-year-old students



Source: Organisation for Economic Co-operation and Development, Programme of International Student Assessment, 2000.

among low SES students. In this group, the percentages of girls and boys with a home computer and a link to the Internet differed by approximately 10%.

Although the socio-economic background of families influences access to ICT resources at home, differences in other family and personal characteristics also affect access. After accounting for other factors,<sup>9</sup> girls are less likely to have a computer at home. The odds ratio of 0.85 indicates that the odds of a girl having a computer are 15% less than the odds of a boy having one. The difference between the sexes for Internet access is of a similar magnitude.

Family structure also influences access to ICT at home. Children living in lone-parent families or families headed by non-parent guardians had much lower odds of having a computer

at home or Internet access. The odds of both these groups of children having a home Internet connection were only about one-half those of children in two-parent families. In addition, the number of children in a family also influenced ICT access: for each additional sibling, the odds of having a computer at home decreased by 5%, and the odds of home Internet access by about 7%.

The odds of having a computer were 50% higher for students who had immigrated to Canada, and the odds of having a home link to the Internet were 77% higher. This is partly due to the concentration of immigrants in urban areas, especially Toronto, Montréal and Vancouver, where home computers and home Internet access are more common. In addition, many immigrants, who have come to Canada seeking greater

opportunities, invest heavily in their children's education to ensure that they have the skills to take advantage of these opportunities. Although family wealth of immigrant students, as measured by an index of family wealth derived from common household possessions, is lower than that of Canadian-born students, immigrant families have more home educational resources and cultural possessions and their children spend more time on homework.

### Computers used less frequently at school than at home

In schools across Canada, the number of students per Internet-connected computer varies considerably. Averages range from 15:1 for elementary schools in Nova Scotia to 5:1 for secondary schools in Manitoba.<sup>10</sup> Two-thirds of the computers in Canadian schools are located in computer labs and libraries, and only about 5% of teachers have adopted computers for inquiry-based learning where students seek information or knowledge by asking questions.<sup>11,12</sup> Moreover,

9. Other factors include parents' occupational status, parents' education, family structure, number of siblings and immigration status.

10. Canadian Education Statistics Council and Statistics Canada. 2000. *Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program 1999* (Statistics Canada Catalogue no. 81-582-XPE). [www.statcan.ca/english/freepub/81-582-XIE/free.htm](http://www.statcan.ca/english/freepub/81-582-XIE/free.htm).

11. Laferrière, T., A. Breuleux and R. Bracewell. 1999. *Benefits of Using Information and Communication Technologies (ICT) for Teaching and Learning in K-12/13 Classrooms*. Report prepared for the SchoolNet Program. Ottawa: Industry Canada.

12. SchoolNet. 2000. *SchoolNet's On-line Connectivity Survey: Final Report*. Ottawa: Industry Canada. [www.schoolnet.ca/home/e/Research\\_Papers/Research/SchoolNet\\_Research/Final\\_Survey\\_Report\\_2000\(English\).htm](http://www.schoolnet.ca/home/e/Research_Papers/Research/SchoolNet_Research/Final_Survey_Report_2000(English).htm) (accessed February 25, 2002).

researchers have found that over 75% of students use computers most often at home,<sup>13</sup> suggesting that using ICT to improve students' skills and knowledge requires increased access at home.

According to the 2000 PISA survey, over 50% of students used home computers almost every day and more than 20% used them a few times each week, while only 13% never used them. In contrast, 18% of students used school computers nearly every day, with 21% using them at least a few times each week.

### Schools broaden computer use

Students in low socio-economic households may have less home access to ICT for various reasons, ranging from economic issues to a lack of parental interest in technology. The primary policy response to this in Canada has been to provide access to Internet-connected computers in schools and other public areas, such as libraries. While this is a positive step toward improving students' access to ICT, the amount of time available at school for computer

use is insufficient and inconsistent among schools.<sup>14</sup>

Nonetheless, the availability of computers at school enables many students to use them, and is particularly useful for those who do not have a computer at home. For example, while students in lone-parent families were less likely than those in two-parent families to use computers at home, both groups were equally likely to use them at school. Similarly, students with siblings were less likely than only children to use a computer at home, but the opposite was true of computer use at school. While immigrants were much more likely than non-immigrants to use computers at home, the differences were not as pronounced for their use at school.

As expected, computer use at home was positively related to parents' occupation and education. However, these parental factors were not strongly related to computer use at school, indicating that socio-economic factors have little influence on availability of computers at school. While living in a lone-parent family or a family headed by a non-parent guardian or having a large number of brothers and sisters reduced the odds of using a computer at home, computer use at school showed little difference between lone- and two-parent families. Guardian-headed families had higher odds of using a computer at school than two-parent families, and having more siblings increased the likelihood of using a computer at school.



### Use of computers more frequent at home than at school

Frequency of use	At home % of 15-year-olds	At school
Almost every day	52	18
A few times each week	21	21
Between once a week and once a month	10	23
Less than once a month	4	22
Never	13	16

Source: Organisation for Economic Co-operation and Development, Programme of International Student Assessment, 2000.



### Broader range of 15-year-old students use computers at school than at home

	Use a computer at home	Use computers at school
	Odds ratio	
Girls compared to boys	0.68	0.64
Parents' occupational status	1.02	1.00
Parents' education (years)	1.12	1.01
Lone-parent families compared to two-parent families	0.60	0.98
Guardian families <sup>1</sup> compared to two-parent families	0.56	1.52
Number of siblings	0.92	1.06
Immigrants compared to Canadian born	1.70	1.37

1. A mother and a male guardian, a father and a female guardian or two guardians. This includes step- and foster families as well as families where grandparents or other relatives are guardians of the child.

Source: Organisation for Economic Co-operation and Development Programme of International Student Assessment, 2000.

13. Tsikalas, K., E.F. Gross and E. Stock. 2002. *Applying a Youth Psychology Lens to the Digital Divide: How Low-income, Minority Adolescents Appropriate Home Computers to Meet Their Needs for Autonomy, Belonging and Competence and How This Affects Their Academic and Future Prospects*. Paper presented in New Orleans at the Annual Meeting of the American Educational Research Association.

14. Canadian Education Statistics Council and Statistics Canada. 2000.

However, the availability of computers at school does not change the difference in use between the sexes: girls were less likely than boys to use computers both at home and at school.

### Most 15-year-olds frequently use the Internet and electronic communications

Students most frequently used computers for accessing information on the Internet, communicating electronically (e.g. e-mail, chat rooms),

doing word processing, and playing computer games. Only about one-third of all students reported using computers to help them learn school material, and less than one-fifth regularly used educational software such as computer-based encyclopedias, dictionaries, math tutorials or reading exercises. About one-quarter of all students reported using a computer for doing programming, drawing, painting or graphics, or for analysing data with spreadsheets.

### Summary

In 2000, nearly nine out of every 10 Canadian 15-year-old students had a computer at home, and those who did used them regularly. However, students from families with low socio-economic status were less likely to have access to computers and the Internet at home. Disparities between the sexes were negligible for students in families with high socio-economic status but were noticeable for students from low socio-economic status families.

Secondary school students regularly used computers to obtain information from the Internet and to communicate with others. Almost as many students used computers for playing games as for word processing, and less than one-third did so to help them learn school material. Moreover, school computers provided broader access to students in lower socio-economic families who may not have had computers at home. However, frequency of school use lagged behind the use of computers at home.

**CST Government initiatives**

Policy makers in Canada expect that the introduction of ICT in schools will improve academic performance, promote equity among students and, ultimately, equip young people to use and apply technology and software in their jobs. Co-ordinated federal policies and programs provide access to ICT in every school and every community in Canada. For example, the SchoolNet program was responsible for connecting every school in Canada to the Internet and is now aiming to ensure that every classroom is connected. "Computers for Schools" channels recycled computers, donated from government and corporations, into schools in low-income areas. In addition, Community Access Programs provide public access to the Internet on evenings and weekends.

**CST Nearly three-quarters of students use the Internet at least a few times each week**

Activity	At least a few times each week	
	% of 15-year-olds	
Internet	71	
Electronic communication (e.g. e-mail or chat rooms)	60	
Word processing (e.g. MS Word or WordPerfect)	52	
Games	48	
Learning school material	32	
Programming	27	
Drawing, painting or graphics	27	
Spreadsheets (e.g. Lotus 1-2-3, Excel)	21	
Educational software	18	

Source: Organisation for Economic Co-operation and Development, Programme of International Student Assessment, 2000.

**CST**

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# The health of Canada's shift workers

by Margot Shields

This article is adapted from "Shift work and health," in the July 2002 issue of *Health Reports*, vol. 13, no. 4 (Statistics Canada Catalogue no. 82-003). Please see *Health Reports* for a full bibliography.

At any given time, approximately 30% of employed Canadians work shift; that is, non-standard hours. For most of them, shift work is not a choice, but a job requirement. Our society, which has long needed around-the-clock provision of medical, transportation and protection services, now also demands more flexible access to many commercial, industrial and financial services.

While shift work may be critical to the economy, evidence indicates that it can take a physical and emotional toll on workers. The most common health complaint of shift workers is lack of sleep, but shift work has also been associated with cardiovascular disease, hypertension and gastrointestinal disorders, and, for women, with reproductive health problems and breast cancer. Shift work may exacerbate conditions such as asthma, diabetes and epilepsy. Mental health disorders such as anxiety

and depression have also been linked to shift work.<sup>1</sup>

Researchers have proposed three potentially interrelated pathways that may explain the association between shift work and health problems: disruption of circadian rhythms, adoption or worsening of unhealthy behaviour, and stress. Biological functions such as body temperature, cognitive performance and hormonal secretions follow a 24-hour cycle. Shift workers, however, must prepare for sleep when their natural body rhythms are telling them to be active, and they must be alert and ready to work when their bodies are preparing them for sleep. Most find that their circadian system never fully adapts and this disruption has been related to a variety of physical and mental symptoms.<sup>2</sup>

The association between shift work and health may also be mediated by unhealthy behaviour, most often

smoking. Some studies have also found shift workers to be more likely than regular daytime workers to drink heavily, eat poorly and have weight problems.<sup>3</sup> At the same time, although the exact mechanisms are not fully understood, high stress levels have

1. Colligan, M.J. and R.R. Rosa. 1990. "Shiftwork effects on social and family life." *Occupational Medicine: State of the Art Reviews* 5, 2: 315-22. For a full listing of references that pertain to this section, please see the original article in *Health Reports*.
2. Harma, M., L. Tenkanen, T. Sjoblom et al. 1998. "Combined effects of shift work and lifestyle on the prevalence of insomnia, sleep deprivation and daytime sleepiness." *Scandinavian Journal of Work, Environment and Health* 24, 4: 300-307.
3. Boggild, H. and A. Knutsson. 1999. "Shift work, risk factors and cardiovascular disease." *Scandinavian Journal of Work, Environment and Health* 25, 2: 85-99.

This article draws on data from the 2000–01 Canadian Community Health Survey (CCHS) to provide a brief profile of shift workers. It also uses data from the 1994–95 cross-sectional and the 1994–95, 1996–97 and 1998–99 longitudinal files of the National Population Health Survey (NPHS) to study the relationships between shift work and work stress, psychosocial problems, health behaviours, chronic conditions and psychological distress. Shift workers are compared with workers who had a regular daytime schedule. The analysis is based on full-year workers — those employed throughout the year before the survey — and examines each sex separately.

Work schedule was based on the question, “Which of the following best describes the hours you usually work at this job?” There were eight possible responses: regular daytime schedule or shift; regular evening shift; regular night shift; rotating shift; split shift; on call; irregular schedule; or other. Shift work was defined as anything but a regular daytime schedule. Four categories of shift workers were used in this analysis: evening shift, night shift, rotating shift and irregular shift. An irregular shift was defined to include split shift, on call, irregular schedule and other. For analysis based on NPHS data, night shift workers were excluded because of small sample sizes.

repeatedly been shown to be linked with poorer physical health. Recently, researchers have suggested that shift work is a stressor that should be included in studies examining both occupational and personal stress.<sup>4</sup>

This article provides an up-to-date profile of shift workers and studies their physical and mental health both at one point in time and over a longer period. The analysis is based on full-year workers — those employed throughout the year — and thus focuses on workers with more than a marginal attachment to the labour force. Because job profiles differ for men and women, analyses are conducted separately for each sex.

**More than one-quarter of Canadian adults work shift**

According to the 2000–01 Canadian Community Health Survey, 30% of men and 26% of women aged 18 to 54 who were employed throughout the year — nearly 3 million individuals — had non-standard schedules. About one-quarter of them worked evening or night shifts. Rotating and irregular shifts were reported more frequently,

each accounting for around four in 10 of these workers.

Not all workers were equally likely to work shift. Shift work was more common among people in blue-collar or sales and service occupations than in white-collar or clerical jobs; among men and women working less than 30 hours a week and men working more than 40 hours a week; and among people who worked on weekends.<sup>5</sup>

The likelihood of working shift decreased with advancing age and with marriage; for men, the likelihood also declined if they lived in a household with children. There was no difference between women workers with and without children, which may be because women were more likely than men to cite caring for family as their main reason for shift work.

Workers who were not postsecondary graduates were more likely to

have non-standard work schedules, as were workers in lower-income households. However, rotating shifts were relatively common among men from more affluent households, partly because men in health professions and protection services (whose incomes were quite high) tend to work rotating shifts.

**Shift workers report high levels of work stress**

Shift workers have relatively high levels of work stress, which in turn has been linked to a variety of health problems such as depression, anxiety, migraine headaches, high blood pressure and coronary heart disease. In 1994–95, men and women working evening or rotating shifts were more likely than their counterparts with regular daytime schedules to report that their jobs entailed high job

4. Taylor, E., R.B. Briner and S. Folkard. 1997. “Models of shiftwork and health: an examination of the influence of stress on shiftwork theory.” *Human Factors* 39, 1: 67-82.

5. Relatively few self-employed individuals worked the evening, night or rotating shift, but a considerable number had irregular hours.



Work stress	Men				Women			
	Regular daytime	Evening shift	Rotating shift	Irregular shift	Regular daytime	Evening shift	Rotating shift	Irregular shift
High job strain <sup>2</sup>	17	30*	29*	19	29	40*	45*	34
High physical demands	47	56	59*	50	34	54*	68*	52*
Low supervisor support	19	31	17	16	17	17 <sup>1</sup>	17	17
Low co-worker support	32	37	36	29	34	37	52*	34
High job insecurity	17	27 <sup>1</sup>	24*	23*	18	19	26*	31*
<b>Psychosocial problems</b>								
High personal stress	33	44	36	32	43	41	45	54*
Married — problems with partner	16	36* <sup>1</sup>	22	19	21	29	24	25
Single — difficulty finding partner	33	55*	35	35	34	30	39	19*
Low mastery <sup>3</sup>	20	32*	23	15*	23	24	31*	24
<b>Health behaviours</b>								
Daily smoker	27	45*	33	28	23	28	30	26
Inactive	59	47	54	54	66	62	63	62
Heavy drinker	21	27	26	18	6	--	5 <sup>1</sup>	7
Obese	13	9 <sup>1</sup>	15	10	11	10 <sup>1</sup>	12	12

-- Sample too small to provide reliable estimate.

\* Significantly different from regular daytime schedule (p<0.05).

1. High sampling variability.

2. "Job strain" was measured as a ratio of psychological demands to decision-making latitude.

3. "Mastery" measures respondents' perceptions of control over things that happen, ability to solve problems and feelings of helplessness.

Note: Evening shift excludes night shift workers.

Source: Statistics Canada, National Population Health Survey, 1994–95, cross-sectional sample.

strain, that is, high psychological demands coupled with low decision-making latitude. Job insecurity was common among both men and women with a rotating or irregular schedule and female workers on a rotating shift were more likely than those with a daytime schedule to perceive low support from their co-workers. High physical demands were reported by women working an evening, rotating or irregular shift, and by men on a rotating shift.

### Psychosocial problems more common among shift workers

Since non-standard hours can limit a worker's participation in leisure-time

and family activities, the strain of shift work on family life can lead to social support problems and stress. While data from the 1994–95 National Population Health Survey (NPHS) support a link between shift work and psychosocial problems, this varied with the type of shift and whether the workers were men or women.

For men, the evening shift was particularly associated with psychosocial difficulties. Married men working an evening shift were more likely than those with regular daytime hours to report relationship problems, while single men were more likely to report difficulty finding someone with whom they were compatible. The

evening shift was also associated with low levels of mastery, meaning that evening workers were more likely than daytime workers to perceive a lack of control in their lives.

On the other hand, women working the evening shift did not report similar psychosocial problems, possibly because they had often chosen such a schedule. However, women who worked an irregular shift were more likely than those with a daytime schedule to report high personal stress — taking on too much, feeling pressured and unappreciated. And women working a rotating schedule were more likely than regular daytime workers to have low mastery.

	Regular daytime	Evening shift	Rotating shift %	Irregular shift
<b>Men</b>				
Trouble falling/staying asleep most of the time or sometimes	38	45*	44*	41*
Less than 6 hours sleep	10	13	15*	16*
Sleep not always refreshing	30	40*	36*	33
<b>Women</b>				
Trouble falling/staying asleep most of the time or sometimes	48	49	51*	54*
Less than 6 hours sleep	9	13*	13*	11*
Sleep not always refreshing	36	45*	43*	41*

\* Significantly different from regular daytime schedule (p<0.05).  
Source: Statistics Canada, Canadian Community Health Survey, 2000–01.

### Smoking common among male evening shift workers

Shift workers may pick up unhealthy habits in their attempts to cope with sleep/wake disturbances, family upset, and other stresses brought about by their work schedules. However, in 1994–95, the only difference in health behaviour between shift and daytime workers was among men working the evening shift, a high percentage of whom were daily smokers. Differences in the prevalence of inactivity during leisure time, heavy drinking, and obesity were not statistically significant between the two groups.

### Physical and emotional health similar for shift and daytime workers

Previous research indicates a relationship between non-standard work schedules and specific chronic conditions such as cardiovascular disease, hypertension and gastrointestinal disorders. Yet, a statistical model using 1994–95 NPHS data showed that shift workers and daytime workers were equally likely to report chronic conditions when socio-economic status, work stress, psychosocial problems,

smoking habits and demographic and employment characteristics were taken into account.

The disruption in circadian rhythms and the social isolation brought about by shift work are believed to contribute to mental health problems. The fact that shift workers get less sleep than regular daytime workers could exacerbate the situation. Even so, a model considering the relationship between shift work and psychological distress showed that distress levels among men and women with non-standard schedules were similar to those of workers with regular daytime schedules, when other variables were controlled for. That is, shift workers were no more or less likely than daytime workers to report feeling sad, nervous, restless, hopeless, worthless, or that everything was an effort.

The lack of evidence of a relationship between shift work and chronic conditions or distress may be due to the fact that most workers who have trouble adjusting to non-standard hours transfer to a regular daytime schedule after a short period. For these workers, symptoms of illness such

as sleep disturbance, gastrointestinal complaints and mood disturbance are apparent from the outset, and because they tend not to work shift for long, their physical and psychological problems may not be captured in a cross-sectional analysis.

### In the long run, shift workers more likely to develop chronic conditions

However, analysis of NPHS longitudinal data indicates that those who worked shift in 1994–95 were at some increased risk over the long run.

For men, a non-standard schedule in 1994–95 was predictive of developing chronic conditions in the next four years. Compared with men who had a regular daytime schedule, those working an evening, rotating or irregular shift in 1994–95 all had increased odds of having been diagnosed with at least one new chronic condition by 1998–99.

For women, a non-standard schedule in 1994–95 was not associated with a new diagnosis of chronic conditions. This may be because women more often worked shift to accommodate other needs such as caring for

Work schedule	Adjusted odds ratio	
	Men	Women
<i>Regular daytime</i>	1.0	1.0
Evening shift	2.0*	1.0
Rotating shift	1.7*	1.2
Irregular shift	1.7*	1.0

Italics denote reference group.  
 \*Significantly different from reference group ( $p < 0.05$ ).  
 Note: The model also included occupation, work hours, weekend worker, self-employed, age, marital status, children, education, work stress, psychosocial factors, health behaviours, and chronic conditions in 1994–95.  
 Source: Statistics Canada, National Population Health Survey, 1994–95, 1996–97 and 1998–99, longitudinal sample.

family or going to school. It has been suggested that commitment to shift work may be the most important individual factor related to the ability to tolerate it. Another possibility is that certain chronic conditions among women were associated with working shift, but the limited sample sizes could not reveal these relationships.

For both sexes, working the evening shift in 1994–95 was associated with an increase in psychological distress over the next two years. By 1998–99, however, the average predicted distress level of people who had worked the evening shift in 1994–95 did not differ from that of regular daytime workers. This suggests that people either ceased working shift or learned to cope with a non-standard schedule.

**Majority of shift workers move to regular day schedule**

Although the overall proportion of employed Canadians working shift has changed little over the past decade, transitions out of shift work are the rule, not the exception. In the majority of cases, the transition is to a regular daytime schedule rather than to a different type of shift, or it involves leaving the labour force entirely.

Of those who worked an evening, rotating or irregular shift in 1994–95, less than one in five maintained this schedule in both 1996–97 and 1998–99. In fact, the proportions who had an irregular shift in 1994–95 and continued with this schedule in the two subsequent time periods were just 12% for men and 11% for women. By contrast, about 75% of the men and women who worked regular daytime hours in 1994–95 did so as well in 1996–97 and 1998–99.

**Summary**

About three out of 10 Canadian workers are putting in non-standard hours. Most do so not because it is their choice, but because their jobs require it. With a few notable exceptions, shift workers tend to be younger, unmarried, less-educated and less affluent individuals. Working shift is associated with a number of potential psychosocial problems including high work and personal stress, low sense of mastery and relationship problems.

Even when work stress, personal stress, health behaviour, socio-economic status and other work-related factors were taken into account, men working an evening, rotating or irregular shift all had higher odds of developing

a chronic condition in the next four years than did men with regular daytime schedules. For both sexes, working the evening shift in 1994–95 was associated with an increase in psychological distress over the next two years. Thus, consistent with other research, analysis of NPHS data suggests a link between mental health and shift work.

Given the problems experienced by shift workers, it is not surprising that most do not maintain non-standard hours for prolonged periods. Within two years, most shift workers either changed their hours or left the workforce. This supports earlier studies suggesting a “healthy survivor effect,” meaning that the people who continue are a more robust group who are willing and able to tolerate the stress of working shift.



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## Divorces continue to climb

For the third consecutive year, the number of divorces continued to climb in 2000. A total of 71,144 couples had finalized their divorce, up a marginal 0.3% from 1999 and an increase of 3.0% from 1998. Despite the rise in numbers, the crude divorce rate dropped to 231.2 per 100,000 population in 2000 from 232.5 in 1999.

The risk of divorce varies substantially with the duration of marriage. While the risk is less than one divorce for every 1,000 marriages during the first year of marriage, it then increases dramatically with each additional year. After the first anniversary, the divorce rate in 2000 was 5.1 per 1,000 marriages. By the fourth anniversary, the divorce rate peaked at 25.5 per 1,000 marriages. Afterwards, the risk of divorce decreased slowly for each additional year of marriage.

### Divorces, 1999 and 2000 (shelf tables)

Catalogue no. 84F0213XPB



## Homeowners spend more on repairs and renovations

Homeowners in Canada spent on average \$2,580 repairing or renovating their homes in 2001, a 37% increase from 1999. This translates into an increase of around 17% per year over the two-year period.

Lower-income households (those with annual incomes less than \$20,000) spent an average of \$1,250 on repairs and renovations in 2001. These households spent their repair and renovation budgets differently than those with higher incomes. Lower-income households allocated about 60% to repairs, maintenance and equipment replacement and 40% to additions, renovations and new installations of equipment.

In contrast, higher-income households (those with annual incomes of \$80,000 and over) spent an average \$4,690 with around 40% on repairs, maintenance and equipment replacement, and 60% on additions, renovations and new installations of equipment.

### Homeowner Repair and Renovation Expenditure, 2001

Catalogue no. 62-201-XIB



## Nearly 500 motor vehicles stolen daily

An average of about 470 motor vehicles were stolen each day in Canada in 2001. Police reported a total of just over 170,000 stolen vehicles during that year, about 10,000 more than in 2000. About one-quarter of stolen vehicles are never recovered, indicating that they may be linked with organized crime.

According to the 1999 International Crime Victimization Survey, Canada ranked fifth highest of 17 countries for car thefts. Nearly 2% of the population reported being a victim of a car theft during the previous 12 months. Police-reported data show that since 1996 the vehicle

theft rate has been higher in Canada than in the United States. In 2000, Canada's rate was 26% higher than the comparable American rate.

During the past 10 years, thieves have switched their preference from cars to trucks, largely the result of the growing popularity of vans and sport-utility vehicles. Although cars still account for 6 out of every 10 vehicles stolen, the theft of trucks has increased 59% since 1991, compared with a 3% increase in the theft of cars.

### Juristat: Motor Vehicle Theft in Canada — 2001, Vol. 23, no. 1

Catalogue no. 85-002-XIE  
(electronic version);  
85-002-XPE (paper version)



## Students from urban schools read better

Students from urban schools in Canada performed significantly better in reading than students from rural schools. Data from the 2000 Programme for International Student Assessment (PISA) showed that students in all provinces performed above the average score of 500 for all 32 countries. The national average in Canada was 534. Internationally, scores ranged from 546 in Finland to 422 in Mexico.

The average score for urban students in reading literacy was 538, compared with 523 for their rural counterparts. This study shows that the gap between rural and urban reading performance is most strongly associated with parental education and the nature of work in urban and rural communities.

### Understanding the Rural-Urban Reading Gap

Catalogue no. 81-595-MIE, no. 1



## Pay and specialty TV viewing on the rise

Viewing of pay TV and specialty television stations continues to grow year after year. In the fall of 2001, Canadians spent 22% of their viewing time watching Canadian, and 10% watching American, pay TV and specialty stations, compared with only 6% and 3%, respectively, in 1992. Canadians spent only 1.5% of their viewing time watching the new digital stations.

In the fall of 2001, 15% of Canadian households reported that they were subscribers to satellite television, compared with only 3% in 1997. By province, the rate varied from 12% in Quebec and British Columbia to 33% in Saskatchewan.

Despite increased access to cable and satellite transmission in recent years, the average time of 21.1 hours per week that Canadians spend viewing television has remained unchanged for the past three years. However, while the national average stayed stable, viewing time decreased by more than two hours among teens and by more than one hour among children. Seniors remain the highest viewers of television — men aged 60 and over watch 32.0 hours and women 35.5 hours a week.

### The Daily

December 2, 2002

Catalogue no. 11-001-XIE

# S O C I A L I N D I C A T O R S

	1995	1996	1997	1998	1999	2000	2001	2002
<b>LABOUR FORCE<sup>1</sup></b>								
<i>Labour force ('000)</i>	14,750.1	14,899.5	15,153.0	15,417.7	15,721.2	15,999.2	16,246.3	16,689.4
<i>Total employed ('000)</i>	13,356.9	13,462.6	13,774.4	14,140.4	14,531.2	14,909.7	15,076.8	15,411.8
Men	7,298.5	7,346.0	7,508.3	7,661.4	7,865.8	8,049.3	8,109.7	8,262.0
Women	6,058.4	6,116.6	6,266.2	6,479.0	6,665.3	6,860.4	6,967.1	7,149.8
<i>Workers employed part-time (%)</i>	18.9	19.2	19.1	18.9	18.5	18.1	18.1	18.7
Men	10.8	10.8	10.5	10.6	10.3	10.3	10.4	10.9
Women	28.6	29.2	29.4	28.8	28.0	27.3	27.1	27.7
Involuntary part-time <sup>1</sup>	31.5	35.0	31.1	29.2	26.7	25.3	25.8	27.0
Looked for full-time work	--	--	10.6	10.0	9.0	7.4	7.5	8.2
% of women employed whose youngest child is under 6	15.9	15.9	15.6	15.0	14.7	14.3	13.7	13.4
% of workers who were self-employed	15.7	16.1	17.1	17.2	16.9	16.2	15.3	15.2
% of employed working over 40 hours per week <sup>2</sup>	21.7	21.2	18.9	18.9	18.4	18.0	17.5	16.9
% of workers employed in temporary/contract positions	--	--	9.4	9.8	10.0	10.5	10.9	11.0
% of full-time students employed in summer	50.2	47.9	45.7	47.2	48.8	50.9	51.3	52.3
<i>Unemployment rate (%)</i>	9.4	9.6	9.1	8.3	7.6	6.8	7.2	7.7
Men aged 15-24	16.3	16.9	17.1	16.6	15.3	13.9	14.5	15.3
25-54	8.7	8.9	8.0	7.2	6.5	5.7	6.3	6.9
Women aged 15-24	13.0	13.7	15.2	13.6	12.6	11.3	11.0	11.8
25-54	8.2	8.5	7.6	6.9	6.3	5.8	6.0	6.3
Population with high school or less	12.2	12.4	12.1	11.2	10.3	9.3	9.6	10.2
Population with postsecondary completion	7.9	8.1	7.4	6.5	5.9	5.2	5.8	6.0
Population with university degree	4.9	5.2	4.8	4.4	4.3	3.9	4.6	5.0
<b>EDUCATION</b>								
Total enrolment in elementary/secondary schools ('000)	5,430.8	5,414.5	5,386.3	5,369.7	5,397.1	--	--	--
Secondary school graduation rate (%)	76.4	76.4	76.3	76.0	76.3	77.1	76.9	--
Postsecondary enrolment ('000)								
Community college, full-time	391.2	397.3	398.6	403.5	408.8	--	--	--
Community college, part-time	87.7	87.1	91.6	91.4	85.4	--	--	--
University, full-time <sup>3</sup>	573.2	573.6	573.1	580.4	590.7	--	--	--
University, part-time <sup>3</sup>	273.2	256.1	249.7	246.0	257.5	--	--	--
% of population 18-24 enrolled full-time in postsecondary	34.3	34.6	34.3	34.4	34.4	--	--	--
% of population 18-21 in college	24.7	24.7	24.6	24.7	24.6	--	--	--
% of population 18-24 in university <sup>3</sup>	20.4	20.4	20.2	20.3	20.4	--	--	--
Community college diplomas granted ('000)	79.5	85.9	91.4	88.4	--	--	--	--
Bachelor's and first professional degrees granted <sup>4</sup> ('000)								
Agriculture, biological sciences	8,399	9,288	9,664	10,079	--	--	--	--
Education	21,277	21,421	20,638	19,374	--	--	--	--
Engineering and applied sciences	9,098	9,415	9,138	9,255	--	--	--	--
Fine and applied arts	4,194	4,142	4,105	4,276	--	--	--	--
Health professions	8,375	8,633	8,837	8,620	--	--	--	--
Humanities and related	16,127	15,889	15,014	14,721	--	--	--	--
Mathematics and physical sciences	7,142	7,005	7,091	7,239	--	--	--	--
Social sciences	49,035	48,422	47,751	47,760	--	--	--	--

-- Data not available.

- 1996 is an eight-month average (January to August). Data after 1996 are not comparable with previous years.
- Hours usually worked in their main job by workers aged 25 and over.
- Includes undergraduate and graduate studies.
- Includes those whose field of study was not reported.

Sources: Statistics Canada, Labour Force Survey, *Education in Canada, 2000* (Catalogue no. 81-229) and Centre for Education Statistics.

# LESSON PLAN

*Suggestions for using Canadian Social Trends in the classroom*

*Lesson plan for “Childfree by choice”*

## Objectives

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- To discuss the pros and cons of having children
- To become aware of the factors that influence the decision to have children

## Methods

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1. Survey the class to find out how many students plan on having children in the future. What percentage expect to have no children, one child, two children or more than two? Discuss some of the reasons why some students expect not to have children at all, while others plan to have two or more. Are girls and boys equally likely to want a family?
2. According to the article, “Childfree by choice,” the relationship between income, education and childlessness is not straightforward. Organize the students into two teams and have them debate the effect of income and education on the decision to have children.
3. In contrast to the 1950s, when families were large, many Canadians today expect to have no children or just one child. What implications does this have for Canada demographically, economically or socially? Discuss.
4. Although most people agree that, generally, children are better off when they have two parents, the number of lone-parent families is on the rise. What are some of the implications of bringing up a child alone?
5. Many childless people claim that there is a societal stigma associated with openly admitting to not wanting children. Have the students discuss why this may be the case.
6. Ask the students to list reasons for and against having children. Are there some people who should not have children? What types of personality traits may make someone a good parent?

## Share your ideas!

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## Educators

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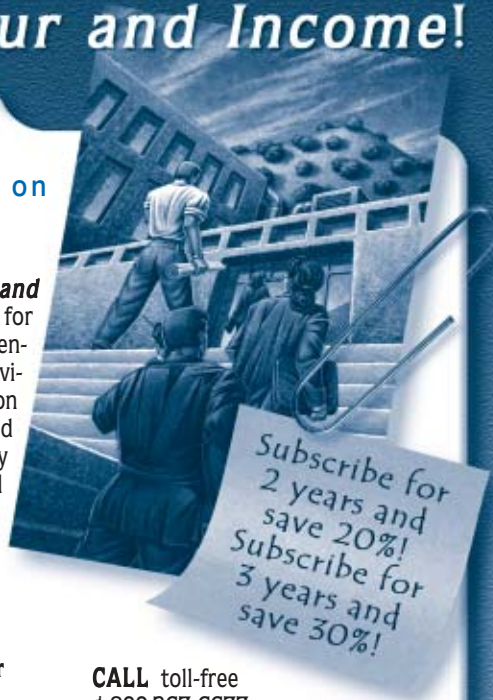
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