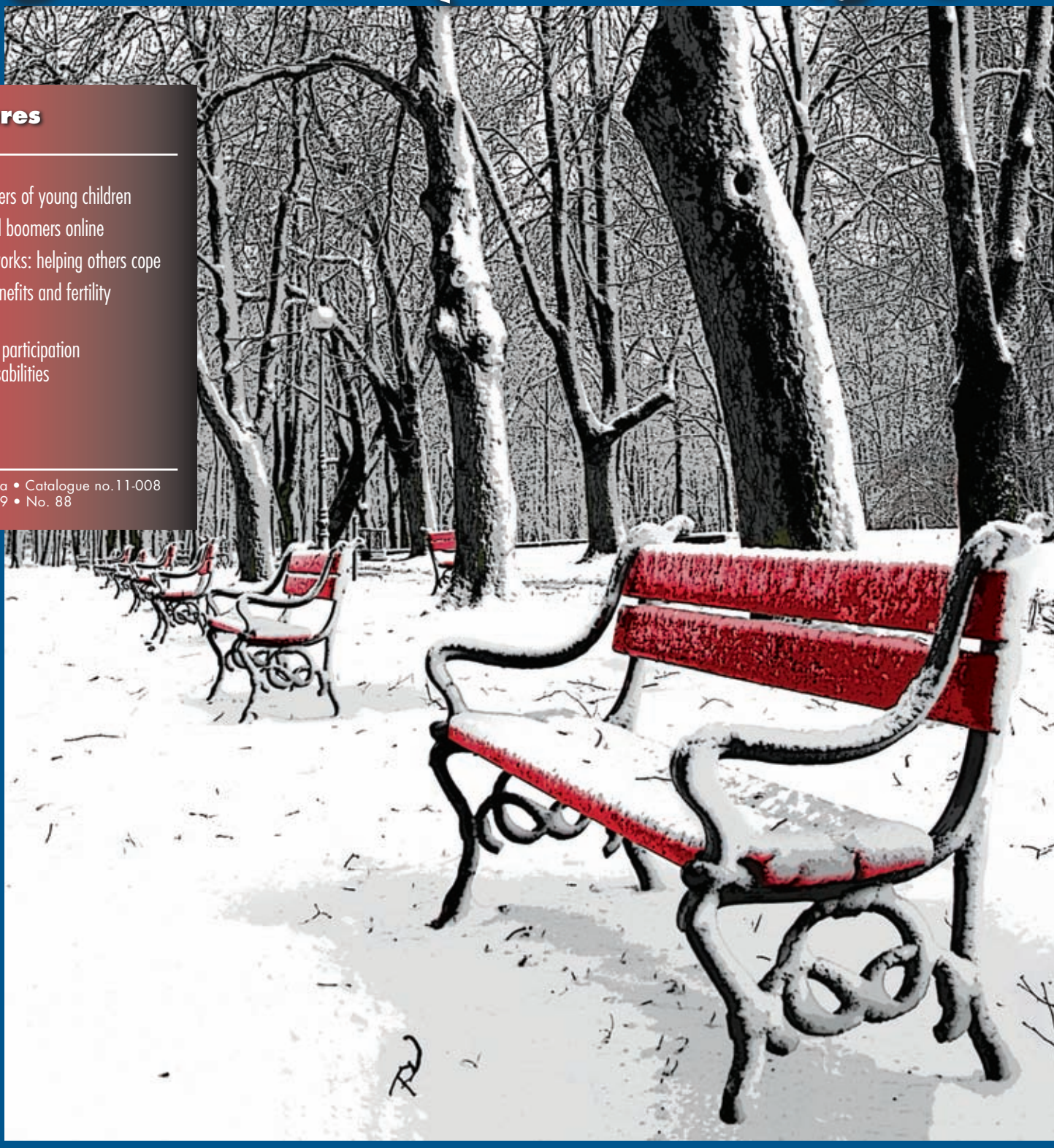
# CANADIAN Social Trends

Winter No. 88
2009



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$24 Canada • Catalogue no.11-008
Winter 2009 • No. 88

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Winter 2009 No. 88

CST



**Canadian Social Trends**

December 2009

Published by authority of the Minister responsible for Statistics Canada



Indexed in the **Academic ASAP, Academic Search Elite, Canadian Periodical Index, Canadian Serials, Expanded Academic ASAP, PAIS International, Periodical Abstracts, Periodical Abstracts Research II, ProQuest 5000, Proquest Research Library** and available on-line in the **Canadian Business and Current Affairs Database**.

ISSN 0831-5698 (Print)
ISSN 1481-1634 (Electronic)

# CANADIAN Social Trends

# Features

# CST Standard symbols for Statistics Canada

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| | |
|---|---|
| . | not available for any reference period |
| .. | not available for a specific reference period |
| … | not applicable |
| 0 | true zero or a value rounded to zero |
| $0^s$ | value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded |
| $^p$ | preliminary |
| $^r$ | revised |
| x | suppressed to meet the confidentiality requirements of the *Statistics Act* |
| $^E$ | use with caution |
| F | too unreliable to be published |

## 2008 General Social Survey Report

# Social networks help Canadians deal with change

*by Leslie-Anne Keown*

### CST Overview

- More than four in ten adult Canadians reported a change in their lives in the last twelve months that had a significant impact.
- Types of change, their impact, and how they are handled, all vary by life stage. Young adults experience more and different kinds of major change than seniors.
- At every stage of life Canadians consistently identified family as the most helpful resource for dealing with major change. Other parts of the social network, such as co-workers, friends, professionals and the Internet, are accessed depending on the life stage and the specific type of change.

Social networks play an important role in modern life. Most Canadians have at least one or two people they are close to and many have a wider network of neighbours, friends, co-workers and other connections from daily activities. However, social networks may take many forms. These networks may include family, friends, neighbours, colleagues, religious and voluntary organizations, community groups, institutions or the Internet. The type of help a network can provide varies. For example, networks can supply goods or services, information, or emotional support. The common characteristic of any component in a social network is that it provides resources or benefits.[1]

In today's society, families are more widely dispersed and households (as a group) spend more time in paid labour. Moreover, individuals and families rely increasingly on information technologies in their day-to-day lives. Given these transformations in society, it is important to understand how social networks are accessed during periods of major change.[2]

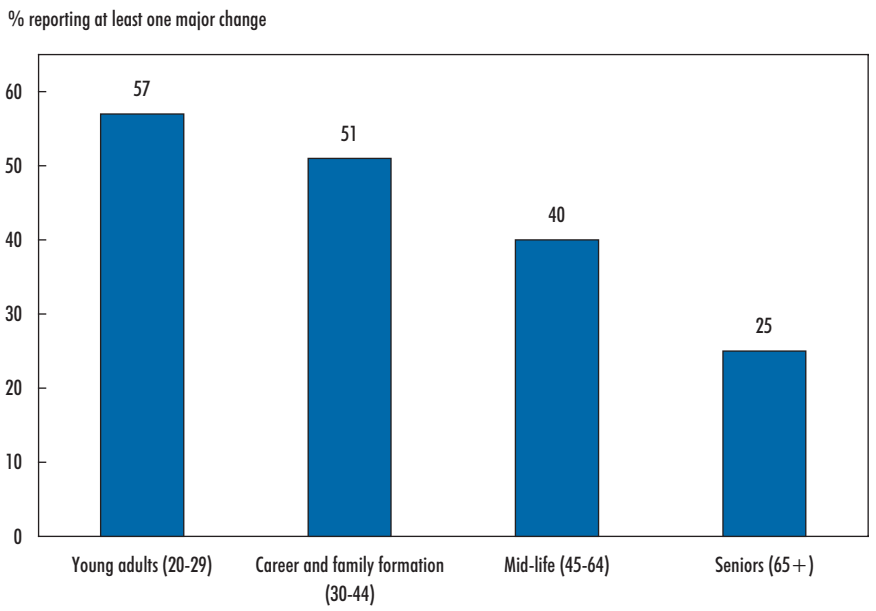
Yet, until now it has not been possible at the national level to get an overall picture of the contribution people's networks make to help them get through periods of major change. To what extent are social networks—people, institutions and sources of information—helping Canadians going through changes such as finances, living arrangements, employment or health?

Whether positive or negative, planned or unplanned, change is hard to ignore. This article will use the 2008 General Social Survey (GSS) to explore the use of social networks to deal with major life changes, looking at: what type of changes Canadians experience; their impacts; and what parts of their social networks are accessed to deal with change. Since social networks can change over the life course, the article will take a closer look at how they are accessed when going through changes during four broad life periods—young adulthood (aged 20 to 29), career and family formation (30 to 44), mid-life (45 to 64) and later life (65 years and older) (For concepts and definitions, see "What you should know about this study" and "Definitions").

### Major change varies by life stage

Change is a frequent occurrence in Canadians' lives. In 2008, more than four in ten Canadians 20 years and older had experienced at least one major change that had a large impact on their lives in the last twelve months (43%). However, the percentage of Canadians experiencing change varied by life stage. Young

## Chart 1 Canadians experience fewer major changes in later life stages




Note: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

adults in their twenties experienced the most change with 57% noting at least one. In contrast, individuals in other life stages were less likely to experience change, with seniors noting the lowest percentage at 25% (Chart 1).

### The change of greatest impact also varies by life stage

Of all the major changes that Canadians experienced, respondents were asked to identify the one that had the greatest impact. This article will focus on the change of greatest impact (unless otherwise noted), which shows considerable variation by life stage (Table 1).

Two changes were common to all life stages. The first involved finances, with about 14% of all Canadians 20 years and older indicating this as having the greatest impact on their lives. The second was the death of a loved one, a more common change

## Table 1 The change experience: An overview by life stage, 2008

| | Overall | Life stage | | | |
|---|---|---|---|---|---|
| | | Young adults† (aged 20 to 29) | Career and family formation (aged 30 to 44) | Mid-life (aged 45 to 64) | Seniors (aged 65 and over) |
| | percentage | | | | |
| **Change of greatest impact** | | | | | |
| Finances | 14 | 16 | 13 | 15 | 10* |
| Health | 15 | 6 | 10* | 18* | 38* |
| Death of a loved one | 13 | 7 | 10 | 16* | 24* |
| Employment | 14 | 18 | 15 | 14 | 2E* |
| Parenting or child care | 11 | 12 | 18* | 5* | 1E* |
| Living arrangements | 8 | 11 | 9 | 6* | 5* |
| Personal achievements | 7 | 9 | 8 | 6 | 4E* |
| Family relationships | 7 | 6 | 7 | 7 | 4E |
| Care of a sick or disabled person | 5 | 2E | 3 | 8* | 10* |
| Education | 4 | 11 | 4* | 2E* | x |
| Legal matters | 2 | 1E | 2 | 2 | 1E |
| Other | 1 | x | 1E | 1E | x |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
Notes: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months. Due to rounding, percentage totals may not add up to 100.
Source: Statistics Canada, General Social Survey, 2008.

## CST What you should know about this study

This article is based on data collected by the 2008 General Social Survey (GSS). The GSS is an annual survey that monitors changes and emerging trends in Canadian society. In 2008, Cycle 22 of the GSS collected information on social networks, and social and civic participation. Information was also collected on major changes in respondents' lives and the resources they used and needed during these transitions. Respondents' answers reflect their perception of the economic and social situation at the time the information was gathered and this may vary from current perceptions.

The target population of the 2008 GSS included the non-institutionalized population aged 15 and over, living in Canada's ten provinces. Data were collected from February 1, 2008 to November 30, 2008. Over this period, approximately 20,000 individuals were successfully interviewed.

This article only uses respondents who were aged 20 years and older. The analytic sample was composed of over 19,000 respondents representing approximately 25 million Canadians. This article focuses on the 10.9 million Canadians who had experienced at least one change in the last twelve months that had a major impact on their lives.

**Methodology**

This study uses descriptive statistics and cross-tabular analysis throughout. Differences of statistical significance were determined by non-overlapping confidence intervals using bootstrapped and weighted estimates and variances. Suppression was done where estimates were not reliable. Missing information varied by variable; percentages in each table reflect this.

**Note:** For further clarification of analytical concepts, please see "Definitions."

in later life stages. Of those who had experienced at least one change in the last twelve months, 24% of seniors had experienced the death of a loved one and had identified it as having the greatest impact compared to 7% of young adults.[3]

Most young adults experienced many varied changes and transitions throughout all areas of their lives. The changes of greatest impact most often noted were employment, finances, living arrangements, death of a loved one, education, and parenting or childcare. These changes are similar to transitions identified in previous research, such as leaving the parental home and completing post-secondary education.[4]

For those in the career and family formation stage, the most common changes involved two areas of life—economic and personal. On the economic side were finances and employment. Parenting or childcare, death of a loved one and health were most often noted on the personal side.

By mid-life, as could be expected, there is a shift away from parenting or childcare. The most common personal changes were death of a loved one, health, and care of a sick or disabled person. Economic changes in finances and employment were also common for this life stage.

Amongst seniors, there is greater focus on their health or on the health of someone they are caring for. The most common changes identified were those associated with health, death of a loved one, finances, and care of a sick or disabled person.

### The impact and perception of change varies through life stages

Change impacts life in different ways depending on the life stage. In earlier life stages, change was seen by the majority as a positive experience (Table 2). However, fewer than 40% of seniors perceived change as positive.

Respondents were asked about the impact of change on four major life situations: finances, employment, physical health and mental health. There was considerable variation by type of change within each life stage.

Young adults saw their financial situation shift as a result of the change of greatest impact with 21% reporting a worsening situation and 41% reporting an improvement in finances. However for seniors, change had little impact on finances. The employment situation for young adults tended to improve or remain the same because of change, but by mid-life change did not affect the employment situation. Focusing on changes in the area of health, seniors were more likely to report a worsening health situation than their younger counterparts. The majority of respondents reported that their mental health situation remained unchanged regardless of life stage.

Canadians were also asked if they had gained and/or lost personal contacts as a result of the change they experienced. The volatility for those in earlier life stages is also seen here. Young adults were most likely to report that they had gained social contacts as a result of a change compared to those in later life. Of course, a change might also result in losing contacts. Those in earlier

## CST Table 2 Impacts of change: An overview by life stage, 2008

| | Overall | Life stage: Young adults† (aged 20 to 29) | Career and family formation (aged 30 to 44) | Mid-life (aged 45 to 64) | Seniors (aged 65 and over) |
|---|---|---|---|---|---|
| | percentage | | | | |
| **Perception of change** | | | | | |
| Negative | 28 | 14 | 22* | 38* | 55* |
| Neither positive nor negative | 6 | 6 | 5 | 7 | 6 |
| Positive | 66 | 80 | 72* | 55* | 39* |
| **Contacts gained or lost due to change**[1] | | | | | |
| Gained | 45 | 55 | 49* | 39* | 28* |
| Lost | 28 | 31 | 29 | 29 | 16* |
| **Financial situation due to change** | | | | | |
| Worse | 27 | 21 | 29* | 30* | 23 |
| Same | 46 | 38 | 42 | 48* | 69* |
| Better | 27 | 41 | 29* | 22* | 8* |
| **Employment situation due to change** | | | | | |
| Worse | 15 | 12 | 14 | 18* | ... |
| Same | 56 | 46 | 57* | 62* | ... |
| Better | 29 | 42 | 29* | 20* | ... |
| **Physical health due to change** | | | | | |
| Worse | 21 | 14 | 18* | 26* | 33* |
| Same | 58 | 62 | 61 | 55* | 53* |
| Better | 20 | 24 | 21 | 19* | 14* |
| **Mental health due to change** | | | | | |
| Worse | 20 | 14 | 20* | 23* | 21* |
| Same | 51 | 50 | 49 | 50 | 64* |
| Better | 30 | 36 | 32 | 27* | 15* |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.

Notes: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months.

Source: Statistics Canada, General Social Survey, 2008.

life stages were also the most likely to lose social contacts as a result of change, with fewer seniors reporting a loss in social contacts. These findings confirm past research that has suggested that there is more flow in social networks in earlier life and that social networks become more stable in later life stages.[5]

### The Internet is useful in dealing with change, but family is the most important resource for all life stages

Major changes that impact our lives often require us to reach beyond ourselves and access various components of our social network to manage or cope with it. Canadians accessed many parts of their social networks to deal with change.

In every life stage, family far outweighed any other part of the social network as the most commonly accessed and most helpful resource (Table 3).

Close friends were commonly accessed resources across all life stages. Professionals, such as doctors and lawyers, were also used, especially by seniors. Co-workers, other friends, media resources and business people were reported as common social network resources. These types of social network resources were less likely than family to be cited as the most helpful resource.

The Internet deserves special note, given the increasing role of this resource in gathering information and enhancing personal contact through such activities as e-mail and social networking.[6] The Internet was used by 39% of adult Canadians to help deal with change. However, it declined steeply as a social resource across the life stages. Between 47% and 50% of those in the young adult and the career and family formation stage noted that they had used the Internet to deal with change, versus

## CST Table 3 Resources used to deal with change: An overview by life stage, 2008

| | Overall | Life stage: Young adults† (aged 20 to 29) | Career and family formation (aged 30 to 44) | Mid-life (aged 45 to 64) | Seniors (aged 65 and over) |
|---|---|---|---|---|---|
| | percentage | | | | |
| **Type of resource used[1]** | | | | | |
| Family | 69 | 75 | 68* | 65* | 68* |
| Close friends | 59 | 64 | 61 | 56* | 49* |
| Professionals (including doctors) | 45 | 36 | 46* | 48* | 58* |
| Internet | 39 | 50 | 47 | 31* | 11* |
| Co-workers | 36 | 36 | 44* | 37 | 5* |
| Other friends | 35 | 34 | 39 | 35 | 28* |
| Other media/information sources | 34 | 36 | 39 | 31 | 22* |
| Business people (including employer) | 32 | 33 | 35 | 33 | 12* |
| Neighbours | 23 | 15 | 23* | 25* | 34* |
| Social service or health organization | 21 | 17 | 22* | 22* | 25* |
| Government resources (all levels of government) | 16 | 17 | 19 | 14 | 10* |
| Public institutions (for example, libraries or universities) | 13 | 25 | 13* | 8* | 4[E]* |
| Religious organization | 11 | 9 | 11 | 13* | 16* |
| Law or justice organization | 6 | 4 | 7* | 7* | 3[E] |
| Other community organization | 6 | 5[E] | 7 | 6 | 6 |
| **Most helpful resource in dealing with change[2]** | | | | | |
| Family | 44 | 52 | 42* | 39* | 43* |
| Professionals (including doctors) | 14 | 6 | 12* | 18* | 26* |
| Close friends | 11 | 12 | 13 | 11 | 8 |
| Internet | 7 | 8 | 9 | 6 | x |
| Business people (including employer) | 4 | 3[E] | 4 | 4 | x |
| Social service or health organization | 4 | 2[E] | 3 | 6* | 8[E]* |
| Government resources (all levels of government) | 3 | 4[E] | 3 | 3 | 2[E] |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report more than one type of resource to deal with the change of greatest impact.
2. Only the most commonly identified resources are shown. Only those identifying at least one resource are included.

Note: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months.

Source: Statistics Canada, General Social Survey, 2008.

31% of those in mid-life and 11% of seniors.

Regardless of life stage, the Internet was seldom noted as the most helpful resource. Family was clearly the most helpful resource in individuals' social networks. While the Internet may be a valuable tool in Canadians' lives, it shows no signs of replacing the importance of people—at least in dealing with change.

### Social networks provide varied types of help

Family, friends, professionals and the Internet may all be tapped to deal with change but what kind of help do they provide? Help drawn from the social network is often categorized into three broad types of support: emotional, instrumental (e.g. assistance or support with finances, transportation, or the provision of goods or services), and informational (e.g. informal advice, information, training or referrals).[7]

Canadians use all three types of support almost equally, varying little by life stage. The only exception is that informational help is less commonly accessed by those in the mid-life and senior life stages (Table 4).

The following sections show more detailed analysis by life stage.

## CST Life stages

Rather than discussing generations, it is often helpful to discuss the different stages of life. The following life stages were chosen after taking into account the data available in the GSS 2008.

**Young adults:** (Aged 20 to 29) The data show a fair amount of variability for the 15 to 19 year age group with regard to change. There is, however, more uniformity in the 20 to 29 year age group, allowing the focus to be on strategies to cope with change rather than on the change itself.

**Career and family formation:** (Aged 30 to 44) This life stage includes those focusing on raising families and/or advancing careers.

**Mid-life:** (Aged 45 to 64) Commonly referred to as Boomers but renamed to reflect life stage.

**Seniors:** (Aged 65 and over) This life stage includes many who are retired.

## CST Table 4 Type of help received to deal with change: An overview by life stage, 2008

| | Life stage | | | | |
|---|---|---|---|---|---|
| | Overall | Young adults† (aged 20 to 29) | Career and family formation (aged 30 to 44) | Mid-life (aged 45 to 64) | Seniors (aged 65 and over) |
| | percentage | | | | |
| **Type of help received[1]** | | | | | |
| **Emotional** | **66** | **66** | **65** | **67** | **68** |
| **Instrumental help (at least one of the types below)** | **66** | **67** | **67** | **64** | **70** |
| Professional services or expertise | 46 | 37 | 46* | 48* | 58* |
| Financial | 26 | 41 | 27* | 19* | 9* |
| Help with household work or childcare | 19 | 14 | 23* | 15 | 24* |
| Transportation | 13 | 12 | 11 | 12 | 25* |
| Material goods | 11 | 12 | 13 | 9 | 11 |
| Personal care or health needs | 10 | 5 | 8* | 12* | 20* |
| **Informational help (at least one of the types below)** | **62** | **71** | **68** | **57*** | **38*** |
| Information or informal advice | 57 | 64 | 62 | 53* | 35* |
| Referrals, networking or help making new contacts | 14 | 17 | 15 | 13* | 6* |
| Teaching, coaching, or training | 9 | 14 | 11 | 7* | 3E* |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report more than one type of help received to deal with the change of greatest impact.

Note: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months.

Source: Statistics Canada, General Social Survey, 2008.

# Young adults: Major changes, transitions, and information

- Young adults experience numerous and different types of change.
- Employment was the most common change of greatest impact experienced by young adults (18%), followed by finances (16%) and parenting or childcare (12%).
- Young adults access many types of resources to deal with change. The resources vary in important ways by the type of change being experienced.

About 4.5 million Canadians were young adults (aged 20 to 29 years old) in 2008 and 57% had experienced at least one major change in the last twelve months. The changes of greatest impact revolve around the transitions this group commonly experiences—in finances, employment, education, living arrangements and parenting or child care. No one type of change dominates.

## Young adults often see change as positive

Overall, young people reported changes as positive. The most positively perceived changes involved parenting or childcare, or education (Table 5). The type of change reported influences different aspects of life. For instance, in 2008 the financial situation of the young adult was better when the change involved finances or employment (67%). The financial situation was reported as worse when it involved parenting or childcare (39%) or education (33%).

## Young adults' social networks are fluid: Change both expands and contracts the number of social contacts

Transition involves change in the young person's life, and also involves their social networks. At this stage, social contacts are fluid in the face of change with contacts being both gained and lost. While change may produce many new social contacts it may also involve others falling away. The magnitude of this gain/loss varies by the type of change reported. Many of those whose change involved employment reported a gain in social contacts, more than one and a half times those whose change of greatest impact involved finances (72% versus 44%). Employment changes often also meant a loss in social contacts (44%) and a similar percent noted a loss in social contacts when the change involved living arrangements. Other changes produced a smaller loss in social contacts.

## Young adults use an array of resources to deal with change but family is the most helpful

Young adults accessed these fluid social networks to deal with change (Table 6). The type of resource varied by type of change. When finances were involved, the resources used most often were family, business people (including employers), and the Internet. When employment was the change of greatest impact, similar resources were tapped but close friends also played an important role.

Changes involving living arrangements, education and parenting or childcare also showed increased utilization of friends as a resource. The Internet was used for all types of changes but showed particular importance for parenting or childcare, and education. The Internet was often used as a resource but was seldom reported as the most helpful. Co-workers were important when dealing with changes involving employment. Government resources, at all levels of government, were used more commonly when the change involved employment, education, and parenting or childcare.

However, young adults saw their families as the most helpful resource in their social network. Across all types of change, family was the most helpful resource for 39% to 75% of young adults, depending on the type of change. Close friends were cited second as the most helpful resource for young adults across all types of change (12%) (Results not shown).

## The type of help needed from the social network varies by the change being experienced

Family is the most helpful resource in the social network, but the type of help used from all parts of the social network does vary. When change involved education and parenting or childcare, and to a lesser extent finances, instrumental and informational help were accessed more often than emotional support (Table 7). If employment was involved, informational support was the most common type of help, with emotional and instrumental support being sought less often. If the change involved living arrangements, 81% of young adults sought instrumental support, while emotional and informational support were important but less commonly accessed.

## Table 5 Impacts of change: Young adults (aged 20 to 29), 2008

| | Change of greatest impact | | | | |
|---|---|---|---|---|---|
| | Finances† | Employment | Education | Living arrangements | Parenting or childcare |
| | percentage | | | | |
| **Perception of change** | | | | | |
| Negative | x | x | x | 13[E] | x |
| Neither positive nor negative | x | x | x | 16[E] | x |
| Positive | 72 | 83 | 92* | 71 | 91* |
| **Contacts gained or lost due to change**[1] | | | | | |
| Gained | 44 | 72* | 69* | 62 | 54 |
| Lost | 20 | 44* | 39* | 46* | 21[E] |
| **Financial situation due to change** | | | | | |
| Worse | 16[E] | 20[E] | 33* | 17[E] | 39* |
| Same | 17[E] | 13[E] | 31 | 37* | 46* |
| Better | 67 | 67 | 36* | 46* | 15[E]* |
| **Employment situation due to change** | | | | | |
| Worse | 9[E] | 14[E] | 11[E] | x | 17[E] |
| Same | 29 | 12[E]* | 39 | 50* | 66* |
| Better | 62 | 75* | 50 | x | 17[E]* |
| **Physical health due to change** | | | | | |
| Worse | 11[E] | 18[E] | x | x | 15[E] |
| Same | 66 | 50 | 68 | 69 | 73* |
| Better | 23 | 32 | x | x | 13[E]* |
| **Mental health due to change** | | | | | |
| Worse | 13[E] | 12[E] | x | 11[E] | 12[E] |
| Same | 52 | 47 | 58 | 55 | 65 |
| Better | 35 | 41 | x | 33 | 23[E] |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.

Notes: This table includes respondents aged 20 to 29 who experienced at least one major change in the last 12 months. Due to rounding, percentage totals may not add up to 100.

Source: Statistics Canada, General Social Survey, 2008.

## Interrelated changes

### Major change is often interrelated

The 2008 GSS shows that changes can be interrelated. Of Canadians that had experienced at least one major change in the last 12 months, 51% reported that other changes were interrelated with the change of greatest impact. Most commonly this interconnectivity of change was seen in the earlier stages of life and declined in later life. For instance, more than half of young adults reported a change that was interrelated to the change of greatest impact, compared to one quarter of seniors (60% versus 26%).

Some types of change are often intertwined. The interrelationship involving finances and employment is the most common. Except for seniors, the majority of respondents who reported finances as a change of greatest impact said that a change in employment was interrelated. The reverse was also true—a change of employment was related to a change involving finances.

Of note for those in midlife and for seniors: If the change of greatest impact was the care of a sick or disabled person, two changes were commonly related—finances and the person's own health.

## Table 6 Resources used to deal with change: Young adults (aged 20 to 29), 2008

| | Change of greatest impact | | | | |
|---|---|---|---|---|---|
| | Finances† | Employment | Education | Living arrangements | Parenting or childcare |
| | percentage | | | | |
| **Type of resource used**[1] | | | | | |
| Family | 62 | 67 | 77 | 81* | 87* |
| Business people (including employer) | 35 | 42 | 28 | 28 | 32 |
| Internet | 40 | 48 | 68* | 51 | 62* |
| Close friends | 32 | 52* | 58* | 81* | 73* |
| Other media/information sources | 23 | 33 | 40 | 32 | 65* |
| Co-workers | 22[E] | 45* | 32[E] | 27 | 36 |
| Professionals (including doctors) | 17[E] | 24 | 23[E] | 34* | 67* |
| Government resources (all levels of government) | 14[E] | 21 | 26[E] | 13[E] | 28* |
| Public institutions (for example, libraries or universities) | 10[E] | 28* | 75* | x | 18[E] |
| Other friends | 11[E] | 27* | 29[E]* | 45* | 37* |
| Social service or health organization | 5[E] | x | x | x | 53* |
| Neighbours | x | 6[E] | x | 15[E]* | 34* |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of resource to deal with the change of greatest impact.
Note: This table includes respondents aged 20 to 29 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## Table 7 Type of help received to deal with change: Young adults (aged 20 to 29), 2008

| | Change of greatest impact | | | | |
|---|---|---|---|---|---|
| | Finances† | Employment | Education | Living arrangements | Parenting or childcare |
| | percentage | | | | |
| **Type of help received**[1] | | | | | |
| Emotional | 36 | 56* | 72* | 68* | 72* |
| Instrumental[2] | 65 | 51 | 81 | 81 | 87* |
| Informational[3] | 58 | 80* | 86* | 69 | 83* |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of help received to deal with the change of greatest impact.
2. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
3. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.
Note: This table includes respondents aged 20 to 29 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## Career and family formation life stage: Dealing with change on two sides of life

- In the career and family formation life stage, major change mainly impacts the personal and economic sides of life.
- The Internet is a social resource often used by those experiencing a change in parenting or childcare and health.
- Informational support is an important form of help in this life stage.

In the career and family formation stage of life (aged 30 to 44 years) people start to focus on family (including raising children) and/or establishing and advancing their career. This focus is evident in the changes that people in this stage of life report. In 2008, there were about 7.1 million Canadians in this stage of life and 51% had experienced at least one type of major change.

The change of greatest impact in this life stage is in either of two categories: economic or personal. On the economic side, changes of greatest impact noted most often were in finances (13%) and employment (15%). On the personal side, 18% of individuals in this life stage experienced change involving parenting or childcare and identified it as having the greatest impact, while another 10% did so with regard to their health.

### Health changes are seen as both positive and negative

In 2008, changes on the economic side of life were generally perceived as positive (Table 8). On the personal side of life, perceptions varied. If the change of greatest impact involved health, 51% of people in the career and family formation stage noted the change was negative. When the change involved parenting or childcare, it was overwhelmingly seen as a positive one (88%) possibly reflecting the growth of families in this life stage.

The impact on various aspects of the respondent's life varied by the type of change involved. Changes of greatest impact involving the economic side of life tended to result in improved financial and economic situations and to leave physical and mental health unaltered or better.

If the change of greatest impact was health, then the financial and employment situation for the respondent largely remained the same. However, 47% of these 30- to 44-year-olds indicated their physical health was worse, and 30% reported their mental health was worse. If the change of greatest impact involved parenting or childcare, other situations in life tended to remain stable.

### The Internet is often drawn upon as a resource by those experiencing changes with parenting or childcare and health

For those in the career and family formation stage, family is often the most drawn upon and is the most helpful part of the social network, regardless of the type of change experienced (Table 9). Other parts of the social network accessed vary by type of change.

Business people (including employers) were the most helpful resource for 34% of individuals whose change of greatest impact involved finances. Co-workers were resources for 53% of those impacted by changes involving employment. People in this life stage also turned to the Internet as a resource. Those dealing with changes in parenting or childcare turned most often to family, but also accessed close friends, professionals, the Internet and other media sources.

In 2008, 85% of those experiencing health changes turned to professionals (including doctors), the family (76%), close friends (67%) and the Internet (60%). Those experiencing a change involving parenting or childcare also used the Internet fairly often (61%).

### Informational support was important to those in the career and family formation life stage

The kind of help drawn from social resources varied for those in the career and family formation stage of life (Table 10). Changes involving the personal side of life needed all three types of help. Informational support was important regardless of the type of change and played a particularly important role when employment or parenting or childcare was the change of greatest impact. Emotional and instrumental support was sought more often when the change was on the personal side of life.

## CST Table 8 Impacts of change: Career and family formation life stage (aged 30 to 44), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Parenting or childcare |
| | percentage | | | |
| **Perception of change** | | | | |
| Negative | 35 | 16* | 51* | 8[E]* |
| Neither positive nor negative | 5[E] | 8[E] | x | 5[E] |
| Positive | 60 | 76* | x | 88* |
| **Contacts gained or lost due to change**[1] | | | | |
| Gained | 36 | 66* | 34 | 54* |
| Lost | 25 | 49* | 23 | 20 |
| **Financial situation due to change** | | | | |
| Worse | 32 | 24 | 37 | 42 |
| Same | 13 | 22* | 54* | 49* |
| Better | 56 | 53 | 10[E]* | 9[E]* |
| **Employment situation due to change** | | | | |
| Worse | 16 | 17 | 22 | 13 |
| Same | 40 | 16* | 69* | 76* |
| Better | 44 | 67* | 9[E]* | 11* |
| **Physical health due to change** | | | | |
| Worse | 13 | 14 | 47* | 17 |
| Same | 66 | 54 | 18[E]* | 72 |
| Better | 21 | 32* | 35* | 11* |
| **Mental health due to change** | | | | |
| Worse | 18 | 15 | 30* | 15 |
| Same | 51 | 40 | 36* | 64* |
| Better | 31 | 44* | 35 | 21 |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.

Notes: This table includes respondents aged 30 to 44 who experienced at least one major change in the last 12 months. Due to rounding, percentage totals may not add up to 100.

Source: Statistics Canada, General Social Survey, 2008.

## CST When faced with the death of a loved one, people mostly turn to family for support

Just over one in ten Canadians aged 20- to 64-years-old experienced the death of a loved one and noted it as the major change of greatest impact. Of this group, 38% reported other related changes in their lives. Overall, the death of a loved one did not significantly influence other life situations, such as finances, employment or physical health, but 27% said their mental health situation got worse (Table A.2).

Most people who reported death of a loved one as their change of greatest impact turned to their social networks for emotional support (95%). The majority reported that family was their most helpful resource. Family and close friends were drawn upon most frequently, while co-workers, other friends, neighbours and business people were also accessed as sources of help through this change.

## Table 9 Resources used to deal with change: Career and family formation life stage (aged 30 to 44), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Parenting or childcare |
| | percentage | | | |
| **Type of resource used**[1] | | | | |
| Family | 42 | 52 | 76* | 84* |
| Business people (including employer) | 34 | 41 | 31 | 32 |
| Internet | 26 | 46* | 60* | 61* |
| Close friends | 26 | 49* | 67* | 71* |
| Other media/information sources | 22 | 30 | 43* | 62* |
| Co-workers | 18 | 53* | 46* | 44* |
| Professionals (including doctors) | 20 | 24 | 85* | 66* |
| Other friends | 13 | 31* | 38* | 48* |
| Government resources (all levels of government) | 14 | 23* | 15 | 33* |
| Neighbours | 7[E] | 12[E] | 20* | 36* |
| Public institutions (for example, libraries or universities) | 6[E] | 14* | 6[E] | 19* |
| Social service or health organization | 9[E] | 7[E] | 32* | 51* |
| Religious organization | 4[E] | x | 11[E]* | 13* |
| Other community organization | x | 4[E] | x | 13* |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of resource to deal with the change of greatest impact.
Note: This table includes respondents aged 30 to 44 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## Table 10 Type of help received to deal with change: Career and family formation life stage (aged 30 to 44), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Parenting or childcare |
| | percentage | | | |
| **Type of help received**[1] | | | | |
| Emotional | 33 | 54* | 77* | 70* |
| Instrumental[2] | 56 | 48 | 89* | 87* |
| Informational[3] | 49 | 76* | 73* | 81* |

† reference group
* statistically significantly different from the reference group at $p < 0.05$
1. Respondents could report more than one type of help received to deal with the change of greatest impact.
2. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
3. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.
Note: This table includes respondents aged 30 to 44 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## Mid-life stage: Dealing with changes in health

- People in mid-life reported that major changes on the personal side of life were dominated by dealing with one's own health or with someone else's health through care for a sick or disabled person.
- Instrumental help is especially important when the change was on the personal side.
- Of those in midlife noting a change involving health, 56% perceive that change as negative.

As Canadians move from starting and building careers and families into mid-life, the focus often shifts from children to other aspects of life. In mid-life, the pace of change in life for Canadians begins to slow down. Of approximately 9 million Canadians in mid-life (aged 45 to 64 years) in 2008, 40% had experienced at least one major change in the last twelve months. This is less than in the stages of young adults and of career and family formation.

The nature of the changes experienced by those in mid-life also shifts, particularly on the personal side of life. The two types of personal change, besides death of a loved one (16%), that are most prevalent involve health—a change in the respondent's health (18%), or a change in the care of a sick or disabled person (8%). On the economic side, a change in finances (15%) or a change in employment (14%) was the most common change of greatest impact.

### When health is the change of greatest impact it is often perceived as negative

In 2008, the perception of change on the economic side during mid-life varied depending on the type of change experienced. Individuals in mid-life were fairly evenly divided in how they felt about a change in finances—50% thought the change was negative while 45% thought the change was a positive one (Table 11). Those, who in 2008 reported a change in the past 12 months in employment, tended to see the change as a positive one (66%).

Turning to the personal side of life, changes in the respondent's health were more often seen as negative (56%). When the change involved care of a sick or disabled person, individuals in mid-life were more diverse in their perceptions about the direction of change—49% felt the change was negative, 35% thought the change was positive while 16% indicated the change was neither positive nor negative.

Major change in mid-life does not appear to impact important aspects of life unduly. With financial change, just over one third indicated their financial situation was better because of it (39%). An almost equal percent indicated that their financial situation was worse (41%). A change in finances tended to leave the employment, physical health, and mental health situations of the respondent the same as before. The pattern observed for finances in 2008 was similar to the one for employment. The one exception was where a change in employment tended to improve the overall employment situation.

In mid-life when the respondent's health was the change of greatest impact, their employment and financial situation tended to remain unchanged. However, almost half noted that their physical health was worse and over one quarter also noted worsening mental health (49% and 30%). When the change of greatest impact was in the care of a sick or disabled person, other aspects of the respondent's life appeared to remain unchanged.

### Professionals (including doctors) are important resources in the social network when change is on the personal side of life

Canadians in mid-life drew on many resources in their social networks to deal with change. When the change of greatest impact was financial, individuals most often turned to family, business people, close friends, Internet and other media for support. Family was largely seen as the most helpful resource (35%) (Results not shown).

When the change of greatest impact was employment, the most commonly accessed resources were family, close friends, co-workers, and business people. Once again, family was usually cited as the most helpful resource (29%). Co-workers were cited by 12% as the second common most helpful resources (Results not shown).

When the change of greatest impact involved health or care of a sick or disabled person, professionals and family were commonly accessed parts of the social network (Table 12). The third most commonly accessed resource was close friends for those noting a change in health. Of those noting a change involving care of a sick or disabled person, 65% noted that they had turned to a social service or health organization. Family and professionals were often cited as the most helpful resource when the change of greatest impact revolved around health or care of a sick or disabled person (Results not shown).

### Instrumental help was used most often when the change of greatest impact was on the personal side of life

In mid-life, the type of help received from the resources of the social network varied depending on the type of change experienced (Table 13). For those in this group who stated the change of greatest impact was financial, 53% required instrumental help, 41% informational help, and 36% emotional support. When the change involved employment, informational help was used by 72% (For clarification of analytical concepts, see "Definitions").

On the personal side of life, instrumental help was needed by most people with a change in health and in the care of a sick or disabled person (91% and 87%). Emotional and informational supports were also used by the majority of those experiencing one of these two types of change.

## CST Table 11 Impacts of change: Mid-life stage (aged 45 to 64), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Perception of change** | | | | |
| Negative | 50 | 27* | 56 | 49 |
| Neither positive nor negative | 4[E] | 7[E] | 6[E] | 16[E]* |
| Positive | 45 | 66* | 38 | 35 |
| **Contacts gained or lost due to change**[1] | | | | |
| Gained | 24 | 54* | 35* | 46* |
| Lost | 24 | 49* | 31 | 25 |
| **Financial situation due to change** | | | | |
| Worse | 41 | 38 | 38 | x |
| Same | 20 | 27 | 55* | 66* |
| Better | 39 | 35 | 7[E]* | x |
| **Employment situation due to change** | | | | |
| Worse | 27 | 31 | 30 | x |
| Same | 45 | 17* | 64* | 78* |
| Better | 29 | 52* | 7[E]* | x |
| **Physical health due to change** | | | | |
| Worse | 23 | 19 | 49* | x |
| Same | 58 | 51 | 20* | 64 |
| Better | 19 | 30* | 31* | x |
| **Mental health due to change** | | | | |
| Worse | 22 | 14 | 30 | 38* |
| Same | 50 | 45 | 43 | 52 |
| Better | 29 | 41* | 28 | 10[E]* |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.

Notes: This table includes respondents aged 45 to 64 who experienced at least one major change in the last 12 months. Due to rounding, percentage totals may not add up to 100.

Source: Statistics Canada, General Social Survey, 2008.

## CST Table 12 Resources used to deal with change: Mid-life stage (aged 45 to 64), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Type of resource used**[1] | | | | |
| Family | 41 | 54* | 76* | 76* |
| Business people (including employer) | 31 | 47* | 27 | 19* |
| Close friends | 29 | 48* | 64* | 53* |
| Other media/information sources | 23 | 33 | 38* | 34 |
| Professionals (including doctors) | 24 | 27 | 87* | 75* |
| Internet | 19 | 37* | 44* | 33* |
| Co-workers | 17 | 44* | 34* | 30* |
| Government resources (all levels of government) | 14 | 19 | 15 | 24* |
| Other friends | 13 | 29* | 38* | 30* |
| Neighbours | 10[E] | 11 | 33* | 35* |
| Social service or health organization | 9[E] | 7[E] | 35* | 65* |
| Religious organization | 5[E] | 4[E] | 14* | 15[E]* |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of resource to deal with the change of greatest impact.
Note: This table includes respondents aged 45 to 64 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## CST Table 13 Type of help received to deal with change: Mid-life stage (aged 45 to 64), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Employment | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Type of help received**[1] | | | | |
| Emotional | 36 | 56* | 79* | 73* |
| Instrumental[2] | 53 | 50 | 91* | 87* |
| Informational[3] | 41 | 72* | 68* | 66* |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of help received to deal with the change of greatest impact.
2. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
3. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.
Note: This table includes respondents aged 45 to 64 who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

# Seniors: Relying on professionals, family and close friends to deal with change

- Fewer major changes were reported by those in later life.
- Seniors often perceive change as negative, but it does not greatly impact finances or mental health.
- Seniors rely on professionals (including doctors) especially when change involves health. Family and close friends are also important resources.

Fewer changes were reported by those in later life. In 2008, there were approximately 4.3 million seniors (65 years and older) and a quarter of them had experienced at least one major change. Except for finances, change in the senior's life is concentrated mostly on the personal side of life. The most common changes of greatest impact were related to health (38%), death of a loved one (24%), finances (10%), and care of a sick or disabled person (10%).

## Seniors often perceive change as being in a negative direction

Many seniors saw the change in their lives as negative (Table 14). However, if the change of greatest impact was noted as involving health, death of a loved one, or care of a sick or disabled person then the financial and mental health situations in their lives remained the same as before the change. In 2008, a change in finances tended to leave the financial situation worse than before but left other aspects of life unchanged. A change involving health often resulted in a worse physical health situation than before (51%).

## Care of a sick or disabled person may increase the social connectedness of seniors

Seniors' social networks do not appear to fluctuate—they seldom report either a loss or gain in social contacts due to the change of greatest impact. There is one notable exception. When the change involved the care of a sick or disabled person, 52% of seniors reported a gain in social contacts. This finding confirms previous work that found that some life-course factors and events increase the social connectedness of seniors.[8]

## Professionals are a vital part of the senior's social network when health changes or involves the care of a sick or disabled person

Family forms the nexus of the social network for seniors especially when the change in their lives revolves around the death of a loved one (Table 15). Close friends also act as a resource in these circumstances. On the economic side, there is no one dominant resource that is used in dealing with a change in finances.

If the change in the senior's life concerns their own health or the care of a sick or disabled person, professionals are often tapped as a resource along with family and close friends. Social service or health organizations are often used in care of a sick or disabled person. Seniors seldom turned to the Internet as a resource to deal with change.

## Instrumental help was commonly used with change involving health or care of a sick or disabled person

Seniors utilized different forms of help from their social networks depending on the type of change they experienced (Table 16). The death of a loved one most commonly involved emotional support. For changes in health or in the care of a sick or disabled person, seniors used the social network for instrumental and emotional support. Informational help was less commonly sought in all types of change.

## CST Table 14 Impacts of change: Seniors (aged 65 and over), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Death of a loved one | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Perception of change** | | | | |
| Negative | 62 | ... | 64 | 62 |
| Neither positive nor negative | x | ... | 6[E] | x |
| Positive | x | ... | 30 | x |
| **Contacts gained or lost due to change**[1] | | | | |
| Gained | 15[E] | 20 | 22 | 52* |
| Lost | 12[E] | 13 | 15 | 18[E] |
| **Financial situation due to change** | | | | |
| Worse | 61 | 13* | x | x |
| Same | 17[E] | 80* | 80* | 77* |
| Better | 23[E] | 7[E]* | x | x |
| **Physical health due to change** | | | | |
| Worse | x | 14 | 51* | x |
| Same | 67 | 80 | 27* | 53 |
| Better | x | 6[E] | 22 | x |
| **Mental health due to change** | | | | |
| Worse | 22[E] | 19 | 23 | x |
| Same | 66 | 75 | 63 | 58 |
| Better | 12[E] | 6[E] | 13[E] | x |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.

Notes: This table includes respondents aged 65 years and over who experienced at least one major change in the last 12 months. Due to rounding, percentage totals may not add up to 100.

Source: Statistics Canada, General Social Survey, 2008.

## CST Women use social networks differently than men

Men were slightly more likely than women to feel that the major change with the greatest impact involved employment or finances. For women, the type of change that they noted as having the greatest impact was more likely to involve health or death of a loved one.

Men and women were quite different in how they used their social networks to deal with change. Women were between 7 and 9 percentage points more likely than men to use family, friends or professionals (e.g. doctors, lawyers). They were also more likely than men to indicate that family was their most helpful resource. Men, on the other hand, were more likely to indicate that business people, including their employer, had been their most helpful resource. They were also less likely than women to seek emotional and instrumental support (Table A.1).

## CST Table 15 Resources used to deal with change: Seniors (aged 65 and over), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Death of a loved one | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Type of resource used**[1] | | | | |
| Family | 27[E] | 80* | 77* | 73* |
| Business people (including employer) | 21[E] | 17 | 4[E]* | x |
| Other media/information sources | 15[E] | 12[E] | 28 | 21[E] |
| Professionals (including doctors) | 19[E] | 28 | 91* | 67* |
| Government resources (all levels of government) | 18[E] | 6[E]* | 8[E] | 15[E] |
| Close friends | x | 65* | 53* | 41* |
| Neighbours | x | 41* | 38* | 44* |
| Other friends | x | 38* | 26* | 28[E]* |
| Religious organization | x | 27* | 14 | 15[E] |
| Social service or health organization | x | 10[E] | 35* | 65* |
| Internet | x | x | 13 | x |

† reference group
* statistically significant difference from the reference group at $p < 0.05$
1. Respondents could report more than one type of resource to deal with the change of greatest impact.
Note: This table includes respondents aged 65 and over who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## CST Table 16 Type of help received to deal with change: Seniors (aged 65 and over), 2008

| | Change of greatest impact | | | |
|---|---|---|---|---|
| | Finances† | Death of a loved one | Health | Care of a sick or disabled person |
| | percentage | | | |
| **Type of help received**[1] | | | | |
| Emotional | 21[E] | 84* | 73* | 73* |
| Instrumental[2] | 50 | 39 | 95* | 92* |
| Informational[3] | 28[E] | 17 | 45* | 51 |

† reference group
* statistically significant different from the reference group at $p < 0.05$
1. Respondents could report more than one type of help received to deal with the change of greatest impact.
2. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
3. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.
Note: This table includes respondents aged 65 and over who experienced at least one major change in the last 12 months.
Source: Statistics Canada, General Social Survey, 2008.

## Summary

Major change, whatever its type, is a feature of modern life for many Canadians. Dealing with change means tapping into social networks and using them in various ways. The 2008 GSS showed that Canadians' life stage affected their change experience, the resources of the social network they used, and the type of help they received from those resources.

Though the Internet is often tapped for help, it is people, particularly family, that remain the most helpful resources in social networks.

Young adults (aged 20 to 29) experience considerable levels of change reflecting the many transitions typically experienced in this stage of life. They view change as a positive experience for the most part and use many parts of their fluid social networks to deal with change, with family being the most helpful resource.

Those in the career and family formation stage of life (aged 30 to 44) are dealing with changes both in the economic and personal sides of life. Social network resources such as family and friends are often tapped to deal with change. Instrumental help is often valued, especially when the change of greatest impact involves parenting or childcare and health.

In the mid-life stage (aged 45 to 64), change becomes a somewhat less common experience. Changes on the personal side of life are dominated by health—either the individual's own health or someone else's. Instrumental help is often drawn from the social network especially with changes in the personal side of life.

Seniors (aged 65 and older) experience the least amount of change. Change is seen as negative but does not greatly impact other areas of life such as finances or physical health. Reliance on professionals within the social network becomes pronounced at this life stage. Family and close friends were also important resources.

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1. Lin, N. (2001). *Social capital: A theory of social structure and action*. New York: Cambridge University Press.

   Putnam, R. (2000). *Bowling alone: The collapse and revival of American Community*. New York: Simon & Schuster.

2. Lin. (2001); Putman. (2000).

3. Change involving death of a loved one will be dealt with in a box for all life stages except seniors – for seniors it will be handled in the section on seniors. This is because previous research has indicated that in earlier life stages this change is dealt with in a common way, but amongst seniors this change has a different impact and is handled differently (Cornwell, Laumann, and Schumm, 2008; Torges, Stewart, and Nolen-Hoeksema, 2008).

   Cornwell, B., Laumann, E. O., and Schumm, L. P. (2008).The social connectedness of older adults: A national profile. *American Sociological Review, 73*(April), 185-203.

   Torges, C., Stewart, A., and Nolen-Hoeksema, S. (2008). Regret, resolution, aging, and adapting to loss. *Psychology and Aging, 23*(1),169-180.

4. Clark, W. (2007). Delayed transitions of young adults. *Canadian Social Trends, 84*, 13-21. Statistics Canada Catalogue no. 11-008.

5. Cornwell, Laumann, and Schumm. (2008).

6. Veenhof, B. (forthcoming). Online activities of Canadian boomers and seniors. *Canadian Social Trends*. Statistics Canada Catalogue no. 11-008.

7. McColl, M. A., Lei, H., and Skinner, H. (1995). Structural relationships between social support and coping. *Social Science Medicine, 41*(3), 395-407.

8. Cornwell, Laumann, and Shumm. (2008).

## CST Definitions

**Change:** Respondents were asked:

Which of the following changes, either positive or negative, have you experienced during the past 12 months? Have you experienced changes to do with:

... finances or income?
... employment?
... health?
... parenting or childcare?
... home care of a sick or disabled person?
... death of a loved one?
... education?
... legal matters?
... living arrangements (for example, moving to a new house, moving in with another family member, a change of responsibilities within the household)?
... family relationships?
... personal achievements?
... any other change?

**Major change:** Respondents were asked to identify the impact of the identified change on a scale of one to five with one denoting very little impact and five indicating a very large impact. Those who indicated an impact score of 4 or 5 were considered to have experienced a major change for the purposes of this study.

**Major change of greatest impact:** For respondents who identified only one type of major change, it was treated as the change of greatest impact on their life. Respondents with two or more major changes were asked to identify the one that had the greatest impact.

**Two groupings of change were used in this article for some life stages:**

**Economic changes** were changes in finance and employment.

**Personal changes** could include changes in parenting or childcare, health, care of a sick or disabled person, and death of a loved one.

**Social network:** Social networks are the people, institutions, and resources that individuals interact with for information, support, and relationships of all types. To identify the resources used to deal with the change of greatest impact, respondents were asked: "Did you get help from: family, close friends, friends other than close friends, co-workers, neighbours, local government resources, other government resources, business people, professional people, a public institution, a social service or health organization, a law or justice organization, a religious organization, another community organization, the Internet, other information or media resources, any other type of resource?" The respondent was then asked to identify which of these resources was the most helpful.

**Help received from the social network:** For each type of social network resource identified, respondents were asked to identify the type of help received. Possible types of help were emotional or moral support, financial support, material goods or gifts, transportation or running errands, professional services or expertise, information or informal advice, help with household work, home maintenance or child care, help with personal care or health care needs, referrals, networking, or making new contacts, teaching, coaching, or training, support for political action, and other.

**Three groupings of type of help were used for the purpose of this article:**

**Emotional help** included the help concerning emotional or moral support.

**Instrumental help** included at least one of the following: financial support, material goods or gifts; transportation or running errands; professional services or expertise; help with household work, home maintenance or child care; and help with personal care or health care needs.

**Informational help** included at least one of the following: referrals, networking, or making new contacts; teaching, coaching, or training; and support for political action.

**Perception of change:** Respondents were asked: "Do you think this change has been more positive or negative?" There were 5 possible answer categories which were collapsed to three for the analysis—positive (includes "positive" and "from negative to positive"), negative (includes "negative" and "from positive to negative"), and neither positive nor negative.

**Impact on important life aspects:** Respondents were asked about the state of important life aspects as a result of the change of greatest impact. The aspects examined were: financial, employment, physical health and mental health situations. They were given five possible response categories. For this analysis, the response categories were collapsed into three—better, same, and worse. This question was not asked of those who identified death of a loved one as a change of greatest impact, and these respondents are coded as missing when this variable is used.

## CST Table A.1 Gender overview

| | Women† | Men |
|---|---|---|
| | percentage | |
| Experienced any major change in the last 12 months | 47 | 40* |
| **Change of greatest impact[1]** | | |
| Employment | 12 | 17* |
| Finances | 12 | 17* |
| Health | 17 | 12* |
| Death of a loved one | 14 | 11* |
| Parenting or child care | 10 | 11 |
| Care of a sick or disabled person | 6 | 4 |
| **Perception of change** | | |
| Negative | 30 | 26* |
| Neither positive nor negative | 7 | 5* |
| Positive | 63 | 69* |
| **Contacts gained or lost due to change[2]** | | |
| Gained | 44 | 46 |
| Lost | 28 | 29 |
| **Type of resource used[3]** | | |
| Family | 72 | 65* |
| Close friends | 63 | 54* |
| Professionals (including doctors) | 49 | 40* |
| Internet | 39 | 39 |
| Co-workers | 37 | 35 |
| Other friends | 39 | 31* |
| Other media/information sources | 36 | 31* |
| Business people (including employer) | 30 | 34* |
| Neighbours | 25 | 20* |
| Social service or health organization | 23 | 18* |
| Government resources (all levels of government) | 16 | 17 |
| Public institutions (for example, libraries or universities) | 13 | 14 |
| Religious organization | 13 | 9* |
| Law or justice organization | 6 | 5 |
| Other community organization | 7 | 5* |
| **Most helpful resource in dealing with change[4]** | | |
| Family | 46 | 41* |
| Professionals (including doctors) | 14 | 13 |
| Close friends | 11 | 12 |
| Internet | 6 | 8 |
| Business people (including employer) | 3 | 5* |
| Government resources (all levels of government) | 3 | 3 |
| **Type of help received[5]** | | |
| Emotional | 71 | 60* |
| Instrumental[6] | 68 | 63* |
| Informational[7] | 62 | 63 |
| **Financial situation worse due to change** | 28 | 25 |
| **Employment situation worse due to change** | 16 | 13* |
| **Physical health worse due to change** | 24 | 18* |
| **Mental health worse due to change** | 23 | 15* |

† reference group

* statistically significant difference from the reference group at $p < 0.05$

1. Not all types of changes are shown. For further details contact the author.
2. Respondents could report both a gain and a loss in social contacts due to the change of greatest impact.
3. Respondents could report more than one type of help to deal with the change of greatest impact.
4. Only the most commonly identified resources are shown.
5. Respondents could report more than one type of help received to deal with the change of greatest impact.
6. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
7. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.

Note: This table includes respondents aged 20 and over who experienced at least one major change in the last 12 months.

Source: Statistics Canada, General Social Survey, 2008.

## Table A.2 Resources accessed when the major change is death of a loved one

| | Percentage |
|---|---|
| **Type of resource used[1]** | |
| Family | 89 |
| Close friends | 85 |
| Co-workers | 59 |
| Other friends | 61 |
| Neighbours | 44 |
| Business people (including employer) | 44 |
| Professionals (including doctors) | 38 |
| Religious organization | 27 |
| Other media/information services | 21 |
| Internet | 18 |
| Social service or health organization | 15 |
| Other community organization | 8 |
| Government resources (all levels of government) | 8 |
| Law or justice organization | 8 |
| Public institutions (for example, libraries or universities) | 3[E] |
| **Most helpful resource in dealing with change[2]** | |
| Family | 64 |
| Close friends | 15 |
| Professionals (including doctors) | 8 |
| Religious organization | 5[E] |
| **Type of help received[3]** | |
| Emotional | 95 |
| Instrumental[4] | 50 |
| Informational[5] | 34 |
| **Financial situation worse due to change** | 13 |
| **Employment situation worse due to change** | 6[E] |
| **Physical health worse due to change** | 17 |
| **Mental health worse due to change** | 27 |

1. Respondents could report more than one type of help to deal with the change of greatest impact.
2. Only the most commonly identified resources are shown.
3. Respondents could report more than one type of help received to deal with the change of greatest impact.
4. Instrumental help includes using at least one of the following types: professional services or expertise; financial; help with household work or childcare; transportation; material goods; personal care or health needs.
5. Informational help includes using at least one of the following types: information or informal advice; referrals, networking or making new contacts; teaching coaching, or training.

Note: This table includes respondents aged 20 to 64 whose change of greatest impact was death of a loved one.

Source: Statistics Canada, General Social Survey, 2008.

# Looking for health information online?

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Let www.statcan.gc.ca's *Guide to Health Statistics* be your passage to the world of health information. In the *Guide* you'll discover links to:

⇒ vital statistics

⇒ cancer statistics

⇒ health determinants

⇒ health status

⇒ health care issues

⇒ and much more. . .

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**Here are some of the handy links you'll find in the *Guide to Health Statistics***

**Links to insightful analysis and data on:**

⇒ Cancer

**Health Surveys**

⇒ Canadian Community Health Survey (CCHS)

⇒ National Population Health Survey (NPHS)

⇒ Smoking and Tobacco Use Surveys

⇒ Health Care Survey

**Sample links to related sites:**

⇒ Canadian Cancer Statistics

⇒ Canadian Institute for Health Information (CIHI)

⇒ Health Canada

⇒ Canadian Health Network

## Health information? We've got connections!

# Online activities of Canadian boomers and seniors

*by Ben Veenhof and Peter Timusk*

## Introduction

Canadians' use of the Internet has changed the way they work, shop, gather information, communicate with friends and family, and manage their time. And yet, for all of the Internet's pervasiveness, studies of the digital divide remind us that there remain significant differences in access to and use of the Internet along socio-economic and demographic lines, with age in particular identified as an important factor.[1]

Understanding Internet use from an age-cohort perspective may provide additional insights into differences in Internet use.[2] Indeed, it is likely that people who currently use the Internet will continue to do so, and that differences in utilization rates by age should continue to decline. This narrowing divide can be attributed to both the movement of existing users through age cohorts, as well as new use among today's seniors.[3]

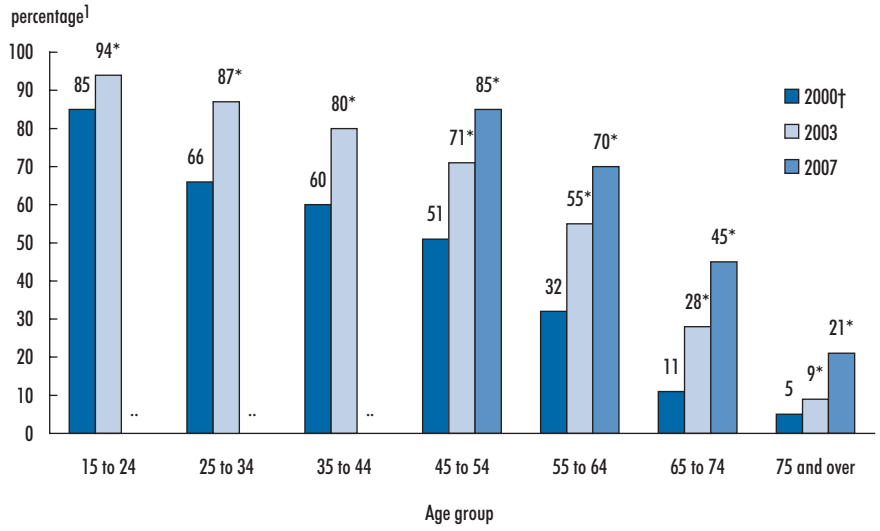
This article examines how seniors of today aged 65 and over use the Internet, compared with baby boomers aged 45 to 64, who are the seniors of tomorrow. It describes differences in the types of online activities, as well as in the intensity of Internet use (see "What you should know about this study" for concepts, definitions and details).

## Seniors use the Internet the least, but are the fastest growing group of users

In 2007, the vast majority of boomers used the Internet, but significantly fewer seniors went online (Chart 1). Since 2000, however, growth rates of Internet use have been highest among seniors, as they recorded use rates in 2007 that were nearly four times higher than in 2000.[4] Conversely, rates for people aged 15 to 24 had already reached a point of near-saturation by 2003 (94%) and consequently left little room for high sustained growth rates.[5]

Although each age group experienced significant growth in Internet use rates, in 2007 the gaps in use rates remained significant.[6] Since individual characteristics such as labour force status and education may explain part of the observed differences in Internet use rates by age group,[7] a logistic regression model (results not shown) was used to identify the relationships between Internet use and several socio-demographic factors. Results of the analysis show that age remains a significant and substantive predictor of Internet use, even after controlling for factors such as educational attainment and household income.[8]

**CST Chart 1 Rates of Internet use, by age group, by selected years**




† reference group

* statistically significant difference from reference group at $p < 0.05$

1. Includes individuals using the Internet in the 12 months preceding the survey. Excludes 'Don't know' and 'Not stated.'

Source: Statistics Canada, General Social Survey, 2000, 2003, 2007.

## CST What you should know about this study

This study draws from two main sources, the 2007 Canadian Internet Use Survey (CIUS), and the 2007 General Social Survey (GSS), to compare the Internet use of baby boomers aged 45 to 64 in 2007 with seniors aged 65 and older.

The 2007 CIUS sample consists of over 26,000 Canadians 16 years of age or older. The sample size for individuals aged 45 to 64 was about 9,700, and over 5,500 for individuals 65 years and older. The 2007 GSS sampled more than 23,000 individuals, including about 15,000 individuals aged 45 to 64, and 8,300 individuals 65 years and older. Both surveys included residents of the 10 provinces, excluding those residing in institutions at the time.

This study uses the CIUS to analyze the online activities of Canadian Internet users, including the use of the Internet for health information, government information, and electronic commerce, as well as time spent online. The CIUS covers use of the Internet for personal, non-business reasons from any location. Some questions, such as certain online activities, were only asked of persons who used the Internet from home (see definition of "home Internet user" below).

While Internet use was not the primary focus of the 2007 GSS, it includes several aspects of the Internet use of Canadians 45 years and older that are not covered by the 2007 CIUS. The GSS asked individuals whether they had used the Internet in the last month and in the last 12 months, but did not distinguish personal use from business use. GSS data on "use of the Internet in the last 12 months" were analyzed to find trends in Internet use comparing data from previous GSS cycles. These included GSS Cycle 14 (2000), and GSS Cycle 17 (2003) (see Chart 1). Elsewhere in this study, rates of Internet use come from the CIUS. Information from these two sources are not directly comparable, but are used to complement each other.

Both surveys employ a complex sample design, and bootstrap weights were used to produce estimates and conduct statistical tests using SAS Bootvar software.

### Definitions

**Baby boomers, boomers, middle-aged, and seniors of tomorrow:** refers to people who were aged 45 to 64 in 2007.

**Seniors:** refers to those who were aged 65 and over in 2007.

**Home Internet user:** in the 2007 CIUS, refers to a person who used the Internet from home in the 12 months preceding the survey.

**Instant messaging (IM)** is a common form of computer-mediated communication where two or more persons exchange text to simulate a conversation. Examples of instant messaging software include Windows Live Messenger and ICQ.

**Contributing content online:** The 2007 CIUS also asked users whether they had contributed content or participated in discussion groups online. Examples of such activities include blogging (contributing to a web log or online journal), using Internet message boards or posting photos.

### Measuring the intensity of Internet use

Intensity of Internet use can be defined in many ways. For the purposes of this article, an intensive user is a person who meets at least one of two criteria: a user that exceeds the average number of online activities ("breadth of use") or is online for five hours or more from home per week. This definition was selected since some users may only perform a few activities (for example, email or instant messaging), but may do so intensively, spending hours at a time on these activities. On the other hand, a user may be online for less than five hours per week but still conduct an above-average number of activities (12 or more); considered as intensive use for the purposes of this study.

The 2007 CIUS collected information on 26 online activities.[1] The questions for 24 activities were only asked of those who used the Internet from home, while two e-commerce related activities were asked of those who used the Internet from any location. For this analysis, only home Internet users were included.

Note

1. The following are 26 Internet activities for which the 2007 CIUS collected information: email; instant messaging; searching for government information; communicating with government; searching for medical or health information; education, training or school work; travel information or making travel arrangements; searching for employment; electronic banking; researching investments; playing games; obtaining or saving music; obtaining or saving software; viewing news or sports; obtaining weather reports or road conditions; listening to Internet radio; downloading or watching television programs; downloading or watching movies; researching community events; researching other specific matters; general browsing for fun or leisure (surfing); contributing content or participating in discussion groups (blogging, message boards, posting images); making online telephone calls; selling goods or services (through auction sites); ordering goods or services; window shopping for goods or services.

## Online activities reveal different role of the Internet in seniors' lives

The gap between boomers and seniors is not just in Internet use rates. Seniors also performed a smaller variety of online activities than boomers. Choices of activities reveal different preferences, as well as the different functional role the Internet plays in their personal lives.

Email was the most common use of the Internet by seniors, with 9 in 10 Internet users taking advantage of it. Similar proportions of boomers also used email (Table 1).

For Canadian seniors with large and dispersed extended families, email may represent an efficient means of keeping in touch. Previous research has found that email users aged 65 and older were more likely to use email to communicate with relatives than all other users.[9] Many seniors feel that it has improved their family connections, and they communicate more frequently with relatives when email is available.[10]

Other forms of personal online communication were less popular among seniors. While 32% of boomers with Internet at home participated in instant messaging in 2007, this activity was less popular among seniors, at 26%.

Many Internet users also contributed content online by blogging, participating in discussion forums and uploading photos online. These activities were significantly less common among both boomer and senior users, who had participation rates below 10%.

## Seniors more likely than boomers to play games

The Internet is a particularly popular source of leisure for online seniors and even more so for boomers. Over one-half of seniors who were home Internet users said they did general Internet browsing for fun or leisure in 2007, compared to more than two-thirds of boomers who used the Internet from home.

**CST Table 1 Internet activities performed at home in the last 12 months by Internet users, by age group, 2007**

| Activity | Age group | |
|---|---|---|
| | 45 to 64† | 65 and older |
| | Home Internet users[1] percentage | |
| **Communication** | | |
| Email | 88 | 90 |
| Using an instant messenger | 32 | 26* |
| Communicating with all levels of government | 28 | 20* |
| Contributing content (blogging, discussion groups, photos) | 9 | 4E* |
| Making telephone calls over the Internet | 7 | 5E* |
| **Leisure** | | |
| General browsing for fun or leisure (surfing) | 68 | 54* |
| Obtaining or saving music | 23 | 15* |
| Playing games | 27 | 36* |
| Listening to the radio over the Internet | 22 | 13* |
| Downloading or watching television or movies | 10 | 6E* |
| **News and events** | | |
| Obtaining weather reports or road conditions | 67 | 56* |
| Viewing the news or sports | 58 | 52* |
| Researching community events | 42 | 27* |
| **Educational use** | | |
| Education, training or school work | 36 | 15* |
| **Financial information** | | |
| Electronic banking (including bill payment) | 58 | 40* |
| Researching investments | 29 | 22* |
| **Other information** | | |
| Travel information or making travel arrangements | 68 | 59* |
| Searching for medical or health-related information | 60 | 52* |
| Searching for government information | 53 | 35* |

† reference group
* statistically significant difference from reference group at $p < 0.05$
1. Includes individuals who used the Internet from home for personal use in the 12 months preceding the survey.
Source: Statistics Canada, Canadian Internet Use Survey, 2007.

Playing games on the Internet was the second-most popular leisure activity among seniors who used the Internet from home in 2007. In fact, seniors were more likely than boomers to do so (36% versus 27%), most likely because they have more leisure time;[11] the gap in participation rates was smaller when comparing only boomers and seniors who were in the labour force. Downloading music was the third most common online leisure activity mentioned by both age groups, but was significantly less popular among seniors (15%) than among boomers (23%).

## Seniors stay connected to news and events...

Although the 2007 data show that online seniors were less likely than boomers to use the Internet as a research tool in general, more than one-half of seniors used the Internet to find information on travel, health, news and sports, or the weather and driving conditions. The biggest difference was in researching community events online, which attracted only 27% of senior home users but 42% of boomers.

### ...but are less involved in community groups online

In 2007, almost half of seniors (48%) belonged to a community group, organization, network or association in their community in the 12 months prior to the survey. This was the case for fewer baby boomers (40%) (data not shown).

Community engagement is considered an important aspect of healthy aging[12] and the Internet represents one avenue for accessing content and services that may enhance users' social participation.[13] While seniors were more likely to be involved in these groups, fewer did so using the Internet. Among group members, a smaller proportion of seniors (10%) were involved in their group through the Internet than were boomers (22%) (data not shown).[14]

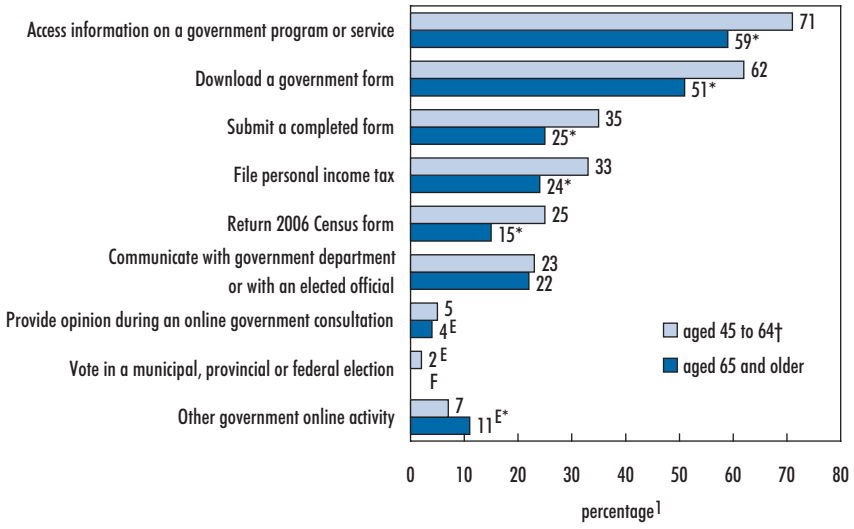
### Seniors use government online information differently from other users

Seniors were less likely than other online Canadians to use the Internet from home to search for government information and to communicate with governments in 2007.[15] Boomers and seniors accessing government information on the Internet also had different preferences for the types of information and services they used (Chart 2). While the proportion of these users who communicated with government departments or officials online was no different by age group, a significantly higher proportion of boomers accessed information on specific programs or services, and downloaded and submitted forms online. Boomers were also more likely to file census forms and tax returns online than seniors.

### The Internet is a common source of retirement planning information for boomers

As individuals move closer to their retirement years, they may become increasingly interested in information on government retirement programs such as the Canada and Quebec Pension Plans (CPP/QPP), and Old Age Security (OAS).[16]

**CST Chart 2 Activities of government online users, by age group, 2007**




† reference group

* statistically significant difference from reference group at $p < 0.05$

1. Includes individuals who used the Internet from home in the 12 months preceding the survey and who said they used the Internet to search for government information and/or communicate with governments.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

While governments move to providing more information online, there are a myriad of communications methods available that the government can use to disseminate information. Amongst the possible ways are: traditional mail, Internet, newspapers, radio, television, government service centres or telephone.

When asked about how they would want to receive government retirement information, more than 7 in 10 boomers and seniors who had not yet retired stated, they would like to get information by regular mail (Chart 3).

For the Internet, there was a significant difference between the two groups: 6 in 10 non-retired boomers stated they would like retirement information via the Internet compared to few non-retired seniors (57% versus 15%).

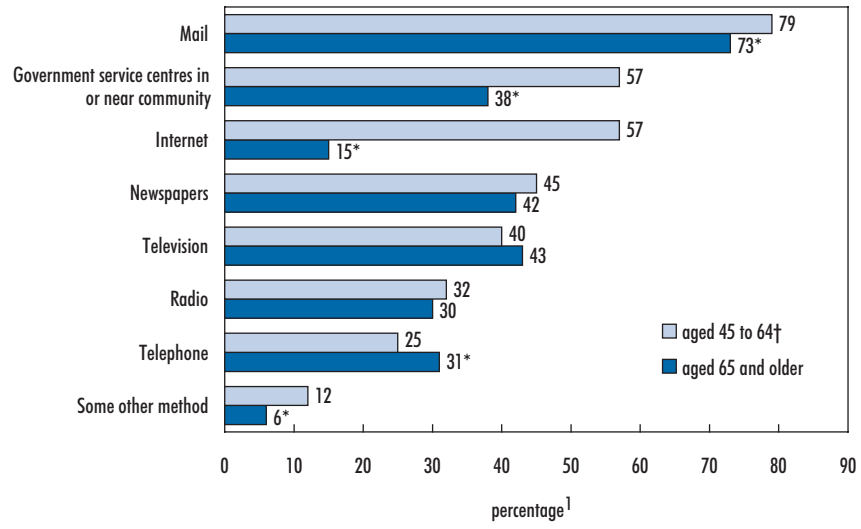
This difference suggests that the use of the Internet as an information source for government retirement programs may increase in the future as boomers enter their senior years. However, while the Internet has grown in popularity as a service delivery channel, evidence suggests that it complements, rather than replaces, traditional channels of citizen communication with government.[17]

### Seniors active health information users, but look for different types of information

More than half of seniors who use the Internet searched for health information online, though proportionally fewer than baby boomers (52% versus 60%) (Table 1). An earlier study found that health information users tended to possess more online experience than Internet users who did not search for health information.[18] Since seniors generally have less online experience than boomers,[19] this may partly explain the gap in use rates.

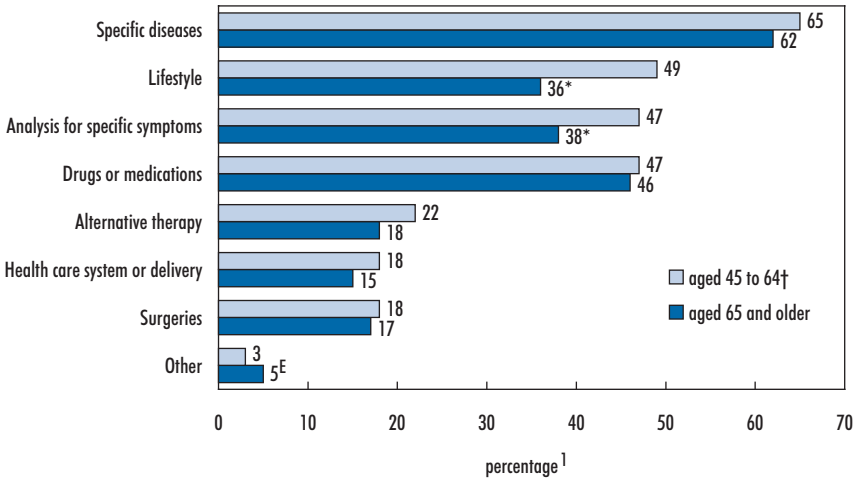
For both boomers and seniors who searched for health information online – information on specific diseases was the most common type of information sought (Chart 4).

**Chart 3 Methods for obtaining government information on retirement programs by never-retired persons, by age group, 2007**




† reference group
* statistically significant difference from reference group at $p < 0.05$
1. Individuals who have never retired from a job or business. Excludes 'Don't know' and 'Not stated'.
Source: Statistics Canada, General Social Survey, 2007.

**Chart 4 Types of information searched by health information Internet users, by age group, 2007**




† reference group
* statistically significant difference from reference group at $p < 0.05$
1. Includes individuals who used the Internet from home in the 12 months preceding the survey and who said they used the Internet to search for medical or health-related information.
Source: Statistics Canada, Canadian Internet Use Survey, 2007.

Additionally, similar proportions of seniors and boomers who accessed health information online searched for information on drugs and medications, alternative therapy, the health care system and delivery, and information on surgeries. Boomers were more likely than seniors however to access health information related to lifestyle such as diet, nutrition, exercise and health promotion (49% vs. 36%), or to find information on the analysis of specific symptoms (47% vs. 38%).

Of those who searched for health information online and visited or communicated with a health care professional in 2007, 29% of seniors and 40% of boomers discussed the information they obtained online with their practitioner (data not shown).

## Seniors not yet buying into e-commerce

Electronic commerce (e-commerce) continues to grow in Canada, although much of the value of online orders is concentrated among a relatively small group of users.[20] Internet shopping includes not only purchasing online, but also browsing products and services online to gather information ("window-shopping") for making future purchasing decisions, which may result in either an online or in-store purchase. About four in ten (41%) boomer Internet users placed orders online in 2007, and 56% said they window-shopped online for goods and services. These activities were much less common among seniors (Table 2).

The most popular online purchases were travel arrangements and reading materials such as books, magazines and online newspapers. Similar proportions of seniors and boomers purchased reading materials (almost 40%); however seniors were significantly less likely to make travel arrangements online (38% versus 53% of boomers) (data not shown).

Boomers who placed orders online averaged about 8 orders during the year, significantly more than seniors. Among those who window-shopped

**Table 2 Electronic commerce, by age group, 2007**

| Activity | Age group | |
|---|---|---|
| | 45 to 64† | 65 and older |
| | percentage | |
| **Among Internet users from any location**[1] | | |
| Electronic window shopping[2] | 56 | 33* |
| Electronic orders[3] | 41 | 26* |
| **Among individuals who window shopped online** | | |
| Electronic window shopping, resulting in an in-store purchase | 60 | 43* |
| | number | |
| **Among individuals who placed orders online** | | |
| Average number of orders placed online | 7.9 | 4.6* |

† reference group
* statistically significant difference from reference group at $p < 0.05$
1. Includes individuals who used the Internet from any location (home, work, school, library or other locations) for personal use in the 12 months preceding the survey.
2. Window shopping includes browsing for goods or services online, without necessarily ordering items online.
3. Includes orders for goods or services online, whether or not payment was made online.

Note: Electronic commerce includes goods or services for personal or household consumption (non-business), ordered from any location (home, work, school, library, or other locations) in the past 12 months.

Source: Statistics Canada, Canadian Internet Use Survey, 2007.

on the Internet, more boomers (60%) than seniors (43%) said that their online window shopping later resulted in an in-store purchase from a retailer.

E-commerce may be related to levels of Internet experience as well as security concerns. The most active online consumers are less likely to report high levels of concern about online credit card use.[21] Seniors tend to have less online experience than users under 65, and seniors and boomers alike also tend to express high levels of concern over Internet security. For example, similar proportions of boomers and seniors who owned credit cards (approximately 60%) said they would be very concerned about using their credit card online in 2007, significantly more than credit card owners aged 16 to 44 (46%) (data not shown).

In addition to the factors already mentioned, lower levels of e-commerce among seniors may also reflect wider consumption patterns. Since seniors typically purchase less than boomers in general,[22] the finding that seniors also spend less online is not unexpected. As an example, in 2007 senior households reported average total expenditures of $42,000, or about half the total spending by boomer households.[23]

## Which seniors are the most Internet-savvy?

Similar proportions of senior and boomer home Internet users went online for personal use for five hours or more in a typical week (approximately 40%). However, more boomers are employed and may have less discretionary time than seniors. When comparing only those online boomers and seniors who are in the labour force, similar proportions of each spent five hours or more online per week (38%). When considering those out of the labour force, the results for boomers and seniors were not significantly different (data not shown).

Yet although seniors and boomers did not differ in terms of the time devoted to Internet use from home, the range of online activities undertaken by each group differed. Of a possible total of 26 online activities, seniors averaged 7.6 activities while boomers averaged 10.1 activities.

Nevertheless, approximately one-half of online senior and boomer home users qualified as "intensive users," at 47% and 53% respectively (see "What you should know about this study"). Similar proportions of boomers who were in the labour force and out of the labour force were intensive users (just over half). As well, among seniors, almost half of those in and half of those out of the labour force were intensive users.

The only significant difference found was between those not in the labour force. Indeed, 52% of boomers not in the labour force were intensive Internet users compared to 46% of non-working seniors (data not shown). While those not working may have more time to use the Internet for personal use, the intensity of use may be related to their previous workplace Internet experience.[24]

Senior intensive users came from households with similar median income levels and had similar levels of educational attainment to other online seniors (nearly 30% in each group had a university degree). There were, however, gender differences between intensive and non-intensive senior Internet users. Just over one-half of senior men who used the Internet from home were intensive users, compared with fewer senior women online (53% versus 39%). Among boomers who used the Internet from home, the gender gap was smaller, at 57% of men compared with 49% of women (data not shown).

## Summary

In 2007, seniors were significantly less likely to be online than boomers, but the relative gap in Internet use rates between these groups has been closing from 2000 to 2007.

The increase in Internet use rates among older Canadians will likely persist as today's seniors continue to

## CST Few offline seniors plan to start using the Internet in the near future

Fewer seniors use the Internet than boomers. Of those seniors who were offline in 2007, less than 5% said that they planned to start using the Internet in the next year. This is in contrast to the 11% of offline boomers who plan to go online.

The main reasons expressed for not using the Internet among both seniors and boomers were: a lack of interest (approximately 1 in 3 offline seniors and boomers); and a lack of need (1 in 5 in each group). These proportions may suggest that most non-users are satisfied with their existing outlets for information, entertainment and communication.

Seniors were more likely to mention their age as a reason for not planning to take up the Internet (31% versus 5% of boomers).

Some seniors and boomers relate their skills and inexperience with the Internet or computers as reasons for not going online. Among non-users, fewer seniors than boomers mentioned that a lack of skills or training was one reason they did not go online (16% versus 20%). As well, some offline seniors and boomers said that they found the Internet or computers too difficult to use (7% versus 10%).

One issue that could not be studied from available data sources relates to awareness and familiarity with the Internet and its associated technologies and applications. As with many technologies, individuals' plans to start using the Internet may be influenced not only by their existing skills, but also by their past experience, perceived skills and comfort with technology. Most seniors are out of the workforce, and some do not have as large a social network as younger Canadians, where they might have the opportunity to explore or discuss different uses of the Internet with colleagues or friends.[1]

Note

1. Salkowitz, R. (2008). *Generation Blend: Managing Across the Technology Age Gap*. Hoboken, N.J.: John Wiley & Sons.

adopt the Internet as an information tool. Additionally, because almost 80% of the baby boom generation are current Internet users, as these individuals age their continued use of the Internet is likely. These shifts, coupled with evidence that few online individuals later decide to cease using it, suggest increasing rates of Internet use among Canadian seniors.

While Internet use rates among Canadian seniors are likely to continue to increase, less is known about how specific patterns of online behaviour will change as boomers age. In every generation, the needs and preferences of individuals are likely to change as they age.[25] This study did not examine changes in online behaviour over time, but did find that online baby boomers and seniors differed significantly in the types of activities they perform online.

Whether seniors of tomorrow will spend more time online—on average—than do today's seniors, is not immediately clear. Overall, the fact that today's baby boomers generally engage in more online activities suggests that as the age cohorts move through time, Canadian seniors will have higher levels of Internet experience and increasingly diverse usage patterns. However, the extent to which these changes occur will vary with users' changing needs.

CST

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1. Silver, C. (2001a). Internet use among older Canadians. *Connectedness Series, 4*. Statistics Canada Catalogue no. 56F0004MIE.

Silver, C. (2001b). Older surfers. *Canadian Social Trends, 63*. Statistics Canada Catalogue no. 11-008-XIE.

Sciadas, G. (2002). Unveiling the digital divide. *Connectedness Series, 7*. Statistics Canada Catalogue no. 56F0004MIE.

2. Gilleard, C., and Higgs, P. (2008). Internet use and the digital divide in the English longitudinal study of ageing. *European Journal of Ageing, 5*(3), 233-239.

Noce, A. A., and McKeown, L. (2008). A new benchmark for Internet use: A logistic modeling of factors influencing Internet use in Canada, 2005. *Government Information Quarterly, 25*, 462-476.

3. Several observations provide supporting evidence for the cohort effect. Up until now, relatively few people who start using the Internet stop using it. See: McKeown, L., and Underhill, C. (2007). Dropping the Internet: Who and why? *Innovation Analysis Bulletin, 9*(2). Statistics Canada Catalogue no. 88-003-XWE; and, Crompton, S., Ellison, J., and Stevenson, K. (2002). Better things to do or dealt out of the game? Internet dropouts and infrequent users. *Canadian Social Trends, 65*. Statistics Canada Catalogue no. 11-008. For example, 2007 Canadian Internet Use Survey (CIUS) data show that among Canadians 16 years and older, only 3% had used the Internet in the past but did not use it in the 12 months preceding the survey. At the same time, very few non-users expressed an interest in starting to use the Internet: only 11% of boomer non-users indicated that they planned to start using the Internet in the next year and 4% of seniors who were not yet online stated likewise. While non-users' plans to start using the Internet provide some indication of how use rates might change over time, panel data would be required in order to differentiate between

age and cohort effects (Peacock and Künemund, 2007).

Peacock, S. E., and Künemund, H. (2007). Senior citizens and Internet technology: Reasons and correlates of access versus non-access in a European comparative perspective. *European Journal of Ageing, 4*, 191-200.

4. This analysis considers relative growth rates. While the relative growth is highest among seniors, absolute differences in use rates persist and in some cases have widened. For example, there was a 46 percentage point difference in use rates between persons aged 45 to 54 and those 75 and older in 2000 (a 51% use rate minus a 5% use rate). By 2007, the difference had increased to 64 percentage points (an 85% use rate minus a 21% rate). However, in relative terms, the use rate among persons 45 to 54 was about 10 times that of persons 75 and older in 2000, but in 2007 was only about 4 times that of persons 75 and older. In other words, for some age groups the absolute difference in use rates increased over the time period, while the relative difference decreased.
5. Statistics Canada, General Social Survey, 2003.
6. In addition to the General Social Survey (GSS), data on individual Internet use rates by age group are also available from another source—the 2005 and 2007 Canadian Internet Use Survey (CIUS). The Internet use questions on the CIUS differ from the General Social Survey (GSS) in that they cover only personal, non-business use of the Internet, whereas the GSS data refer to Internet use in general. For this reason, the CIUS and GSS data are not directly comparable. However, the 2005-2007 CIUS data on personal Internet use reveal similar patterns: by 2007, the gap in use rates by age groups remained significant; and while the oldest age groups had the lowest use rates, they experienced the highest relative growth in use rates over the two-year period 2005 to 2007.
7. Peacock and Künemund. (2007).

   Dobransky, K., and E. Hargittai. (2006). The disability divide in Internet access and use. *Information, Communication and Society, 9*(3), 313-334.

   Korupp, S. E., Künemund, H., and Schupp, J. (2006). Digitale Spaltung in Deutschland: Geringere Bildung-seltener am PC. *DIW Wochenbericht, 19*(6), 289-294.
8. The logistic regression model was run using the 2007 CIUS target population of individuals aged 16 and older. The full list of independent variables used in the model includes the following: age, educational attainment, household income quintile, labour force status (in or out of the labour force), urban-rural location, and sex.
9. Veenhof, B., Wellman, B., Quell, C., and Hogan, B. (2008). How Canadians' use of the Internet affects social life and civic participation. *Connectedness Series, 16*. Statistics Canada Catalogue no. 56F0004MIE.
10. Howard, P., Rainie, L., and Jones, S. (2001). Days and nights on the Internet: The impact of diffusing technology. *American Behavioral Scientist, 45*, 450-472.

    Thayer, S., and Ray, S. (2006). Online communication preferences across age, gender, and duration of Internet use. *Cyberpsychology and Behavior, 9*(4), 432-440.
11. Hurst, M. (2009). Who participates in active leisure? *Canadian Social Trends, 87*. Statistics Canada Catalogue no. 11-008-XIE.
12. Kahn, R., and Rowe, J. (1998). *Successful Aging*. New York: Pantheon Books.
13. Peacock and Künemund. (2007).

    Czaja, S. J., and Lee, C. C. (2007). The potential influence of the Internet on the transition to older adulthood. In H.-W. Wahl, C. Tesch-Römer, and A. Hoff (Eds.), *New dynamics in Old Age: Individual, Environmental, and Societal Perspectives* (pp. 239-251). Amityville, NY: Baywood Publishing.
14. Differences in this paragraph are statistically significant at $p < 0.01$.
15. A previous study using 2005 CIUS data found that less than one-half of online seniors used government online information, and more than one-half of users in other age groups did so. See: Underhill, C., and Ladds, C. (2007). Connecting with Canadians: Assessing the use of Government On-Line. *Connectedness Series, 15*. Statistics Canada Catalogue no. 56F0004MIE. A similar pattern was also observed with the 2007 GSS data (not shown), which confirmed that online seniors were less likely than middle-aged adults to have used the Internet to access information on government programs and services, and also did so with less frequency.
16. For a study examining retirement planning by individuals using GSS 2007 data, see: Schellenberg, G., and Ostrovsky, Y. (2008). 2007 General Social Survey report: The retirement puzzle: Sorting the pieces. *Canadian Social Trends, 86*. Statistics Canada Catalogue no. 11-008-XIE.
17. Spears, G., Seydegart, K., Schmidt, F., and Zulinov, P. (2008). *Citizens First 5*. ERIN Research. Toronto: Institute for Citizen-Centred Service. Retrieved February 11, 2009 from http://www.iccs-isac.org/en/cf/index.htm
18. Underhill, C., and McKeown, L. (2008). Getting a second opinion: Health information and the Internet. *Health Reports, 19*(1). Statistics Canada Catalogue no. 82-003-XWE.
19. Fewer seniors who use the Internet from home have been online for five years or longer compared with boomers (60% versus 69%).
20. McKeown, L., and Underhill, C. (2007). Canada's top online spenders: Who are they and what are they buying? *Innovation Analysis Bulletin, 9*(1). Statistics Canada Catalogue no. 88-003-XWE.

    Statistics Canada. (2008b, November 17). E-commerce: Shopping on the Internet. *The Daily*. Statistics Canada Catalogue no. 11-001-XIE.
21. Statistics Canada. (2008b).
22. Chawla, R. (2005). Shifts in spending patterns of older Canadians. *Perspectives on Labour and Income, 6*(12). Statistics Canada Catalogue no. 75-001-XIE.
23. Senior households have a reference person aged 65 and over. Boomer households have a reference person 45 to 64 years of age. Statistics Canada. (2007). 2007 Survey of Household Spending (custom tabulation).
24. McKeown, L., Veenhof, B., and Corman, J. (2008). Profiling Internet use among workers in the information and communications technologies sector. *Innovation Analysis Bulletin, 10*(1). Statistics Canada Catalogue no. 88-003-XWE.
25. Peacock and Künemund. (2007).

    Selwyn, N., Gorard, S., Furlong, J., and Madden, L. (2003). Older adults' use of information technology in everyday life. *Aging Society, 23*, 561-582.

# Forty-year-old mothers of pre-school children: A profile

*by Mireille Vézina and Martin Turcotte*

Twenty years ago, very few women aged 35 and over gave birth to their first child. However, it happens more frequently these days. In 2006, 11% of all first births were to women aged 35 and over, almost triple the proportion observed in 1987.[1] Moreover, the average age of women at their first child's birth rose from just under 24 in the 1960s to 28 in 2005.[2]

The increase in the average age at first birth means that more women are having children in their thirties and early forties. According to demographic estimates, nearly half of all births in 2006 were to women aged 30 and over, double the 1981 proportion (23.6%).

In addition, the total fertility rate for women in their forties has been rising. There were 7.4 births per 1,000 women aged 40 to 44 in 2006, compared with 3.2 per 1,000 in 1981.

The fact that increasing numbers of women in their late thirties or early forties are mothers of young children is a well-documented demographic trend. The increase in delayed childbearing is largely related to changes in society. Women are staying in school longer, participating in the labour force in greater numbers, and are more likely to have jobs that require advanced skills. As a result, they enter the labour force later and delay having their first child.

The various social, economic and demographic consequences of delayed childbearing have also been the subject of many studies and debates. In particular, later pregnancies are associated with certain risks to the health of the mother or the child. Delayed childbearing also has an impact on the natural increase of the population (see the box entitled "The consequences of delayed childbearing for women, children and society").

Nevertheless, apart from a few generalities, little is known about other recent socio-economic characteristics of women in their forties who have young children. Who are they? Are they more likely to be immigrants? Are they more likely to live in metropolitan communities than in lower-density regions? What are their occupations? Do they have a higher income than other women their age? In addition to having young children, are they caring for elderly persons? The aim of this article, which is based on 2006 Census data, is to answer these questions (for more details concerning the methodology, see "What you should know about this study").

## Education — an important factor: Women who have a university degree are more likely to be mothers in their forties

The number of older mothers with a pre-school child or children has more than doubled in the last 20 years. The 2006 Census enumerated 1.3 million women aged 40 to 44 in Canada, and 117,100 of them, or 8.9%, were mothers of at least one pre-school child (aged 0 to 4). That was double the proportion observed in 1986 (4.3%) (see the box entitled "The evolution of fertility among women aged 35 and older").

According to studies by demographers and sociologists, the increase in the proportion of older mothers with young children is primarily due to higher educational attainment among women and greater labour market participation by women.[3] University graduates complete their studies later, are more likely to participate in the labour market and have different expectations regarding their family roles and life in general.[4] For example, according to economist Gary Becker, the more highly educated a woman is, the greater her labour market earnings and the higher the opportunity cost or financial losses associated with having a child.[5]

## CST What you should know about this study

**Data source**

The analyses in this article were based on data from the 1986 and 2006 Censuses of Canada. Persons living in institutions or collective dwellings are excluded from this study.

**Population studied**

The population studied consists of women aged 40 to 44 (both mothers and non-mothers). The expressions "pre-school children," "young children" and "small children" refer to children aged 0 to 4 living at home. Women aged 45 to 49 were not studied because the small number of women in that age group with young children form too small a sample size.

**Data limitations**

The Census collects information about people who "usually" live together in the same household and about their relationship to one another (father, mother, son, daughter, grandfather and so on). That information makes it possible to identify women who have young children. According to the instructions provided to respondents completing their census questionnaire, "*children in joint custody* who live here most of the time" should be included as household members. "Children who spend equal time with each parent should be included in the home of the parent where they are staying on May 16, 2006."

Since the Census is based on a household's usual residents, it is impossible to associate absolutely every child with his or her mother. For example, a 41-year-old woman who has one child, age 12, and is separated will be deemed a "non-mother" if the child does not usually live with her. For the purposes of this study, the main concern is to determine the extent to which the Census underestimates the proportion of women aged 40 to 44 who have a pre-school child.

The answer to this question comes from the 2006 General Social Survey (GSS), which provides information about all the children a woman has had in her lifetime. According to the survey, the proportion of women aged 40 to 44 who have a pre-school child is virtually unaffected by the fact that we have no information about children living in other households (in joint custody, for example). The GSS tells us that 9.75% of women aged 40 to 44 had at least one pre-school child, no matter who the child or children were living with. If we include only those women who usually live with their child (i.e., if we use the census method with GSS data), the result is practically the same: 9.72% had a pre-school child.

The difference is slightly larger for women who have older children (since those children are more likely to have left the parental home). According to the 2006 GSS data, 8.1% of women aged 40 to 44 had children but were not living with them. As a result, the proportion of women aged 40 to 44 who have a child aged 5 or over is slightly underestimated by the Census. This could present a problem if the socio-economic characteristics of women who were not living with their children were different from the characteristics of women who were living with their children. However, GSS data show no appreciable difference in that regard between women who have children aged 5 or over based on whether they live with them or not.

**Mothers who have only pre-school children and mothers who have both pre-school and school-age children**

Being the first-time mother of a pre-school child at age 40 is not the same as being the mother of a young child and of older children. In the former case, family life is just beginning, marking a new stage in one's life cycle, parenthood. That's not the case when one already has children; it's more of a continuation.

To reflect this reality, we distinguish, in some parts of the article, between women aged 40 to 44 who only have young children (age 0 to 4) and women who have both young children and school-age children (age 5 and older). All women aged 40 to 44 who only have young children must necessarily have given birth to their first child after age 35. In 2006, they made up about a third (31.9%) of the 117,000 women aged 40 to 44 who had small children (the remainder being women who had both young children and older children). In instances where there was no substantial difference between the two groups, they were combined to simplify the discussion. In some cases, the sample size was not large enough to differentiate between women who had only pre-school children and women who had both pre-school children and older children.

**First births**

The use of census data places some limitations on the available information about the exact number and rank of the children that women have had in their lives. However, GSS data tell us that virtually all women aged 40 to 44 who live with children between the ages of 0 and 4 (but not with older children) became mothers for the first time at age 35

## What you should know about this study (continued)

or older. According to GSS data, less than 0.5% of women aged 40 to 44 who were living with their child aged 0 to 4 (but no older children) had other children who did not live with them. In other words, more than 99.5% of women aged 40 to 44 who live with one or more children aged 0 to 4 only gave birth to their first child when they were 35 or older.

Data from the 2006 Census show that more highly educated women, particularly women with university degrees, were much more likely to have their children in their thirties or forties.[6] In 2006, 13.8% of women aged 40 to 44 who had a bachelor's degree were mothers of a young child, compared with just 6.4% of women who had a high school diploma or less. The proportion was 19.8% for women who had a doctorate (Chart 1).

### Women's higher education levels help to explain the increased proportion of older mothers with young kids

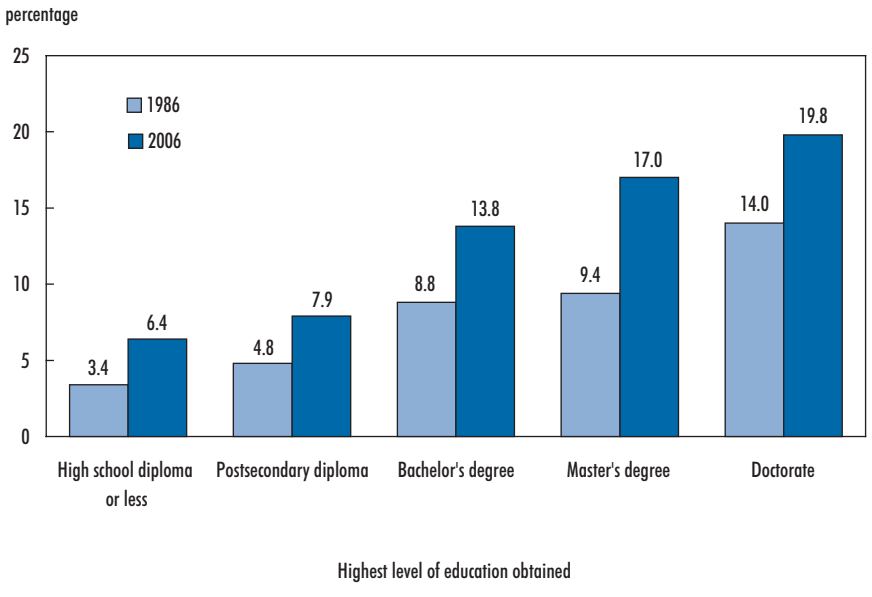
Highly-educated women make up a growing proportion of the population. In Canada, the proportion of women aged 40 to 44 who have a university degree more than doubled in 20 years, climbing from 11.0% in 1986 to 22.5% in 2006. Statistics suggest that the higher that proportion is, the more common childbearing will become for women in their thirties and forties.

A decomposition analysis shows that just over a quarter (28%) of the increase in the proportion of 40-year-old women with young children is due to the increase in women's average educational attainment (in the same period). The remainder of the increase can be attributed to differences in the behaviours of younger generations relative to their predecessors, particularly the various transitions to adulthood that are taking place at a more advanced age, regardless of educational attainment.

### Women aged 40 to 44 who had a high school diploma or less were also more likely to have young children in 2006 than in 1986

Despite the importance of education, the impact of other factors and the considerable changes in values, particularly regarding women's role in society and the labour market, should not be underestimated.[7] The fact that young people's transitions to adulthood are occurring later and in a less linear manner than in the past has also affected the timing of the first birth for many women. Leaving the parental home, landing a full-time job, forming a stable union and buying a home are all taking place, on average, at a more advanced age.[8] Of course, the later young adults make these transitions, the greater the likelihood that there will be a delay in having children.

**Chart 1 The proportion of women 40 to 44 years old who were mothers of young children was higher among the highly educated, 1986 and 2006**




Sources: Statistics Canada, censuses of population 1986 and 2006.

# CST The evolution of fertility among women aged 35 and older

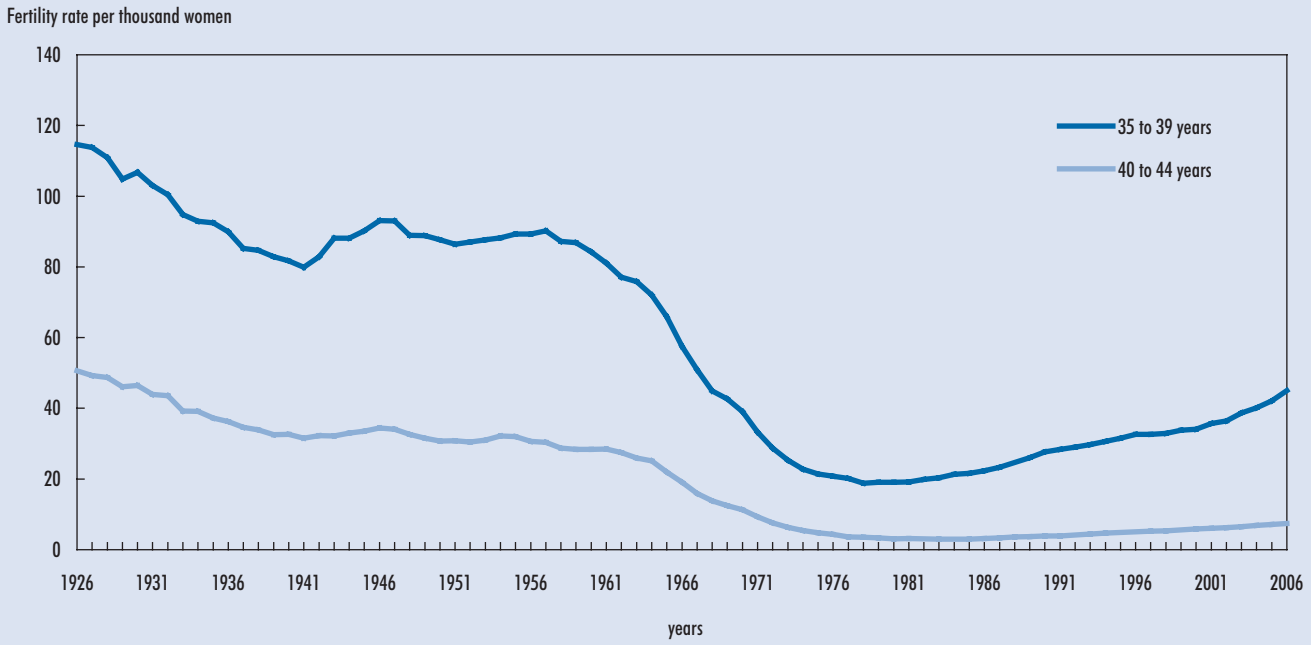
During the first half of the twentieth century, women who gave birth in their thirties was more common than today. However, the underlying situation differed substantially from today. For example, during the first quarter of the twentieth century, most Canadian families lived on the farm and large families were the norm. Indeed, in 1901 women gave birth to an average of 4.6 children falling to about 3.5 children per woman by 1921. Thus during this time, when a woman in her 30s gave birth to a child it was unlikely to be her first birth.

During the depression years, the difficult economic conditions contributed to lower marriage rates, and a higher average age at marriage. By 1937, the total fertility rate[1] had declined to 2.6 children per woman. As well, the average age at first birth was on the rise compared to the beginning of the 20th century.[2]

In contrast, during the period immediately following World War II, the total fertility rate increased to a post-war peak of 3.9 children per woman in 1959. Also during this period, women began their families in their twenties, and were unlikely to have their first child in their thirties or forties.[3] During the 1970s and 1980s, most women continued to begin their families when they were in their twenties. However, with declining fertility, most of them stopped after two children and as a result, few women gave birth after they had entered their mid-thirties. In contrast, in the present era, mothers in their forties are much more likely to be raising their first child.

1. The total fertility rate refers to the number of children that a woman would have over the course of her reproductive life (age 15 to 49) if she experienced the age-specific fertility rates observed in a given calendar year.
2. Milan, Anne. (2000). One hundred years of families. *Canadian Social Trends*, 56. Statistics Canada, Catalogue no. 11-008.
3. Statistics Canada. (2003). *Report on the Demographic Situation in Canada*. Statistics Canada, Catalogue no. 91-209-XIE. Ottawa: Minister of Industry.

## Fertility rate among women 35 to 44 years old, Canada, 1926 to 2006




Sources: Statistics Canada, Health Statistics Division and Demography Division.

# CST The consequences of delayed childbearing for women, children and society

The fact that women are, on average, giving birth to their first child later has a number of consequences for them and for society. With regard to the impact on women's health, later pregnancy is associated with certain risks, such as greater prevalence of low birth weight and premature delivery (or false labour),[1] and higher incidence of gestational hypertension and pregnancy diabetes.[2] Although medical advances have substantially improved the survival rates of premature babies, researchers have shown that prematurity could saddle both families and society with financial costs and a significant burden in terms of the additional care required.[3] Moreover, children born to older women (especially women aged 45 or older) are more likely to have chromosomal abnormalities.[4]

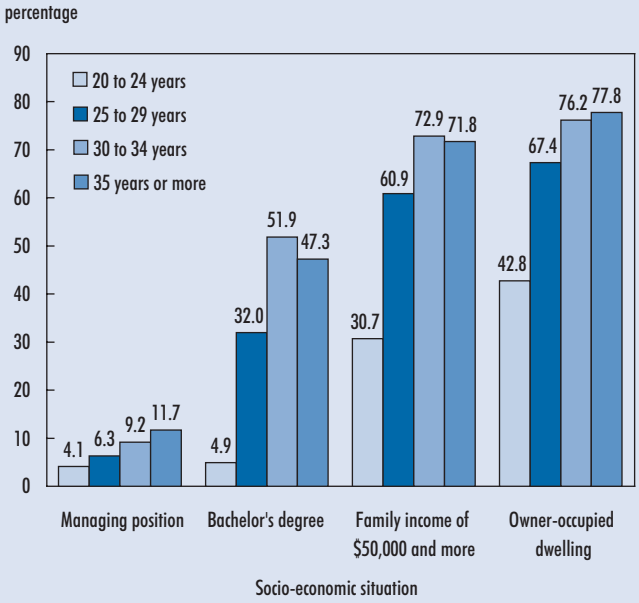
Aside from the health effects, the fact that women are older when they give birth for the first time may have an impact on population renewal through births. The chances of getting pregnant and giving birth decline as women age: 91% of women succeed in getting pregnant at age 30, compared with 77% at age 35 and 53% at age 40.[5] The older a woman is at first birth, the fewer children she is likely to have.[6]

In addition, delayed childbearing may have an impact on employers and workplaces. Women who have their first child later are more likely to have jobs that require a high level of skill; they are also more likely to have risen to supervisory and management positions in their workplace. Some may be more difficult to replace when they take maternity leave, because they have more experience in their workplace.

There are, however, also positive consequences related to delayed childbearing. For example, the many years spent getting an education and pursuing personal or professional goals are the reason that women have children later, in many cases. Those years of study and work are important, as they provide the means to acquire a variety of financial and other resources that may help them when they become parents.

That is the main argument of a recent study that found that women who have children after age 35 have more financial resources and more life experience and are more satisfied with their career and marital situation than women who become mothers earlier.[7] Several of those ideas are supported by census data. In general, women who delayed childbearing were in a better socio-economic situation when their first child was born. In particular, they were better educated, more likely to live in a family whose income was in excess of $50,000, more likely to have a university degree and more likely to own their home (Chart below). They were also much more likely to have a management position in their workplace.

## Women who have a first child at a more advanced age have a better socio-economic situation when the child is born, 2006




Note: Only includes mothers of a child less than one year old on Census Day (and that are not already the mother of an older child), according to age group.
Source: Statistics Canada, Census of Population, 2006.

Moreover, even though the risks associated with pregnancies carried to term after age 35 clearly exist, they are relative. The difference between younger women (age 20 to 34) and older women (age 35 to 49) having a child with low birth weight or a premature baby is small. In 2006, the proportion of babies with low birth weight was 8.3% for women aged 35 to 49 and 6.7% for women aged 20 to 34.[8] Similarly, in 2006-2007, 8% of births were premature for mothers between the ages of 20 and 34, while the proportion for mothers aged 35 and over was only slightly higher at 10%.[9] Additionally, the effects on the health and early childhood development of children of mothers over 35 appear to be fairly limited. According to a study published by Statistics Canada, the mother's age has little impact on the physical, behavioural and cognitive development of children aged 0 to 5.[10]

## CST The consequences of delayed childbearing for women, children and society (continued)


1. Canadian Institute for Health Information. (2009). *Too Early, Too Small: A Profile of Small Babies Across Canada*. Ottawa: Canadian Institute for Health Information.
2. Joseph, K. S., Allen, A. C., Dodds, L., Turner, L. A., Scott, H., and Liston, R. (2005). The perinatal effects of delayed childbearing. *Obstetrics and Gynecology*, 105(6), 1410-1418.
3. Public Health Agency of Canada. (2005). *Make Every Mother and Child Count: Report on Maternal and Child Health in Canada*, H124-13/2005. Ottawa: Public Health Agency of Canada.

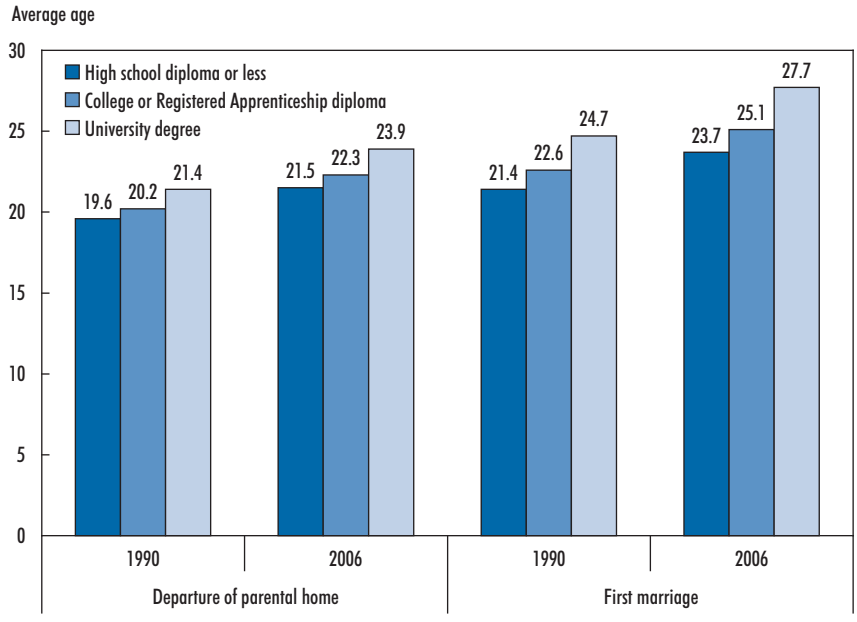
   Petrou, S., Sach, T., and Davidson, L. (2001). The long-term costs of preterm birth and low birth weight: Results of a systematic review. *Child: Care, Health and Development*, 27(2)(March), 97–115.

   Canadian Institute for Health Information. (2009).
4. Health Canada. (2002). *Congenital Anomalies in Canada* : A *Perinatal Health Report*. Ottawa: Minister of Public Works and Government Services Canada.
5. Senzilet, L. et al. (2004), Reproduction at Older Ages: The Health Implications. *Health Canada, Health Policy Research Bulletin, 10*, 15-20.
6. Kohler, H.-P., Billari, F. C., and Ortega, J. A. (2002). The emergence of lowest-low fertility in Europe during the 1990s. *Population and Development Review, 28*, 641-680.
7. Gregory, E. (2007). *Ready: Why Women Are Embracing the New Later Motherhood*. Philadelphia, PA: Basic Books.
8. Statistique Canada. Live births, birth weight indicators, by characteristics of the mother and child, Canada, annual (percent unless otherwise noted). CANSIM Table no. 102-4511.
9. Canadian Institute for Health Information. (2009).
10. Bushnik, T., and Garner, R. (2008). The children of older first-time mothers in Canada: Their health and development. *Children and Youth Research Paper Series, 005*. Statistics Canada Catalogue no. 89-599-M.


The changes in the timing of these transitions have affected all women, regardless of their level of schooling (Chart 2). As a result, less well-educated women are twice as likely to have young children at a more advanced age than they were 20 years ago: the proportion of women with a high school diploma or less who had pre-school children was 3.4% in 1986 and 6.4% in 2006 (Chart 1). The ratio between these two proportions points to an even faster increase than for women with a university degree. Some researchers have attributed this slight convergence in the fertility of better educated women and less well educated women to policies that have reduced the conflicts between pursuing a career and having children, such as the availability of child care services.[9]

Education is nevertheless a key factor in understanding the increase in the proportion of 40-year-old women who have young children.

### CST Chart 2 Women's transitions to adulthood occur at a later age, regardless of the level of education obtained, 1990 and 2006



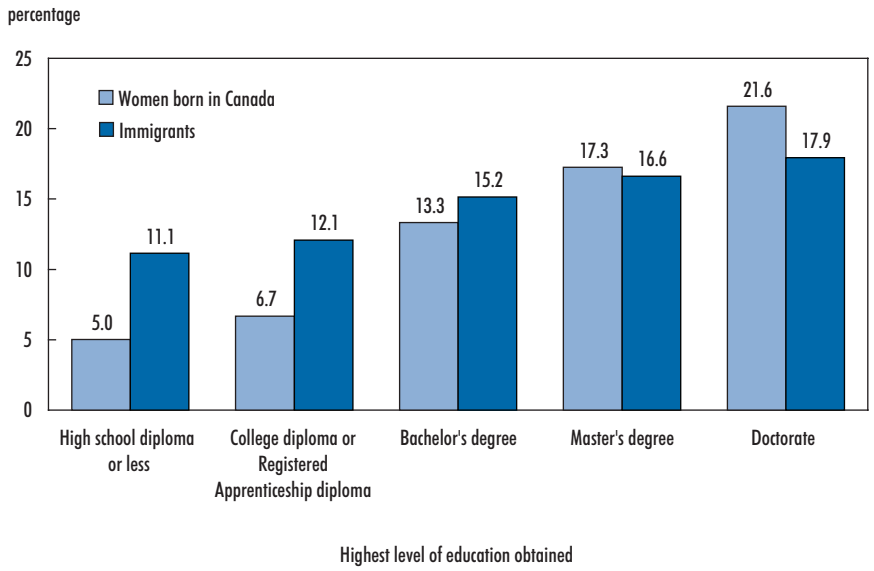

Note: First marriage does not include common-law.
Source: Statistics Canada, General Social Survey, 1990 and 2006.

### Immigrant women are more likely than Canadian-born women to be older mothers of young children

Since education is one of the most important factors in the probability that a woman in her forties will have a young child, those with the highest levels of education at this age are also more likely to be mothers of young children than other women of the same age. This is particularly true of women in that age group who were born outside of Canada. In 2006, 1 in 3 had a university degree, compared with 1 in 5 Canadian-born women. The proportion that had a pre-school child was also higher: 12.9% versus 7.5% for Canadian-born women.

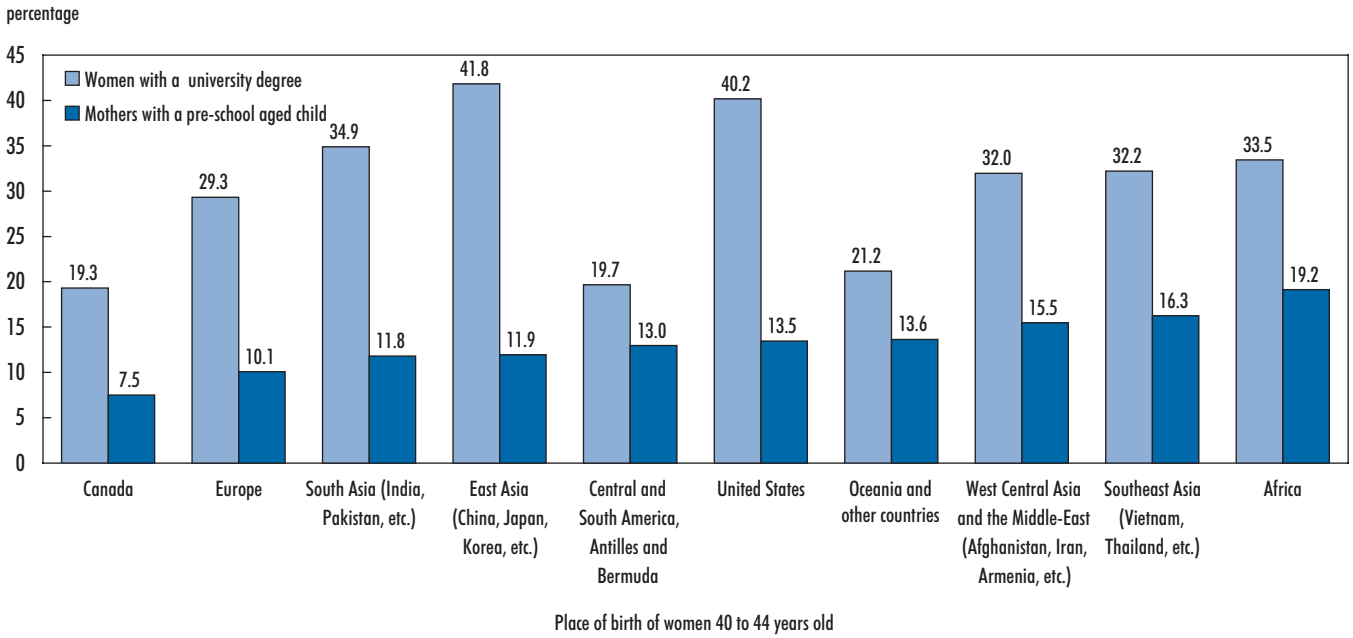
However, education does not explain everything. Immigrant women with lower levels of educational attainment were considerably more likely than non-immigrants to be older mothers of young children (Chart 3). Moreover, the correlation between educational attainment and the likelihood of being a mother in her

**Chart 3 Among women aged 40 to 44 with a high school diploma or less, immigrants were twice likely as women born in Canada to be the mother of a young child in 2006**




Source: Statistics Canada, Census of population, 2006.

**Chart 4 Though East-Asian-born women aged 40 to 44 were more likely to have a university degree, they were no more likely to be the mother of a child under 5 years old in 2006**




Source: Statistics Canada, Census of Population, 2006.

forties was stronger for non-immigrant women than for immigrants.

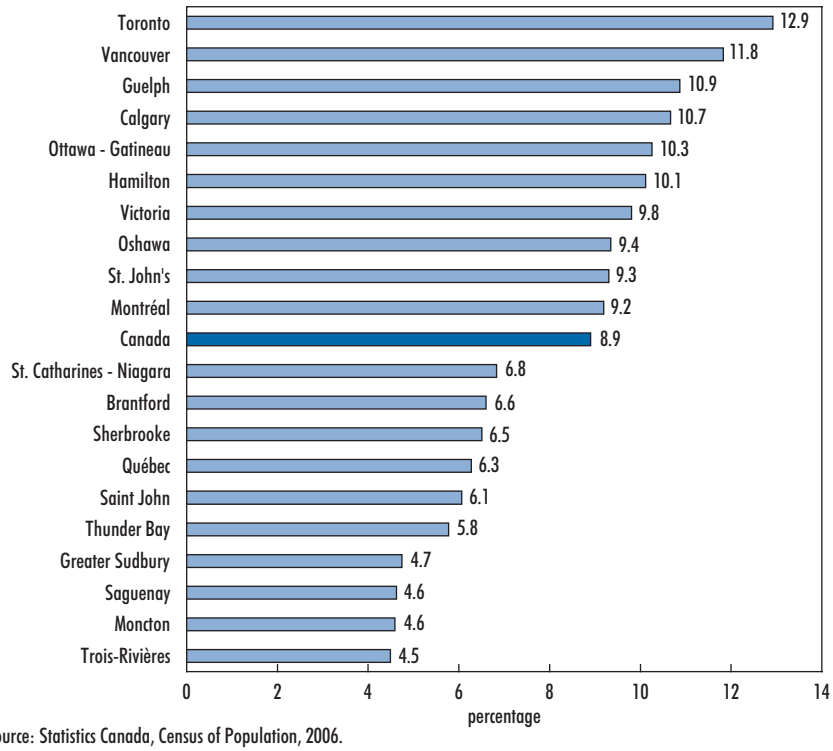
Cultural factors, such as religious affiliation,[10] can enter the mix and may have an impact on the likelihood of being a 40-year-old mother with young children. The same holds true for the relationship between an immigrant woman's place of birth and her propensity to have young children at that stage of her life. For example, although women aged 40 to 44 who were born in East Asia had the highest levels of education, they were not the most likely to have young children in their forties. Conversely, while women aged 40 to 44 who were born in Central America, South America, the Caribbean and Bermuda were not noticeably more likely than Canadian-born women to have a university degree, a larger proportion of them were mothers of young children (Chart 4).

## Older mothers whose oldest child is under 5 are more likely to live in urban areas

In general, urban populations are better educated and have a higher proportion of immigrants than rural populations. Consequently, women aged 40 to 44 who had only pre-school children were more likely to live in urban areas (89.6% of them) than women in the same age group whose children were all age 5 or older (81.2%) (results not shown).

Metropolitan areas differ with respect to the adult population's average level of education, income and the concentration of the immigrant population. The Toronto and Vancouver census metropolitan areas (CMAs) had by far the highest proportions of immigrants and led all CMAs in the proportion of the adult population with a university degree (Chart 5). In 2006, these two cities were also the CMAs with the largest percentages of women in their early forties who had a pre-school child. The Guelph CMA, which ranks third in the proportion of women in their forties who have young children, is a university area that has a high proportion of women with a master's degree or a doctorate (in 2006, it ranked third highest of all CMAs in this respect).

**Chart 5 The 10 metropolitan areas with the highest and the lowest proportions of women aged 40 to 44, who were mothers of pre-school-aged children, varied according to the size of the region in 2006**




Source: Statistics Canada, Census of Population, 2006.

## Women in their forties whose oldest child is under 5 have jobs that require a high level of skill

Given that women aged 40 to 44 who have young children are better educated on average than other women in this age group, they might be expected to work in occupations that demand a higher level of skill. Census data support this. About 29.7% of women aged 40 to 44 who had young children were in a "professional" occupation, that is, an occupation that requires a university degree (a bachelor's degree or higher) (Table 1). The corresponding proportion was 23.3% for women whose youngest child was between 5 and 11, and 13.8% for women with children aged 12 and over.

The set of "professional" occupations is very diverse, ranging from physicist to high school teacher, from optometrist to accountant. As a result, a closer look at the occupations of older mothers with young children is of interest.

## Women physicians in their early forties are the most likely to have young children

Table 2 shows that in the female population aged 40 to 44, health professionals were particularly likely to have young children. In 2006, that was true for more than one in five women physicians, dentists or veterinarians (22.0%). In fact, when we look only at women specialist physicians (doctors with a medical specialty), one in four was the mother of pre-school children (the highest proportion reported for any individual occupation in Canada[11]) (results not shown). Following next

**Table 1 Distribution of mothers aged 40 to 44 years old by child's age and skill level required by their occupation, 2006**

| Occupation by skill level | Mothers 40 to 44 years old | | |
|---|---|---|---|
| | with a child aged 0 to 4 years | with youngest child aged 5 to 11 years | with child(ren) aged 12 years or more |
| | percentage | | |
| Managers | 10.3 | 9.0 | 8.8 |
| Professionals (level A) | 29.7 | 23.3 | 13.8 |
| Technicians (level B) | 25.9 | 27.3 | 28.1 |
| Intermediate workers (level C) | 26.3 | 31.4 | 36.7 |
| Less skilled workers (level D) | 7.9 | 9.0 | 12.7 |

Source: Statistics Canada, Census of Population, 2006.

were women judges, lawyers and Quebec notaries (19.5%); followed by engineers (17.5%); and university professors and assistants (17.2%). In general, the professions with high proportions of older mothers of pre-school children required a high level of specialization.

The occupations in which women who have young children are best represented are not necessarily the most common occupations among women in their early forties. The bottom section of Table 2 shows the top 10 occupations among women in that age group. Several of those occupations, such as retail sales clerk, secretary, cleaner and administrative officer, require fewer years of education. Women in these occupations are less likely to have young children when they are in their forties. Nurses and pre-school and elementary school teachers, very common occupations among women aged 40 to 44 that require a postsecondary education, have proportions of older mothers with young children that are above average for the female population (10.0% and 11.5%).

**Table 2 Occupations with the highest proportion of older mothers of pre-school children and the most common occupations of all women aged 40 to 44, 2006**

| | Mothers aged 40 to 44 with child(ren) aged 0 to 4 years |
|---|---|
| | percentage |
| **Occupations which have the highest percentage of pre-school aged child(ren)** | |
| Physicians, dentists and veterinarians | 22.0 |
| Judges, lawyers (across Canada) and Quebec notaries | 19.5 |
| Civil, mechanical, electrical and chemical engineers | 17.5 |
| University professors and assistants | 17.2 |
| Life science professionals | 16.9 |
| Optometrists, chiropractors and other health diagnosing and treating professionals | 16.7 |
| Pharmacists, dietitians and nutritionists | 16.3 |
| Architects, urban planners and land surveyors | 16.1 |
| Therapy and assessment professionals | 15.3 |
| Creative and performing artists | 14.8 |
| **Most common occupations among women of 40 to 44 years old** | |
| Retail salespersons and sales clerks — retail trade | 6.1 |
| General office clerks | 6.9 |
| Registered nurses | 10.0 |
| Secretaries (except legal and medical) | 5.9 |
| Elementary school and kindergarten teachers | 11.5 |
| Accounting and related clerks | 6.4 |
| Light duty cleaners | 5.4 |
| Administrative officers | 7.7 |
| Early childhood educators and assistants | 10.4 |
| Managers — retail trade | 6.0 |

Source: Statistics Canada, Census of Population, 2006.

### Women in their early forties who have only pre-school children have higher incomes

In general, women in their early forties who have one or more pre-school children (and therefore gave birth to their first child at the age of 35 or older) have higher incomes than women who have older children.

For example, in 2005 the median personal income of women aged 40 to 44 who had one or more pre-school children was $27,500 after taxes, which is more than women who had both school-age and pre-school children ($24,500) and more than women who had only children aged 12 and over ($25,600) (Table 3).

If we limit the comparison to women with paid work, we see that the median income of women aged 40 to 44 whose children were all under 5 years old was $5,000 more than women in the same age group whose children were all age 12 or older. Moreover, the lower threshold for being in the top 25% of personal income earners was $49,300 for women who only had pre-school children, compared with $39,400 for women whose children were 12 or older.

These results are consistent with the findings of a Statistics Canada study which showed that women who delayed childbearing earned higher salaries, even when a number of other factors affecting salary were taken into account.[12]

The pattern is the same for family income. Women who have only young children live in families that have higher average and median incomes than women who have older children. Their family income is also more likely to be close to $100,000 a year than that of other mothers: in 2005, a quarter of them lived in families whose income (after taxes) was more than $96,600.

### Many mothers in their forties are providing assistance and support to an elderly person

Work-life balance is a concern for most parents with paid work. For women in their forties who have young children, the issue may be of particular consequence. Caring for young children takes, on average, more time than looking after older children. That is true regardless of the mother's age. However, more women in their forties have aging parents, who may need care or assistance. How much care and assistance do mothers of young children provide to an elderly person on top of the time they spend with their young families?

As shown in Table 4, older mothers of pre-school children spent more

**CST Table 3 After tax income quartiles of mothers aged 40 to 44 years old, by age of their child(ren), 2006**

| | Mothers 40 to 44 years old | | | |
|---|---|---|---|---|
| | whose child(ren) are aged 0 to 4 only | whose child(ren) are aged 0 to 4, and 5 years old and more | whose youngest child is between 5 and 11 years | whose child(ren) are 12 and older |
| | in dollars | | | |
| **Personal income after taxes in 2005** | | | | |
| Average | 32,000 | 29,400 | 31,000 | 27,800 |
| Bottom quartile | 0 | 0 | 0 | 0 |
| Second quartile | 12,000 | 11,300 | 14,000 | 14,600 |
| Third quartile (median) | 27,500 | 24,500 | 27,600 | 25,600 |
| Top quartile | 43,800 | 40,100 | 41,700 | 37,000 |
| **Personal income after taxes in 2005 of women with paid work** | | | | |
| Average | 39,000 | 36,400 | 35,400 | 31,000 |
| Bottom quartile | 0 | 0 | 0 | 0 |
| Second quartile | 20,900 | 19,700 | 20,000 | 18,800 |
| Third quartile (median) | 33,700 | 32,300 | 32,100 | 28,700 |
| Top quartile | 49,300 | 47,000 | 45,200 | 39,400 |
| **Family income after taxes in 2005** | | | | |
| Average | 80,000 | 79,400 | 78,800 | 70,700 |
| Bottom quartile | 0 | 0 | 0 | 0 |
| Second quartile | 43,700 | 43,100 | 44,000 | 41,200 |
| Third quartile (median) | 68,200 | 66,200 | 67,400 | 64,200 |
| Top quartile | 96,600 | 95,000 | 95,000 | 89,400 |

Note: The amount at the lower level of the third quartile corresponds to the median revenue for the group in question.
Source: Statistics Canada, Census of Population, 2006.

**Table 4 Number of hours spent on childcare and on providing care to a senior, by mothers 40 to 44, by age of child(ren), 2006**

| | Mothers aged 40 to 44 years old | | | |
|---|---|---|---|---|
| | whose child(ren) are aged 0 to 4 only | whose child(ren) are aged 0 to 4, and 5 years old and more | whose youngest child is between 5 and 11 years | whose child(ren) are 12 and older |
| | percentage | | | |
| **Childcare** | | | | |
| No | 3.3 | 3.6 | 4.4 | 25.9 |
| Yes | 96.5 | 96.5 | 95.7 | 74.0 |
| **Number of hours per week** | | | | |
| Less than 5 | 1.4 | 2.2 | 3.9 | 14.8 |
| 5 to 14 | 6.9 | 9.0 | 18.5 | 24.1 |
| 15 to 29 | 16.2 | 18.0 | 24.6 | 15.3 |
| 30 to 59 | 27.8 | 24.5 | 23.0 | 9.0 |
| 60 or more | 44.2 | 42.8 | 25.7 | 10.8 |
| **Senior care** | | | | |
| No | 76.3 | 73.6 | 71.5 | 71.1 |
| Yes | 23.7 | 26.4 | 28.6 | 28.9 |
| **Number of hours per week** | | | | |
| Less than 5 | 13.9 | 15.9 | 17.8 | 18.0 |
| 5 or more | 9.8 | 10.5 | 10.8 | 10.9 |

Source: Statistics Canada, Census of Population, 2006.

hours caring for their children than women who had children aged 12 and over. On the other hand, they were less likely to be caring for an elderly person. However, the difference between mothers of pre-school children and mothers of school-age children was not especially large: 23.7% of women whose children were all of pre-school age had provided assistance or support to an elderly person, compared with 28.9% of women whose children were all aged 12 or over. In addition, women with young children were nearly as likely as women with children aged 12 or over to spend five or more hours a week caring for an elderly person (9.8% versus 10.9%).

Some mothers may feel the pressures of this dual role.[13] In 2006, 7.9% of women aged 40 to 44 who had young children spent 30 or more hours a week looking after their children and five or more hours caring for an elderly person. The corresponding proportion for women whose children were all aged 12 or over was 3.6% (results not shown).

## Summary

Women who have pre-school children in their forties are still in the minority, but the phenomenon is not as uncommon as it was 20 years ago. Since 1986, the proportion has more than doubled. In 2006, nearly one out of 10 women aged 40 to 44 had a pre-school child, more than double the proportion observed in 1986 (8.9% versus 4.3%).

Length of schooling is an important factor in explaining that increase. Immigrant women, who are more likely to have a university degree, are also more likely to have a young child when they are in their forties. The fact that the proportion of women who are university graduates, including those with master's degrees and doctorates, continues to grow suggests that the proportion of women in their forties who have small children will also rise.

The professional and economic situation of women in their forties who have pre-school children is appreciably different from that of women in the same age group who had their children earlier. The study showed that the occupations with the highest percentages of these mothers in their forties were those which required a high level of skill and more education, such as in medicine, law, and engineering and university teaching. There were higher concentrations of them in major urban centres such as Toronto and Vancouver, which are home to many jobs requiring advanced skills. They also belonged to the higher-income segments of the population.

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# Do parental benefits influence fertility decisions?

*by Susan Crompton and Leslie-Anne Keown*

Apart from the baby boom of the late 1940s to mid 1960s, fertility in Western countries has been dropping since the 1870s. Most demographers would agree that this is a natural corollary to socio-economic development and improved living conditions.[1] But with the total fertility rate falling below the replacement level of 2.1 surviving children per woman of reproductive age,[2] economists fear that the working-age population will find it difficult to sustain an ageing population. As such, supporting the creation and well-being of young families has become an important policy issue for most Western governments.

In theory, encouraging young people to have families shouldn't be difficult since most of them still want to have children. But although fertility intentions can be accurate indicators of behaviour over a lifetime,[3,4] over the short-term people generally make fertility decisions one birth at a time.[5,6,7,8] So while personal factors and beliefs may have a positive influence on fertility intentions, social factors can dampen the decision to act.

For example, researchers argue that even when people are economically successful, the cost of raising children in modern Western societies has become so high in terms of lost career opportunities that having more than two children may be undesirable, especially for highly-educated dual-earner couples.[9,10,11,12]

Nevertheless, there are signs that young couples can be persuaded to fulfill their ambitions to have a family. Although some Canadian fertility research shows that pronatalist policies may have an impact only on people who are wavering in their decision to have children,[13,14] recent international studies find significant evidence for the positive fertility effects of policies that support working parents.[15,16]

Using the 2006 General Social Survey on family transitions, this article asks whether access to parental benefits influences a couple's decision to have a child. We identify the characteristics of people who might be most amenable to this type of policy in transforming intentions into behaviour. The study population includes individuals aged 18 to 45 who are married or living common-law and intend to have a child (first or subsequent) sometime in the future (for concepts and definitions, see "What you should know about this study").

## Dealing with the gender gap

Not unexpectedly, there is a consistent gender gap across all demographic and socio-economic characteristics and decision-making factors examined in this study. Women were more likely than men to report that access to maternity/paternity benefits was "very important" to their fertility decisions, irrespective of other factors. The magnitude of this gap remains consistent, with the difference generally ranging between 14 and 18 percentage points. The tables and charts contain results for women and men. For the sake of brevity, in the text we will generally discuss results for both sexes only unless substantive differences warrant special mention.

## Socio-demographic factors have little impact on the perceived importance of parental benefits

In 2006, 46% of people in the study population said that access to parental benefits would be a "very important" factor to them when deciding to have a child (Chart 1) (Table 1). Women were much more likely than men (54% versus 38%) to report that such benefits would play a role in their decision-making.

This gender difference may reflect not only the greater employment-related risks women accept when raising children,[17,18] but also eligibility for benefits and uptake rates. Simply put, a benefits program may be less

## CST What you should know about this study

This article is based on data from the 2006 General Social Survey (GSS) on family transitions. This survey monitors the changes in the structure of families with respect to marriages, common-law unions, children and fertility intentions. The GSS collected information from 23,600 individuals aged 15 and over living in the ten provinces.

This study focuses on individuals aged 18 to 45 who were married or living common-law and intended to father or give birth to a first or a second child. The restriction on marital status is imposed because research has shown that the responses of people in couples are generally more accurate predictors of short-or medium-term behaviour than those of other respondents.[1] This limitation on the study population produces a sample of approximately 1,480 respondents representing about 2.0 million Canadians, that is, about 31% of the population aged 18 to 45 married or living common-law.

The analysis is based on response to the following question presented in the fertility intentions module of the questionnaire:

> The next questions are about your intentions to father/give birth to (more) children. How important are the following factors in deciding to have a/another child? How important is:
>
> … access to maternity/paternity benefits?
>
> Is it:
>
> 1 Very important
> 2 Somewhat important
> 3 Not very important
> 4 Not at all important

This article focuses only on the characteristics of respondents answering "very important," since a "very important" response is more likely to identify an issue that may present a barrier to fertility behaviour. In examining only "very important" respondents, we have chosen a more conservative approach to the analysis.

### Definitions

**Access to parental benefits (maternity/paternity):** Parental benefits are paid to individuals who are pregnant, have recently given birth, are adopting a child or are caring for a newborn. Benefits may be provided by private employers as well as government programs provided the candidates meet the eligibility requirements. Under the federal Employment Insurance (EI) program, maternity benefits can be paid up to a maximum of 15 weeks, parental benefits can be paid up to a maximum of 35 weeks. Employers may "top up" these benefits with their own programs, extending the length of parental leave, increasing the amount of benefits paid, or both. Additionally, parental benefit programs in Canada offer job protection for those who use paid or unpaid maternity or parental leave during the first 52 weeks after the birth of a child. Data were not collected on whether the respondent was/would be eligible for parental benefits.

**Very important:** respondent rated access to maternity/paternity benefits as "very important" in deciding to father or give birth to a child or another child.

**Less important:** respondent rated access to maternity/paternity benefits as "somewhat important," "not very important" or "not at all important" in deciding to father or give birth to a child or another child.

### The model

In order to isolate individual factors having an influence on child-bearing intentions, a logistic regression model was utilized. This allowed for the estimation of the odds that benefits were *very important* compared to *less important* for respondents with a given characteristic, while removing the effect of other factors. Models were run for both sexes as well as for women and men separately.

Odds ratios were estimated through a weighted regression that used GSS survey weights, with variance estimation done through survey bootstrapping. Statistical significance was calculated at $p < 0.05$. Variables in the models include individuals' socio-demographic and economic characteristics, as well as a set of fertility decision-making factors.

### Data limitations

Readers should be aware that the way the data were collected by the GSS imposes certain limitations on the analysis. Most importantly, the questions were asked only of people who said they intended to have children. Therefore, we do not know how access to parental benefits might influence people who say they do not intend to have children, people who do not know whether or not they will have children (or more children), or even how access to benefits might have influenced people who have completed their families.

## CST What you should know about this study (continued)

Secondly, there is no information about the timing of the intended birth; that is, we do not know whether the respondent plans to have a (another) child within a certain time frame or just "some day." However, research shows that while timing data is the best predictor of actual births, the intention to have a child is also a very accurate indicator.[2]

1. See, for example, Toulemon, L., and Testa, M.R. (2005). Fertility intentions and actual fertility: A complex relationship. *Population and Societies, 415*(September), 1-4.
2. Miller, W.B. and Pasta, D.J. (1995). Behavioral intentions: Which ones predict fertility behavior in married couples? *Journal of Applied Social Psychology, 25*(6), 530-555.

relevant to men if they do not qualify for it or see little value in using it; for example, although changes to EI parental benefits in 2000 did increase the percentage of new fathers claiming benefits, the great majority of men still did not take time off from their job when their children were born.[19]

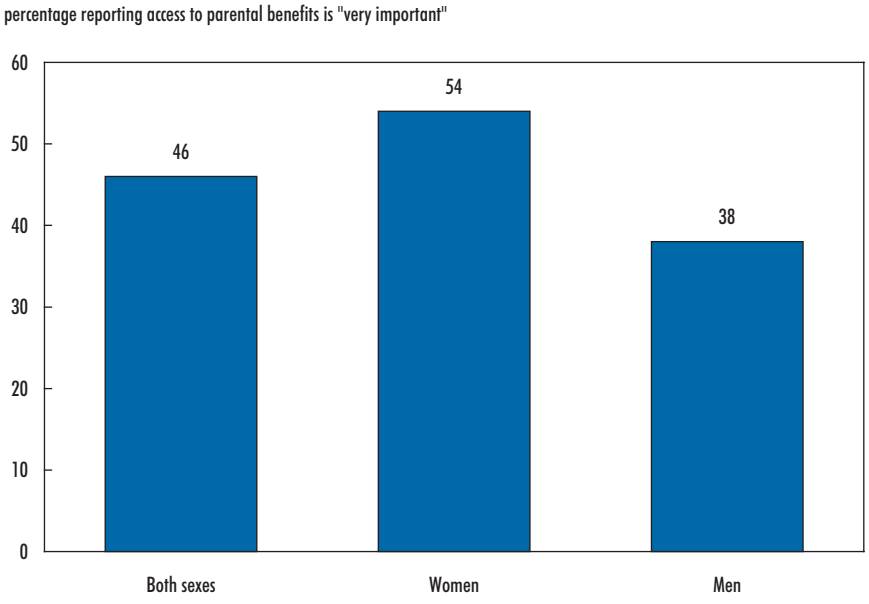
However, the results of the regression model show that ultimately, the influence of gender disappears once we control for other factors. Women have no higher odds than men of reporting that parental benefits are very important when deciding to have a child (Table 2).

Other socio-demographic characteristics—age, marital status, religious belief—might be expected to play a role when couples are deciding whether to have a child. For example, many young adults are struggling to find their feet financially,[20] and a benefits program that helps control the risk of leaving the labour market to have children might be very attractive.[21] But in fact, young adults under 30 are no more likely than average to report that benefits would be very important to them. Nor was age significant even after taking other variables into account (Table 2).

The same is true of marital status, with people in common-law couples and in married couples no more likely than average to regard benefits as "very important" to their plans to have a child.

The positive effect of religion on fertility has been noted in earlier studies.[22,23,24] However, after other factors are taken into account, a person's religious affiliation or frequency of attendance at religious services does not affect whether they consider access to parental benefits a critical element in any fertility decision.

### CST Chart 1 Access to parental benefits is an important consideration when making fertility decisions, especially for women




Note: Individuals aged 18 to 45 married or living common-law and intending to father or give birth to a (or another) child.
Source: Statistics Canada, General Social Survey, 2006.

### Parents more likely to include access to parental benefits in future fertility decisions

Adults who already had a child valued the importance of parental benefits more than those who had not yet started a family. An above-average proportion (55%) of first-time parents acknowledged that parental benefits would play a big role in the decision to have a second child. Even after controlling for other variables, the number of birth children remained a significant factor in this decision.

On the other hand, while people with a preschool-age child at home were more likely than average to

describe parental benefits as "very important" (50%), this effect was no longer significant when other variables were accounted for.

Parental leave programs also reduce the labour market risk of child-bearing by providing financial benefits to those who qualify, in addition to offering job protection to those taking paid or unpaid maternity or parental leave. Over half (56%) of people who had taken parental leave at the birth of a child said they would seriously weigh access to benefits in any subsequent fertility decisions. But its effect is not significant when other factors are taken into account.

### Income and future income strongly influence importance of benefits in planning a family

Many studies in Western countries have documented the link between unemployment or economic uncertainty and delays in childbearing,[25,26,27] especially with respect to the probability of having a first child.[28] As we might expect, people with the lowest incomes are most likely to report that a benefits program would be very important to their fertility decisions.

Over half (56%) of people with household incomes under $30,000 identify parental benefits as "very important," but only one-third (32%) of people with incomes over $100,000 do the same. The regression results show that, compared to the highest income group, the odds of identifying parental benefits as "very important" are almost two to three times higher for people with incomes under $100,000 (depending on their actual income).

A high level of education is associated with higher incomes, as well as lower unemployment and better job benefits. Indeed, 41% of university graduates report access to parental benefits would strongly influence their decision to have a child, compared with almost one-half of those without a university degree. After other variables are controlled for, degree-holders still have significantly lower odds of identifying benefits as "very important" than people with less education.

For many couples, parental benefits may be seen as helping to safeguard the family's attachment to employment during one partner's absence from the labour force. This may be especially true of couples in which both spouses work, however almost as many people in dual-earner families as in single-earner families (47% versus 42%) describe benefits as playing a "very important" role in their fertility decisions. In contrast, the regression results uncover a different pattern. Individuals in dual-earner families have over twice the odds of giving parental benefits a major role in fertility decision-making than people in other types of families.

### Parental benefits play a less important role in Quebec

Only 39% of Quebecers stated that parental benefits would play a prominent role in their fertility decisions; this proportion was significantly below the Canadian average. The gap remains significant even after controlling for all other factors: the odds of saying benefits are "very important" are only half as great for Quebec residents who want to have a child, compared to Canadians living in the other provinces.

This difference may be partly attributable to the disparate socio-cultural values often observed between Quebec and the rest of Canada. But acknowledgement should also be given to Quebec's unique daycare system and other pro-family programs,[29] which many Quebecers may see as complements or alternatives to parental benefits available from other sources.

### Parental benefits have little influence on immigrants' fertility plans

For people who have come to Canada relatively recently, parental benefits may be viewed as particularly valuable. By providing a flow of income, or promising to hold open a job (and often both), parental benefits can help control the risk of starting a new family in a new country. An above-average 55% of immigrants who arrived as adults ranked access to benefits as very important in their fertility decisions. However, immigrant status does not have a significant influence once the effects of all other variables have been controlled for.

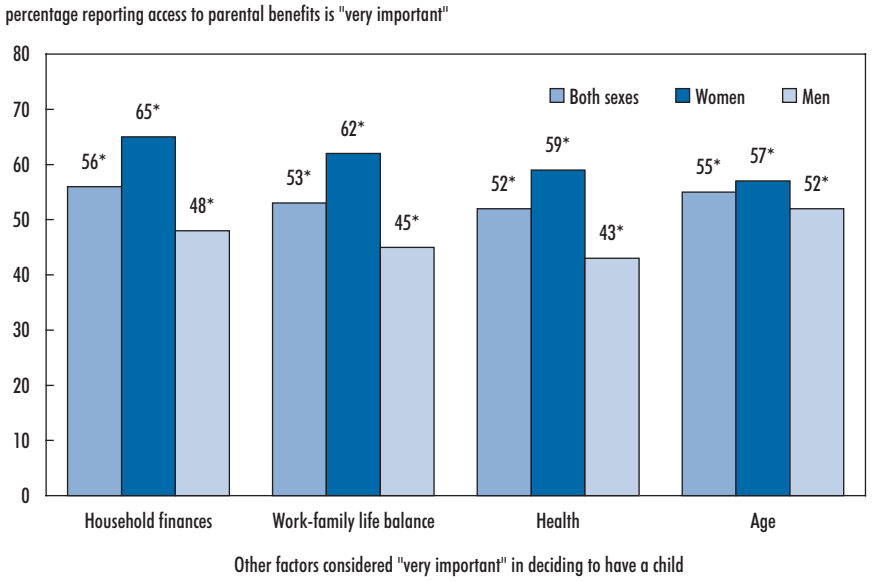
### Finances and work-life balance major considerations for people planning to have children

Other factors beyond an individual's demographic and socio-economic characteristics also play a role in planning a family. Questions about household finances, work-life balance, health and age (their partner's as well as their own) are taken into consideration by the majority of couples before they decide to have a child.

In a 2004 survey by the Vanier Institute of the Family, most Canadians said being able to afford children and having "enough time" are key factors in the decision to become a parent.[30] The 2006 GSS data confirm that people in couples who are thinking about having children tend to agree with this finding (Chart 2). The odds that parental benefits would be "very important" to their fertility decisions were almost twice as high for people who also gave financial readiness a major role in their family planning (Table 2).

The need to maintain an acceptable equilibrium between family and work responsibilities has an even greater impact. The odds that parental benefits would be very important were more than three times higher for people who thought work-life balance would also be a key factor in deciding to have a child. These results suggest that in a society where dual-earner families are now the norm, safeguarding the well-being of the family both in the labour market and in the home is of primary interest to couples.

**Chart 2 Women report household finances, men report age as the most important factors in decision to have a child**




* statistically significant difference from reference group that is 46% for both sexes; 54% for women; 38% for men (see Chart 1).
Note: Individuals aged 18 to 45 married or living common-law and intending to father or give birth to a (or another) child.
Source: Statistics Canada, General Social Survey, 2006.

Naturally, the biological imperatives of child-bearing also comprise a critical element of a couple's fertility decisions. Not unexpectedly, this is the point at which the findings for women and men diverge: health and age are the only two factors where the results of the model show significantly different effects for women compared to men.

Once other variables are controlled for, women whose health would be a key factor in their decision-making had 2.7 times higher odds of assigning parental benefits a principal role as well. But health had no influence on men's opinions.

On the other hand, men who perceived that age was an important factor had much higher odds of stating that parental benefits were very important in deciding to have a child than women did.

## Summary

Although most Canadians dream of having a family, the total fertility rate remains below the replacement level of 2.1 children per woman. Many demographers and sociologists agree that young people would only be encouraged to have more children if the risks of childrearing were shared by the society that profits from a young, vibrant and productive population. Parental benefits to help new parents who temporarily leave their jobs while they care for their newborn is one way of offering encouragement.

The findings of the 2006 General Social Survey show that people in couples who want to have children are significantly more likely to consider access to parental benefits as "very important" to their fertility decisions if: they already have a child; they are part of a dual-earner couple; and they have a household income of less than $100,000 a year. When the time comes to choose whether or not to have a child (or another child), benefits play a key role for people who also assign high value to their household's financial preparedness, the family's work-life balance, and their health.

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## Table 1 Percentage reporting that access to parental benefits is "very important" in deciding to have a child

| | Both sexes | Women | Men | Difference |
|---|---|---|---|---|
| | | percentage | | percentage points |
| **Both sexes (overall) †** | **46** | **54** | **38** | **16** |
| Women | 54* | ... | ... | ... |
| Men | 38* | ... | ... | ... |
| **Age group** | | | | |
| 18 to 24 years | 42 | 40 | 35[E] | 11 |
| 25 to 29 years | 52 | 57 | 40 | 17 |
| 30 to 39 years | 44 | 53 | 38 | 15 |
| 40 to 45 years | 49 | 74[E] | 40[E] | 34*[E] |
| **Marital status** | | | | |
| Married | 48 | 57 | 40 | 17 |
| Common-law | 43 | 50 | 35 | 15 |
| **Religious affiliation** | | | | |
| None | 42 | 51 | 35 | 16 |
| Catholic | 47 | 54 | 40 | 14 |
| Protestant | 43 | 50 | 37 | 13 |
| Other | 54 | 69 | 38[E] | 31*[E] |
| **Religious attendance** | | | | |
| Seldom | 46 | 54 | 38 | 16 |
| Monthly | 46 | 53 | 38 | 15 |
| **Number of birth children** | | | | |
| None | 43 | 51 | 35 | 16 |
| One | 55* | 63* | 47* | 16 |
| Two or more | 36* | 44* | 29*[E] | 15 |
| **Child under 5 in household** | | | | |
| No | 44 | 52 | 35 | 17 |
| Yes | 50* | 57 | 43 | 14 |
| **Previous parental leave** | | | | |
| No | 44 | 52 | 38 | 14 |
| Yes | 56* | 58 | 48[E] | 10*[E] |
| **Dual-earner couple** | | | | |
| No | 42 | 48 | 37 | 11*[E] |
| Yes | 47 | 56 | 39 | 17 |
| **Household income** | | | | |
| Less than $30,000 | 56* | 56 | 56* | 0* |
| $30,000 to $59,999 | 46 | 54 | 37 | 17 |
| $60,000 to $99,999 | 46 | 55 | 39 | 16 |
| $100,000 or more | 32* | 39* | 28* | 11* |
| Not stated, refused | 64* | 72* | 55* | 17 |
| **University degree, respondent** | | | | |
| No | 48 | 58 | 40 | 18 |
| Yes | 41* | 48* | 33 | 15 |
| **University degree, spouse** | | | | |
| No | 48 | 55 | 39 | 16 |
| Yes | 44 | 53 | 37 | 16 |
| **Reside in Quebec** | | | | |
| No | 49 | 57 | 41 | 16 |
| Yes | 39* | 47* | 31* | 16 |
| **Born in Canada** | | | | |
| Yes | 44 | 51 | 36 | 15 |
| No, arrived as child | 55* | 69* | 44 | 12* |
| No, arrived as adult | 55* | 61* | 49 | 25* |

† reference group is overall average for the 3 columns: 1) both sexes; 2) women; 3) men

* statistically significant difference from reference group at $p < 0.05$

Note: Individuals aged 18 to 45 married or living common-law and intending to father or give birth to a (another) child.

Source: Statistics Canada, General Social Survey, 2006.

## Table 2 Odds ratios of reporting that parental benefits are "very important" in deciding to have a child

| | Both sexes | Women | Men |
|---|---|---|---|
| | odds ratios | | |
| **Sex** | | | |
| Women † | 1.0 | ... | ... |
| Men | 0.9 | ... | ... |
| **Age group** | | | |
| 18 to 24 years | 0.7 | 0.5 | 1.0 |
| 25 to 29 years | 1.2 | 1.1 | 1.1 |
| 30 to 39 years † | 1.0 | 1.0 | 1.0 |
| 40 to 45 years | 1.2 | 1.5 | 1.1 |
| **Marital status** | | | |
| Married | 1.4 | 1.4 | 1.3 |
| Common-law † | 1.0 | 1.0 | 1.0 |
| **Religious affiliation** | | | |
| None † | 1.0 | 1.0 | 1.0 |
| Catholic | 1.4 | 1.3 | 1.4 |
| Protestant | 1.0 | 0.8 | 1.3 |
| Other | 1.2 | 1.8 | 0.9 |
| **Religious attendance** | | | |
| Seldom † | 1.0 | 1.0 | 1.0 |
| Monthly | 0.8 | 0.9 | 0.8 |
| **Number of birth children** | | | |
| None | 1.5 | 1.3 | 1.7 |
| One | 2.7* | 2.8* | 3.0* |
| Two or more † | 1.0 | 1.0 | 1.0 |
| **Child under 5 in household** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 1.1 | 1.0 | 1.2 |
| **Previous parental leave** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 1.5 | 1.2 | 2.0 |
| **Dual-earner couple** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 2.1* | 2.5* | 2.1* |
| **Household income** | | | |
| Less than $30,000 | 2.8* | 3.1* | 3.4* |
| $30,000 to $59,999 | 2.0* | 2.9* | 1.5 |
| $60,000 to $99,999 | 1.7* | 2.1* | 1.4 |
| $100,000 or more † | 1.0 | 1.0 | 1.0 |
| Not stated, refused | 3.7* | 4.7* | 3.1* |
| **University degree, respondent** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 0.7* | 0.6* | 0.7[E] |
| **University degree, spouse** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 1.1 | 1.1 | 1.2 |
| **Reside in Quebec** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 0.6* | 0.6* | 0.5* |
| **Born in Canada** | | | |
| Yes † | 1.0 | 1.0 | 1.0 |
| No, arrived as child | 1.4 | 1.5 | 1.4 |
| No, arrived as adult | 1.2 | 1.2 | 1.3 |
| **Importance of household finances** | | | |
| Less important † | 1.0 | 1.0 | 1.0 |
| Very important | 1.9* | 1.9* | 2.0* |
| **Importance of work-family life balance** | | | |
| Less important † | 1.0 | 1.0 | 1.0 |
| Very important | 3.2* | 3.5* | 2.9* |
| **Importance of health** | | | |
| Less important † | 1.0 | 1.0 | 1.0 |
| Very important | 2.7* | 2.7* | 1.1 |
| **Importance of age** | | | |
| Less important † | 1.0 | 1.0 | 1.0 |
| Very important | 0.8* | 0.8* | 1.8* |
| **Interactions** | | | |
| Interaction Health x Gender | 0.4* | ... | ... |
| Interaction Age x Gender | 2.2* | ... | ... |

† reference group

* statistically significant difference from reference group at $p < 0.05$

Note: Individuals aged 18 to 45 married or living common-law and intending to father or give birth to a (another) child.

Source: Statistics Canada, General Social Survey, 2006.

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*Living with disability series*

# Defining disability in the Participation and Activity Limitation Survey

*by Andrew MacKenzie, Matt Hurst and Susan Crompton*

Defining disability is a difficult task. A multitude of perceptions surrounds the question of what constitutes a disability, and a disability to one person can be a typical part of life to the next. To confuse the issue further, perceptions of disability are fluid and ever-changing as society evolves and the sources of information about disability continue to change.

Over the course of the next few months, *Canadian Social Trends* is planning to release several articles that use the national Participation and Activity Limitation Survey (PALS) to examine a variety of issues related to disability. In this first article of the "Living with disability series," we briefly explore the evolution of theories about disability and outline contemporary thinking about how to define disability. We then compare PALS data from 2001 and 2006 to see how the incidence of disability is growing in Canada, and the proportion of growth that is due to changing public perceptions of disability.

## The ever-changing concept of disability

Disability is a fluid concept and societal conceptions of disability have shifted dramatically over time. Before the 20th century, many early conceptions of disability involved religious and supernatural explanations. These interpretations ranged from karma,[1] God's will or a test from God,[2,3] reincarnation,[4] and divine protection,[5] to name just a few.

Many western cultures subsequently moved away from religious and supernatural explanations toward more scientific conceptions of disability. However, the rise of the scientific method of analysis also gave rise to a major obstacle for people with disabilities, namely the "medical model of disability."[6]

The medical model of disability is oriented towards clinical diagnosis, treatment, cure and prevention. It focuses on the individual in terms of their deficiencies, ailments or inabilities. The model is interested in medical facts whereby disability is caused by a physiological disease or injury resulting in a "damaged" body or mind that does not function in a manner considered normal for a human being. As such, it ignores the fact that society organizes itself based on certain assumptions, one of which is that everyone is able-bodied. Having to navigate through a world designed to meet the needs and convenience of the able-bodied can marginalize people who are not able-bodied, affecting their physical, social, political and financial well-being.

In 1965, this "medical model" of disability began to change. That year marked the publication of a seminal article that proposed a whole new approach to thinking about disability. Author Saad Nagi argued that every day, people with disabilities encounter barriers to their daily activities that are not caused by their impairments, but by an environment that does not take account of their impairment. In other words, it is this inattention that creates disability; for example, the building that does not include wheelchair ramps; the conference that doesn't provide sign language interpretation for attendees with hearing limitations; or the doctor who doesn't clearly explain how to take a new medication to someone with cognitive difficulties. In other words, Nagi proposed, disability is effectively a social disadvantage that an unsupportive environment imposes on top of an individual's impairment.[7]

The 1965 article was the major breakthrough for Nagi's concept of disability. The idea flourished in the 1980s and 1990s, and developed into the "social model of disability." The basic concept—that disability is related to the way an able-bodied society organizes its physical,

political, economic, and social relationships—has had a profound impact on thinking about disability in western cultures. Some researchers have come to view disability as "a loss of civil rights rather than simply a physical impairment."[8] And while it is true that this new model has been the topic of much debate during its relatively short life, it now underlies most discussions of disability.

## Putting the social model into practice

The social model's greatest success is arguably its adoption by the World Health Organization (WHO), which has used it to develop its most recent (2001) classification system of disability. The system is designed to provide a universal framework for measuring, thinking and communicating about disability, and is intended to be used for both clinical and statistical studies.

The first WHO disability classification system was introduced in 1980. Although the ICIDH (International Classification of Impairment, Disability and Handicap) acknowledged the functional difficulties stemming from a health condition, it retained many features of the "medical model." It modelled disability as a sequence of events, beginning with an illness or injury that caused a change or impairment to a person's ordinary level of functioning. This impairment produced a disability if a person had difficulty performing an activity in a "normal manner"; and the disability produced a handicap if a person was limited in fulfilling a "normal role" in society.[9]

Almost from its inception, there was dissatisfaction with the ICIDH, and development of a classification system that reflected the social model of disability continued throughout the 1980s and 1990s. In 2001, the ICF (International Classification of Functioning, Disability and Health) was approved by all WHO member states. Unlike the uni-directional "straight line" approach of the ICIDH, the ICF describes disability as a complex set of relationships in which various factors can operate on the individual's impairment, both directly and indirectly; it also expands the number of factors affecting the individual to include the larger society. These factors include: the everyday activities the individual undertakes (activities); individual characteristics, such as education, income, family and friends, motivation, and so on (personal factors); their involvement in social and community relationships and events (participation); and their general environment, which includes the physical, social, financial and political elements that make it easier or harder to function day-to-day (environment) (Figure 1).

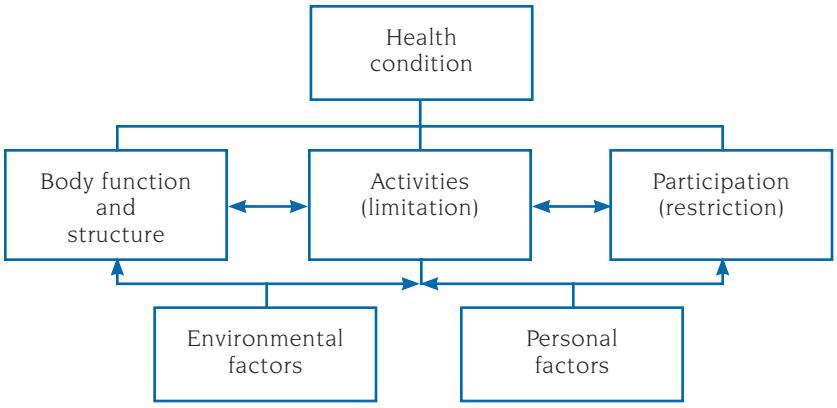
## How did Statistics Canada implement the WHO definitions?

To develop a survey on disability, one of the first steps is to decide upon a conceptual model that defines what is considered a disability. Statistics Canada's Health and Activity Limitation Survey (HALS), conducted in 1986 and again in 1991, adopted the 1980 ICIDH model of disability. HALS was Statistics Canada's first post-censal disability survey[10] and it produced important information about the demographic and socioeconomic characteristics of people with disabilities, the type and severity of their disabilities, and their day-to-day living experiences.

When planning began in 1997 for the 2001 post-censal disability survey,[11] it was decided to adopt a draft version of the ICF as its underlying framework. The draft ICF contained a description of what was and what was not considered a disability or activity limitation, while simultaneously acknowledging the effects of the environment on impairment. Moreover, the definition of disability as occurring only when someone feels they are prevented from participating in desired or necessary activities lends itself very well to survey applications: when the

CST

**Figure 1 Social model theory in which an impairment creates a social disadvantage is clearly embedded in the ICF[1] functional model of disability**




1. International Classification of Functioning, Disability and Health.
Source: World Health Organization, 2001.

respondents themselves determine the extent to which they are limited by their condition, the survey does not need to judge whether a condition is or is not disabling. In other words, the survey only needs to ask the right questions and let the respondents decide.

After adopting the ICF concept of functional disability, the first hurdle for the new Participation and Activity Limitation Survey (PALS) was dealing with more than 1,400 different dimensions the ICF uses to describe possible forms of disability. But instead of using the body functions and structures components of the ICF, the PALS survey designers assumed that if a respondent had difficulties in day-to-day living associated with body functions and structures, then these would show themselves in other areas, such as the activity limitation, participation restriction, and environment elements that PALS had adopted from the ICF. Having made this decision, they then identified the most common types of disabilities (including chronic pain) based on existing data from HALS. By combining the most common types of disabilities with the material selected from the ICF, the PALS design team developed screening criteria for the survey questionnaire.

They chose the bulk of these screening questions by matching an ICF item for a given disability type with a question drawn from a bank of pre-tested questions about activities of daily living. These questions ask respondents to specify activities they have difficulty accomplishing because of a health problem or condition, for example, climbing stairs, hearing or learning. Using this cross-referencing approach, the PALS team was able to identify and select a large sample of the disabled population into the survey. Once the screening questions were chosen, they were finalized for the 2001 PALS survey and maintained for 2006 (see "How disability is determined using PALS" in Appendix 1.)

Asking the same screening questions in 2001 and 2006 is meant to ensure that the universe of people with disabilities meet the same criteria for inclusion in the survey from one year to the next. However, the way that people respond to these identical sets of questions can never be controlled; thus, it is possible that changing popular perceptions of disability, or of what constitutes disability, are reflected in the PALS data. The analysis in the next section offers a preliminary exploration of the possibility that the public understanding of disability is shifting in Canada.[12]

## Are perceptions of disability changing over time?

To begin thinking about the way perceptions of disability can change, consider disability as part of a continuum or spectrum. At one end of this continuum, we locate the highest calibre non-disabled persons, perhaps Olympic athletes and Nobel Prize winners; at the opposite end are people with the most severe disabilities. In between these two extremes, we find graduated levels of ability/disability involving a mix of physical and mental abilities/disabilities.

Thus, the exact point on the continuum where a specific level of ability shifts to disability is not the same for every Canadian. So when a respondent decides to report a disability on a survey such as PALS, the answer is based on that individual's "threshold of disability" on the continuum rather than an exact "location". This also means that having a disability can be a transitory condition, since people can move into and out of a state of disability depending on their individual circumstances. For example, someone who has had a knee or hip replacement may face barriers to activities and participation during a lengthy period of recovery and rehabilitation, but upon regaining their mobility, they will no longer be considered functionally disabled.

If Canadian society has become more accepting of people with disabilities, and the stigma of reporting a disability is declining over time, we would expect the "threshold of disability" to shift toward the ability end of the continuum; that is, mild levels of disability would be reported more frequently in 2006 than in 2001. In contrast, minimal changes should occur among the more severe types of disability because perceptions of severe disability are more stable over time.

Indeed, this is what we find. Canadians were more likely in 2006 to say they were disabled than they were in 2001—16.5% versus 14.6%. Furthermore, this increase is statistically significant across gender, provinces and age groups. In 2006, 15.3% of men and 17.7% of women reported an activity limitation, disability rates that are about two percentage points higher than in 2001. As we would expect, the greatest increases occurred among those aged 65 and over, and in three of the four Atlantic Provinces where the population generally tends to be older than elsewhere in the country (Table 1).[13]

Furthermore, as expected, the change is most evident on the border of the ability/disability threshold. Between 2001 and 2006, the proportion of Canadians reporting a mild disability rose from 5.0% to 5.9%, or about 300,000 more people; in contrast, it remained roughly the same for those reporting a very severe disability. This suggests that people's "threshold of disability" is moving closer to the ability end of the continuum (Table 2).

However, we cannot ignore the fact that Canada's population grew older between 2001 and 2006, and that older people have a higher tendency to report activity limitations. To determine how much of the change in disability rates between 2001 and 2006 was due to population aging and how much to other factors that affect the likelihood of reporting an activity limitation, we conducted a linear decomposition analysis.[14]

The results show that over one-third (37%) of the increase in total disability rates was due to the age composition of the Canadian population; nevertheless, almost two-thirds (62%) was attributable to the "period effect." The period effect is the combination of societal and medical changes that occur over time and can affect the way disability is self-reported by respondents; these changes may include less stigmatization of persons with disabilities, higher expectations of personal functioning, better detection and treatment of disease or injury, better assistive technologies and devices, the way individuals interact with their environment, and so on. In other words, factors that are not related explicitly to an aging population were contributing substantively to higher rates of disability reporting in 2006 (Table 3).

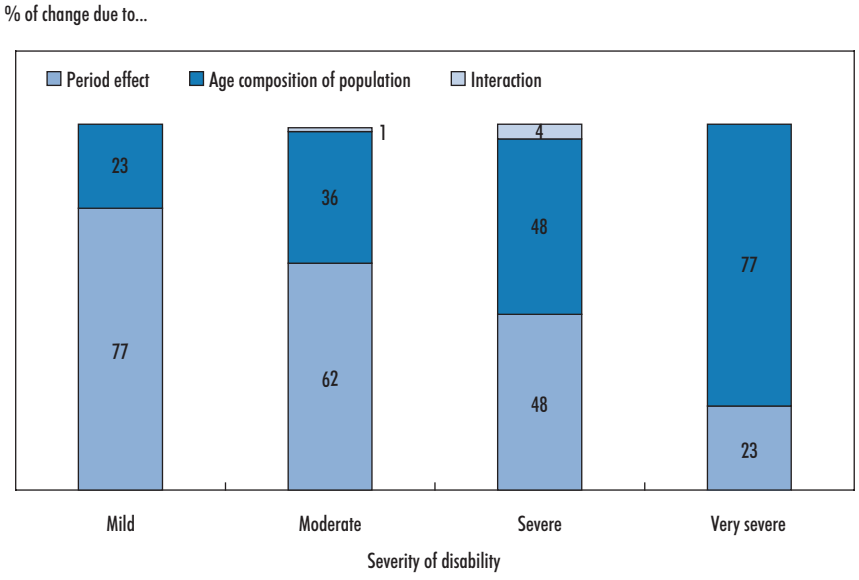
When we examine the four different degrees of disability separately, though, we see a steady rise in the explanatory role of aging, and a concomitant decline in the importance of the period effect. The largest increase in disability rates was recorded for the mild category, and the decomposition analysis confirms that fully 77% of that increase is due to the period effect. In contrast, 77% of the growth in very severe disabilities is due to population aging. These results offer some support for the theory that we should see increases in the amount of self-reporting of milder disabilities (but little growth for more severe disabilities) as the stigma of disability diminishes (Chart 1).

## Conclusion

The concept of disability has been refocused over time. It has changed from being defined solely in medical terms to being acknowledged as having a strong social dimension. Both concepts are now amalgamated in the classification system used in the ICF, as developed by the World Health Organization. Statistics Canada adopted this model for use in its 2001 and 2006 Participation and Activity Limitations Surveys.

One benefit of the definition of disability used in PALS is that researchers are able to learn whether attitudes to disability are changing in Canada over time. Certainly, a significantly higher proportion of Canadians reported being mildly disabled in 2006 than in 2001, though rates for very severe disabilities were about the same. A linear decomposition analysis of the factors contributing to this growth showed that, for milder disability rates, a smaller proportion of the change was due to population aging and a larger proportion was due to the period effect. This is consistent with the view that people may be more comfortable thinking of themselves as having a disability, and suggests there is a general lessening of the stigma associated with disability.

**Chart 1 The period effect explains over half the change in disability rates for mild and moderate degrees of severity**




Note: Due to rounding, percentages may not add up to 100%.
Sources: Statistics Canada, Participation and Activity Limitation Survey, 2001 and 2006.

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6. The term "medical model of disability" is somewhat misleading because it does not actually represent an ongoing school of thought supported by researchers or academics. Instead, this term is used to describe the historical approach and paradigm that has existed for people with disabilities throughout the 20th century.
7. Nagi was also among the first theorists to suggest that although impairment and disability are related, they should be considered separately. He pointed out that an impairment does not necessarily create a disability, nor do similar disabilities necessarily trace their origin to the same impairments.
8. Abercrombie, N., Hill, S., and Turner, B.S. (2006). *The Penguin Dictionary of Sociology, 5th Edition*. London, Penguin Books, p. 110.
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10. HALS was a postcensal survey because it used census "filter" questions on activity limitations and long-term disabilities to identify the target population that would be asked more detailed questions in HALS. The Participation and Activity Limitation Survey (PALS) is also a postcensal survey.
11. HALS was not conducted in 1996.
12. Many more years of PALS data using identical sets of questions are needed to provide a clear answer. It would have been preferable to start tracking changing attitudes with the 1986 HALS. However, HALS and PALS data cannot be compared because their definitions, concepts and methodologies differ significantly. Most importantly, the types and severity of activity limitations were expanded for PALS; new questions were designed to better identify non-physical disabilities including learning disabilities, developmental disabilities and psychological conditions. In contrast, the 1991 HALS grouped persons with these types of disabilities together into the category "Other". Also, the PALS severity scale assigns equal weight to all types of disabilities, whereas HALS gave more weight to physical than non-physical disabilities.
13. For detailed comparisons of 2001 and 2006 PALS data, go to http://www.statcan.gc.ca/pub/89-628-x/89-628-x2007003-eng.htm
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CST

**Table 1 Disability rates increased between 2001 and 2006, regardless of age, sex and province**

| | 2001 | 2006 | Difference |
|---|---|---|---|
| | percentage | | percentage point |
| **Total (age 15 and over)** | 14.6 | 16.5* | 1.9 |
| **Age group** | | | |
| 15 to 29 | 4.1 | 5.2* | 1.1 |
| 30 to 44 | 7.7 | 8.6* | 0.8 E |
| 45 to 64 | 16.7 | 18.3* | 1.6 E |
| 65 and over | 40.5 | 43.2* | 2.7 E |
| **Sex** | | | |
| Men | 13.4 | 15.3* | 1.9 |
| Women | 15.7 | 17.7* | 2.0 |
| **Province** | | | |
| Newfoundland | 14.1 | 16.9* | 2.8 |
| Prince Edward Island | 17.0 | 18.8* | 1.8 |
| Nova Scotia | 20.1 | 22.9* | 2.8 |
| New Brunswick | 16.9 | 19.8* | 2.9 |
| Quebec | 9.8 | 11.8* | 1.9 |
| Ontario | 16.0 | 18.0* | 2.1 |
| Manitoba | 16.9 | 18.4* | 1.5 E |
| Saskatchewan | 17.3 | 18.7* | 1.4 E |
| Alberta | 14.8 | 15.9* | 1.1 E |
| British Columbia | 16.3 | 18.3* | 2.1 |

* significantly different from 2001 at $p < 0.05$

Note: The population in 2006 excludes three groups so that results can be compared to 2001 figures. The groups are: Aboriginal communities; persons in non-institutional collective dwellings (e.g. seniors residences); and persons living in Yukon Territory, Northwest Territories and Nunavut.

Sources: Statistics Canada, Participation and Activity Limitation Survey, 2001 and 2006.

## CST Table 2 Increases in disability rates are highest for those with a mild disability

| | Severity of disability | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | All levels | | Mild | | Moderate | | Severe | | Very severe | |
| | 2001 | 2006 | 2001 | 2006 | 2001 | 2006 | 2001 | 2006 | 2001 | 2006 |
| | percentage | | | | | | | | | |
| **Total (age 15 and over)** | 14.6 | 16.5* | 5.0 | 5.9* | 3.6 | 4.1* | 3.9 | 4.4* | 2.0 | 2.2 |
| **Age group** | | | | | | | | | | |
| 15 to 29 | 4.1 | 5.2* | 1.8 | 2.4* | 1.0 | 1.3* | 0.9 | 1.0 | 0.4 | 0.5* |
| 30 to 44 | 7.7 | 8.6* | 2.6 | 3.0* | 2.0 | 2.3* | 2.1 | 2.3 | 1.0 | 1.0 |
| 45 to 64 | 16.7 | 18.3* | 5.1 | 6.0* | 4.1 | 4.6 | 4.9 | 5.1 | 2.6 | 2.6 |
| 65 and over | 40.5 | 43.2* | 14.4 | 15.7 | 10.1 | 10.3 | 10.3 | 11.2 | 5.6 | 6.0 |

* significantly different from 2001 at $p < 0.05$

Note: The population in 2006 excludes three groups so that results can be compared to 2001 figures. The groups are: Aboriginal communities; persons in non-institutional collective dwellings (e.g. seniors residences); and persons living in Yukon Territory, Northwest Territories and Nunavut.

Sources: Statistics Canada, Participation and Activity Limitation Survey, 2001 and 2006.

## CST Table 3 Change in disability rates is attributable to the period effect and the aging population from 2001 to 2006

| Severity of disability | Total change 2001 to 2006 (a) | = | Period effect (b) | + | Age composition of population (c) | + | Interaction (d) |
|---|---|---|---|---|---|---|---|
| | percentage points | | | | | | |
| **Overall** | 1.95* | | 1.21* | | 0.71* | | 0.02 |
| % of total | 100 | | 62 | | 37 | | 1 |
| **Severity of disability** | | | | | | | |
| Mild | 0.89* | | 0.68* | | 0.20* | | 0.00 |
| % of total | 100 | | 77 | | 23 | | 0 |
| Moderate | 0.45* | | 0.28* | | 0.16* | | 0.01 |
| % of total | 100 | | 62 | | 36 | | 1 |
| Severe | 0.43* | | 0.21 | | 0.21* | | 0.02 |
| % of total | 100 | | 48 | | 48 | | 4 |
| Very Severe | 0.17 | | 0.04 | | 0.13* | | 0.00 |
| % of total | 100 | | 23 | | 77 | | 0 |

* significantly different from 0 at $p < 0.05$

Note: Due to rounding, percentages may not add up to 100%.

Sources: Statistics Canada, Participation and Activity Limitation Survey, 2001 and 2006.

## CST Appendix 1 How disability is determined using PALS

In order for PALS to reach its target population, all persons were included in the survey frame if they replied "Yes" to either of the two disability filter questions on the 2001 and 2006 Census of Population questionnaires.

The Census disability filter questions are as follows:

1. Do you have any difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities?
   Yes, sometimes
   Yes, often
   No
2. Does a physical condition or mental condition or health problem reduce the amount or the kind of activity you can do
   a) at home?
      Yes, sometimes
      Yes, often
      No
   b) at work or at school?
      Yes, sometimes
      Yes, often
      No
   c) in other activities, for example, transportation or leisure?
      Yes, sometimes
      Yes, often
      No

The disability filter questions were repeated during the PALS interview and followed by a series of PALS screening questions to determine the nature of their disability. If respondents did not report a limitation to either the disability filter questions OR the PALS screening questions, they were dropped from the sample. (They could report a disability to either the filters or the screeners and still stay in PALS.) It is not uncommon for respondents to report a limitation on Census day but not to PALS because of short-term conditions such as recovering from surgery, broken bones and so on.

Below is an example of the PALS disability filter questions. (This particular series is designed to identify respondents with learning disabilities.) The PALS filter questions are used to identify all 10 major disability categories; that is, hearing, seeing, communication, mobility, agility, pain, learning, memory, developmental and emotional disabilities.

Q01 Do you think you have a condition that makes it difficult in general for you to learn? Such conditions include attention problems, hyperactivity, dyslexia and others.
   Yes
   No
   Don't know

Q02 Has a teacher, doctor or other health professional ever said that you had a learning disability?
   Yes
   No
   Don't know

Q03 Does this condition reduce the amount or the kind of activities you can do?
   Yes, sometimes
   Yes, often or always
   No
   Don't know

## CST Appendix 1 How disability is determined using PALS (continued)

Q04 How many activities does this condition usually prevent you from doing at home?

None
A few
Many
Most
Don't know

Q05 How many activities does this condition usually prevent you from doing at work?

None
A few
Many
Most
Don't know

Q06 How many activities does this condition usually prevent you from doing at school?

None
A few
Many
Most
Don't know

Q07 How many activities does this condition usually prevent you from doing in other areas, such as transportation or leisure?

None
A few
Many
Most
Don't know

Source: Statistics Canada. (2008). *Participation and Activity Limitation Survey* 2006: *Research Data Center* (RDC) *User Guide*. Catalogue no. 89-628-X. Ottawa: Minister of Industry.

*Living with disability series*

# Social participation of children with disabilities

*by Krista Kowalchuk and Susan Crompton*

Having friends, participating in group activities and joining clubs are ways in which children become engaged with their society, and these activities represent an essential aspect of their social and personal development.[1] Being engaged in extracurricular activities is also related to a number of other direct benefits for a child, including better academic results and reduced emotional and behavioural problems.[2] However, participating in these activities is not always easy for some children, especially those who have a disability.[3]

Child development is a complicated process that becomes more complex when a child has a disability. In all aspects of their lives, children with disabilities may need help in order to ensure as much equality and accessibility to daily activities as possible. While we know a lot about education, assistive aids and adaptive technology, medical treatments, and transportation, researchers have not devoted as much attention to issues pertaining to social participation.[4]

Social participation—which we will also call social engagement —refers to relationships with family members, peers, community members, local institutions and, at the broadest level, with society. Earlier research has found that children with disabilities are less involved than their non-disabled counterparts, in that they participate less in social activities.[5] As public awareness of the importance of inclusion grows, children with disabilities are increasingly accommodated in extracurricular activities.

This article will identify the factors that influence the social engagement of children with disabilities aged 5 to 14 who live with their parents. The focus is on participation in social activities outside the family home and outside regular school hours. Social engagement is measured by participation in organized sports; in organized non-sport activities (lessons, clubs and community groups); and in virtual networks with their peers (phone, chatrooms, email). Following the literature, the factors we examine include the effect of the child's condition on their day-to-day functioning, the child's own social competencies, family functioning, parental support, and environmental barriers.

## A little about the study population

In 2006, the Participation and Activity Limitation Survey (PALS) identified about 125,000 children aged 5 to 14 living with their parents who had disabilities. Almost two-thirds of these children were boys (65%); over half of them were "tweens" between 10 and 14 years old (57%); over four in ten children (44%) had a degree of disability that was classified as severe or very severe.

The types of disabilities these children had, as reported by their parents, covered a wide range of physical as well as non-physical limitations, with the most common types being learning disabilities (71%), chronic physical limitations like diabetes, asthma or heart disease (62%), speech conditions (46%), and chronic non-physical limitations such as autism or attention deficit disorder (42%).[6]

Rather than focus on specific disabilities, this article will address the three major categories of disability: physical disabilities only (19% of children in the study population), non-physical disabilities only (24%), and both physical and non-physical disabilities (57%) (Chart 1).

A child's participation in activities outside the regular structure of home and school is a key measure of their social engagement. Children can be engaged socially and meet new friends through a variety of activities. In this study, we examine children's engagement using three separate indicators of social participation: organized sports and physical activities ("sports"); lessons, clubs and community groups ("non-sport activities"); and interaction with peers online via e-mail, in newsgroups or chatrooms, and on the telephone ("networks") (see "What you should know about this study" for complete information).

## CST What you should know about this study

This article draws on the child component of the 2006 Participation and Activity Limitation Survey. The target population comprises 3,100 respondents, representing just under 125,000 children aged 5 to 14 with disabilities who live with their parents (lone-parent or two-parent families). Data were collected from the person most knowledgeable about the child, generally a parent. Strictly speaking, because the child's parent/guardian answered the survey on the child's behalf, all statistics actually refer to those children with disabilities whose parent responded to the questionnaire. For the sake of brevity, however, this article will refer to "children."

### Definitions of terms

**Children with disabilities/activity limitations:** Children aged 5 to 14 living with their parent(s), whose respondent parent reported that they had difficulties with daily living activities, or that a physical or mental condition or health problem reduced the kind or amount of activities the child could do. The answers to the disability questions represent the respondent's perception of the situation and are therefore subjective.

**Physical disabilities:** Hearing; seeing; mobility; agility; chronic physical conditions, including asthma and allergies, heart condition or disease, kidney disease, cancer, diabetes, epilepsy, cerebral palsy, spina bifida, muscular dystrophy, migraines, arthritis or rheumatism, paralysis of any sort, missing limbs or digits, complex medical care, other not specified.

**Non-physical disabilities:** Speech/communication; learning; developmental; emotional/psychological; chronic non-physical conditions, including autism, fetal alcohol syndrome, ADD or ADHD, and Down syndrome.

**Severity of disability:** PALS constructed a scale measuring the overall severity of disability according to the intensity and frequency of the activity limitations reported by respondents. The disability severity scale is divided into four levels: mild, moderate, severe and very severe.

**Significant difference:** Before concluding that two estimates are different, one must determine if the difference between them is statistically significant and is not due to random sampling error. One way to determine this is by creating confidence intervals for the estimates using each estimate's coefficient of variance. If their confidence intervals do not overlap, then there is 95% certainty that the estimates are significantly different.

### Social participation

In a recent study, Canadian researchers argued that it is important to remember that participation in many activities is not necessarily a better measure of social engagement than participation in fewer activities.[1] They point out that a child may take part in one activity very frequently, whereas another child may be involved in a variety of activities but do so infrequently.

The three social participation indices developed for this study respect this argument. Each index includes two to three different types of activities and children were classified as participants if they had taken part in any of them in the 12 months preceding the survey, regardless of frequency. (Frequency ranges from every day to less than once a month.)

**Organized sports and physical activity/sports:** Takes part in organized sports with coach or instructor; takes part in other physical activities with coach or instructor, e.g. dance, gymnastics.

**Lessons, clubs and community groups/non-sport activities:** Takes lessons or instruction in non-sport activities, e.g. music or art; takes part in activities of clubs or community groups, eg. Scouts, church groups.

**Virtual peer network/network:** Takes part in Internet chatrooms or newsgroups; uses e-mail to keep in touch with friends; talks on the phone with friends.

### The models

Previous research suggests that a number of factors can influence the social engagement of a child with a disability. In order to isolate the individual factors that are associated with social participation, logistic regression models were developed for each of the social activities. These models allowed us to estimate the odds that a child with a given characteristic was a *participant* compared to a *non-participant* in an activity, while removing the effect of other confounding factors. The odds ratios were estimated through a weighted regression that used PALS survey weights, with variance estimation done through survey bootstrapping. Statistical significance was calculated at $p < 0.05$.

## CST What you should know about this study (continued)

In the models, the factors examined are divided into the following categories:

**Child's condition:** measured by type of disability and severity of the disability.

**Effect of child's condition on functioning:** measured by whether child uses help for everyday activities; child's condition creates a disadvantage at school; child's condition creates a disadvantage in areas such as transportation and leisure activities; the parent feels that the school accommodates their child's condition or health problem.

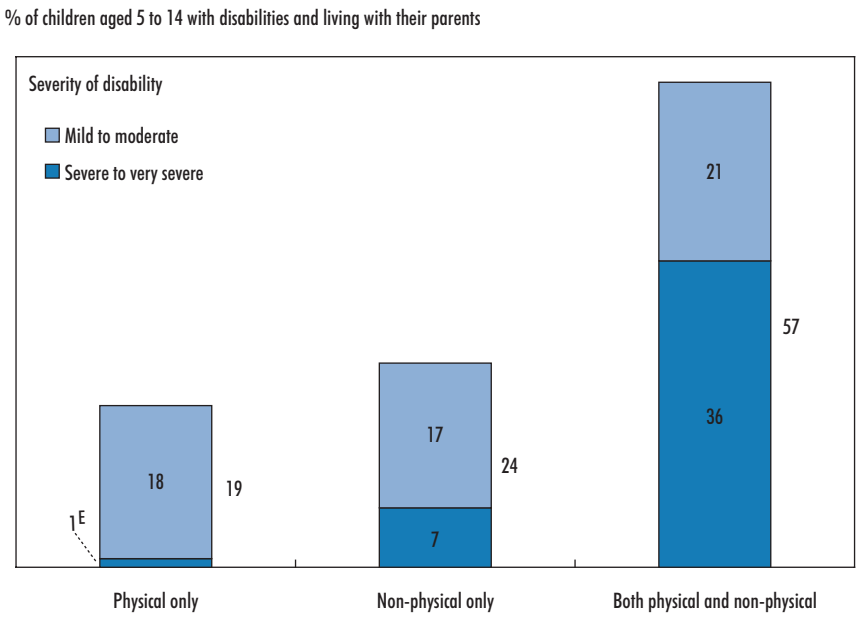
**Child's social competencies:** measured by whether the child gets along with other children (excluding siblings); child looks forward to going to school; and age and sex (since children generally exhibit different social capacities depending on their stage of development).

**Family support:** measured by parental involvement in child's classroom (contact with teacher; attended events like plays or science fairs that child participated in; helped with class trips); parental involvement in child's school (helped elsewhere in school, e.g. library, computer room; attended parent council meetings; fundraising; other); household income; family's place of residence; family type.

**Environmental barriers:** measured by existence of societal barriers, which includes programs or services not available, facilities not accessible, inadequate transportation, too expensive; existence of personal barriers, which includes child's condition limits participation, child needs someone's help to participate, do not have specialized aids or equipment necessary, child or family is too busy.

1. Law, M., King, G., King, S., Kertoy, M., Hurley, P., Rosenbaum, P., Young, N., Hanna, S., and Petrenchik, T. (2006). *Patterns and predictors of recreational and leisure participation for children with physical disabilities*. CanChild Centre for Childhood Disability Research.

## CST Chart 1 Over half of school-age children with disabilities have both physical and non-physical disabilities




Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

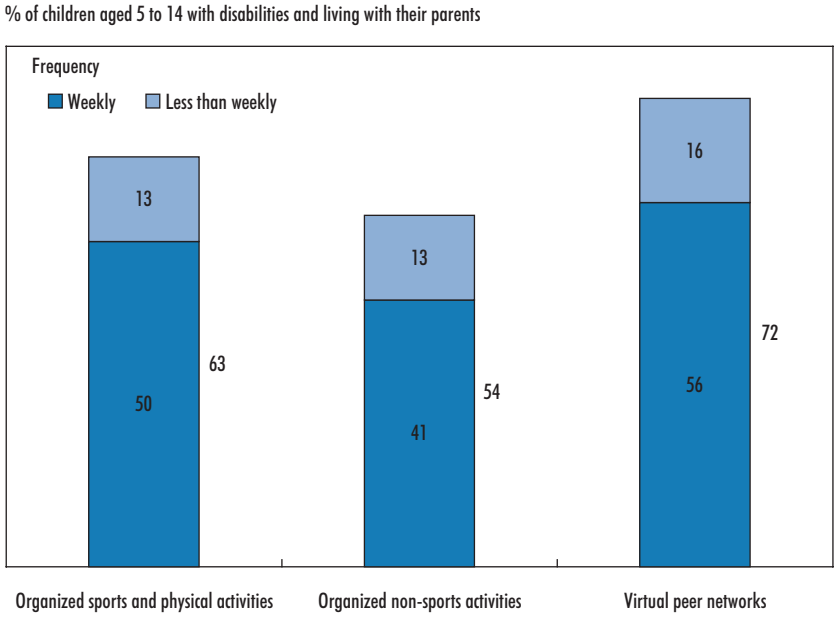
Just under two-thirds (63%) of 5- to 14-year-old children with disabilities were engaged in some kind of organized sport or other physical activity, such as playing soccer, tae kwon do, swimming or dancing. Most of these children were doing something at least once a week[7] (Chart 2).

Over half (54%) of children with disabilities took lessons in some type of non-sport interest, or belonged to clubs or community groups; a large majority of participants did something every week. And almost three-quarters of children with disabilities (72%) were linked to networks with their peers, with three-quarters of participants online or on the phone with friends at least once a week.

### Type of disability associated with non-sport activities, severity with peer networks

To identify children with disabilities who are more likely to participate in social activities, the first factors to

**Chart 2 The majority of children with disabilities take part in some kind of extracurricular social activity**




Source: Statistics Canada, Participation and Activity Limitations Survey, 2006.

examine are the type and severity of the child's disability. If children with limitations are unable to join in particular events or activities, they may be excluded from engaging socially with their peers and others. And though it is often thought that children with physical disabilities are excluded more often than those with non-physical limitations, other obstacles can act as barriers for children with cognitive or developmental disabilities; for instance, if a child's disability causes him to act impulsively or impairs her communications skills, they are often not accepted into the peer group.[8]

The PALS data show that a child with both physical and non-physical disabilities is significantly less likely to take part in organized sports. Only 59 % of these children were participants, compared with 70 % of children with physical limitations only (Table 1).

Similarly, children with both physical and non-physical limitations were less likely to be engaged in non-sport activities like taking lessons or belonging to clubs or community groups, situations which may demand more sophisticated social skills. They were also less likely to have virtual networks with their peers (Table 1).

The severity of their limitation is related to children's participation in two of three social activities. Only 43% of kids with a very severe degree of disability were connected to peer networks, compared with 86% of children with mild limitations. The gap was smaller but still statistically significant for organized sports, at 45% versus 70%.

It is useful to know whether the type of disability or the degree of its severity has a stronger association with a child's probability of being socially engaged. To isolate the effects of individual factors, logistic regression models were developed to estimate the odds that a child with a given characteristic was a *participant* rather than a *non-participant* in a given social activity. (See "What you should know about this study" for more information about the regression models.)

After controlling for the effects of other factors (including severity of disability), the model results show that the type of disability was not associated with participation in organized sports or in peer networks. But for non-sport activities, children with a non-physical disability had significantly lower odds of being involved than those with physical disabilities only (Table 2).

The severity of the child's condition is not associated with their odds of participation in sports or non-sports activities, once other factors (including type of disability) are controlled for. The exception is peer networks: compared to children with a mild degree of disability, those with a very severe disability had less than half the odds of being online or on the phone with friends and other peers.[9]

## Child's day-to-day functioning related to involvement in sports and peer networks

Some conditions create a specific disadvantage for a child. For example, some children may have to receive help with everyday activities; for others, their condition may often cause difficulties accessing transportation or leisure activities, or it may impose certain restrictions at school.

According to PALS, children who have such disadvantages were just as likely as others to participate in non-sport activities, but they were significantly less likely to be involved in organized sports and peer e-networks (Table 1). However, after controlling for other factors in the model, the effect of the child's condition on day-to-day functioning was no longer associated with participation in organized sports.

Results of the model show that children who received help in order to do daily activities had significantly lower odds of being involved in virtual

## CST Table 1 Children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006

| | Child participates in social activities | | |
|---|---|---|---|
| | Organized sports and physical activities | Organized non-sports activities | Virtual peer network |
| | percentage | | |
| **Children with disability (Total)** | **63** | **54** | **72** |
| **Child's condition** | | | |
| **Type of disability** | | | |
| Physical only † | 70 | 64 | 86 |
| Non-physical only | 69 | 53 | 76 |
| Both physical and non-physical | 59* | 52* | 66* |
| **Severity of disability** | | | |
| Mild † | 70 | 57 | 86 |
| Moderate | 67 | 55 | 80 |
| Severe | 65 | 54 | 71* |
| Very severe | 45* | 49 | 43* |
| **Effect of child's condition on functioning** | | | |
| **Child's condition causes disadvantages at school** | | | |
| None/a few † | 67 | 56 | 78 |
| Often/always | 58* | 52 | 63* |
| **Child's condition causes disadvantages in transportation or leisure** | | | |
| None/a few † | 67 | 56 | 77 |
| Often/always | 49* | 47 | 52* |
| **Child receives help with everyday activities because of condition** | | | |
| No † | 66 | 54 | 81 |
| Yes | 54* | 53 | 44* |
| **Overall, the school accommodates the child's condition** | | | |
| Mainly agree † | 63 | 54 | 71 |
| Strongly agree | 65 | 56 | 77 |
| **Child's social competencies** | | | |
| **Child looks forward to going to school** | | | |
| Sometimes/not often † | 61 | 54 | 76 |
| Most of the time | 65 | 55 | 72 |
| **Child gets along all right with friends and classmates (not siblings)** | | | |
| Usually † | 61 | 52 | 66 |
| Very well | 65 | 56 | 78* |
| **Age group** | | | |
| Age 5 to 9 years old † | 68 | 53 | 60 |
| Age 10 to 14 years old | 60 | 55 | 82* |
| **Sex** | | | |
| Boy † | 63 | 51 | 69 |
| Girl | 64 | 61* | 80* |
| **Family support** | | | |
| **Parent has high level of involvement in child's classroom activities** | | | |
| No † | 41 | 42 | 68 |
| Yes | 69* | 57* | 74 |
| **Parent has high level of involvement in school-level activities** | | | |
| No † | 60 | 49 | 73 |
| Yes | 69* | 62* | 72 |
| **Family structure** | | | |
| Lone-parent family † | 59 | 46 | 76 |
| Two-parent family | 65 | 57* | 71 |

**Table 1 Children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006 (continued)**

| | Child participates in social activities | | |
|---|---|---|---|
| | Organized sports and physical activities | Organized non-sports activities | Virtual peer network |
| | percentage | | |
| **Family income** | | | |
| Under $30,000 † | 54 | 48 | 70 |
| $30,000 to $59,999 | 54 | 50 | 73 |
| $60,000 to $89,999 | 67* | 57 | 74 |
| $90,000 or more | 76* | 61 | 72 |
| **Place of residence** | | | |
| Rural Canada † | 56 | 57 | 78 |
| Urban Canada | 65* | 54 | 71 |
| **Environmental barriers** | | | |
| **Societal barriers to participation** | | | |
| No † | 68 | 55 | 76 |
| Yes | 46* | 52 | 63* |
| **Personal barriers to participation** | | | |
| No † | 71 | 56 | 79 |
| Yes | 49* | 50 | 60* |

† reference group
* statistically significant difference from reference group at $p < 0.05$
Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

peer networks (Table 2). However, attending a school that did a good job of accommodating their condition did significantly increase the odds of being "connected," after all other factors were controlled for.

### In general, children's social competencies are not associated with social engagement

Much of children's social interaction takes place in the classroom; consequently, that is where most children learn how to behave toward one another and to develop and maintain social relationships. Thus, it seems reasonable to measure children's social competencies by how well they interact with others and whether they enjoy going to school (where they will see many of their friends).[10] Since a child's age and sex are generally related to social confidence, we will examine these characteristics first.

The child's age and sex were not related to higher levels of participation in organized sports. But girls were more likely than boys to be involved in non-sport activities and in virtual peer groups. Also, "connectedness" was much higher for 10- to 14-year-olds (82%) than 5- to 9-year-olds (60%). These relationships remained significant after controlling for other factors (Table 1).[11]

Children with disabilities who looked forward to going to school most of the time were no more or less likely to participate in all three extracurricular activities than those who were not so keen to be in class. Similarly, children who got along very well with other kids were no more or less likely to be involved than those who did not get on so easily. The exception is in virtual peer networks: children who related very well to others were more likely to be active, at 78% versus 66% (Table 1).

But once other factors are taken into account, getting along with other children is no longer significant for maintaining e-networks, although it is associated with lower odds of participating in sports. In contrast, children who enjoy going to school had significantly lower odds of being "connected" to peers (Table 2).

### Family support is strongly related to participation in organized sports and non-sport activities

The psychological support that parents provide to their children is an important factor in predicting how socially engaged those children will be. By encouraging their child to pursue his interests, parents can give a child confidence and play a key role in developing their level of engagement.[12] Still, it is important to point out that too much parental involvement might be detrimental: a 2006 report notes that parents of

disabled children tend to interfere during play with other children and may create conflict within the friendship.[13]

PALS data show that children whose parents had a high level of classroom commitment were more likely to participate in both organized sports and non-sport activities (classroom involvement includes having contact with the child's teacher, attending events like plays or science fairs that the child participated in, and helping with class trips). The parent's degree of commitment remained significant after other factors in the models were controlled for; children with a parent who was active in the classroom had three times higher odds of taking part in sports, and almost two times higher odds of being involved in non-sport activities (Table 2).

Having a parent who volunteered at the school level was also associated with higher social participation, although the relationship was not as strong (this type of involvement includes helping elsewhere in school such as in the library or computer room, attending parent council meetings, fundraising, and other activities). Children whose parents were volunteers at the school level had significantly higher odds of participating in organized sports and in non-sport activities.

In contrast, parental classroom and school-level support was not significantly associated with a child's virtual engagement with their peer network.

## Family income and urban residence are strongly linked to sports participation

Living in a two-parent family may provide instrumental support to a child with disabilities. Two parents may find it easier to facilitate social engagement, for example, by driving the child to events, providing needed assistance to the child when she joins in activities, and so on. But marital status was not significantly associated with social participation, once other factors were controlled for.

In contrast, family income is another type of instrumental support and it is strongly related to engagement in organized sports. When family income was over $90,000, children were much more likely to participate in organized sports than if it was under $30,000 (76% compared to 54%) (Table 1). Income remained strongly related to sports participation, even after other factors were taken into account: the odds of participating were about two to three times higher for children with disabilities living in families with incomes over $60,000. On the other hand, a family's income had no association with the odds that their child was engaged in non-sport activities or virtual peer networks (Table 2).

**CST Table 2 Odds ratios of children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006**

| | Odds ratios of being participant versus non-participant | | |
|---|---|---|---|
| | Organized sports and physical activities | Organized non-sport activities | Virtual peer network |
| | odds ratios | | |
| **Child's condition** | | | |
| **Child's type of disability** | | | |
| Physical only † | 1.0 | 1.0 | 1.0 |
| Non-physical only | 0.9 | 0.6* | 0.6 |
| Both physical and non-physical | 0.7 | 0.6* | 0.6 |
| **Severity of disability** | | | |
| Mild † | 1.0 | 1.0 | 1.0 |
| Moderate | 0.9 | 1.0 | 0.9 |
| Severe | 1.0 | 1.0 | 0.8 |
| Very severe | 0.7 | 1.2 | 0.4* |
| **Effect of child's condition on functioning** | | | |
| **Child's condition causes disadvantages at school** | | | |
| None/a few † | 1.0 | 1.0 | 1.0 |
| Often/always | 0.9 | 1.0 | 0.8 |
| **Child's condition causes disadvantages in transportation or leisure** | | | |
| None/a few † | 1.0 | 1.0 | 1.0 |
| Often/always | 0.9 | 0.7 | 0.8 |
| **Child receives help with everyday activities because of condition** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 1.1 | 1.3 | 0.4* |
| **Overall. the school accommodates the child's condition** | | | |
| Mainly agree † | 1.0 | 1.0 | 1.0 |
| Strongly agree | 1.1 | 1.0 | 1.5* |

## Table 2 Odds ratios of children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006 (continued)

| | Odds ratios of being participant versus non-participant | | |
|---|---|---|---|
| | Organized sports and physical activities | Organized non-sport activities | Virtual peer network |
| | odds ratios | | |
| **Child's social competencies** | | | |
| **Child looks forward to going to school** | | | |
| Sometimes/not often † | 1.0 | 1.0 | 1.0 |
| Most of the time | 1.1 | 0.8 | 0.6* |
| **Child gets along all right with friends and classmates (not siblings)** | | | |
| Usually † | 1.0 | 1.0 | 1.0 |
| Very well | 0.7* | 0.9 | 1.3 |
| **Age group** | | | |
| Age 5 to 9 years old † | 1.0 | 1.0 | 1.0 |
| Age 10 to 14 years old | 0.7* | 1.2 | 3.3* |
| **Sex** | | | |
| Boy † | 1.0 | 1.0 | 1.0 |
| Girl | 1.0 | 1.6* | 1.9* |
| **Family support** | | | |
| **Parent has high level of involvement in child's classroom activities** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 3.1* | 1.7* | 1.4 |
| **Parent has high level of involvement in school-level activities** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 1.4* | 1.6* | 1.1 |
| **Family structure** | | | |
| Lone-parent family † | 1.0 | 1.0 | 1.0 |
| Two-parent family | 0.7 | 1.3 | 0.7 |
| **Family income** | | | |
| Under $30,000 † | 1.0 | 1.0 | 1.0 |
| $30,000 to $59,999 | 1.0 | 0.9 | 1.0 |
| $60,000 to $89,999 | 1.8* | 1.2 | 1.2 |
| $90,000 or more | 2.8* | 1.3 | 1.1 |
| **Place of residence** | | | |
| Rural Canada † | 1.0 | 1.0 | 1.0 |
| Urban Canada | 1.7* | 1.0 | 0.8 |
| **Environmental barriers** | | | |
| **Societal barriers to participation** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 0.6* | 1.1 | 1.4 |
| **Personal barriers to participation** | | | |
| No † | 1.0 | 1.0 | 1.0 |
| Yes | 0.5* | 0.8 | 0.8 |

† reference group

* statistically significant difference from reference group at $p < 0.05$

Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

Another element of instrumental support, especially for children with disabilities, can be the family's proximity to services. Children with disabilities who lived in urban areas had significantly higher odds of taking part in organized sports than those who lived in rural areas. This finding may reflect the greater availability, in urban centres, of programs and facilities that can accommodate children with disabilities. In contrast, the family's place of residence was not significant for either lessons, clubs and groups, or for maintaining e-networks.

### Environmental barriers associated with lower participation in organized sports

Barriers in the environment can play a key role in the level of social engagement available to a child with disabilities. For example, if an activity such as baseball or hockey is not adapted to accommodate a child, he may be prevented from participating. Similarly, if a child is without adequate transportation, she is often unable to attend events or activities.[14] And while children with physical limitations may lose opportunities to take part in physical activities, children with non-physical disabilities may be excluded from activities due to cognitive conditions that cause inappropriate interaction with peers.[15]

We identified two categories of environmental barriers: societal barriers that include programs or facilities not being available locally, transportation difficulties and high costs; and personal barriers directly related to the individual, which include the child needing special equipment or someone else's help to join an activity, and limitations caused by the child's condition.

As expected, PALS shows that children with disabilities were less likely to participate in organized sports if they encountered environmental barriers. Fewer than half of children who reported societal and personal barriers took part, compared with over two-thirds of other children with disabilities.

After controlling for other factors, environmental barriers remained significant only for sports participation. That is, kids who faced both societal and personal barriers had lower odds of participating in organized sports.

Children were also less likely to maintain virtual peer networks if they faced environmental barriers to going online or talking on the phone; however, these factors did not remain significant once other variables in the model were taken into account.

### Summary

Greater efforts are being made to accommodate children with disabilities in many extracurricular activities such as organized sports, groups and clubs. But data from the 2006 Participation and Activity Limitation Survey show that, depending on the type of activity, as many as one-quarter to one-half of kids with disabilities never participate.

A child's participation in activities outside the home and school is a key measure of his or her level of social engagement. This study found that about two-thirds of children aged 5 to 14 with disabilities and living with their parents took part in organized sports and physical activities; just over half were involved in non-sport organized activities like taking lessons, joining clubs and community groups; and a little less than three-quarters were engaged in virtual networks with their peers online and on the phone.

Regression models suggest that the child's type of disability was significantly associated only with participation in non-sport activities; similarly, the severity of their limitation was related only to maintaining virtual networks with peers. Parental support at school significantly increased a child's odds of participating in both organized sports and in non-sport activities, but not in virtual peer networks.

Other factors associated with the odds that a child would take part in social activities tended to vary with the activity. Having a higher family income, living in an urban area and getting along well with other children were related to sports participation. Environmental barriers and being between 10 and 14 years old were negatively associated with sports participation. Being a girl was positively associated with taking part in organized non-sport activities.

Possibly because virtual peer networks are not mediated by adult instructors and coaches, the factors associated with participation in this activity are somewhat different. Children had higher odds of being engaged in a peer network if they were a girl, 10 to 14 years old, and attended a school that does a good job of accommodating their condition.

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5. Hanvey. (2003). Guèvremont et al. (2008). A 2008 Statistics Canada report showed that 86% of children and youth aged 6 to 17 participated at least once a month in at least one extracurricular activity, with organized sports being more common than non-sports activities such as lessons (music, art, drama, etc.) and membership in clubs or community groups.
6. Statistics Canada. (2007, December 3). Participation and Activity Limitation Survey. *The Daily*. Statistics Canada Catalogue no. 11-001-XWE. Almost three-quarters of all children with disabilities have been diagnosed with more than one disability.
7. Of course, many children were active in unorganized physical activities (i.e. did not involve a coach, instructor or supervisor) which are not included in this study's definition of sports. Two-thirds (66%) of disabled children aged 5 to 14 who lived with their parents took part in these unorganized activities, and of these children, 74% participated at least once a week.
8. Bortoli, A., and Brown, M. P. (2002). *The significance of attention during social engagement*. Document presented at the Australian Association for Research in Education Conference, Brisbane, Australia.
9. Law, M., Finkelman, S., Hurley, P., Rosenbaum, P., King, S., King, G., and Hanna, S. (2004). Participation of children with physical disabilities: relationships with diagnosis, physical function, and demographic variables. *Scandinavian Journal of Occupational Therapy, 11*(4), 156-162. In a study of children with physical disabilities, Canadian researchers found that the diagnostic category of the child's condition was not a significant influence on participation in daily activities, once adjusted for age, sex and physical function, and suggest that other personal, family and environmental characteristics are important predictors of participation.
10. Readers should recall that these responses are reported by the parent and not the child.
11. Bortoli and Brown (2002). Research has shown that the social networks of non-disabled children are made up primarily of friends of the same sex, while those of children with a disability (whether they are boys or girls) are composed mainly of female friends. One explanation is that girls generally have a higher likelihood than boys of being friends with a child who has a disability.
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