

# HEALTH SURVEILLANCE INDICATORS: STRESS



## Public Health Relevance

Stress can be both short-term (acute) or chronic if it builds up over a long period of time. Major life events, such as a death of a loved-one, break-up of a relationship, or job loss, can require a major adjustment in a short period of time and contribute to acute stress. Chronic stressors do not always have an obvious beginning as they may develop slowly and persist over time. Common causes of chronic stress include financial worries, care giving, health problems, and aging. Work stress is one of the most common forms of chronic stress experienced by Canadians.

Although there is an optimal amount of mild stress that can contribute to productivity, high levels can have a negative impact on quality of life and can be linked to poor overall mental health. High levels of chronic stress can contribute to health problems, poor relationships, and loss of productivity at work. Stress can also affect physical health because it can modify the response of the immune system and because people may choose unhealthy behaviours as a means to cope with stress. Highly stressful lives are linked with a higher likelihood and severity of cardiovascular disease, musculoskeletal disorders, and psychological disorders. The negative effects of stress can be reduced by external resources, personal resources, and social support.

## Highlights

1. Approximately 7 in 10 people in Toronto reported that most days in life and at work were 'a bit' or more stressful.
2. Self-reported life and work stress in Toronto both remained fairly stable from 2007 to 2014.
3. Neither self-reported life stress nor work stress were significantly different in Toronto compared to the rest of Ontario and the rest of the GTA.
4. Socio-demographic factors such as age, education, income level, and immigrant status were associated with significant differences in self-reported life and work stress amongst people in Toronto.

## Overall Self-Reported Life and Work Stress

Approximately 7 in 10 people in Toronto reported that most days in life and at work were 'a bit' or more stressful.

Figure 1 shows the percent of people aged 15 years and older in Toronto that reported most days in their life as 'not at all', 'not very', 'a bit', 'quite a bit' or 'extremely' stressful in 2013/2014. It also shows the percent of people aged 15 to 75 years in Toronto who had worked at a job or business in the past 12 months that reported most days at work as 'not at all', 'not very', 'a bit', 'quite a bit', or 'extremely' stressful in 2013/2014.

Nearly half of the people in Toronto reported that most days in life and at work were 'a bit' stressful. Approximately 24.2% of people in Toronto reported that most days in life were 'quite a bit' or 'extremely' stressful, whereas 29.8% reported the same for most days at work.

**Figure 1: Self-Reported Life and Work Stress, People Aged 15 Years and Older†, Toronto, 2013/2014**



† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

Error bars (I) represent the 95% confidence intervals.

Data Source: see Data Notes.

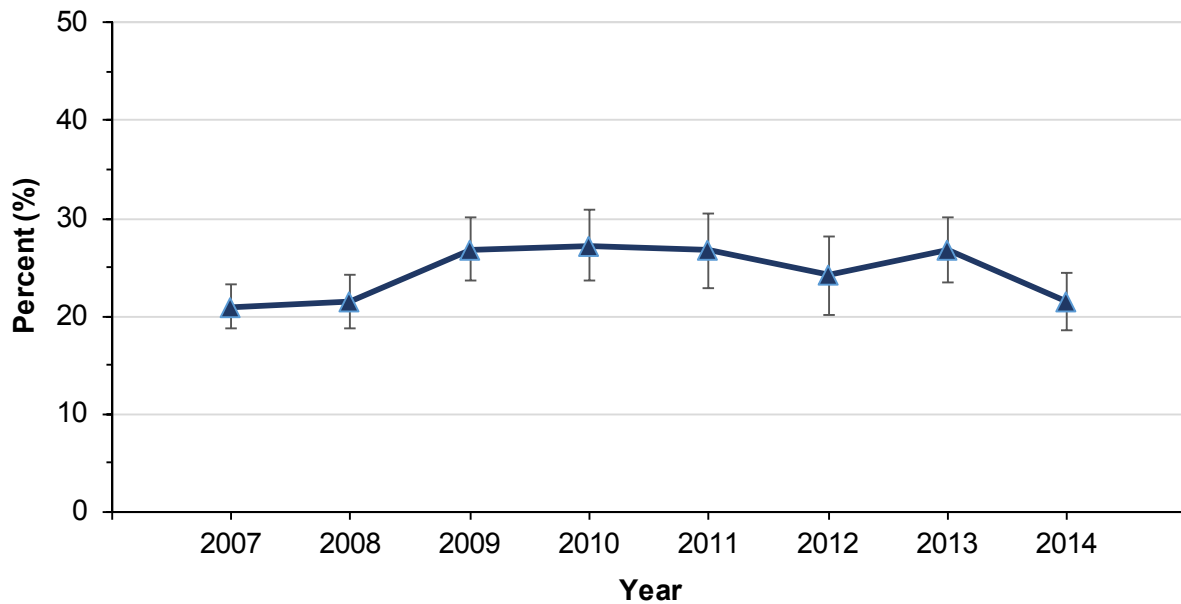
## Trends Over Time

Self-reported life and work stress in Toronto remained fairly stable from 2007 to 2014.

Figure 2 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful in Toronto from 2007 to 2014.

The percent of people that reported most days in their life as 'quite a bit' or 'extremely' stressful remained fairly stable from 2007 to 2014 (20.9% in 2007 versus 21.6% in 2014).

**Figure 2: Percent Reporting Most Days in Life as 'Quite a Bit' or 'Extremely' Stressful, People Aged 15 Years and Older, Toronto, 2007 to 2014**



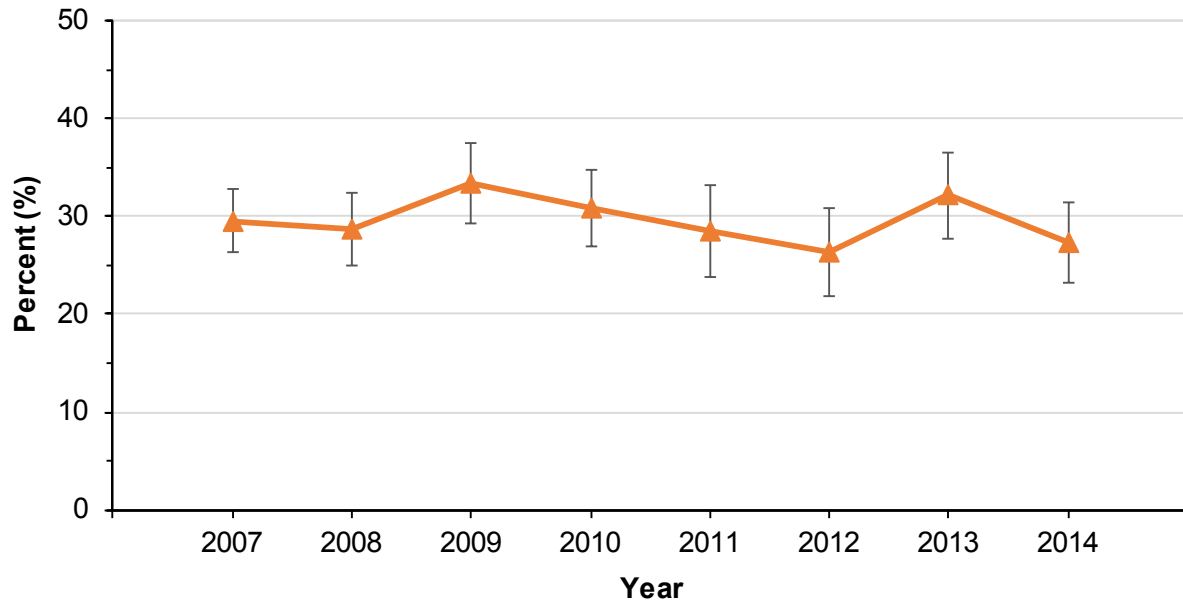
Error bars (I) represent the 95% confidence intervals.

Data Source: see Data Notes.

Figure 3 shows the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful in Toronto from 2007 to 2014.

A fairly stable trend was also observed for self-reported work stress during this eight year period (29.5% in 2007 versus 27.3% in 2014).

**Figure 3: Percent Reporting Most Days at Work as 'Quite a Bit' or 'Extremely' Stressful, People Aged 15 to 75 Years, Toronto, 2007 to 2014**



Error bars ( $\bar{I}$ ) represent the 95% confidence intervals.

Data Source: see Data Notes.

## Regional Comparisons

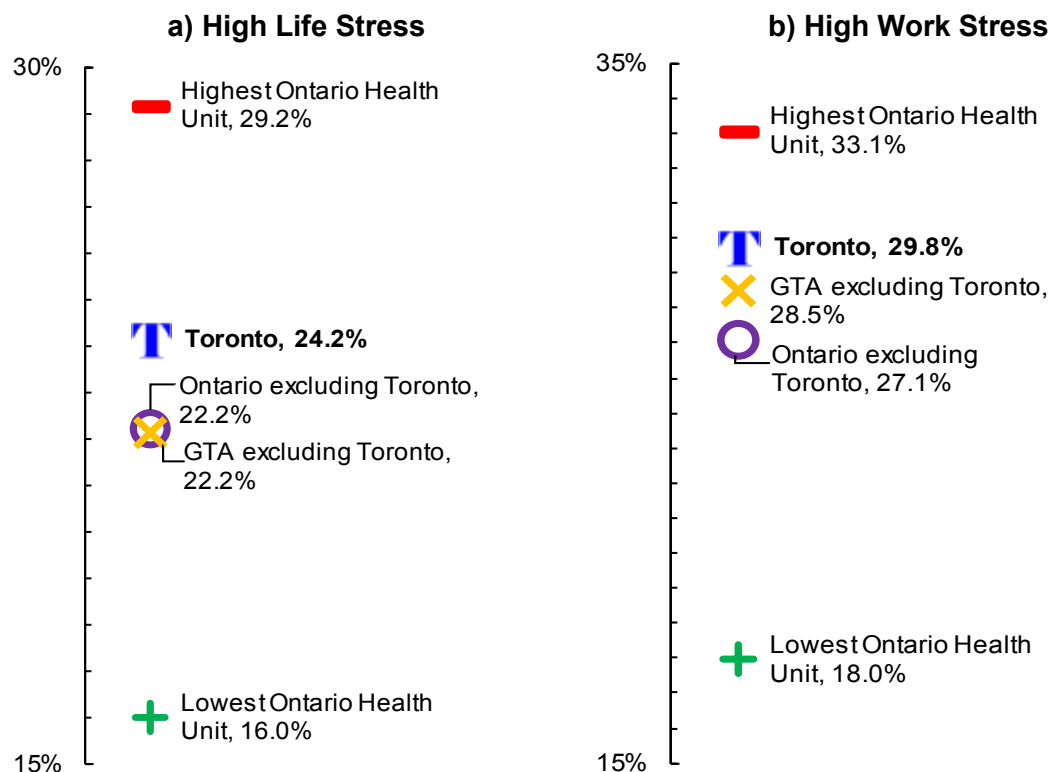
Self-reported life and work stress was not significantly different in Toronto compared to the rest of Ontario and the rest of the GTA.

Figure 4a shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful in Toronto compared to the rest of Ontario (Ontario without Toronto), the rest of the Greater Toronto Area (GTA without Toronto), and the health units (HUs) in Ontario with the highest and lowest percent in 2013/2014.

Figure 4b shows the same geographic comparisons for the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful.

The percent of people reporting most days in their life and at work as 'quite a bit' or 'extremely' stressful in Toronto was not significantly different compared to the rest of Ontario, the rest of the GTA, and the HU with the highest percent. People in Toronto were significantly more likely to report most days in their life and at work as 'quite a bit' or 'extremely' stressful as compared to the HU with the lowest percent.

**Figure 4: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful, People Aged 15 Years and Older†, Selected Regions in Ontario, 2013/2014**



† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

Data Source: see Data Notes.

## Socio-demographics

Socio-demographic factors such as age, education, income level, and immigrant status were associated with significant differences in self-reported life and work stress amongst people in Toronto.

Table 1 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by sex in Toronto in 2013/2014.

There were no significant differences in self-reported life and work stress by gender.

**Table 1: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Sex, People Aged 15 Years and Older†, Toronto, 2013/2014**

Sex	High Life Stress (%)	High Work Stress (%)
Male	22.3	26.3
Female	25.9	33.5

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

Table 2 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by age group in Toronto in 2013/2014.

Adults aged 25 to 64 years were significantly more likely to report most days in their life as 'quite a bit' or 'extremely' stressful as compared to adults aged 65 years and older. There were no significant differences in self-reported work stress between the age groups.

**Table 2: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Age Group, People Aged 15 Years and Older†, Toronto, 2013/2014**

Age Group	High Life Stress (%)	High Work Stress (%)
15 to 24 Years	22.2	22.6
25 to 44 Years	27.5 <sup>H</sup>	32.0
45 to 64 Years	26.6 <sup>H</sup>	31.3
65 Years and Older	13.9	S

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

<sup>S</sup> Extremely high sampling variability. Estimate suppressed.

<sup>H</sup> Significantly higher than the age group with the lowest percent, indicating an unfavourable result.

Data Source: see Data Notes.

Table 3 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by education level in Toronto in 2013/2014.

People with post-secondary education were significantly more likely to report most days in their life as 'quite a bit' or 'extremely' stressful as compared to people with less education. There were no significant differences in self-reported work stress by education level.

**Table 3: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Education, People Aged 15 Years and Older†, Toronto, 2013/2014**

Education Level	High Life Stress (%)	High Work Stress (%)
Less than High School	18.8	22.7 <sup>c</sup>
High School Graduate	18.7	24.0
Post-Secondary Education	27.8 <sup>h</sup>	32.2

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

<sup>c</sup> Moderately high sampling variability, interpret with caution.

<sup>h</sup> Significantly higher than the education level with the lowest percent, indicating an unfavourable result.

Data Source: see Data Notes.

Table 4 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by immigrant status in Toronto in 2013/2014.

Canadian-born people were significantly more likely to report most days in their life as 'quite a bit' or 'extremely' stressful as compared to longer-term immigrants.

**Table 4: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Immigrant Status, People Aged 15 Years and Older†, Toronto, 2013/2014**

Immigrant Status	High Life Stress (%)	High Work Stress (%)
Canadian-born	28.0 <sup>h</sup>	33.8
Longer-Term Immigrant	20.1	26.5
Recent Immigrant	22.7	23.7

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

<sup>h</sup> Significantly higher than the immigrant status group with the lowest percent, indicating an unfavourable result.

Data Source: see Data Notes.

Table 5 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by income level in Toronto in 2013/2014.

Self-reported work and life stress was significantly higher in the high income group as compared to the low income group.

**Table 5: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Income Level, People Aged 15 Years and Older†, Toronto, 2013/2014**

Income Level	High Life Stress (%)	High Work Stress (%)
Low Income	21.1	24.6
Middle Income	22.3	26.4
High Income	28.8 <sup>H</sup>	35.8 <sup>H</sup>

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

<sup>H</sup> Significantly higher than the income group with the lowest percent, indicating an unfavourable result.  
Data Source: see Data Notes.

Table 6 shows the percent of people aged 15 years and older that reported most days in their life as 'quite a bit' or 'extremely' stressful, as well as the percent of people aged 15 to 75 years who had worked at a job or business in the past 12 months that reported most days at work as 'quite a bit' or 'extremely' stressful by ethno-racial identity in Toronto in 2013/2014.

There were no significant differences in self-reported life and work stress by ethno-racial identity.

**Table 6: Percent Reporting Most Days in Life and at Work as 'Quite a Bit' or 'Extremely' Stressful by Ethno-racial Identity, People Aged 15 Years and Older†, Toronto, 2013/2014**

Ethno-racial Identity	High Life Stress (%)	High Work Stress (%)
White	25.2	30.8
Racialized	23.0	28.6

† Percent of people who reported high work stress includes respondents aged 15 to 75 years who had worked at a job or business in the past 12 months.

Data Source: see Data Notes.



## Data Notes

### Notes

- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ( $\alpha \sim < 0.01$ ) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of drawing conclusions on population-based data. Multiple comparisons performed in the analyses were not taken into consideration when choosing the level of significance to test.
- Toronto is compared to the rest of Ontario (Ontario with Toronto removed) as opposed to the Ontario total because Toronto comprises a large proportion of the Ontario population. Toronto is also compared to the rest of the GTA (Greater Toronto Area) for the same reason.
- Data used for the regional comparisons normally shows the percentage for the Ontario health units with the highest and the lowest percentage. The purpose of these comparisons is to show the percent for Toronto relative to other areas in Ontario.
- The estimates in this indicator page are from self-reported data from the Canadian Community Health Survey (CCHS). Self-reported data have a number of limitations. People do not always remember their behaviours, and may under-report or over-report certain behaviours or characteristics based on their perceived social desirability. For example, people may be reluctant to report a high level of stress in their lives. In addition, surveys do not always provide a representative picture of the whole population. The CCHS under-represents people of low income, people with low education, and new immigrants. If a respondent did not respond to a survey question relevant to the analysis presented, they were excluded from both the numerator and the denominator.
- Time trend analysis is based on the most recent 8 years of data. This is because the CCHS changed from a two-year release cycle to an annual release cycle starting in 2007.

### Definitions

**95% Confidence Interval** is the range within which the true value lies, 19 times out of 20.

**High Life/Work Stress** is used to describe respondents who reported that most days were 'quite a bit stressful' or 'extremely stressful'.

**Immigrants** are those respondents whose country of birth is outside of Canada.

**Income Level** is derived as three equally divided parts of the weighted population based on the respondents' adjusted household income ratios. A respondent's adjusted household income ratio is calculated using the total household income, Statistics Canada's 2013-2014 Low Income Cut Offs (LICOs), and the CCHS income adjustment factor. Approximately 30% of survey respondents included in this analysis had their income level imputed based on other socio-demographic characteristics.

**Longer-term Immigrants** refers to individuals that arrived within the ten year period prior to data collection.

**Racialized** is used to define groups that do not identify themselves as White, recognizing that 'races' or 'visible minorities' are socially constructed but have real consequences for individuals and communities. Ethnic origins in this category include Black, Korean, Filipino, Japanese, Chinese, South Asian, Southeast Asian, Arab, West Asian, Latin American, other racial/cultural origin, and multiple racial/cultural origins. Aboriginal respondents are not included in this category because of their unique identity, history, and experiences. They are excluded from the analysis by ethno-racial identity.

**Recent immigrants** or "Newcomers" are respondents that had arrived in Canada in the ten years prior to the data collection.

**Self-Reported Life Stress** was determined by the question: 'Thinking about the amount of stress in your life, would you say that most days are: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?'. Only respondents aged 15 years and older were included in the sample.

**Self-Reported Work Stress** was determined by the question: 'The next question is about your main job or business in the past 12 months. Would you say that most days were: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?'. Only respondents aged 15 to 75 years who indicated that they had worked at a job or business in the past 12 months were included in the sample.

**Sex** defines people based on their biological characteristics, whereas 'Gender' is a socially constructed concept. From a social determinants of health perspective, certain health conditions can be associated with gender, and from a biological perspective, health conditions can be associated with sex. Although rating based on both concepts would be preferable, the data source used here only collects information on sex, and not gender.

## Sources

**Canadian Community Health Survey:** Canadian Community Health Survey (CCHS), 2007 to 2014. Statistics Canada, Share File, Knowledge Management and Rating Branch, Ontario Ministry of Health and Long-Term Care.

Used in:

- Figures 1-4
- Tables 1-7

Health Surveillance Indicator: Stress

Category: Chronic Disease

Prepared: August, 2017

This indicator report is part of a series that informs the ongoing assessment of Toronto's health status. For a full list of the indicators, please go to: [www.toronto.ca/health](http://www.toronto.ca/health)