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Life Satisfaction in Canada Before and During the COVID-19 Pandemic

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Table of contents

Abstract	5
Executive summary	6
1 Introduction	7
2 Data sources and concepts	8
3 Life satisfaction prior to and during the pandemic - Rresults	9
3.1 Descriptive results.....	9
3.2 Multivariate results	17
4 Conclusions	24
References	25

Abstract

The COVID-19 pandemic has had unprecedented impacts on many key aspects of life, such as health, social connections, mobility, employment and incomes. Life satisfaction provides the best available umbrella measure of the combined effects of these changes on the well-being of Canadians. Using population-representative samples from the 2018 Canadian Community Health Survey (CCHS) and the June 2020 Canadian Perspectives Survey Series (CPSS) survey, this study compares the life satisfaction of Canadians before and during the COVID-19 pandemic.

From 2018 to June 2020, average life satisfaction in Canada declined from 8.09 to 6.71 on a 0-to-10 response scale—a decline of 1.38 points—accompanied by a significant increase in the inequality of its distribution. Ordinary least squares regression models based on a pooled sample and a full set of interaction terms indicate that life satisfaction fell by about 0.35 points more among youth aged 15 to 29 than among individuals aged 30 to 59, after accounting for other characteristics. Likewise, life satisfaction declined more among immigrants from two broad regions—Asia, and the United States, Europe and Australasia—than it did among individuals born in Canada. Differences in life satisfaction across other demographic characteristics, including sex, household composition, education, and urban or rural residence, did not change significantly during the pandemic from what they were prior to it. Notably, the distributions of life satisfaction answers were essentially identical for males and females in 2018, and they remained so, at significantly lower levels for both sexes, in June 2020.

Declines in the shares of CCHS and CPSS respondents who were actively employed and increases in unemployment rates within economic regions are estimated to account for 0.41 points—or just under one-third—of the total 1.38-point decline in overall life satisfaction observed between 2018 and June 2020. The addition of weighted-average effects of other individual variables, most notably fears of adverse social reactions from others during the pandemic, yielded a total effect of 0.54 points, or about 39% of the 1.38-point decline.

Executive summary

The COVID-19 pandemic has had unprecedented impacts on many key aspects of life, such as health, social connections, mobility, employment and incomes. Life satisfaction provides the best available umbrella measure of the combined effects of these changes on the well-being of Canadians. Using population-representative samples from the 2018 Canadian Community Health Survey (CCHS) and the June 2020 Canadian Perspectives Survey Series (CPSS), this study compares the life satisfaction of Canadians before and during the COVID-19 pandemic. The sample sizes for the CCHS and CPSS are approximately 49,200 and 4,200, respectively.

From 2018 to June 2020, average life satisfaction in Canada declined from 8.09 to 6.71 on a 0-to-10 response scale—a decline of 1.38 points. This is the lowest level of life satisfaction observed in Canada over the 2003-to-2020 period for which comparable data are available. In June 2020, 40% of Canadians rated their life satisfaction as 8 or above on the scale, down from 72% in 2018; conversely, 40% of Canadians rated their life satisfaction as 6 or below, up from 12%. This decline in life satisfaction was accompanied by a significant increase in the inequality of its distribution.

There was little difference in average life satisfaction reported by women and men, either prior to or during the pandemic. In contrast, average life satisfaction changed far more across age groups, declining by 1.76 points among Canadians aged 15 to 29, by 1.32 points among those aged 30 to 59, and by 1.21 points among those aged 60 or older. Decreases in average life satisfaction were also relatively large among immigrants. Declines of 1.82 points among those from Asia and of 1.74 points among those from the United States, Europe and Australasia were observed, compared with a decline of 1.30 points among Canadian-born individuals. The relatively large declines in average life satisfaction among youth and immigrants were confirmed in multivariate regression models based on pooled samples and a full set of interaction terms. Differences in life satisfaction across other demographic characteristics, including sex, household composition, education, and urban or rural residence, did not change significantly during the pandemic from what they were prior to it.

Respondents' own employment circumstances were correlated with life satisfaction to about the same degree in 2018 and 2020; however, the incidence of employment was about 7 percentage points lower in June 2020 than in 2018. Not being employed lowered life satisfaction by 0.342 points, so shifting 7% of respondents out of employment lowered average national life satisfaction by an estimated 0.023 points (0.342×0.067). A related channel of influence was the increase in unemployment rates in the economic regions where respondents live. Each 1% increase in the regional unemployment rate is estimated to yield a decline in life satisfaction of 0.059 points. The Canadian unemployment rate was 12.3% in June 2020—6.5 points higher than the average through 2018, at 5.8%. This 6.5-point increase in the unemployment rate translates into a 0.38-point (0.059×6.5) reduction in average national life satisfaction. Combining the estimated direct and contextual effects leads to a very approximate total unemployment effect of 0.41 points, about one-third of the 1.38-point overall life satisfaction drop between 2018 and June 2020.

In terms of social factors, CPSS respondents were asked about their fear of being the target of unwanted or intimidating acts or behaviours during the pandemic. About 20% of the sample expressed such fears, with a negative correlation with life satisfaction of 0.689 points. This would account for a 0.14-point drop in the population's average life satisfaction (0.197×0.689), 1/10 of the total decline of 1.38 points. Given the absence of other social context questions, this effect probably picks up some effects related to other concerns. In combination with unemployment effects, this accounted for a total of 0.54 points, or about 39% of the 1.38-point decline in national life satisfaction.

1 Introduction

The COVID-19 pandemic has had unprecedented impacts on several key aspects of Canadian life, such as health, social connections, mobility, employment and incomes. Data are gradually emerging on what changes have taken place in each of these areas. Life satisfaction provides the best available umbrella measure of the combined effects of all these changes. Since it is measured at the individual level, it also provides a chance to look beneath the averages to see which segments of the population have been most affected. Ideally, observations of life satisfaction before and during COVID-19 from the same survey, perhaps even from the same individuals, could be compared. Such information is not yet available, but information is available from two Statistics Canada surveys—the 2018 Canadian Community Health Survey (CCHS) and the June 2020 Canadian Perspectives Survey Series (CPSS) survey—both providing samples that are representative of the non-institutionalized population. The sample sizes for the CCHS and CPSS are approximately 49,200 and 4,200, respectively. This study uses these data to compare life satisfaction in Canada before and during the pandemic, drawing comparisons across the population as a whole and among different regions and demographic groups.

Life satisfaction data have been collected for almost 40 years in Canadian social surveys, and for almost 20 years in the CCHS. It has become an important national health statistic in Canada, and CCHS life satisfaction responses have already been shown to have relevance for health care, as a predictor both of future demands on the health care system (Goel et al. 2018) and of subsequent morbidity and mortality (Rosella et al. 2019), even after allowing for pre-existing health conditions. In the context of COVID-19, life satisfaction can provide an essential umbrella measure of the effects of COVID-19 on well-being. It can also show how these effects are distributed within regions and communities and provide possibilities for assessing the overall welfare effects of different strategies for dealing with the pandemic as it continues to unfold (Helliwell et al. 2020). As an encompassing measure of mental health, it provides scope for the combined effects of anxiety and isolation, as offset by the rewards of community effort, local connections, and digital links with family and friends.

This study provides a broad-brush view of how life satisfaction has changed for people of different ages and circumstances but not yet with sufficient detail to estimate more precisely the interplay of social and economic contexts that underlies these changes. Better understanding of these changes will help in the choice of private behaviours and public policies to enable happier lives without excessive risk to health and livelihoods.

The rest of the paper is organized into three sections. Section 2 provides information on the data sources used for the analysis. Results are presented in Section 3. Descriptive results are first presented, comparing life satisfaction responses between 2018 and June 2020 among Canadians with selected sociodemographic characteristics. Subsequently, life satisfaction across these and other characteristics is examined in a multivariate framework, more precisely gauging the impact of the pandemic on population groups. When the simple distributions and the multivariate analysis are considered together, the most important COVID-19-related changes relate to age, immigrant status and employment. Conclusions and next steps are discussed in Section 4.

2 Data sources and concepts

Data from the June 2020 CPSS and the 2018 CCHS are used for this study. The CPSS is a new Statistics Canada initiative aimed at collecting information on social issues rapidly and at a lower cost. Cross-sectional surveys are fielded online about once a month, with collection lasting about one week. Each survey in the CPSS is administered to a subsample of Labour Force Survey (LFS) respondents. The LFS sample is drawn from an area frame and is based on a stratified, multi-stage design that uses probability sampling. The CPSS is designed to produce data at a national level (excluding the territories). The CPSS survey used for this analysis was fielded from June 15 to 21, 2020, with information collected from a sample of approximately 4,200 respondents. More detailed information on the CPSS is available at <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5311>.

The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the Canadian population. Data are collected from a large sample of respondents aged 12 years or older living in the 10 provinces and the 3 territories, using computer-assisted personal and telephone interview software. Data collection runs from January to December, with annual 2018 data used for this study. The sample for this study was limited to 2018 CCHS respondents who were aged 15 or older at the time of the survey and living in the 10 provinces. This selection, which yielded a sample of approximately 49,200 CCHS respondents, was necessary to replicate the sample of the June 2020 CPSS survey. More detailed information on the CCHS is available at <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=795204>.

While both the 2018 CCHS and the June 2020 CPSS are designed to provide information that is representative of the Canadian population, differences in broader survey content, data collection modes and other factors may influence life satisfaction responses. It will be possible to assess such issues when results from the 2020 CCHS and other surveys become available.

Both CCHS and CPSS respondents were asked the following question:

Using a scale of 0 to 10, where 0 means “very dissatisfied” and 10 means “very satisfied,” how do you feel about your life as a whole right now?

The household composition variable used in this analysis is a combination of two variables: household size and presence of children younger than 18 in the household. This yields a parsimonious set of categories relevant to COVID-19-related concerns about social isolation and family-related issues. Marital status was included in exploratory models but dropped for reasons of parsimony.

The CPSS includes information on landed immigrant status and country of birth, but not on year of arrival. Immigrants were categorized by source region rather than period of arrival for this reason. The 2018 CCHS indicated that 68% of immigrants from the United States, Europe and Australasia landed in Canada before 1998 (i.e., more than 20 years earlier), compared with 33% of immigrants from Asia and 38% of immigrants from other regions. The small size of the CPSS sample necessitated the use of broad regional categories to ensure sufficient numbers of respondents within cells to produce robust statistical estimates. Similarly, the small number of CPSS respondents in less populous provinces required the use of two regional aggregations—Atlantic Canada, and Manitoba and Saskatchewan.

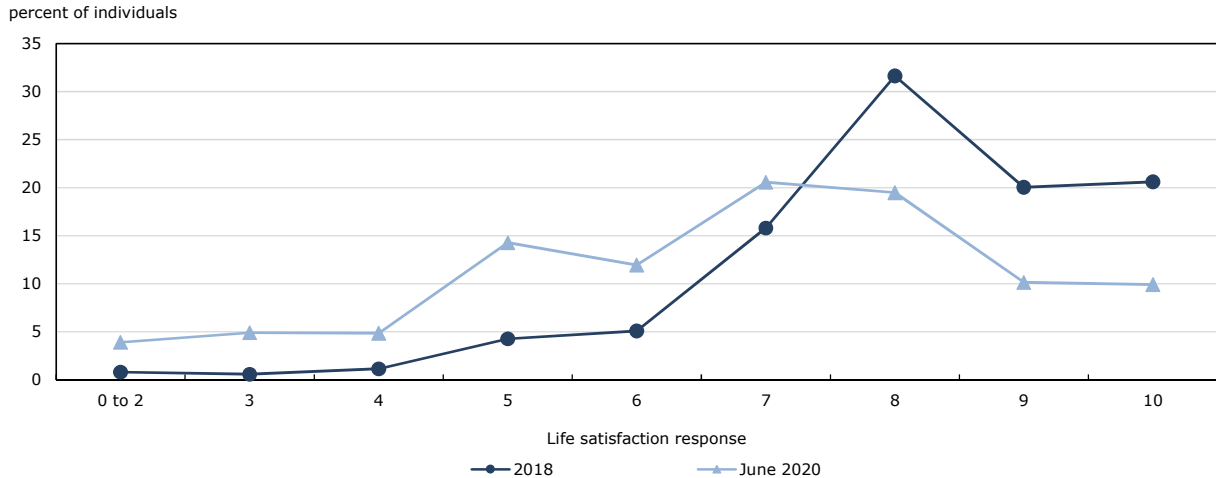
3 Life satisfaction before and during the pandemic— results

3.1 Descriptive results

In 2018, average life satisfaction among Canadians was 8.09 on the 0-to-10 scale—about the same as it had been in each of the three years prior. But by June 2020, average life satisfaction had declined to 6.71—a decline of 1.38 points on the scale. This is the lowest level of life satisfaction observed in Canada over the 2003-to-2020 period for which comparable data are available,¹ and it is similar to the 1.2-point drop in average life satisfaction observed in the United Kingdom (Fujiwara et al. 2020).²

The distributions of life satisfaction responses in Canada in 2018 and June 2020 are shown in Chart 1.³ In June 2020, about 20% of Canadians rated their life satisfaction as 8 on the scale, down from the 32% who did so in 2018. More broadly, the share of Canadians rating their life satisfaction as 8 or above declined from 72% to 40% over this period, while the share rating their life satisfaction as 6 or below increased from 12% to 40%.

Chart 1
Canadians' ratings of how they feel about their life as a whole right now, response distributions, Canada, 2018 and June 2020



Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

The downward shift of Canadians on the life satisfaction scale was accompanied by an increase in the standard deviation around the mean.⁴ Thus, inequality of life satisfaction has grown, a result that has been shown in previous research to have negative consequences for average life satisfaction (Goff, Helliwell and Mayraz 2018).

1. The lowest levels of average life satisfaction in Canada were observed in the 2005 and 2010 General Social Survey on Time Use, at 7.60 and 7.73, respectively. Life satisfaction responses in time-use surveys reflect a survey framing effect estimated at -0.25 (Bonikowska et al. 2014), suggesting that the actual levels were around 7.85 and 7.98 in those years.

2. Fujiwara et al. (2020) “conducted a web survey delivered through an online panel of 1,982 adult residents of the United Kingdom of Great Britain and Northern Ireland (UK). Quotas were used on gender, age, and region to help make the survey representative of the nation.... The survey was delivered by the online panel company Watermelon between 9-19 April 2020.” In addition, they used “data from the ONS Annual Population Survey (APS) from the period March to April 2019 to build a control group in order to assess the impact of COVID-19.”

3. Responses of 0, 1 and 2 were aggregated in light of small cell counts in the June 2020 CPSS.

4. In 2018, the standard deviation around average life satisfaction in Canada was 1.575 (95% confidence interval = 1.575 to 1.576), while in June 2020 the standard deviation was 2.181 (95% confidence interval = 2.181 to 2.182).

The CPSS and CCHS contain a common set of sociodemographic variables, allowing comparisons to be drawn between the two data sources. The distributions of CPSS and CCHS respondents across these variables are shown in Table 1. The compositional characteristics of the weighted CPSS and CCHS are very similar, highlighting the comparability and representativeness of the two samples. Youth aged 15 to 19, for example, accounted for 21.9% of the population represented by the 2018 CCHS and 21.3% of the population represented by the June 2020 CPSS.

Table 1
Distributions of respondents, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series

	2018 CCHS	June 2020 CPSS
	percent	percent
Sex		
Male	49.3	49.4
Female	50.7	50.7
Total	100.0	100.0
Age group (years)		
15 to 29	21.9	21.3
30 to 59	49.6	49.0
60 or older	28.5	29.7
Total	100.0	100.0
Household composition		
Live alone	15.4	15.5
Live with others, no children	51.3	52.6
Live with others, children present	33.3	32.0
Total	100.0	100.0
Education		
High school or less	37.5	39.2
Non-university postsecondary	34.8	32.8
University degree	27.7	28.0
Total	100.0	100.0
Immigrant status		
Born in Canada	72.5	75.0
Immigrant—United States, Europe and Australasia	8.4	8.4
Immigrant—Asia	13.3	11.2
Immigrant—Other regions	5.8	5.4
Total	100.0	100.0
Region/province of residence		
Atlantic	6.6	6.5
Quebec	23.1	22.9
Ontario	39.3	39.6
Manitoba and Saskatchewan	6.3	6.4
Alberta	11.5	11.4
British Columbia	13.3	13.4
Total	100.0	100.0
Urban/rural residence		
Rural	17.1	15.9
Urban	82.9	84.1
Total	100.0	100.0
Concerned about being targeted		
Yes	..	19.7
No	..	80.3
Total	..	100.0
Employment status		
Employed	57.8	51.0
Employed—Absent from work	5.2	6.3
Not employed	37.1	42.7
Total	100.0	100.0

.. not available for a specific reference period

Sources: Statistics Canada, 2018 Canadian Community Health Survey (CCHS) and June 2020 Canadian Perspectives Survey Series (CPSS).

Average life satisfaction across these sociodemographic characteristics is presented in Table 2. There was little difference in life satisfaction between women and men, on average, either prior to or during the pandemic. Average life satisfaction among women and men was virtually identical in 2018, at 8.09 and 8.10, respectively; in June 2020, the difference in average life satisfaction between them was still small (at 0.10) and statistically insignificant (Table 2). Likewise, the average life satisfaction of women and men did not differ significantly within age groups. The absence of differences in life satisfaction between women and men may be unexpected, given recent evidence showing that women rated their mental health less positively than men during the pandemic (Findlay and Arim 2020) and experienced a slightly slower rebound in employment levels (Statistics Canada, 2020a). Public discussion has also drawn attention to the employment disruptions and challenges in balancing work and family faced by women during the pandemic. Women were more likely than men, in most industrial countries, to say their lives have changed because of COVID-19 (Pew Research Center 2020, p. 8). Nonetheless, the levels of life satisfaction of Canadian women and men overall were almost identical in their averages and distributions across the response scale, as shown in Chart 2. Male-female differences in specific settings and circumstances may have had offsetting effects on life satisfaction, with gains in some aspects of life offset by losses elsewhere.

Table 2
Mean life satisfaction, by sociodemographic characteristics, Canada, 2018 and June 2020

	2018 Canadian Community Health Survey	June 2020 Canadian Perspectives Survey Series	Difference in mean life satisfaction
	Mean life satisfaction	Mean life satisfaction	
Total	8.09	6.71	-1.38
Sex			
Male	8.10	6.77	-1.33
Female	8.09	6.67	-1.42
Age group (years)			
15 to 29	8.17	6.41	-1.76
30 to 59	8.04	6.72	-1.32
60 or older	8.14	6.93	-1.21
Household composition			
Live alone	7.66	6.52	-1.14
Live with others, no children	8.15	6.78	-1.37
Live with others, children present	8.21	6.70	-1.51
Education			
High school or less	8.01	6.53	-1.48
Non-university postsecondary	8.08	6.86	-1.22
University degree	8.22	6.80	-1.42
Immigrant status			
Born in Canada	8.11	6.81	-1.30
Immigrant—United States, Europe and Australasia	8.14	6.40	-1.74
Immigrant—Asia	8.00	6.18	-1.82
Immigrant—Other regions	8.07	6.93	-1.14
Region/province of residence			
Atlantic	8.14	7.05	-1.09
Quebec	8.20	6.83	-1.37
Ontario	8.09	6.65	-1.44
Manitoba and Saskatchewan	8.08	6.98	-1.10
Alberta	8.00	6.66	-1.34
British Columbia	8.01	6.47	-1.54
Urban/rural residence			
Rural	8.24	6.98	-1.26
Urban	8.07	6.67	-1.40
Concerned about being targeted			
Yes	..	6.07	...
No	..	6.88	...
Employment status			
Employed	8.18	6.83	-1.35
Employed—Absent from work	8.09	6.32	-1.77
Not employed	7.95	6.67	-1.28

.. not available for a specific reference period

... not applicable

Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

Chart 2
Men's and women's ratings of how they feel about their life as a whole right now, response distributions, Canada, 2018 and June 2020

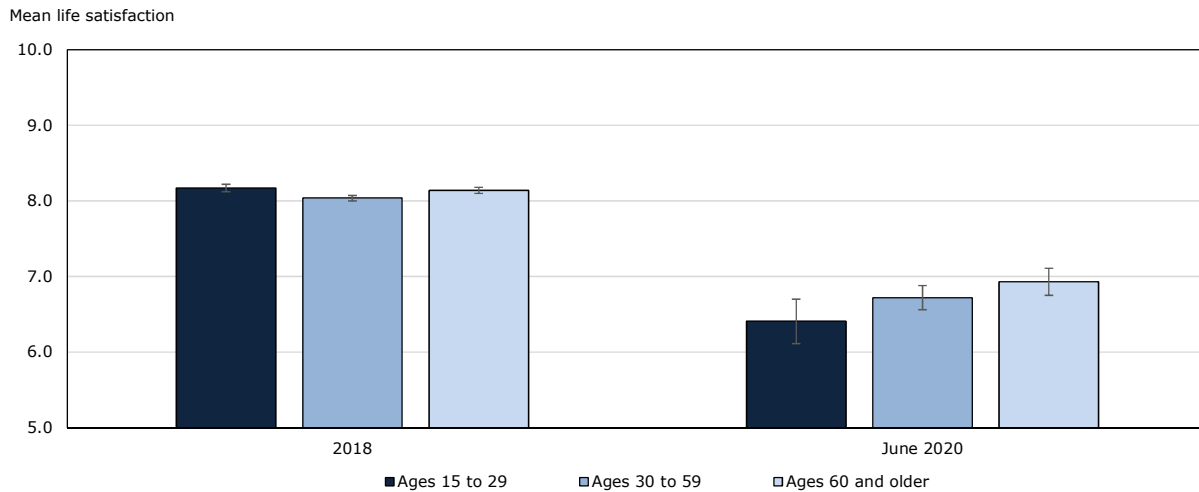


Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

In contrast, life satisfaction changed far more across age groups, declining more among youth and less among seniors.⁵ Between 2018 and June 2020, life satisfaction declined by 1.76 points among Canadians aged 15 to 29, by 1.32 points among those aged 30 to 59, and by 1.21 points among those aged 60 or older (Table 2). When another metric is considered, the share of individuals aged 15 to 29 rating their life satisfaction as 8 or above declined from 72% in 2018 to 26% in June 2020. This 46-percentage-point decline was far larger than the 30-percentage-point decline observed among individuals aged 30 to 59 and the 27-percentage-point decline for individuals aged 60 or older (Table 1). As a result, the well-documented U-shape relationship between life satisfaction and age (Helliwell et al. 2019) that was observed in 2018 was no longer evident in June 2020. At that point, life satisfaction was lowest among youth and successively higher among Canadians in the middle and oldest age groups (see Chart 3). Multivariate results confirm the relatively large decline in life satisfaction among youth.

5. Residents of collective dwellings, such as seniors' residences and long-term care facilities, are not included in either the CCHS or the CPSS. According to the 2016 Census, 6.8% of Canadians aged 65 or older lived in a nursing home or seniors' residence, with this proportion increasing to 30.0% among Canadians aged 85 or older (Garner et al. 2018).

Chart 3
Mean life satisfaction, by age group, Canada, 2018 and June 2020



Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

This COVID-19-induced change in the age distribution of life satisfaction is not unique to Canada. A COVID-19 tracking poll covering more than 20 countries, including Canada, showed the same pattern appearing generally, with people in the youngest age group reporting lower life evaluations than those in older age groups (Imperial College London 2020). A more detailed study by the U.K. Office for National Statistics (2020) provides insight into the interplay of factors. Although U.K. youth were generally more optimistic about the future and less likely to be worried about the effect of COVID-19 on their lives, other COVID-19-related factors were pushing in the opposite direction, leading to a net negative effect relative to older groups. Youth were more likely to feel lonely, more likely to be bored and less likely to have helped neighbours. Those who felt their lives were being adversely affected by COVID-19 reported being worried about relationships with friends and grandparents, and about the impact on schools and universities. Those aged 25 to 29 were more likely than younger and older individuals to have felt negative impacts of the pandemic on their work.

Evidence points to similar challenges among Canadian youth. During the pandemic, they expressed less positive assessments of their mental health than Canadians in the middle and oldest age groups. Between 2018 and April and May 2020 the share of them rating their mental health as very good or excellent declined by 20 percentage points (from 62% to 42%). The share of seniors doing so remained unchanged. Youth employment has also been hit particularly hard. Even after a rebound in June 2020, youth employment was still down 22.7% (-580,000) from February levels.⁶ Among students intending to return to school in the fall, the unemployment rate surged to 42.1% in May 2020, the highest rate on record since the start of the time series in 1976 (Statistics Canada 2020c).

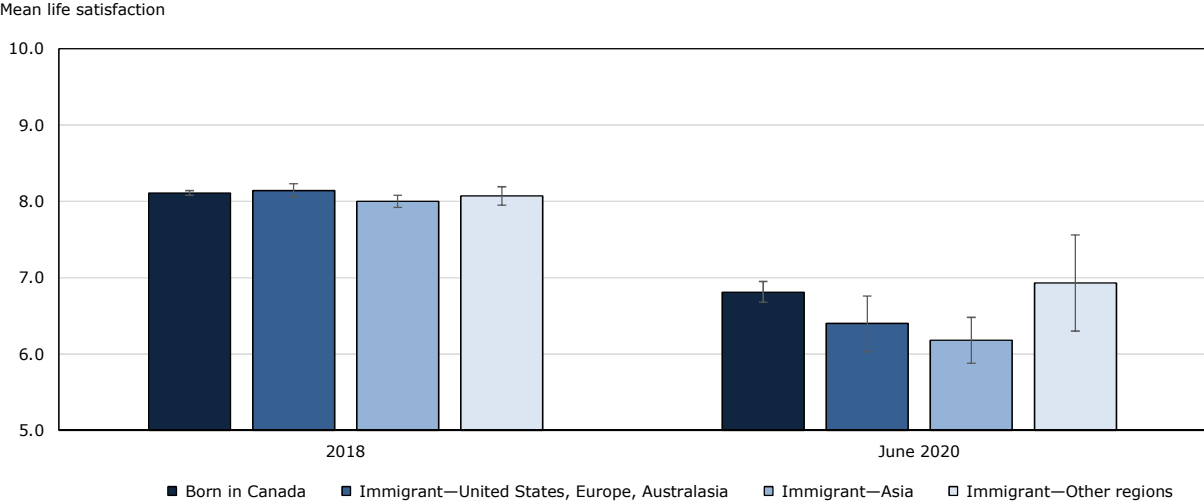
Immigrant status is another dimension across which differences in life satisfaction emerged. In 2018, average life satisfaction varied modestly between immigrants and individuals born in Canada. Life satisfaction was lowest among immigrants from Asia, at 8.00, and highest among Canadian-born individuals and immigrants from the United States, Europe and Australasia, at 8.11 and 8.14, respectively (Chart 4). The small differences between immigrants and Canadian-born individuals, in spite of wide differences in life satisfaction across immigrants' countries of

6. As noted in the June 2020 Labour Force Survey release, employment among 15- to 24-year-olds “was still down 22.7% (-580,000) compared with February, with the deficit being larger for young women (-26.4%) than young men (-19.1%).” (Statistics Canada 2020b).

origin, reflect a convergence in the life satisfaction of immigrants towards the average in their host country. This pattern has been observed in Canada, the United Kingdom and elsewhere.⁷

By June 2020, variation in average life satisfaction had widened across immigration categories (see Chart 4), reflecting larger declines among immigrants from Asia and from the United States, Europe and Australasia (-1.82 and -1.74, respectively) than among individuals born in Canada and immigrants from elsewhere.⁸ Multivariate techniques confirm these results.

Chart 4
Mean life satisfaction, by immigrant status, Canada, 2018 and June 2020



Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

Both economic and social factors could account for this outcome. Hou, Picot and Zhang (2020) showed that “recent immigrants were more likely than Canadian-born workers to move out of employment in March and April [2020]” and that this was “mainly because of their shorter job tenure and over-representation in lower-wage jobs.” CPSS data collected in March and April show that immigrants were significantly more likely than people born in Canada to be very or extremely concerned about a range of pandemic-related issues, such as their own health, the health of household members, their household finances, and the maintenance of social ties and social order (LaRochelle-Coté and Uppal 2020). And in June 2020, immigrants were more likely than Canadian-born individuals to report fear of being the target of unwanted or intimidating acts or behaviours because people judge them as putting others at risk. Such fears were expressed by 17% of people born in Canada and by 14% of immigrants from the United States, Europe and Australasia, but by 41% of immigrants from Asia. Across all CPSS respondents, life satisfaction was almost 0.80 points lower among respondents expressing such fears than among those who did not, at 6.07 and 6.88, respectively.

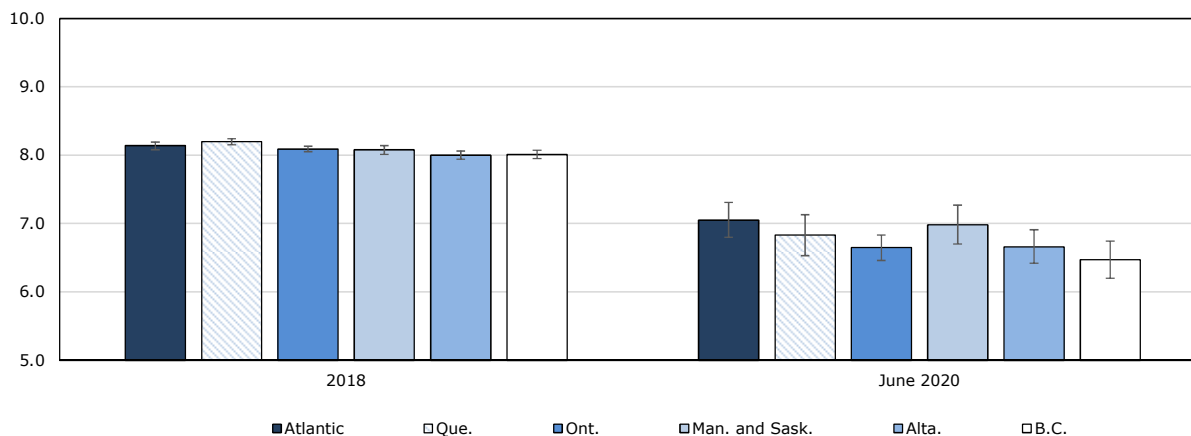
7. See Frank, Hou and Schellenberg (2016) for the first such results for Canada; Helliwell, Shiplett and Bonikowska (2020) for a more extended analysis of both Canadian and U.K. data, including subnational regional results; and Helliwell, Layard and Sachs (2018) for a global analysis.

8. The study refrains from highlighting changes in the life satisfaction of CPSS respondents who are immigrants from other regions, given smaller underlying samples and the non-significance of this variable in the multivariate models.

In terms of provinces and regions of residence,⁹ average life satisfaction in 2018 was 8.09 in Ontario; somewhat higher in Quebec, at 8.20; and somewhat lower in Alberta and British Columbia, at about 8.00. In June 2020, average life satisfaction was sharply lower in all provinces and regions, by amounts that differed among regions (Chart 5). The large confidence intervals around these estimates, mainly because of the relatively small size of the CPSS sample, make it premature to draw strong conclusions.

Chart 5
Mean life satisfaction, by province or region of residence, 2018 and June 2020

Mean life satisfaction



Sources: Statistics Canada, 2018 Canadian Community Health Survey and June 2020 Canadian Perspectives Survey Series.

Life satisfaction varies across several other sociodemographic characteristics, including household composition, highest level of education, and urban or rural place of residence. In 2018, for example, life satisfaction among individuals with a university degree, at 8.22, was higher than it was among individuals with a high school education or less, at 8.01. In June 2020, the difference between them was much the same. Similarly, life satisfaction was higher among individuals living in rural areas than in urban areas, with similar differences between them observed in June 2020 and in 2018.

3.2 Multivariate results

The frequencies and averages presented above highlight differences in life satisfaction across sociodemographic characteristics, but they do not allow the importance of each to be estimated net of the others. This is done in this section using a series of ordinary least squares (OLS) regression models. The first set of results is based on identical models run separately on the 2018 CCHS and June 2020 CPSS samples. (Table 3). This allows the direction, strength and significance of each correlate of life satisfaction to be gauged both before and during the pandemic. The first model (Table 3, Model 1) includes the sociodemographic characteristics introduced above, the second (Table 3, Model 2) adds respondents' employment status and the unemployment rate in their economic region of residence, and the third (Table 3, Model 3) adds respondents' fears of being victimized or harassed during the pandemic. Models that include unemployment rates in economic regions use clustered standard errors at the economic region level.

9. The small size of the CPSS sample necessitated the use of some regional categories to ensure sufficient numbers of respondents within cells to produce robust statistical estimates.

Table 3

Life Satisfaction regressed against socio-demographic and economic characteristics, Canada 2018 and June 2020

	Model 1				Model 2				Model 3	
	Sociodemographic characteristics only				Model 1 + economic characteristics				Model 2 + fear of harassment	
	2018 CCHS		June 2020 CPSS		2018 CCHS		June 2020 CPSS		June 2020 CPSS	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Sex										
Male	0.009	(0.024)	0.082	(0.119)	-0.021	(0.019)	0.093	(0.192)	0.075	(0.197)
Female (reference group)	...	...	...	...	...	...	...	...	...	...
Age group (years)										
15 to 29	0.189 **	(0.034)	-0.203	(0.198)	0.228 **	(0.023)	-0.125	(0.191)	-0.089	(0.184)
30 to 59 (reference group)	...	...	...	...	...	...	...	...	...	...
60 or older	0.252 **	(0.031)	0.362 *	(0.142)	0.437 **	(0.032)	0.409 *	(0.165)	0.374 *	(0.152)
Household composition										
Live alone	-0.502 **	(0.029)	-0.299 *	(0.143)	-0.489 **	(0.029)	-0.340 **	(0.127)	-0.347 **	(0.120)
Live w ith others, no children (reference group)	...	...	...	...	...	...	...	...	...	...
Live w ith others, children present	0.148 **	(0.032)	0.167	(0.154)	0.171 **	(0.030)	0.132	(0.098)	0.193 *	(0.093)
Immigrant status										
Born in Canada (reference group)	...	...	...	...	...	...	...	...	...	...
Immigrant—United States, Europe, Australasia	0.026	(0.044)	-0.478 *	(0.204)	0.033	(0.040)	-0.432 †	(0.218)	-0.328 †	(0.183)
Immigrant—Asia	-0.141 **	(0.049)	-0.589 **	(0.173)	-0.116 *	(0.053)	-0.473 **	(0.145)	-0.340 *	(0.133)
Immigrant—Other regions	-0.059	(0.069)	0.174	(0.355)	-0.062	(0.055)	0.201	(0.401)	0.256	(0.413)
Education										
High school or less (reference group)	...	...	...	...	...	...	...	...	...	...
Non-university postsecondary	0.117 **	(0.030)	0.301 †	(0.163)	0.080 **	(0.024)	0.319 †	(0.180)	0.275	(0.176)
University degree	0.296 **	(0.033)	0.351 *	(0.147)	0.247 **	(0.027)	0.370 *	(0.149)	0.322 *	(0.140)
Region/province of residence										
Atlantic	0.014	(0.037)	0.236	(0.169)	0.030	(0.064)	0.255 †	(0.147)	0.270 †	(0.142)
Quebec	0.121 **	(0.032)	0.081	(0.197)	0.121 *	(0.052)	0.166	(0.153)	0.182	(0.153)
Ontario (reference group)	...	...	...	...	...	...	...	...	...	...
Manitoba and Saskatchewan	-0.002	(0.041)	0.295 †	(0.175)	-0.007	(0.050)	0.164	(0.178)	0.209	(0.165)
Alberta	-0.087 *	(0.039)	-0.084	(0.174)	-0.095 **	(0.034)	0.049	(0.130)	0.073	(0.130)
British Columbia	-0.058	(0.039)	-0.150	(0.159)	-0.059 *	(0.026)	-0.232 †	(0.134)	-0.163	(0.121)
Urban/rural residence										
Rural	0.149 **	(0.026)	0.177	(0.155)	0.156 **	(0.029)	0.131	(0.150)	0.116	(0.156)
Urban (reference group)	...	...	...	...	...	...	...	...	...	...
Employment status										
Employed (reference group)	...	...	...	...	...	...	...	...	...	...
Employed—Absent from work	...	...	...	...	-0.154 *	(0.071)	-0.517 *	(0.223)	-0.537 *	(0.209)
Not employed	...	...	...	...	-0.342 **	(0.024)	-0.193	(0.133)	-0.231 †	(0.123)
ER-Unemployment rate	...	...	...	...	0.001	(0.014)	-0.059 †	(0.030)	-0.053 †	(0.028)
Concerned about being targeted										
Not concerned about unwanted behaviour (reference group)	...	...	...	...	...	...	...	...	...	...
Concerned about unwanted behaviour	...	...	...	...	...	...	...	...	-0.689 **	(0.170)
Constant	7.871 **	(0.043)	6.451 **	(0.215)	7.965 **	(0.072)	7.279 **	(0.440)	7.334 **	(0.416)
Number of observations	49,195	...	4,201	...	46,599	...	3,926	...	3,913	...
R-squared	0.027	...	0.030	...	0.035	...	0.035	...	0.049	...

... not applicable

* significantly different from reference category (p < 0.05)

** significantly different from reference category (p < 0.01)

† significantly different from reference category (p < 0.10)

Source: Statistics Canada, 2018 Canadian Community Health Survey (CCHS) and June 2020 Canadian Perspectives Survey Series (CPSS).

These equations confirm the main findings based on simple correlations. Among youth aged 15 to 29, life satisfaction in 2018 was 0.189 points higher than that reported by Canadians aged 30 to 59, while in June 2020 it was lower (-0.203) although no longer statistically significant (Table 3, Model 1). The relative decline in youth life satisfaction, at 0.392 points, is confirmed below (Table 4, Model 1). When employment status and regional unemployment rates are taken into account, the relative life satisfaction of youth still declined by 0.352 points (Table 4, Model 2).

Relatively low life satisfaction among some groups of immigrants is confirmed as well. In 2018, the life satisfaction of immigrants from Asia was 0.141 points below that of the Canadian-born population, while in June 2020 the difference was -0.589 points. Likewise, the difference between the life satisfaction of immigrants from the United States, Europe and Australasia and the Canadian-born population increased from statistical insignificance to -0.478 points over the period. When employment status and regional unemployment rates are taken into account, the difference in life satisfaction between immigrants and the Canadian-born population narrows somewhat, indicating that labour market experiences during the pandemic were a contributing factor, but only part of the story.

Across provinces and regions, multivariate results show that life satisfaction in June 2020 did not differ significantly between Ontario and most other provinces (Table 3, Model 2). That said, compared with Ontario, life satisfaction was 0.255 points higher in Atlantic Canada and 0.232 points lower in British Columbia, although these coefficients are significant at only the 10% level of confidence.¹⁰ To relate geographic differences in life satisfaction to differing COVID-19 outcomes will require larger samples becoming available in future surveys.

Other sociodemographic characteristics, most notably education and rural or urban residence, exhibited similar relationships with life satisfaction before and during the pandemic. Life satisfaction was around 0.25 to 0.35 points higher among university degree holders than among individuals with a high school education or less at both points in time. Similarly, life satisfaction was around 0.15 points higher among residents of rural areas than among residents of urban areas in 2018 and in June 2020.¹¹ Lastly, at both points in time, life satisfaction was lower among individuals living alone than among individuals living with other adults. These patterns were evident both before and during the COVID-19 pandemic. Nonetheless, given the variety of issues related to social isolation, work–family balance and restricted access to resources outside the home, trends in well-being across household types warrant continued monitoring.

The separate regression results above highlight differences in life satisfaction among some groups before and during the pandemic. How can this information be best used to estimate the overall life satisfaction effects of COVID-19? To do this, CPSS and CCHS respondents were combined into a data file for pooled OLS regressions.¹² Several variables distinguishing CPSS respondents from CCHS respondents were added to the file to capture the change in life satisfaction between the two time points, in a way that permits the COVID-19 effects to be consistently measured for different population subgroups. This provides a compact way of showing the separate and combined impacts of several variables influencing life satisfaction during the pandemic.

10. When British Columbia is used as the reference group in the multivariate model, the life satisfaction correlation for Atlantic Canada is 0.487 ($p < 0.05$). This cannot be easily related to differing health consequences in British Columbia and Atlantic Canada, as both regions had relatively low rates of COVID-19 infections and deaths.

11. The CPSS survey coefficients on rural or urban residence are similar in magnitude to those from the CCHS but are not statistically significant in the CPSS model. This may be attributable to the smaller size and weaker explanatory power of the CPSS sample.

12. Weights were adjusted to ensure that both the CPSS and the CCHS samples contribute equally to the model.

This pooled analysis was run using two models, the first including sociodemographic characteristics and the second also including respondents' own employment status and the unemployment rate in their economic region. Several of the demographic distinctions were not associated with significantly different life satisfaction effects. These included sex, household composition, education, and urban or rural place of residence (Table 4, models 1 and 2). Differences along provincial lines were smaller in this expanded multivariate context, with no significant provincial interaction terms left in model 2.

Table 4
Life satisfaction regressed against sociodemographic and economic characteristics, pooled sample with interaction terms, Canada, 2018 and June 2020

	Model 1		Model 2	
	Sociodemographic characteristics only		Sociodemographic and economic characteristics	
	Coefficient	Standard error	Coefficient	Standard error
2018 CCHS (reference group)	...	...	...	...
June 2020 CPSS	-1.420 **	(0.219)	-1.457 **	(0.424)
Sex				
Male	0.009	(0.024)	-0.021	(0.019)
Female (reference group)	...	...	...	...
Male /CPSS interaction	0.073	(0.121)	0.114	(0.191)
Age group (years)				
15 to 29	0.189 **	(0.034)	0.228 **	(0.023)
30 to 59 (reference group)	...	...	...	...
60 or older	0.252 **	(0.031)	0.437 **	(0.032)
15 to 29 /CPSS interaction	-0.392 †	(0.200)	-0.352 †	(0.197)
60 or older /CPSS interaction	0.110	(0.146)	-0.028	(0.174)
Household composition				
Live alone	-0.502 **	(0.029)	-0.489 **	(0.029)
Live with others, no children (reference group)	...	...	...	...
Live with others, children present	0.148 **	(0.032)	0.171 **	(0.030)
Live alone /CPSS interaction	0.203	(0.146)	0.149	(0.134)
Live with others, children present /CPSS interaction	0.018	(0.157)	-0.039	(0.107)
Immigrant status				
Born in Canada (reference group)	...	...	...	...
Immigrant—United States, Europe, Australasia	0.026	(0.044)	0.033	(0.040)
Immigrant—Asia	-0.141 **	(0.049)	-0.116 *	(0.053)
Immigrant—Other regions	-0.059	(0.069)	-0.062	(0.055)
Immigrant—United States, Europe, Australasia /CPSS interaction	-0.504 *	(0.208)	-0.465 *	(0.197)
Immigrant—Asia /CPSS interaction	-0.448 *	(0.180)	-0.357 *	(0.176)
Immigrant—Other regions /CPSS interaction	0.233	(0.361)	0.263	(0.412)
Education				
High school or less (reference group)	...	...	...	...
Non-university postsecondary	0.117 **	(0.030)	0.080 **	(0.024)
University degree	0.296 **	(0.033)	0.247 **	(0.027)
Non-university postsecondary /CPSS interaction	0.184	(0.165)	0.239	(0.190)
University degree /CPSS interaction	0.055	(0.151)	0.127	(0.154)
Region/province of residence				
Atlantic	0.014	(0.037)	0.030	(0.064)
Quebec	0.121 **	(0.032)	0.121 *	(0.052)
Ontario (reference group)	...	...	...	...
Manitoba and Saskatchewan	-0.002	(0.041)	-0.007	(0.050)
Alberta	-0.087 *	(0.039)	-0.095 **	(0.034)
British Columbia	-0.058	(0.039)	-0.059 *	(0.026)
Atlantic /CPSS interaction	0.222	(0.172)	0.226	(0.167)
Quebec /CPSS interaction	-0.041	(0.200)	0.045	(0.127)
Manitoba and Saskatchewan /CPSS interaction	0.296 †	(0.179)	0.171	(0.181)
Alberta /CPSS interaction	0.003	(0.178)	0.144	(0.136)
British Columbia /CPSS interaction	-0.092	(0.164)	-0.172	(0.136)
Urban/rural residence				
Urban (reference group)	...	...	...	...
Rural	0.149 **	(0.026)	0.156 **	(0.029)
Rural /CPSS interaction	0.028	(0.157)	-0.025	(0.155)
Employment status				
Employed (reference group)	...	...	...	...
Employed—Absent from work	...	...	-0.154 *	(0.071)
Not employed	...	...	-0.342 **	(0.024)
Employed—Absent from work /CPSS interaction	...	...	-0.364	(0.241)
Not employed /CPSS interaction	...	...	0.15	(0.128)
ER-Unemployment rate	...	...	0.001	(0.014)
ER-Unemployment rate /CPSS interaction	...	...	-0.060 *	(0.025)
Constant	7.871 **	(0.043)	7.965 **	(0.072)
Number of observations	53,396	...	50,525	...
R-squared	0.142	...	0.146	...

... not applicable

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

† significantly different from reference category ($p < 0.10$)

Sources: Statistics Canada, 2018 Canadian Community Health Survey (CCHS) and June 2020 Canadian Perspectives Survey Series (CPSS).

Some demographic distinctions continued to be significantly important contributors to life satisfaction differences during the pandemic, as revealed by their interaction terms. In particular, life satisfaction fell more among youth aged 15 to 29 than among individuals aged 30 to 59, even after accounting for differences in other variables. The estimate was -0.392 when just sociodemographic characteristics were taken into account and -0.352 when employment status and regional unemployment were also included.

Likewise, life satisfaction among immigrants from Asia and from the United States, Europe and Australasia fell by 0.448 and 0.504 points more, respectively, than among the Canadian-born population when sociodemographic characteristics were taken into account. The relatively large declines in life satisfaction among immigrants in these groups remained substantial, at 0.357 and 0.465, when employment status and regional unemployment were taken into account as well.

Next, the effects of variables specific to the CPSS are considered. This represents a tentative first step towards understanding how the social and employment contexts changed during the pandemic. One variable relates to the social context, and two others cover employment conditions. Tapping into the social context, the CPSS asked for a yes or no answer to the following question: “Once your federal, provincial, territorial or municipal governments relax the protective health measures put in place to fight COVID-19, do you fear being the target of unwanted or intimidating acts or behaviours because people may judge you as putting others at risk?” The life satisfaction of those who answered yes, comprising about 20% of the sample, was estimated in Model 3 of Table 3 to be lower by 0.689 points. This effect, felt by 20% of the population, would account for a 0.14-point drop in the population’s average life satisfaction, 1/10 of the total decline of 1.38 points. Given the absence of other social context questions, this effect probably picks up some effects related to other concerns.¹³

But shared crises have been found in some cases to improve social cohesion, and hence to contribute to life satisfaction. The CPSS did not include the CCHS community-belonging question, so it is not possible to test for the effect found in a Pew international survey in June and July 2020, where 66% of Canadian respondents said that Canada was more united than before the pandemic, compared with 29% who thought the country was more divided. Among the 14 advanced economies covered in the Pew survey, only Denmark had a higher proportion of respondents (72%) who felt that their country had become more united in the face of COVID-19. This contrasts with the lowest-ranking United States, where 18% thought their country was more united and 77% saw it as being more divided. Previous research (Helliwell et al. 2019) using the answers to the community-belonging question in the CCHS has found community belonging to be strongly correlated with life satisfaction at the individual and community levels. This would suggest that a greater sense of “being in this together” would help to reduce the net negative effect of COVID-19 on life satisfaction in Canada.

Lastly, this study turns to employment. There are two variables and two channels for COVID-19 employment conditions to have influenced life satisfaction. The respondent’s own employment circumstances affected life satisfaction to about the same extent in 2018 and June 2020, as shown by the insignificance of the interaction terms. But the incidence of employment was, of course, much lower in the CPSS than in the CCHS sample, with about 7% less of the sample being employed in June 2020. Model 2 estimates that not being employed lowered life satisfaction by 0.342 points, so that shifting 7% of respondents out of employment lowered average national life satisfaction by 0.023 points (0.342×0.067). The second variable, with its related channel of influence, is the estimated June 2020 impact of the average unemployment rate in the economic region where the respondent lives. Each 1% increase in the unemployment rate was estimated, albeit imprecisely, to lead to a drop of 0.059 points. The Canadian unemployment rate averaged 5.8% in 2018, compared with 12.3% in June 2020, the month when the CPSS was in the field.

13. It also helps to explain the higher life satisfaction in Atlantic Canada than in British Columbia, since the proportion of “yes” respondents was highest in British Columbia (24%) and lowest in Atlantic Canada (14%).

This 6.5-point increase in the unemployment rate translated into a 0.38-point (0.059×6.5) reduction in average national life satisfaction. Combining the estimated direct and contextual effects led to a very approximate total unemployment effect of 0.41 points, about one-third of the 1.38-point overall life satisfaction drop between 2018 and June 2020.

4 Conclusion

Matching comparable samples of life satisfaction evaluations from the 2018 CCHS and the June 2020 CPSS supports the estimate that Canadian life satisfaction fell by 1.38 points on the 0-to-10 scale. This is a large change, about one-third of the difference between the highest and lowest national life satisfaction averages recorded in the *World Happiness Report* (Helliwell and Wang 2012, Figure 2.5). This study's preliminary investigations using demographic detail available in both surveys show that the largest reductions were among people aged 15 to 29 and immigrants from two broad source regions—Asia, and the United States, Europe and Australasia. The age and immigrant status differences continued to be present when estimated in a multivariate context, while provincial differences lost their significance. Several other demographic distinctions were not associated with significantly different life satisfaction during the pandemic. These include sex, household composition, education, and urban or rural place of residence. To a striking extent, the averages and distributions of life satisfaction changed to almost exactly the same extent for men and women, suggesting that sex differences in roles and circumstances had offsetting effects on average life satisfaction, a finding that invites further research.

The CPSS and the CCHS do not yet contain a sufficient range of other variables to support a detailed analysis of which aspects of life changed the most, and how these changes influenced life satisfaction. CPSS questions about the social context and individual employment experience, coupled with regional unemployment data, were used to illustrate some of the possible economic and social aspects of the life satisfaction effects of COVID-19. The life satisfaction of people who feared adverse social reactions from others (about 20% of respondents) was estimated to be lower by about two-thirds of a point, while those who were not employed (about 7% more than before the pandemic) were less satisfied by about one-third of a point. When the affected shares of the population were taken into account, these two effects together amounted to about one-fifth of a point for the population as a whole. To this was added the larger but imprecisely estimated life satisfaction effects of the general increases in average unemployment, from 5.8% in 2018 to 12.3% in June 2020. This corresponds to a decrease in life satisfaction of almost two-fifths of a point. Combining this with the weighted average effects of the individual variables gave a total effect of 0.54 points, about 39% of the estimated total drop of 1.38 points.

Looking ahead, Statistics Canada is well positioned to track and explain Canadian life satisfaction through the pandemic and beyond. The General Social Survey on Social Identity will be conducted by Internet and telephone between August and December 2020, while data collection for the 2020 Canadian Community Health Survey will be conducted from January to March and September to December. Both ask about life satisfaction. Other surveys that also ask about life satisfaction will be conducted in 2021. These will provide large data files capable of supporting more detailed analyses of life satisfaction before, during and after the COVID-19 pandemic.

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