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Positive mental health among adults during the COVID-19 pandemic in Canada: Findings from three cycles of the Survey on COVID-19 and Mental Health

by Laura L. Ooi, Justin Drover, Ellen Stephenson, Colin A. Capaldi, and Karen C. Roberts

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ABSTRACT

Background

Canadians' positive mental health (PMH) decreased during the early and mid stages of the COVID-19 pandemic. Less is known about whether PMH recovered as the pandemic transitioned away from being a global health emergency. The aim of the current study was to compare PMH estimates during the late stage of the pandemic with earlier stages.

Data and methods

Population-based, cross-sectional data from adults in the 10 Canadian provinces from all three cycles of the Survey on COVID-19 and Mental Health were analyzed. Data were collected in the early (September to December 2020; N=11,324), mid (February to May 2021; N=5,742), and late (February to May 2023; N=11,526) stages of the pandemic. Estimates for three PMH outcomes (high self-rated mental health [SRMH], high community belonging, and mean life satisfaction) in the late stage of the pandemic were compared with estimates from the early and mid stages, overall and for various subgroups.

Results

Overall, mean life satisfaction and the prevalence of high SRMH and community belonging were higher in 2023 compared with 2021. Compared with 2020, mean life satisfaction was higher in 2023. However, the prevalence of high SRMH and community belonging remained lower in 2023. Similar patterns were observed among many subgroups; however, the specific groups to which they applied varied by PMH outcome. Younger adults displayed relatively low estimates at all timepoints.

Interpretation

Despite some indication of recovery in the well-being of adults in Canada in the late stage of the pandemic, there remains room for improvement, especially among certain sociodemographic groups (e.g., younger adults).

Keywords

COVID-19, well-being, mental health, life satisfaction, community belonging, public health

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What is already known on this subject?

- Canadians' positive mental health (PMH) decreased during the early and mid stages of the COVID-19 pandemic.
- Less is known about whether PMH improved, stabilized, or further decreased during the late stage of the pandemic, overall or for specific subpopulations.

What does this study add?

- Overall (and for many sociodemographic groups examined), estimates of PMH were higher among adults in Canada in 2023 compared with 2021, when estimates were especially low.
- Estimates of high self-rated mental health and high community belonging remained lower in 2023 compared with 2020 (overall and for many sociodemographic groups), suggesting that there remains room for improvement in population PMH.
- Regular and ongoing data collection and surveillance of PMH outcomes could improve understanding of the needs of different populations and provide baseline reference points to better prepare for the potential mental health impacts of future emergencies.

Mental health is an umbrella term that encompasses both negative states (e.g., mental health problems, mental illness) and positive mental health (PMH; i.e., psychological, emotional, and social well-being).¹ Although much of the mental health field has focused on the prevention and treatment of mental ill health, monitoring and promoting PMH are also important for improving individual and population mental health.² The Public Health Agency of Canada (PHAC) defines PMH as the capacity “to feel, think, [and] act in ways that enhance our ability to enjoy life and deal with the challenges we face.”³ To capture various facets of PMH, PHAC monitors several PMH outcome indicators (e.g., self-rated mental health [SRMH], sense of community belonging, life satisfaction) in Canada using the Positive Mental Health Surveillance Indicator Framework (PMHSIF).⁴ Monitoring these outcomes at a population level and identifying disparities between subpopulations is essential for informing programs and policies aimed at equitably improving Canadians' well-being. This is especially crucial in the context of major events, such as the COVID-19 pandemic, that could affect population mental health overall⁵ and for specific subpopulations.⁶⁻¹⁰ Indeed, although some indicators of PMH were declining before the pandemic, steeper decreases have been observed during the pandemic.¹¹

During the early-to-mid stages of the pandemic, cases of and deaths caused by COVID-19 were high,¹² public health measures (e.g., workplace closures, stay-at-home requirements, gathering restrictions) were at their strictest,¹³ and vaccines were not yet widely available.¹⁴ This coincided with further declines in the well-being of many people living in Canada.¹⁵ Indeed, findings from the first two cycles of the Survey on COVID-19 and Mental Health (SCMH) indicate that, compared with before the pandemic (2019), high SRMH, high community belonging, and mean life satisfaction decreased among adults in Canada in late 2020,¹⁶ with further declines in early 2021.¹⁷ Additionally, some sociodemographic groups (e.g., younger

adults, urbanites, those who were never married) appeared to have significantly lower PMH than others during the early-mid (2020-2021) stages of the pandemic.¹⁰ Similar findings have been reported in other countries indicating decreases in life satisfaction in early 2021,¹⁸⁻²⁰ when prevention measures were more strict^{21,22} or when pandemic severity (as measured by the number of COVID-19-related deaths) was higher.²³

However, there is some evidence to suggest that the PMH of Canadians started to improve in the later stages of the pandemic,^{24,25} when case and death counts were low, vaccine coverage was high,¹⁴ and most pandemic-related restrictions were lifted.¹³ For example, a previous analysis of SCMHS data found that, compared with early 2021, higher proportions of adults in Canada reported high SRMH, high community belonging, and a life satisfaction score of 8 or higher (on a 0 to 10 scale) as the global health emergency came to an end in early 2023.²⁶ Nevertheless, some information gaps remain, including whether PMH in 2023 had returned to, or surpassed, levels seen in the early stage of the pandemic (i.e., 2020), overall and for various subpopulations. According to the revised hedonic treadmill model, although people tend to adapt and return to their hedonic baseline following emotionally impactful (positive or negative) events, individual components of well-being can vary in how they are affected or change.²⁷ As such, it is also important to explore whether any potential changes varied across PMH outcomes.

Accordingly, the primary objective of the current study was to compare potential population changes in three PMH outcomes (i.e., high SRMH, high sense of community belonging, and mean life satisfaction) during the late stage (i.e., 2023) of the pandemic with the early (i.e., 2020) and mid (i.e., 2021) stages using all three cycles of the SCMHS. Given the previously reported variability in PMH across subgroups during the pandemic,¹⁰ a secondary objective was to compare potential changes across timepoints for various subpopulations.

Table 1
Sociodemographic characteristics, 2020, 2021, and 2023 cycles of the Survey on COVID-19 and Mental Health

Variable	2020 SCMH (N = 11,324)			2021 SCMH (N = 5,742)			2023 SCMH (N = 11,526)		
	95% confidence interval			95% confidence interval			95% confidence interval		
	%	from	to	%	from	to	%	from	to
Gender¹									
Men	49.2	49.1	49.3	49.3	49.2	49.4	49.3	49.2	49.4
Women	50.8	50.7	50.9	50.7	50.6	50.8	50.7	50.6	50.8
Age group (years)									
18 to 34 ²	28.2	28.2	28.2	24.7	23.3	26.2	23.0	21.8	24.1
35 to 44 ²	16.8	16.8	16.8	20.1	18.7	21.5	22.2	21.1	23.3
45 to 54	15.6	15.6	15.6	15.6	15.5	15.8	15.2	15.1	15.3
55 to 64	17.2	17.2	17.2	17.3	17.1	17.4	16.4	16.4	16.5
65 and older	22.2	22.2	22.2	22.3	22.3	22.3	23.2	23.2	23.2
Population group									
Racialized groups	24.3	23.1	25.4	23.3	21.7	24.9	25.6	24.3	26.9
Indigenous groups ³	2.3	2.0	2.7	2.5	1.9	3.1	2.2	1.8	2.5
Non-Indigenous, non-racialized groups	73.4	72.2	74.6	74.2	72.5	75.8	72.3	70.9	73.6
Immigrant status									
Yes	27.0	25.9	28.2	27.6	25.9	29.2	29.2	27.8	30.5
No	73.0	71.8	74.1	72.4	70.8	74.1	70.8	69.5	72.2
Place of residence									
Population centre	82.3	81.5	83.1	82.1	81.0	83.3	85.6	84.8	86.4
Rural area	17.7	16.9	18.5	17.9	16.7	19.0	14.4	13.6	15.2
Educational attainment									
High school or lower	31.2	30.0	32.5	29.3	27.6	31.0	27.7	26.5	29.0
Postsecondary	68.8	67.5	70.0	70.7	69.0	72.4	72.3	71.0	73.5
Parent or guardian of child younger than 18 years									
Yes	27.6	26.6	28.5	28.2	26.7	29.7	29.2	27.9	30.4
No	72.4	71.5	73.4	71.8	70.3	73.3	70.8	69.6	72.1
Work status									
Frontline worker	6.5	5.9	7.2	5.9	5.0	6.7	8.1	7.4	8.9
Essential non-frontline worker	20.7	19.6	21.8	25.0	23.4	26.7	17.8	16.6	18.9
Other	72.8	71.6	73.9	69.1	67.4	70.8	74.1	72.8	75.4
Living alone									
Yes	14.5	14.1	14.9	14.9	14.3	15.5	15.1	14.7	15.5
No	85.5	85.1	85.9	85.1	84.5	85.7	84.9	84.5	85.3
Geographical location									
British Columbia	13.4	13.4	13.4	13.9	13.9	13.9	13.9	13.9	13.9
Prairie provinces	17.6	17.6	17.6	17.4	17.4	17.4	17.6	17.6	17.6
Ontario	39.5	39.5	39.5	39.4	39.4	39.4	39.4	39.4	39.4
Quebec	22.9	22.9	22.9	22.7	22.7	22.7	22.4	22.4	22.4
Atlantic provinces	6.5	6.5	6.5	6.6	6.6	6.6	6.7	6.7	6.7
Marital status⁴									
Never married	...	...	...	22.6	21.1	24.1	22.1	20.9	23.3
Separated, divorced, or widowed	...	...	...	13.4	12.4	14.4	13.5	12.8	14.2
Married or living common-law	...	...	...	64.0	62.4	65.7	64.4	63.1	65.6
Household income⁵				Canadian dollars					
Median	83,320.44	80,558.73	86,082.15	83,155.16	79,989.40	86,320.92	99,814.83	96,344.09	103,285.57

... not applicable

1. In the 2020 and 2021 cycles of the SCMH, non-binary people were excluded from analyses because of small sample sizes. For the 2023 SCMH, non-binary people were randomly redistributed by Statistics Canada into the other two gender categories.

2. The age distribution for the two youngest age groups (18 to 34, 35 to 44) varies in the 2021 and 2023 cycles of the SCMH compared with the 2020 SCMH because of slight differences in the calibrations used to develop weights for the sharefiles. Whereas the 2021 and 2023 cycles of the SCMH used four age groups (18 to 44, 45 to 54, 55 to 64, 65 and older), the 2020 SCMH used five age groups (18 to 34, 34 to 44, 45 to 54, 55 to 64, 65 and older). Five age groups were analyzed in all three cycles (i.e., separating 18 to 34 and 35 to 44) given existing evidence suggesting differences between young adults' and middle-aged adults' positive mental health.

3. Excluding those living on reserve.

4. Only assessed in the 2021 and 2023 cycles of the SCMH.

5. The electronic questionnaire for the 2023 SCMH mistakenly asked respondents to report their total household income during the year ending December 31, 2023 (instead of 2022). Nevertheless, a Statistics Canada analysis found no evidence that this was a source of measurement error.

Notes: SCMH = Survey on COVID-19 and Mental Health. Sample sizes are unweighted and all other values are weighted. Excluding household income, the sample sizes were between 11,223 and 11,324 for the 2020 SCMH, 5,685 and 5,742 for the 2021 SCMH, and 11,341 and 11,526 for the 2023 SCMH. Sample sizes for household income were 10,218 (2020 SCMH), 5,211 (2021 SCMH), and 10,717 (2023 SCMH).

Sources: 2020, 2021, and 2023 Survey on COVID-19 and Mental Health.

Methods

Data sources

Cross-sectional data were obtained from the three cycles of the SCMHS, collected from September to December 2020 (Cycle 1, 2020 SCMHS),²⁸ February to May 2021 (Cycle 2, 2021 SCMHS),²⁹ and February to May 2023 (Cycle 3, 2023 SCMHS).³⁰ The target population was individuals aged 18 years and older living in the 10 Canadian provinces (and the 3 territorial capitals for cycles 1 and 2 only). Recruitment excluded individuals living in institutions; collective, vacant, inactive, or unmailable dwellings; in non-capital cities in the territories (2020 and 2021) or the territories (2023); or on reserves. Data from the territorial capitals in the 2020 and 2021 cycles of the SCMHS were excluded from this study to keep geographical locations consistent across cycles. Response rates for the 10 provinces were 54.7% (2020), 51.8% (2021), and 46.5% (2023). Data from respondents who agreed to share their data with PHAC (2020: 83.6%; 2021: 81.6%; 2023: 75.6%) were analyzed, resulting in final sample sizes of 11,324 (2020), 5,742 (2021), and 11,526 (2023).

Positive mental health outcomes

The PMH outcome measures in all SCMHS cycles and their coding are consistent with those included in the adult PMHSIF.⁴ SRMH was measured with the question “In general, how is your mental health?” Individuals who responded “Excellent” or “Very good” (vs. “Good,” “Fair,” or “Poor”) were coded as having high SRMH. Sense of community belonging, an indicator of social well-being, was measured using the question “How would you describe your sense of belonging to your local community?” Individuals who responded “Very strong” or “Somewhat strong” (vs. “Somewhat weak” or “Very weak”) were coded as having a high sense of community belonging. Life satisfaction was measured by the 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?” This question was treated as a numerical variable to obtain mean life satisfaction scores.

Sociodemographic characteristics

The sociodemographic characteristics and their breakdowns for each cycle are reported in Table 1. Estimates are presented overall and (where possible) disaggregated by a number of sociodemographic characteristics previously identified as relevant when exploring population mental health outcomes^{4,10,16,17,31} and by subpopulations disproportionately affected during the pandemic (e.g., experiences of discrimination, overrepresentation in risky but essential jobs, higher infection and death rates) in ways that may have impacted their mental health.³²⁻³⁵ This includes age group (18 to 34, 35 to 44, 45 to 54, 55 to 64, 65 and older), immigrant status (yes, no), place of residence (population centre, rural area), educational attainment (high school or lower, postsecondary),

parent or guardian of a child younger than 18 years (yes, no), work status (frontline worker; essential non-frontline worker; other, including absent from work for reasons related to COVID-19), living alone status (yes, no), geographic location (British Columbia, Prairie provinces, Ontario, Quebec, Atlantic provinces), marital status (never married; separated, divorced, or widowed; married or living common law; measured only in the 2021 and 2023 cycles of the SCMHS), and household income tertile.

Estimates are also presented by gender. Because of small sample sizes, non-binary individuals were excluded from the analysis of the 2020 and 2021 cycles of the SCMHS. In the 2023 SCMHS, non-binary individuals were randomly redistributed by Statistics Canada into the men and women gender categories (labelled men+ and women+). This approach is used consistently by the census and Statistics Canada’s social surveys when counts are insufficient to safely release more detailed gender-related statistics.³⁶ For simplicity, “men” and “women” categories are used when discussing all three cycles hereafter.

Population groups examined include Indigenous people (First Nations people, Métis, and Inuit; pan-Indigenous results are presented because of small sample sizes in the individual Indigenous groups); racialized groups (combined because of small sample sizes); and non-Indigenous, non-racialized individuals.

Analysis

Analyses were conducted in SAS version 9.4 (SAS Institute, Cary, North Carolina, United States). Sampling weights developed by Statistics Canada were used for all estimates to account for the survey design and ensure that results were representative of the target population. Standard errors, coefficients of variation, and 95% confidence intervals (CIs) were estimated using bootstrap weights. Mean life satisfaction and prevalence estimates of high SRMH and community belonging were calculated for all three cycles. Significant differences in the 2023 SCMHS compared with the 2020 and 2021 cycles of the SCMHS were identified by *t*-tests with *p*-values below 0.05.

Results

High self-rated mental health

Overall, the prevalence of high SRMH was higher in 2023 (56.6%) than in 2021 (51.5%) but still lower than in 2020 (60.0%) (Table 2). Compared with 2021, high SRMH in early 2023 was significantly higher among men (difference score: 7.7); those aged 18 to 34 years (9.0), 55 to 64 years (5.2), and 65 years and older (4.1); non-Indigenous, non-racialized individuals (4.5); immigrants (5.8) and non-immigrants (4.7); those in middle-income (6.0) and high-income (5.8) households; those living in population centres (5.1) and rural

Table 2
Prevalence of high self-rated mental health in late 2020, early 2021, and early 2023

Characteristics	2020 SCMH (N = 11,315)			2021 SCMH (N = 5,740)			2023 SCMH (N = 11,520)			Differences	
	95% confidence interval			95% confidence interval			95% confidence interval			2023-2021	2023-2020
	%	from	to	%	from	to	%	from	to		
Overall	60.0	58.7	61.2	51.5	49.7	53.3	56.6	55.2	57.9	5.1 *	-3.4 *
Gender¹											
Men	64.5	62.6	66.4	54.0	51.2	56.7	61.6	59.5	63.7	7.7 *	-2.9 *
Women	55.7	53.9	57.5	49.3	46.9	51.6	51.6	49.8	53.5	2.4	-4.0 *
Age group (years)											
18 to 34	50.6	47.6	53.7	33.4	29.4	37.5	42.4	38.7	46.1	9.0 *	-8.3 *
35 to 44	55.8	52.7	59.0	48.0	43.6	52.3	48.3	45.0	51.6	0.4	-7.5 *
45 to 54	58.8	55.6	61.9	51.6	47.0	56.2	56.7	53.4	60.1	5.1	-2.0
55 to 64	64.1	61.5	66.7	60.1	56.2	63.9	65.3	62.5	68.1	5.2 *	1.2
65 and older	72.5	70.4	74.6	68.0	64.9	71.1	72.1	70.0	74.2	4.1 *	-0.4
Population group											
Racialized groups	61.8	58.7	65.0	52.1	47.5	56.6	57.0	53.4	60.7	5.0	-4.8
Indigenous groups ²	50.0	42.3	57.7	32.2	21.9	42.5	43.5	34.6	52.3	11.3	-6.5
Non-Indigenous, non-racialized groups	59.7	58.3	61.1	52.1	50.2	54.0	56.5	55.0	58.0	4.5 *	-3.1 *
Immigrant status											
Yes	64.0	61.2	66.8	55.5	51.4	59.5	61.2	58.2	64.2	5.8 *	-2.8
No	58.4	56.9	59.8	49.9	47.9	51.9	54.6	53.1	56.1	4.7 *	-3.8 *
Household income											
Low	58.9	56.7	61.1	51.2	48.2	54.2	54.5	52.2	56.8	3.3	-4.4 *
Middle	59.3	56.8	61.7	51.4	48.0	54.8	57.3	54.8	59.9	6.0 *	-1.9
High	61.5	59.1	64.0	53.6	50.0	57.3	59.5	56.8	62.1	5.8 *	-2.1
Place of residence											
Population centre	58.5	57.1	60.0	50.5	48.5	52.6	55.6	54.1	57.2	5.1 *	-2.9 *
Rural area	66.1	63.5	68.7	56.3	52.3	60.3	62.0	58.9	65.2	5.7 *	-4.1
Educational attainment											
High school or lower	58.1	55.6	60.6	48.3	44.9	51.8	55.8	52.9	58.6	7.4 *	-2.3
Postsecondary	60.7	59.2	62.3	52.9	50.7	55.1	56.9	55.2	58.5	4.0 *	-3.9 *
Parent or guardian of child younger than 18 years											
Yes	59.2	56.8	61.6	49.2	45.5	52.9	52.7	50.0	55.4	3.5	-6.5 *
No	60.3	58.7	61.9	52.3	50.2	54.4	58.2	56.5	59.8	5.8 *	-2.1
Work status											
Frontline worker	57.2	52.1	62.3	46.4	39.6	53.2	53.3	48.3	58.2	6.9	-4.0
Essential non-frontline worker	62.5	59.5	65.5	52.7	48.5	56.9	55.2	51.5	58.9	2.5	-7.3 *
Other	59.5	58.0	61.0	51.5	49.4	53.7	57.2	55.6	58.8	5.7 *	-2.3
Living alone											
Yes	59.1	56.8	61.3	51.6	48.3	54.8	54.1	51.9	56.3	2.5	-4.9 *
No	60.0	58.6	61.5	51.5	49.4	53.6	56.9	55.3	58.5	5.4 *	-3.1 *
Geographical location											
British Columbia	55.6	52.1	59.1	48.2	43.5	52.8	53.5	49.9	57.0	5.3	-2.1
Prairie provinces	53.6	51.2	56.0	46.9	43.4	50.4	53.9	51.2	56.6	7.0 *	0.3
Ontario	58.9	56.4	61.4	47.8	44.3	51.4	53.9	51.1	56.7	6.1 *	-5.0 *
Quebec	70.1	67.6	72.5	63.6	60.0	67.1	66.1	63.6	68.7	2.6	-3.9 *
Atlantic provinces	57.1	55.0	59.2	50.8	47.7	53.9	53.5	51.3	55.6	2.6	-3.6 *
Marital status³											
Never married	...	...	...	36.5	32.4	40.6	42.0	38.3	45.7	5.4	...
Separated, divorced, or widowed	...	...	...	54.3	50.1	58.5	55.1	52.2	58.0	0.8	...
Married or living common-law	...	...	...	56.2	53.9	58.4	61.8	60.2	63.5	5.6 *	...

... not applicable

* significant difference between cycles at $p < 0.05$. Positive values in the difference columns mean that the percentage was higher in 2023 than the comparison year. Negative values mean that the percentage was lower in 2023 than the comparison year. Because of rounding, the difference scores do not always equal the difference between estimates.

1. In the 2020 and 2021 cycles of the SCMH, non-binary people were excluded from analyses because of small sample sizes. For the 2023 SCHM, non-binary people were randomly redistributed by Statistics Canada into the other two gender categories.

2. Excluding those living on reserve.

3. Only assessed in the 2021 and 2023 cycles of the SCMH.

Notes: SCMH = Survey on COVID-19 and Mental Health. Sample sizes are unweighted and all other values are weighted. Excluding household income, the sample sizes were between 11,214 and 11,315 for the 2020 SCMH, 5,683 and 5,740 for the 2021 SCMH, and 11,335 and 11,520 for the 2023 SCMH. Sample sizes for household income were 10,210 (2020 SCMH), 5,209 (2021 SCMH), and 10,713 (2023 SCMH).

Sources: 2020, 2021, and 2023 Survey on COVID-19 and Mental Health.

areas (5.7); those with a high school or lower education (7.4) and with a postsecondary education (4.0); those without children younger than 18 (5.8); those in the “other” work status group (5.7); those living with others (5.4); those in Ontario (6.1) and the Prairie provinces (7.0); and those who were married or living common law (5.6). All remaining groups examined showed no significant differences between these two timepoints.

The prevalence of high SRMH was significantly lower in 2023 compared with 2020 among men (-2.9) and women (-4.0); those aged 18 to 34 years (-8.3) and 35 to 44 years (-7.5); non-Indigenous, non-racialized individuals (-3.1); non-immigrants (-3.8); those in low-income households (-4.4); those in population centres (-2.9); those with a postsecondary education (-3.9); those with children younger than 18 (-6.5); essential non-frontline workers (-7.3); those living alone (-4.9) and with others (-3.1); and those living in Ontario (-5.0), Quebec (-3.9) and the Atlantic provinces (-3.6). There were no significant differences between these two timepoints among all remaining groups examined.

High community belonging

Overall, high community belonging was more prevalent in 2023 (61.2%) than in 2021 (57.3%) but still less prevalent than in 2020 (63.6%) (Table 3). Compared with 2021, high community belonging in 2023 was significantly higher among women (difference score: 4.4); those aged 65 years and older (3.6); non-Indigenous, non-racialized individuals (3.0); immigrants (5.4) and non-immigrants (3.2); those living in low-income households (4.6); those living in population centres (4.5); those with a high school or lower education (5.0) and with a postsecondary education (3.7); those with (5.6) and without (3.2) children younger than 18; those in the “other” work status group (4.2); those living with others (4.5); those living in British Columbia (6.4) and the Prairie provinces (6.2); and those who were married or living common-law (5.3). All remaining groups examined showed no significant differences between these two timepoints.

High community belonging was less common in 2023 compared with 2020 among 35- to 44-year-olds (-5.4); non-Indigenous, non-racialized individuals (-4.3); non-immigrants (-3.7); those in high-income households (-4.8); those with a postsecondary education (-2.4); those without children younger than 18 (-2.5); those in the “other” work status group (-2.5); those living alone (-3.8); and those living in Ontario (-4.1) and the Atlantic provinces (-3.4). There were no significant differences between these two timepoints for all remaining groups examined.

Mean life satisfaction

Overall, mean life satisfaction was higher in 2023 (7.3) compared with 2021 (6.9) and 2020 (7.2) (Table 4). Compared with 2021, mean life satisfaction in early 2023 was higher for men (difference score: 0.3) and women (0.5); all age groups except 35- to 44-year-olds (ranging from 0.3 to 0.6); racialized

individuals (0.6) and non-Indigenous, non-racialized individuals (0.4); immigrants (0.5) and non-immigrants (0.4); those from all three income levels (ranging from 0.3 to 0.5); those living in population centres (0.4) and rural areas (0.3); those in both education groups (0.4); those with and without children younger than 18 (0.4); those in the “other” work status group (0.5); those living with others (0.4) or alone (0.3); those in all geographic regions (ranging from 0.2 to 0.6); and those who were never married (0.5) or who were married or living common-law (0.4). No significant differences between these two timepoints were found for the remaining groups.

Compared with 2020, mean life satisfaction was higher in early 2023 for women (0.1); racialized individuals (0.3); immigrants (0.3); those belonging to middle- and high-income households (0.2); those living in population centres (0.1); those with a postsecondary education (0.1); those without children younger than 18 (0.1); those in the “other” work status group (0.1); those living with others (0.1); and those living in British Columbia (0.2) and the Prairie provinces (0.3). No significant differences between these two timepoints were found for the remaining groups.

Discussion

The purpose of the current study was to compare Canadians’ PMH during the late stage of the pandemic with the early and mid stages, overall and disaggregated by sociodemographic group. Overall (and for many subgroups examined), more adults in Canada reported high SRMH and community belonging in 2023 compared with 2021. Mean life satisfaction was also significantly higher in 2023 compared with 2021.

Thus, the current findings suggest that the PMH of many adults in Canada started to rebound in the later stage of the pandemic from early 2021, when rates of high PMH were particularly low.¹⁷ Well-being may have improved as the majority of Canadians became vaccinated,¹⁴ the number of deaths and instances of severe illness because of COVID-19 decreased,¹² public health restrictions were loosened or lifted,^{13,37} and other pandemic-related impacts (e.g., high unemployment rates) lessened.³⁸

However, prevalence rates for high SRMH and community belonging remained lower in 2023 compared with 2020 (overall and for many sociodemographic groups). Given that PMH has been shown to be poorer in late 2020 than before the pandemic,¹⁶ the findings suggest that at least some aspects of well-being in 2023 had not yet fully returned to pre-pandemic levels (although direct comparisons were not examined). This includes mean life satisfaction (see Appendix Note 1), which, despite improvements in 2023, still appeared to be lower than before the pandemic.¹⁶

It is possible that this represents a lag in population-level recovery in PMH and, with time, more individuals may report high PMH. Alternatively, this could reflect longer-lasting

Table 3
Prevalence of high sense of community belonging in late 2020, early 2021, and early 2023

Characteristics	2020 SCMH (N = 11,286)			2021 SCMH (N = 5,730)			2023 SCMH (N = 11,511)			Differences	
	%	95% confidence interval		%	95% confidence interval		%	95% confidence interval		2023-2021	2023-2020
		from	to		from	to		from	to		
Overall	63.6	62.4	64.9	57.3	55.6	59.1	61.2	59.8	62.7	3.9 *	-2.4 *
Gender¹											
Men	63.7	61.8	65.6	58.2	55.4	60.9	61.5	59.3	63.7	3.3	-2.2
Women	63.6	61.9	65.3	56.7	54.3	59.1	61.1	59.2	63.0	4.4 *	-2.5
Age group (years)											
18 to 34	51.4	48.2	54.6	43.7	39.3	48.1	49.3	45.5	53.0	5.6	-2.1
35 to 44	62.0	58.9	65.1	53.1	49.0	57.3	56.6	53.4	59.8	3.5	-5.4 *
45 to 54	62.2	59.1	65.4	58.8	54.2	63.5	60.4	57.1	63.7	1.6	-1.8
55 to 64	68.6	66.1	71.1	62.1	58.4	65.8	65.5	62.4	68.5	3.3	-3.1
65 and older	77.7	75.8	79.6	71.5	68.6	74.4	75.1	73.2	77.1	3.6 *	-2.6
Population group											
Racialized groups	60.4	57.1	63.8	56.9	52.3	61.4	61.9	58.4	65.5	5.1	1.5
Indigenous groups ²	53.6	45.8	61.4	58.6	47.5	69.8	60.9	52.6	69.2	2.3	7.3
Non-Indigenous, non-racialized groups	65.0	63.6	66.5	57.7	55.8	59.6	60.7	59.2	62.2	3.0 *	-4.3 *
Immigrant status											
Yes	63.7	60.9	66.5	58.5	54.6	62.4	63.9	60.8	67.0	5.4 *	0.2
No	63.7	62.2	65.1	56.8	54.8	58.8	60.0	58.4	61.5	3.2 *	-3.7 *
Household income											
Low	62.0	59.8	64.2	58.9	56.0	61.8	63.5	61.3	65.7	4.6 *	1.5
Middle	63.3	60.9	65.8	57.1	53.6	60.6	60.6	58.1	63.2	3.6	-2.7
High	63.5	61.0	66.0	54.2	50.6	57.8	58.7	55.9	61.6	4.5	-4.8 *
Place of residence											
Population centre	62.3	60.8	63.8	55.6	53.6	57.6	60.1	58.5	61.7	4.5 *	-2.2
Rural area	69.9	67.2	72.6	65.6	61.6	69.5	67.8	64.5	71.0	2.2	-2.1
Educational attainment											
High school or lower	65.6	63.1	68.1	59.0	55.4	62.5	64.0	61.2	66.8	5.0 *	-1.6
Postsecondary	62.7	61.2	64.2	56.6	54.5	58.7	60.3	58.6	62.1	3.7 *	-2.4 *
Parent or guardian of child younger than 18 years											
Yes	64.8	62.4	67.3	56.8	53.3	60.3	62.4	59.7	65.0	5.6 *	-2.5
No	63.2	61.7	64.7	57.5	55.5	59.6	60.8	59.1	62.4	3.2 *	-2.5 *
Work status											
Frontline worker	64.4	59.4	69.5	59.0	52.1	65.9	62.5	57.7	67.3	3.5	-1.9
Essential non-frontline worker	64.5	61.5	67.4	58.6	54.6	62.5	62.1	58.4	65.8	3.5	-2.4
Other	63.3	61.8	64.8	56.6	54.6	58.7	60.8	59.3	62.4	4.2 *	-2.5 *
Living alone											
Yes	62.2	59.9	64.5	58.0	54.9	61.2	58.4	56.3	60.5	0.3	-3.8 *
No	63.9	62.4	65.3	57.1	55.1	59.1	61.7	60.0	63.3	4.5 *	-2.2
Geographical location											
British Columbia	61.9	58.5	65.2	53.5	48.9	58.2	59.9	56.2	63.6	6.4 *	-2.0
Prairie provinces	61.7	59.4	64.0	57.3	54.0	60.7	63.6	61.1	66.0	6.2 *	1.9
Ontario	63.3	60.8	65.8	54.9	51.4	58.4	59.1	56.4	61.9	4.2	-4.1 *
Quebec	65.0	62.3	67.6	61.1	57.7	64.4	62.3	59.6	65.0	1.2	-2.7
Atlantic provinces	70.4	68.3	72.4	66.9	64.0	69.9	67.0	64.7	69.2	0.1	-3.4 *
Marital status³											
Never married	...	...	...	45.7	41.3	50.2	46.9	43.2	50.6	1.2	...
Separated, divorced, or widowed	...	...	...	60.0	56.0	64.0	61.6	58.8	64.5	1.6	...
Married or living common-law	...	...	...	60.9	58.7	63.0	66.1	64.5	67.8	5.3 *	...

... not applicable

* significant difference between cycles at $p < 0.05$. Positive values in the difference columns mean that the percentage was higher in 2023 than the comparison year. Negative values mean that the percentage was lower in 2023 than the comparison year. Because of rounding, the difference scores do not always equal the difference between estimates.

1. In the 2020 and 2021 cycles of the SCMH, non-binary people were excluded from analyses because of small sample sizes. For the 2023 SCMH, non-binary people were randomly redistributed by Statistics Canada into the other two gender categories.

2. Excluding those living on reserve.

3. Only assessed in the 2021 and 2023 cycles of the SCMH.

Notes: SCMH = Survey on COVID-19 and Mental Health. Sample sizes are unweighted and all other values are weighted. Excluding household income, the sample sizes were between 11,186 and 11,286 for the 2020 SCMH, 5,673 and 5,730 for the 2021 SCMH, and 11,326 and 11,511 for the 2023 SCMH. Sample sizes for household income were 10,192 (2020 SCMH), 5,202 (2021 SCMH), and 10,705 (2023 SCMH).

Sources: 2020, 2021, and 2023 Survey on COVID-19 and Mental Health.

Table 4
Mean life satisfaction in late 2020, early 2021, and early 2023

Characteristics	2020 SCMH (N = 11,307)			2021 SCMH (N = 5,731)			2023 SCMH (N = 11,516)			Differences	
	Mean	95% confidence interval		Mean	95% confidence interval		Mean	95% confidence interval		2023-2021	2023-2020
		from	to		from	to		from	to		
Overall	7.2	7.1	7.2	6.9	6.8	7.0	7.3	7.2	7.4	0.4 *	0.1 *
Gender¹											
Men	7.3	7.2	7.4	7.0	6.9	7.1	7.4	7.3	7.5	0.3 *	0.1
Women	7.1	7.0	7.2	6.8	6.7	6.9	7.2	7.2	7.3	0.5 *	0.1 *
Age group (years)											
18 to 34	6.8	6.6	6.9	6.3	6.1	6.5	6.9	6.7	7.1	0.6 *	0.1
35 to 44	7.1	7.0	7.2	6.8	6.7	7.0	7.1	6.9	7.2	0.2	0.0
45 to 54	7.1	7.0	7.2	6.9	6.7	7.0	7.2	7.1	7.4	0.4 *	0.1
55 to 64	7.3	7.2	7.5	7.2	7.0	7.3	7.4	7.3	7.6	0.3 *	0.1
65 and older	7.8	7.7	7.9	7.5	7.3	7.6	7.9	7.8	8.0	0.4 *	0.1
Population group											
Racialized groups	6.9	6.8	7.1	6.7	6.5	6.9	7.2	7.1	7.4	0.6 *	0.3 *
Indigenous groups ²	6.8	6.5	7.2	6.9	6.4	7.3	7.0	6.7	7.3	0.1	0.2
Non-Indigenous, non-racialized groups	7.3	7.2	7.4	7.0	6.9	7.1	7.3	7.3	7.4	0.4 *	0.1
Immigrant status											
Yes	7.1	7.0	7.2	6.9	6.7	7.0	7.4	7.2	7.5	0.5 *	0.3 *
No	7.2	7.2	7.3	6.9	6.8	7.0	7.3	7.2	7.3	0.4 *	0.1
Household income											
Low	7.1	7.0	7.2	6.8	6.6	6.9	7.1	7.0	7.2	0.3 *	0.0
Middle	7.1	7.0	7.2	6.9	6.8	7.1	7.3	7.2	7.4	0.4 *	0.2 *
High	7.3	7.2	7.4	7.1	6.9	7.2	7.5	7.4	7.6	0.5 *	0.2 *
Place of residence											
Population centre	7.1	7.0	7.2	6.8	6.7	6.9	7.2	7.2	7.3	0.4 *	0.1 *
Rural area	7.6	7.5	7.7	7.3	7.2	7.5	7.7	7.5	7.8	0.3 *	0.1
Educational attainment											
High school or lower	7.2	7.1	7.3	6.9	6.7	7.0	7.2	7.1	7.4	0.4 *	0.1
Postsecondary	7.2	7.1	7.3	6.9	6.8	7.0	7.3	7.3	7.4	0.4 *	0.1 *
Parent or guardian of child younger than 18 years											
Yes	7.2	7.1	7.3	6.9	6.8	7.1	7.3	7.2	7.4	0.4 *	0.1
No	7.2	7.1	7.3	6.9	6.8	7.0	7.3	7.2	7.4	0.4 *	0.1 *
Work status											
Frontline worker	7.2	6.9	7.4	6.9	6.6	7.2	7.2	7.0	7.4	0.2	0.0
Essential non-frontline worker	7.3	7.1	7.4	7.1	7.0	7.3	7.3	7.1	7.4	0.2	0.0
Other	7.2	7.1	7.3	6.8	6.7	6.9	7.3	7.3	7.4	0.5 *	0.1 *
Living alone											
Yes	7.1	7.0	7.2	6.8	6.7	6.9	7.1	7.0	7.2	0.3 *	0.0
No	7.2	7.1	7.3	6.9	6.8	7.0	7.3	7.3	7.4	0.4 *	0.1 *
Geographical location											
British Columbia	6.9	6.8	7.1	6.7	6.5	6.9	7.2	7.0	7.3	0.5 *	0.2 *
Prairie provinces	6.9	6.8	7.0	6.6	6.5	6.8	7.2	7.1	7.3	0.6 *	0.3 *
Ontario	7.1	6.9	7.2	6.7	6.6	6.9	7.2	7.0	7.3	0.4 *	0.1
Quebec	7.8	7.7	7.9	7.5	7.4	7.7	7.7	7.6	7.8	0.2 *	-0.03
Atlantic provinces	7.3	7.3	7.5	7.1	7.0	7.2	7.4	7.3	7.5	0.3 *	0.0
Marital status³											
Never married	...	...	...	6.1	5.9	6.3	6.6	6.4	6.8	0.5 *	...
Separated, divorced, or widowed	...	...	...	6.9	6.7	7.0	7.1	6.9	7.2	0.2	...
Married or living common-law	...	...	...	7.2	7.1	7.3	7.6	7.5	7.7	0.4 *	...

... not applicable

* significant difference between cycles at $p < 0.05$. Positive values in the difference columns indicate that the mean was higher in 2023 than the comparison year. Negative values indicate that the mean was lower in 2023 than the comparison year. Because of rounding, the difference scores do not always equal the difference between estimates.

1. In the 2020 and 2021 cycles of the SCMH, non-binary people were excluded from analyses because of small sample sizes. For the 2023 SCMH, non-binary people were randomly redistributed by Statistics Canada into the other two gender categories.

2. Excluding those living on reserve.

3. Only assessed in the 2021 and 2023 cycles of the SCMH.

Notes: SCMH = Survey on COVID-19 and Mental Health. Sample sizes are unweighted and all other values are weighted. Excluding household income, the sample sizes were between 11,206 and 11,307 for the 2020 SCMH, 5,674 and 5,731 for the 2021 SCMH, and 11,331 and 11,516 for the 2023 SCMH. Sample sizes for household income were 10,205 (2020 SCMH), 5,205 (2021 SCMH), and 10,712 (2023 SCMH).

Sources: 2020, 2021, and 2023 Survey on COVID-19 and Mental Health.

implications of the pandemic that could, in turn, have influenced well-being. For example, having long-term symptoms of COVID-19 and experiencing health care barriers during the pandemic have both been linked to poorer mental health.^{39,40} In June 2023, 6.8% of the adult population in Canada (representing 2.1 million people) continued to experience long-term COVID-19 symptoms (i.e., 3 months or more after a COVID-19 infection), such as fatigue, brain fog, and shortness of breath, which could have negatively impacted their well-being.⁴¹ Additionally, of those who sought health care services for their long-term symptoms, two in five reported experiencing difficulties accessing care.⁴¹

Other factors may have also impacted well-being in various ways at different points during the pandemic. For example, there is some indication (based on non-representative but weighted survey data) that economic concerns⁴² and the availability of pandemic-related emergency benefits⁴³ were related to mental health during the pandemic. That being said, it is unlikely that any single determinant or event alone accounts for the observed changes, since factors influencing (and influenced by) PMH are abundant, complex, and dynamic.⁴⁴ Even large macroeconomic disruptions alone seem to predict very small changes in well-being at the population level.⁴⁵ Additionally, some factors may have affected certain subgroups more than others. Acknowledging these complexities and understanding the unique needs of subpopulations may be useful for informing and guiding future mental health promotion policy.

It is also important to acknowledge the broader context of population PMH in the interpretation of the current findings. For example, a decreasing trend in high SRMH before the pandemic has been observed.¹¹ Thus, it is possible that the lower rates of PMH in 2023 compared with 2020 reflect an extension of this broader trend. Nevertheless, not all PMH outcomes (e.g., community belonging) displayed the same decreasing trajectory before the pandemic,¹¹ and there was some variation in the pattern of changes over time for different PMH outcomes in the current study. Taken together, this reinforces the need to examine different components of PMH to obtain a more complete picture of population well-being.²⁷

Of note, young adults (18- to 34-year-olds) did not display any significant changes in high community belonging in the late stage of the pandemic compared with earlier timepoints and displayed relatively low estimates at all time points. Although they displayed relatively large and significant increases in the prevalence of high SRMH and mean life satisfaction in 2023 compared with 2021, this was mostly attributable to the especially low estimates in 2021. These findings are consistent with previous evidence indicating that the inequality in PMH widened for young adults during the pandemic.¹⁰ By contrast, estimates for all three PMH outcomes were relatively high at each examined stage of the pandemic for the oldest age group (65 years and older), and although estimates tended to dip in 2021, they appeared to have returned to 2020 levels by 2023.

Notably, some sociodemographic groups did not show statistically significant improvements in high SRMH or community belonging in 2023 compared with 2021, including racialized groups, Indigenous groups, frontline workers, essential non-frontline workers, and those living alone, as well as those who were never married or who were separated, divorced, or widowed. However, these findings should be interpreted with caution since many of these estimates had relatively large CIs. Further investigation focusing on these subgroups (and other vulnerable groups who may have been impacted differently by the pandemic) is warranted.

Taken all together, the findings across subgroups support the need for ongoing advocacy for timely access to disaggregated data^{46,47} and for continued disaggregated analyses,^{10,16,17} especially in the context of major events. The current findings also support previous calls to respond to pandemic-related impacts on mental health with a public health approach that is inclusive of mental health promotion (and not just treatment of mental ill health).⁸

Strengths and limitations

Estimates of three PMH outcomes at different stages of the pandemic were presented, using large, representative samples. Comparisons of estimates during the late stage compared with the early and mid stages were conducted (for the overall population, as well as subpopulations) using three cycles of the same survey, minimizing the potential for survey content and context effects that could affect the interpretation of trends.⁴⁸

Despite the contributions of the current study, findings should be interpreted with some caveats in mind. Since data were cross-sectional, the current findings represent differences at the population (not individual) level, and no causal relationships can be inferred. Findings cannot be generalized to populations excluded from the sampling frames (e.g., those living in institutions) or analyses (e.g., those living in the territories). Additionally, there may have been slight variations in the population across time periods, impacting comparability. Small sample sizes for some sociodemographic groups could have limited the ability to detect significant differences, even when they were relatively large in magnitude. Moreover, some groups (e.g., different racialized groups, Indigenous populations living off reserve) had to be combined to obtain sufficient sample sizes and power; PMH for specific subpopulation groups (e.g., Black, Chinese) could vary.

Although sampling weights were used for all estimates, the potential for non-response bias still exists. For example, it is possible that there are mental health differences between those who agreed versus did not agree to participate in the survey or share their data, and this could have biased the estimates.⁴⁹ The bias unaccounted for by the weighting may also differ across cycles. Finally, although commonly used in public health surveillance, findings were based on single-item measures of PMH outcomes. Future studies could consider using validated multi-item measures to explore potential changes in PMH.

Conclusion

The current findings suggest that, overall, there appears to have been some recovery in the PMH of adults in Canada during the late stage of the pandemic, but that there remains room for improvement in population PMH. Regular and ongoing data

collection and surveillance of PMH outcomes could improve understanding of the needs of different populations and provide important baseline reference points to better prepare for the potential mental health impacts of future emergencies.

Appendix**Note 1**

Although some significant differences in mean life satisfaction appear relatively small in magnitude (e.g., 0.1 or 0.2), the Organisation for Economic Co-operation and Development (OECD)⁴⁴ noted that population measures of subjective well-being generally tend to change only very slowly over time and often by small amounts, even in response to substantial events. Small changes are also expected at least in part as a function of the relatively slow changes in social determinants (that may also affect only a small proportion of the population of interest). Therefore, the OECD⁴⁴ suggested that a mean shift of even 0.3 (on a 0-to-10 life evaluation scale) can represent a “sizeable change, occurring only in response to major societal shifts.” Thus, the statistically significant but small-in-magnitude changes observed in the current study may still reflect meaningful changes in population PMH.

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