

Navigating Through Crisis: The Influence of COVID-19 on Canada's Mental Health Problem*

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April 22, 2024

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1 Introduction

The COVID-19 pandemic has spotlighted mental health as a critical component of public health, magnifying existing challenges and uncovering gaps within healthcare systems globally. In Canada, the impact of the pandemic on mental health has been profound, exacerbating disparities and highlighting the urgency of effective mental health care. The Centre for Addiction and Mental Health (CAMH) has identified a significant increase in mental health problems among Canadians, noting that the pandemic has led to unprecedented levels of anxiety and depression (CAMH, 2020). Additionally, the Public Health Agency of Canada reports on the elevated symptoms of anxiety and depression during the pandemic, further underscoring the need for comprehensive data analysis on this issue (Public Health Agency of Canada, 2021).

This paper aims to provide a detailed analysis of the changing situation of mental health in Canada by using four datasets spanning from 2002 to 2023. The focus is on perceived mental health statuses across various demographic segments, including age, gender, and province. The primary objective is to understand how perceptions of mental health have evolved over the past two decades and how these perceptions have been impacted by the COVID-19 pandemic.

The study addresses the gap in longitudinal mental health research, particularly in the analysis of sociodemographic influences during a major global crisis. Through the comparison of mental health indicators before and during the pandemic, this research provides insights into the shifts in mental health perceptions and the effectiveness of the responses to these changes. Initial

*Code and data are available at: https://github.com/FrankMengZJ/canada_mental_health/

findings suggest notable disparities in mental health impacts across different demographic groups, indicating the need for targeted interventions.

The significance of this research lies in its contribution to the evidence base informing mental health policy and practice. By identifying the demographic factors associated with varying mental health outcomes, the study aids policymakers and healthcare providers in developing tailored strategies to address the unique challenges faced by diverse groups within Canada. *TBD*

2 Data

This study uses four carefully curated datasets from Statistics Canada, each providing valuable insights into the mental health perceptions of Canadians. These datasets are pivotal for understanding the evolution of mental health across different demographics and geographical regions from 2002 to 2023.

2.1 Overview of Datasets

The data for this research come from national surveys conducted by Statistics Canada, specifically designed to monitor various aspects of mental health across the country. Each dataset targets different demographic variables, such as age, gender, and province, and covers distinct periods critical for analyzing long-term trends and the immediate effects of the COVID-19 pandemic.

2.1.1 Mental Health Indicators Dataset

Data from 2002 and 2012 in the Mental Health Indicators Dataset were derived from national health databases, capturing key statistics on the prevalence of mental disorders and utilization of mental health services. The information is gathered through comprehensive health surveys and administrative records, providing robust measures of mental health status and service outcomes.

Table 1 shows the first 5 rows in the dataset, REF_DATE stands for the time that the data was gathered, GEO denotes the geographical ,

Table 1: First 5 Rows in Mental Health Indicators Dataset

REF_DATE	GEO	Age	Sex	Indicators	VALUE
2002	Canada	Total, 15 years and over	Both sexes	Major depressive episode, life	12.2

Table 1: First 5 Rows in Mental Health Indicators Dataset

REF_ID	THEO	Age	Sex	Indicators	VALUE
2002	Canada	Total, 15 years and over	Both sexes	Major depressive episode, 12 months	4.8
2002	Canada	Total, 15 years and over	Both sexes	Cannabis use, life	41.3
2002	Canada	Total, 15 years and over	Both sexes	Cannabis use, 12 months	12.2
2002	Canada	Total, 15 years and over	Both sexes	Suicidal thoughts, life	13.4

2.1.2 Perceived Mental Health by Age Group

The Perceived Mental Health by Age Group dataset spans from 2015 to 2022 and utilizes a consistent methodological framework to assess self-reported mental health. The data collection process involves standardized questionnaires distributed to a representative sample of Canadian adults across various age groups. This approach ensures that the data reflect a broad spectrum of the population, excluding those in full-time residence, on Indigenous reserves, or non-permanent residents, thus focusing on a generalizable sample of the Canadian populace.

2.1.3 Perceived Mental Health by Gender and Sociodemographic Characteristics

The data for 2021 to 2023 from this dataset is sourced from the Canadian Community Health Survey (CCHS), which meticulously gathers data on mental health perceptions influenced by gender and other sociodemographic factors such as income, education, and employment. This survey selects participants through a stratified sampling design aimed at capturing diverse sociodemographic landscapes across Canada, enhancing the dataset’s relevance for analyzing intersectional impacts on mental health.

2.1.4 Detailed Measurement Discussion

Both the CCHS and other Statistics Canada surveys employ rigorous data verification and validation processes. Quality control measures include logical checks during data collection and detailed follow-ups for non-responses. Post-stratification weighting adjusts for any discrepancies due to non-response rates, and seasonal adjustments are made to account for the timing of data collection. These methodologies ensure that the data are robust, reliable, and accurately reflect the Canadian population’s health status.

The CCHS’s use of health-specific, standardized questionnaires is designed to capture nuanced information on health determinants and outcomes, which is critical for public health research and intervention planning. Conversely, Statistics Canada’s broader surveys provide comprehensive data across a wider range of topics, offering valuable insights into the interplay between health and other societal factors.

2.1.5 Comparison of Data Collection Specifics

CCHS is highly adaptable with its questionnaire content, allowing for the inclusion of regional health issues of specific interest, which is crucial for targeted public health interventions. This adaptability in data collection, combined with its detailed focus on health, makes CCHS uniquely suited for studies like ours that require specific health-related insights.

In summary, the methodologies used by the Canadian Community Health Survey and other Statistics Canada surveys are both robust and tailored to meet different informational needs. Understanding these methodologies helps in accurately interpreting the data collected on mental health perceptions, ensuring that research findings are based on reliable and representative data.

3 Results

3.1 Methodological Considerations

Prior to examining the trends, it’s crucial to note that the datasets used for this analysis were collected using different methodologies. Annual data up to 2020 required a distinct approach from the quarterly data collected during the pandemic’s peak. To preserve the accuracy of the analysis, the results are presented in separate graphs corresponding to these differing collection frequencies.

3.2 Overview

The results from the analyzed datasets reveal significant trends in the mental health landscape across Canada. Initially, the data show a gentle increase in reported mental health concerns from the early 2000s up until 2010. Post-2010, there is a noticeable dip, followed by a steady climb in mental health issues leading up to 2015. However, the most striking feature of this trend is the sharp and substantial escalation in mental health concerns starting from around 2020, which corresponds with the onset of the COVID-19 pandemic.

Figure 1 plots the percentage of individuals reporting mental health concerns from 2005 to the present. From 2005 to around 2015, the trajectory exhibits minor fluctuations with a gradual increase. However, in the years following 2015, there is a distinct upward surge, with the

percentages almost doubling by 2020 and continuing to rise steeply. This dramatic increase highlights the profound impact that the pandemic has had on mental health, as isolation, stress, economic uncertainty, and health-related fears took a toll on the population.

Figure 2 provides a more granular view of the recent period, showing quarterly data from 2021 through to mid-2023. This period captures the ongoing effects of the pandemic. The graph illustrates considerable volatility, with sharp increases and decreases in the percentage of individuals reporting mental health issues. These oscillations suggest that mental health responses are highly sensitive to the evolving circumstances of the pandemic, such as waves of infection, public health measures, and societal changes.

Together, these graphs paint a picture of a population that experienced a significant increase in mental health concerns during a global crisis. The data underscore the need for ongoing monitoring and support to address mental health at a community and national level. The results section will further dissect these trends by province, gender, age, and within special populations to understand the nuances of this mental health challenge.

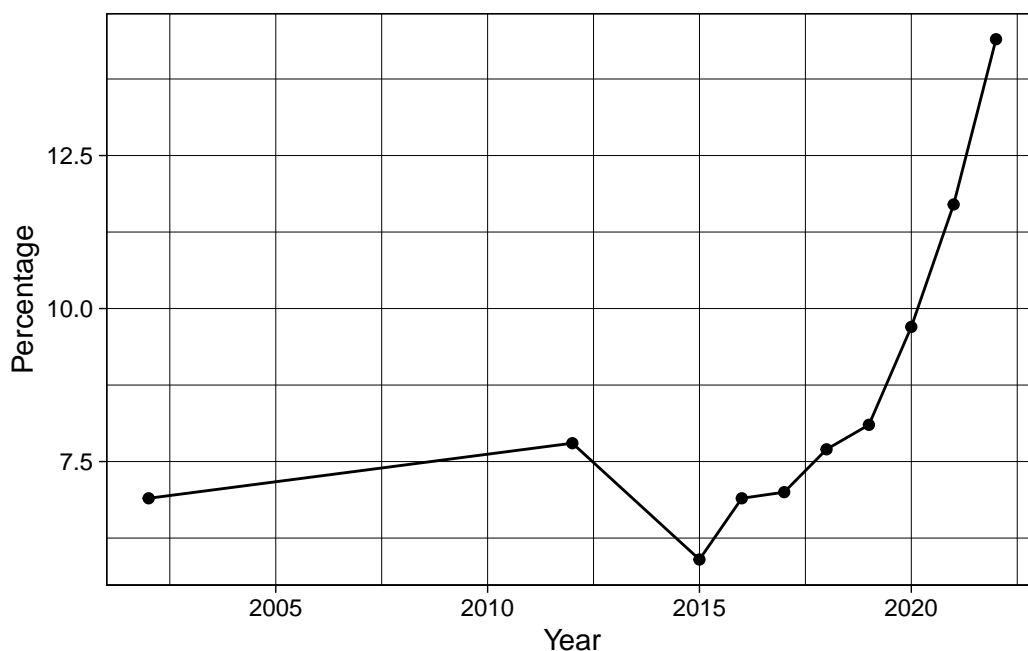


Figure 1: Perceived mental health fair or poor in Canada, 2002-2022

3.3 By Province

The results underscore the regional variations in mental health across Canadian provinces. In the graph illustrating data from 2016 to 2022, we see a common upward trend among all provinces, with a particularly steep increase following 2020, which aligns with the global

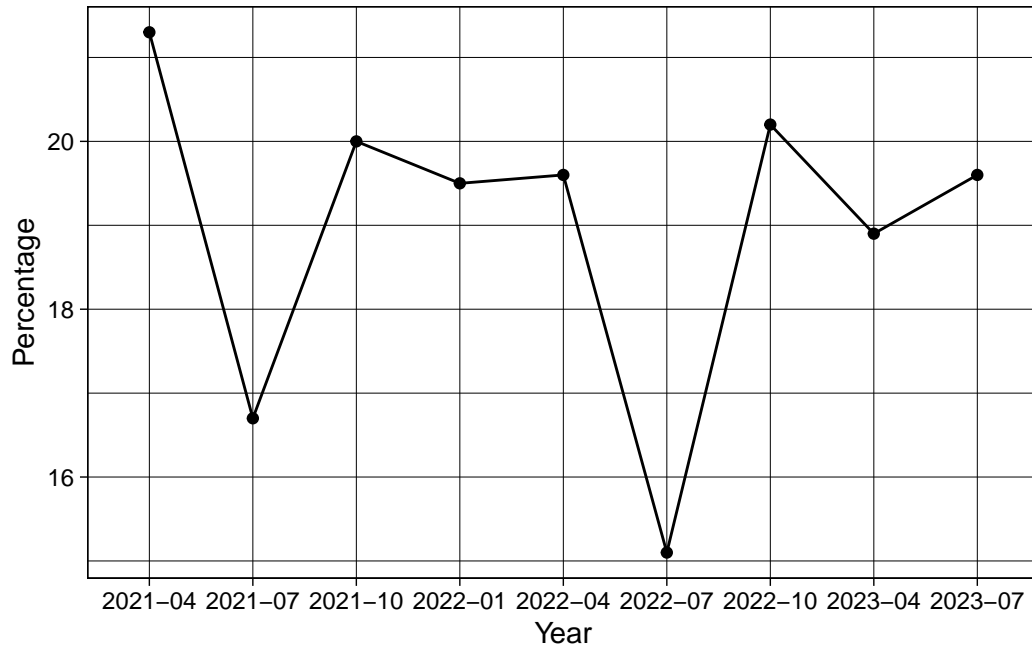


Figure 2: Perceived mental health fair or poor in Canada

onset of the COVID-19 pandemic. Prior to 2020, there were variations in the VALUE among provinces, but the gap between regions with the highest and lowest reported VALUE narrows as all regions trend upwards significantly in the subsequent years.

Alberta, British Columbia, and Ontario exhibit some of the highest increases, suggesting a pronounced impact of the pandemic and its associated factors on mental health in these regions. However, it is notable that the trend is national, as even provinces like Prince Edward Island and Newfoundland and Labrador, which initially had some of the lowest reported VALUE, also show a sharp rise.

The second graph, representing quarterly data from 2021 to 2023, provides a more nuanced picture with noticeable fluctuations within each province. These variations could be indicative of the changing conditions during the pandemic, such as waves of COVID-19 cases, differing provincial public health restrictions, and economic instability. While the Atlantic Region and the Prairies show a more volatile pattern, Quebec and Ontario demonstrate a more consistent increase over the observed quarters.

Both graphs indicate that while the trend in mental health concerns is increasing across Canada, there are provincial specificities that suggest the impact of local factors. These could include economic conditions, the accessibility of mental health services, public health policies, and the social resilience of communities. The consistent rise across provinces post-2020, however, points to the overarching influence of the pandemic on mental health at a national level.

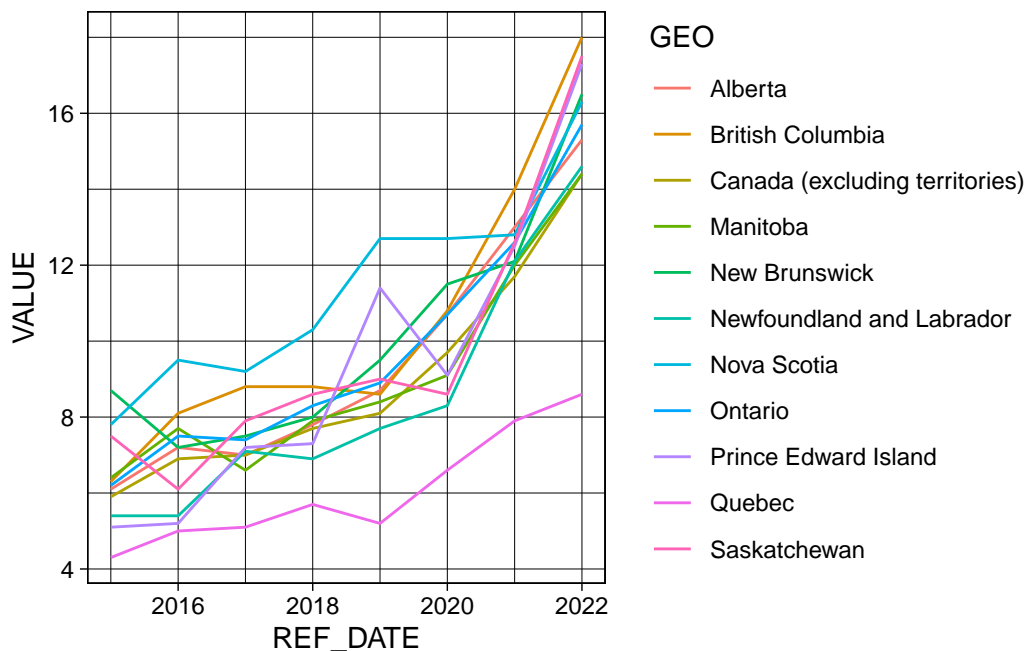


Figure 3: Perceived mental health fair or poor in Canada

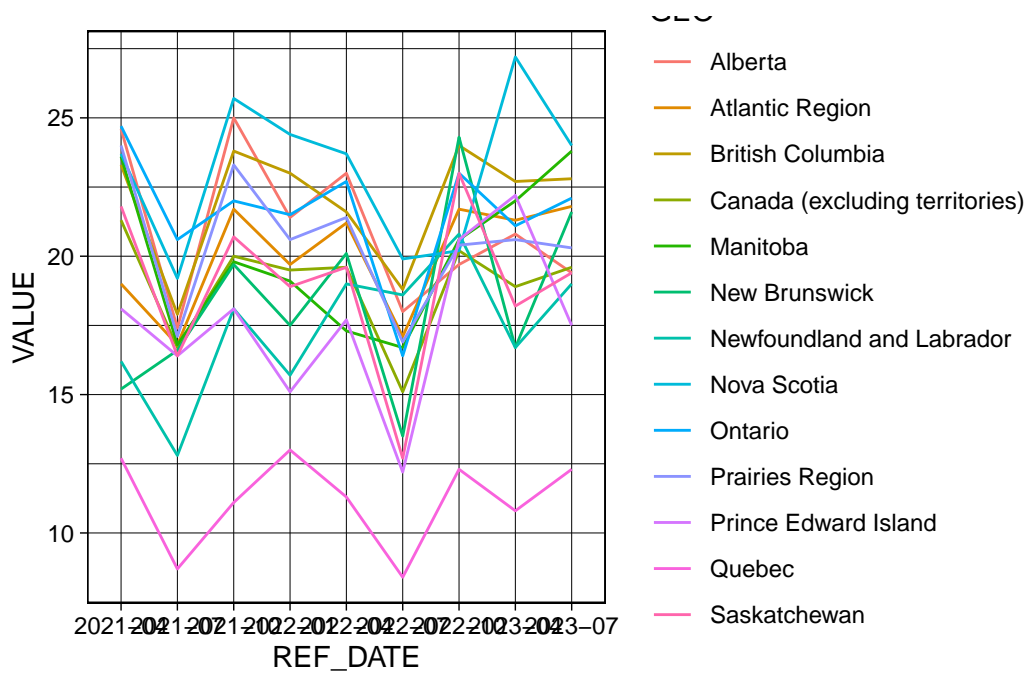


Figure 4: Perceived mental health fair or poor in Canada

3.4 By Gender

The gender-based analysis reveals telling trends in the self-reported mental health status among Canadians, distinguishing between those who consider their mental health to be fair or poor.

From 2016 to 2022, the first graph shows an upward trajectory for both males and females, with a notably sharper rise for females. By 2022, the percentage of females reporting their mental health as fair or poor substantially exceeds that of males, suggesting gender-specific impacts. The increase that coincides with the pandemic period may reflect the compounded stressors that women have faced, including potential increases in caregiving responsibilities, economic pressures, or other psychosocial factors exacerbated by the pandemic.

In the quarterly data from 2021 to mid-2023, depicted in the second graph, the fluctuations are more pronounced, with both genders experiencing variability in their mental health reporting. The trend for women is characterized by higher peaks, indicating more pronounced shifts in mental health status as compared to men. This volatility could be influenced by the ebb and flow of pandemic-related stresses and public health measures.

For both sexes combined, the overall trend is less erratic, pointing to the importance of disaggregating data by gender to fully capture the differential impacts on mental health. These findings highlight the significance of gender-responsive mental health resources and interventions, particularly in addressing the unique challenges that have emerged during the pandemic.

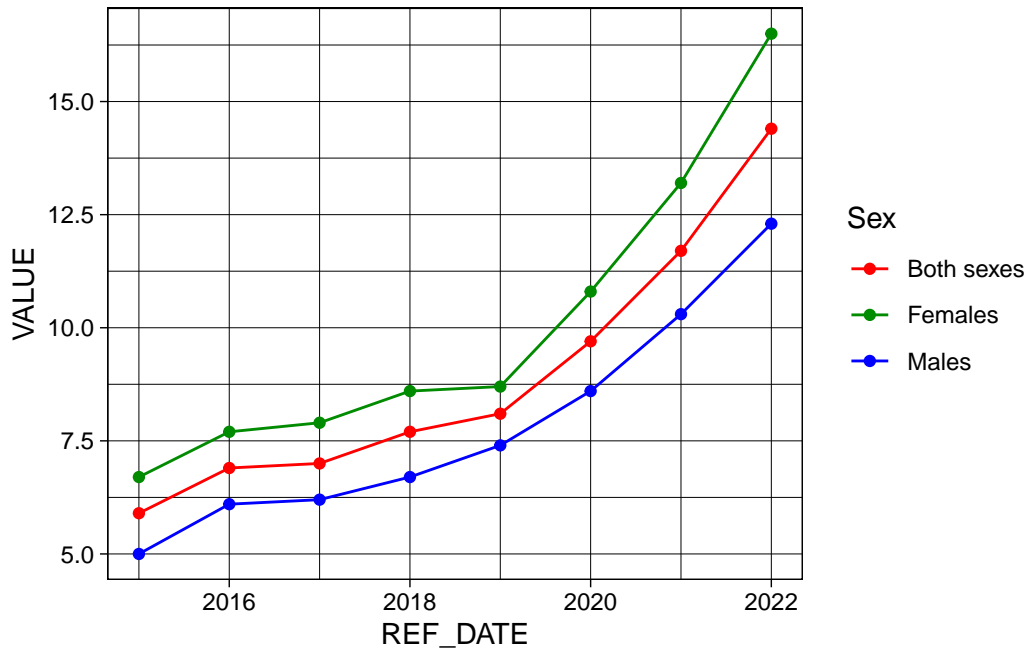


Figure 5: Perceived mental health fair or poor in Canada

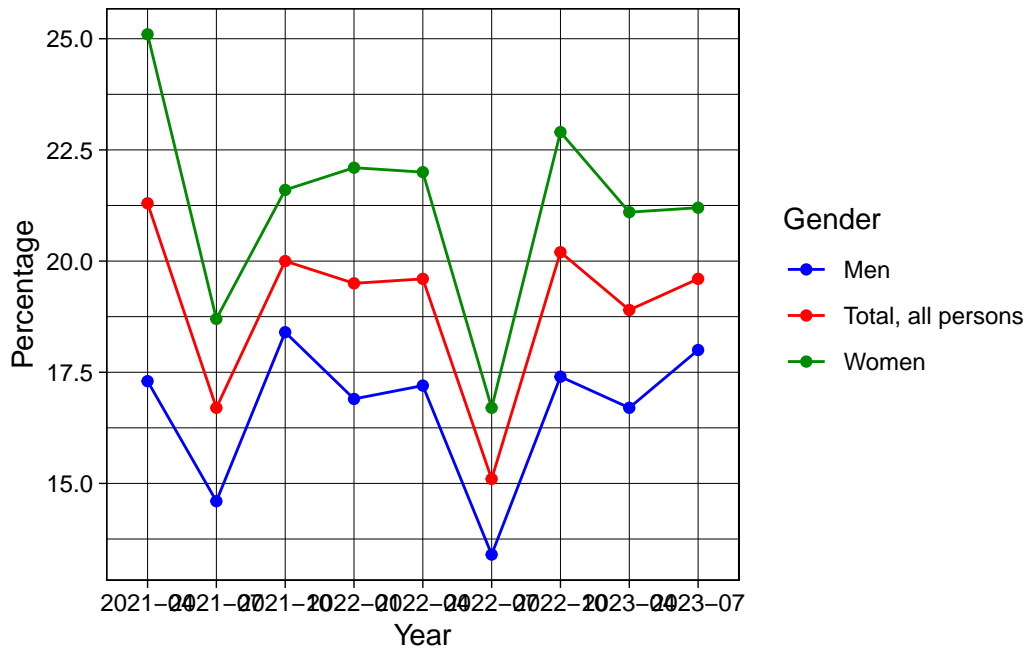


Figure 6: Perceived mental health fair or poor in Canada

3.5 By Age

The first graph spans from 2016 to 2022 and illustrates the percentage of people within various age brackets reporting their mental health as fair or poor. A distinct trend is visible across all age groups, showing an increase in self-reported fair or poor mental health, with a marked acceleration from 2020 onwards, likely due to the COVID-19 pandemic. The oldest age group, those aged ‘65 years and over,’ displays the most pronounced rise, indicating this demographic may have been particularly impacted during these years. Meanwhile, younger age groups also show a worrying increase, albeit less steep, suggesting widespread implications across generations.

The second graph, which provides quarterly data from early 2021 to mid-2023, presents a more granular view, capturing the fluctuations within and between age groups during the pandemic. Notably, the ‘15 to 24 years’ and ‘25 to 34 years’ categories exhibit significant volatility, with peaks and valleys that could correlate with periods of pandemic waves, social restrictions, and economic impacts. The ‘65 years and over’ group continues to report higher rates of fair or poor mental health, although with less fluctuation, possibly reflecting ongoing concerns about health risks and social isolation among seniors.

These age-focused graphs suggest that mental health challenges have been a critical concern for all age groups, with particular implications for the most vulnerable populations. The rise in reported mental health issues among the youth and elderly underscores the need for age-specific mental health services and support systems tailored to their unique circumstances and

stressors. The data call for continued monitoring and interventions to address the mental health repercussions of the pandemic across all age demographics.

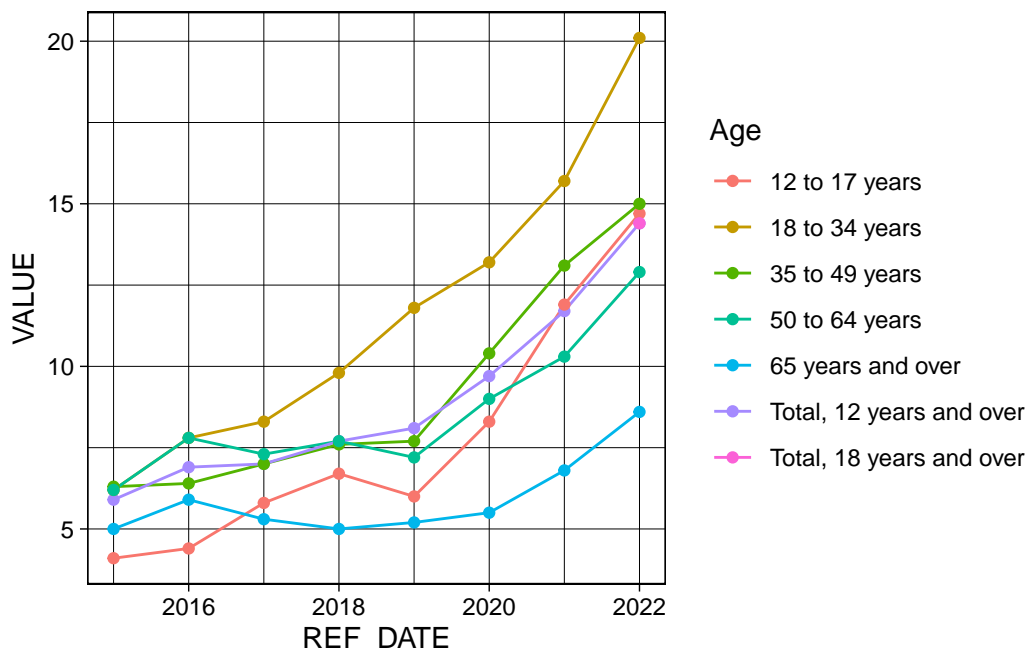


Figure 7: Perceived mental health fair or poor in Canada

3.6 Others

The examination of mental health within specific demographic segments reveals significant disparities. The most affected population, with 48.4%, are LGBTQ2+ women, followed by the total population of LGBTQ2+ individuals at 44.5%. LGBTQ2+ men report a lower percentage at 39.0%, indicating a gender-related variance within the LGBTQ2+ community. These figures highlight the substantial mental health challenges faced by LGBTQ2+ individuals, which may be attributed to factors such as discrimination, stigma, and lack of targeted support services.

Southeast Asian women report a 39% rate of fair or poor mental health, indicating that cultural and possibly immigration-related factors might contribute to mental health concerns. This suggests the need for culturally sensitive mental health resources that are attuned to the unique experiences of minority groups.

Young women aged 15 to 24 years report a rate of 36.3%, reflecting the particular vulnerabilities of this age group, which may include the pressures of social media, academic stress, and transitions into the workforce or higher education.

Women with disabilities or long-term conditions report a 34.7% rate, with the total population of persons with disabilities reporting 32.4%. These figures underscore the intersectional nature

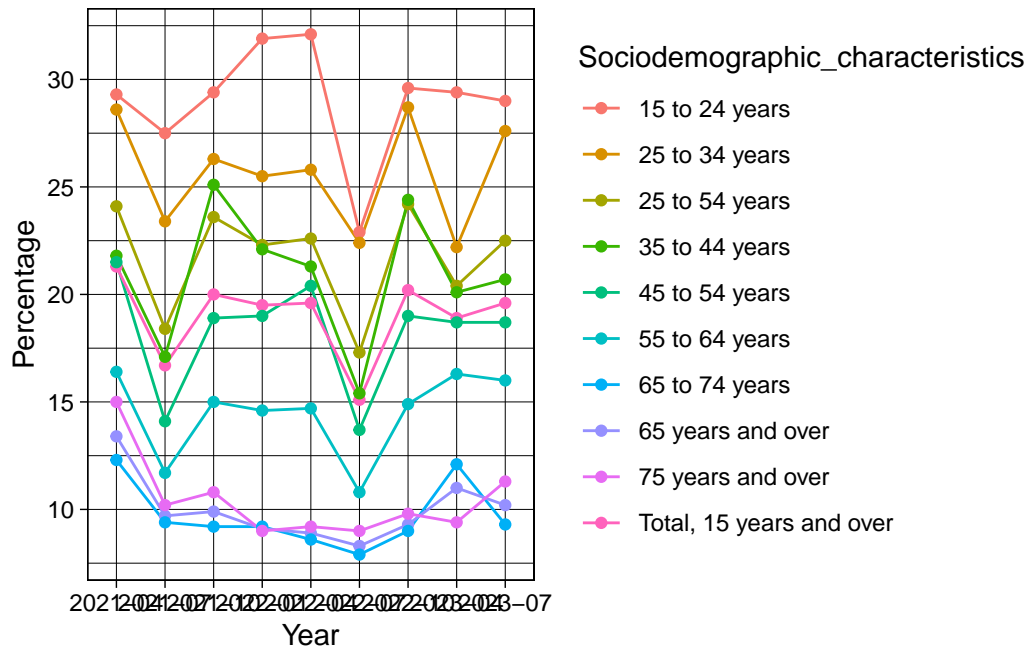


Figure 8: Perceived mental health fair or poor in Canada

of mental health, where disability and gender can compound the challenges faced by individuals, highlighting the critical need for accessible mental health services that accommodate physical and social barriers.

Métis women, Indigenous women, and First Nations women report similar rates of around 30-31%, indicating the pressing mental health concerns among Indigenous populations. Historical context, ongoing systemic inequalities, and intergenerational trauma are likely contributing factors and underscore the importance of providing culturally competent care and support.

4 Discussion

4.1 First discussion point

If my paper were 10 pages, then should be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

4.2 Second discussion point

4.3 Third discussion point

4.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

GEO	Gender	Sociodemographic_characteristics	Average
Canada (excluding territories)	Women	LGBTQ2+ people	48.38889
Canada (excluding territories)	Total, all persons	LGBTQ2+ people	44.52222
Canada (excluding territories)	Men	LGBTQ2+ people	39.02222
Canada (excluding territories)	Women	Southeast Asian	39.00000
Canada (excluding territories)	Women	15 to 24 years	36.28889
Canada (excluding territories)	Women	Persons with a disability, difficulty or long-term condition	34.71111
Canada (excluding territories)	Total, all persons	Persons with a disability, difficulty or long-term condition	32.36667
Canada (excluding territories)	Women	Métis	31.36667
Canada (excluding territories)	Women	Indigenous identity	30.31111
Canada (excluding territories)	Women	First Nations	30.30000
Canada (excluding territories)	Women	Single Indigenous identity	30.06667
Canada (excluding territories)	Total, all persons	Multiple visible minorities	29.70000
Canada (excluding territories)	Men	Persons with a disability, difficulty or long-term condition	29.53333
Canada (excluding territories)	Total, all persons	15 to 24 years	29.01111
Canada (excluding territories)	Total, all persons	Métis	28.97778

Figure 9: Perceived mental health fair or poor in Canada

5 References