

## Article

# Experiences and Impacts of the COVID-19 Pandemic: A Thematic Analysis

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**Abstract:** The COVID-19 pandemic prompted global public health restrictions that impacted Canadians in multiple ways. The effects of the pandemic are well examined in specific populations and in researcher-defined areas (e.g., mental health, physical activity, social connections, and financial impacts). Few studies explore the complex perspectives of adults who experienced and were impacted by the pandemic. The purpose of this study was to understand Canadian adults' perspectives of pandemic impacts over time. Methods: A sample of 347 Canadian adults were recruited during the first six months of the COVID-19 pandemic to respond to open-ended questions about the pandemic's impacts, administered every two weeks between April 2020 and January 2021. The responses were amalgamated into epochs, defined by dates that paralleled infection rates and public health responses in Canada. Qualitative thematic analysis identified major themes for each epoch and changes in themes over time. Results: The participants predominately reported adverse impacts of the pandemic during each epoch assessed, particularly with respect to mental health, future-oriented worry, activity restrictions, and social, and employment disruptions. Key concerns were potentially driven by changes in infection rates and public health policy changes. Conclusions: The COVID-19 pandemic impacted individuals in predominantly negative and complex ways that varied over time with public health responses. Findings from the present study may direct future pandemic responses to mitigate adverse effects to best prevent infection while preserving wellbeing.

**Keywords:** COVID-19 pandemic; Canadians; qualitative thematic analysis



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## 1. Introduction

COVID-19 affected individuals in diverse and profound ways across the globe. Declared a worldwide pandemic on 11 March 2020, response protocols aimed at mitigating the spread of the virus were implemented globally [1]. Social distancing or self-isolation policies proved effective at slowing the spread of the virus; however, they were not without their adverse consequences, such as education disruptions, limited access to childcare, uncertain employment, and financial challenges [2–7]. Understanding the breadth and depth of COVID-19 impacts and subsequent public health restrictions on populations is important to inform future pandemic responses.

COVID-19 and public health restrictions affected lifestyle, health, and wellbeing, particularly social connections, work/school, caregiving, finances, and mental health. Pandemic-related disruptions in social connections are well documented, including limited social contact, reduced access to social support, restricted in-person interactions, and

changes to communication means and frequency [8]. These disruptions resulted in increased loneliness and adverse impacts on wellbeing [7,9,10]. Increases in extreme social disruptions, including domestic conflict and violence, were also reported [11]. Work and school were broadly impacted by pandemic-related public health responses [4]. Restrictions in public gatherings resulted in employees losing jobs or being asked to rapidly shift to a work-from-home strategy [12]. Essential workers, such as front-line or healthcare providers, experienced an increase in workload, with accompanying risk for burnout, and were at increased risk of exposure to COVID-19 [12].

In the school context, school closures occurred at all levels of education, interfering with and limiting educational progress by shifting to learning from home [13]. Access to parental caregiving and parental responsibilities were also impacted by the pandemic. School closures and stress caused by job loss or shifts to working at home were compounded by loss of reliable childcare. Parents', particularly mothers', labour productivity was adversely impacted, with consequences for family financial security and emotional wellbeing [14,15]. Caregivers of adults, such as for the elderly or those with chronic illness or disabilities, were also adversely impacted. The pandemic responses increased parental caregiving demand or responsibility while also reducing access to supports, thereby increasing strain and decreasing opportunity for reprieve [14]. Pandemic responses indirectly affected national and international economies as well as individual and family finances with decreasing or cessation of income, due to job loss, being high-risk if infected with COVID, or illness resulting from COVID infection [4,10]. Impacts on economies indirectly affected individuals through job instability and disruptions to supply chains and access to consumer goods [2,6].

The myriad ways the pandemic and public health restrictions affected quality of life, lifestyle, health, and wellbeing, are well documented in quantitative studies [9,16–18]. Although insightful, participants' perspectives of the pandemic's impacts would add ecological utility in understanding the complex ways that the pandemic was experienced. Qualitative studies have specifically explored open-ended responses to questions on pandemic impacts on social connections and communication; however, broader positive and negative impacts over time were not explored [7,8]. To our knowledge, no studies explored how self-reported experiences captured by predominant themes could change over time during the pandemic, captured through an inductive longitudinal approach.

The purpose of this study was to give voice to Canadian adults' perspectives and experiences of COVID-19 pandemic impacts and changes to impacts over the progression of the pandemic with the goal of providing insight to buffer impacts and facilitate improved outcomes in future pandemic responses. Qualitative thematic analysis was used to articulate eminent themes through analysis of open-ended responses over the initial stages of the pandemic (April 2020 through January 2021) [16].

## 2. Methods

### 2.1. Participants

Participants were recruited using a convenience sampling technique via a local online university and social media (i.e., Twitter) between 30 April 2020 and 29 June 2020. The participants were 18–69 years of age, English-speaking, and residing in Canada. In total, 396 participants consented to participate, and 347 completed at least one assessment wave. Each participant completed informed consent and was given a gift card honorarium upon completion of at least one assessment. The Athabasca University Research Ethics Board approved all procedures (file No. 23919, approval date: 15 April 2020).

The sample characteristics are available in Table 1. The participants were primarily from Alberta (60%) and Ontario (20%) and represented every province and territory. The sample in the current study was predominantly female (87%) and White (80%). Pre-pandemic median household income was \$84.5K, and 38% indicated a loss in income since the onset of the pandemic. Although the sample was recruited through a university, only 19% reported full-time student status, and 42% of the sample reported residing

with children under 18 years. The mean age of the participants was 36.8 years  $\pm$  11.7. At baseline, 97% of the participants reported active participation in social distancing or self-isolating.

**Table 1.** Sample Characteristics.

Variable		Mean $\pm$ SD or % (N)
Age (Year)		36.8(mean) $\pm$ 11.7 (SD) 39.5(median) (21–69.5)
Sex	Female	87.3% (303)
	Male	10.7% (37)
Gender	Man	10.7% (37)
	Woman	85.6% (297)
	Gender variant/non-conforming	1.2% (4)
	Prefer not to answer	1.2% (4)
Race/ethnicity	White	79.5% (276)
	Asian	6.1% (21)
	Black	2.0% (7)
	Filipino	0.6% (2)
	Latin American	1.4% (5)
	Aboriginal, Indigenous, or First Nations	3.5% (12)
	Multiracial	4.6% (16)
Per capita household income (\$1000/person)		28 $\pm$ 19.4 (2.86–87.5)
Change in household income	Loss	37.5% (130)
	No change	54.2% (188)
	Gain	5.5% (19)
Living alone		10.1% (35)
Family/Friend COVID-19 diagnosis		9.5% (33)
Self-isolating		25.6% (89)
Social distancing		69.7% (242)
Mental health condition		7.2% (25)
COVID-19 risk factor		51.4% (177)
Children in the household		49.6% (172)
Student status		18.7% (65)
Region in Canada	Alberta	60.2% (209)
	Ontario	19.5% (68)
	Other	16.4% (57)
Pre-pandemic occupational status (economically active)		71.5% (248)
Change in occupational status	Loss	32.8% (114)
	No change	57.3% (199)
	Gain	6.9% (24)

## 2.2. Procedure

For detailed methodology, see Lowe et al. [9]. Participants were given the opportunity to complete online surveys every two weeks for six months, comprising 13 assessments, with data collection ending in January 2021. At each assessment, participants were asked an open-ended question about pandemic impacts.

## 2.3. Pandemic Effects Open-Ended Question

Following each questionnaire, the participants were asked, “How else has the COVID-19 pandemic affected you?” There was no minimum or maximum character or word limit. In order to examine changes in themes over the pandemic, responses were divided into epochs based on pandemic responses and infection rates, as described elsewhere [8]: Spring (April to June 2020;  $n = 427$ , 62.79% response rate), Summer (July to August 2020;  $n = 331$ , 49.33% response rate), and Fall/Winter (September 2020 to January 2021;  $n = 289$ , 36.95% response rate). The responses averaged four statements in length and ranged from one to 116. Response length was similar across epochs ( $F_{(5,1041)} = 1.14$ ,  $p = 0.34$ ), and all the responses provided were included for analysis. The responses were amalgamated and

analyzed between epochs rather than within persons, with 62% ( $n = 216$ ) of all participants represented in all three waves, 38% ( $n = 130$ ) in at least two waves, and one participant (<1%) responding in only one wave (Summer). To minimize the risk of potential panel effects, the responses were provided a minimum of two weeks apart and embedded within a larger survey that included diverse questionnaires. The question was designed to be broad and avoid leading responses. Participants could also choose not to respond.

#### 2.4. Thematic Analysis

Themes were identified using an inductive approach following best practices in the thematic analysis [19]. First, four independent coders developed a coding tree, or a hierarchy of themes, based on a sample of 50 responses. Following the independent identification of themes, coders met to discuss and agree on a single coding tree to identify themes in all responses. Next, three coders independently coded each response across epochs using the NVivo 12 software [20]. Finally, all responses that could not be categorized into the existing coding tree were assessed and organized using a peer debriefing technique to modify existing identified themes and integrate each participant's response into the thematic analysis [21].

Theme prevalence and changes over time were identified using theme proportions through the frequency of identified themes in proportion to all coded responses in each epoch by dividing the number of codes per theme by the total number of codes identified in each epoch. Final proportions were determined by averaging the proportion of each code identified by each of the three independent coders to reduce interpretation bias.

### 3. Results

In total, 2164 unique codes were assigned across 1047 responses ( $n = 347$ ). Fifty-nine themes across four levels of sub-themes were identified (Table 2), summarized by a word cloud in Figure 1.

**Table 2.** Themes and Sub-Themes for Impacts of the COVID-19 Pandemic.

Themes		Proportion of Epoch Responses (%)				
		Spring	Summer	Fall/Winter		
No Impact Impact	Negative Impact		1.78	2.20	2.22	
			98.22	97.80	97.78	
			80.29	77.16	79.44	
		Mental Health/Emotional	16.48	16.84	14.34	
			Anxiety	5.47	6.07	3.47
			Stress	3.06	3.59	3.33
			Depression	2.27	2.24	1.59
			Substance Use	0.27	0.09	0.12
			Other	5.33	4.85	5.76
		Restricted Activities	12.61	9.86	11.97	
			Activities Broadly	3.67	2.80	3.21
			Travel	3.05	3.51	3.65
			School from Home	2.12	0.92	1.95
			Community Institutions	1.38	1.49	1.06
			Physical Activity	1.29	0.74	1.33
			Restaurants	0.63	0.06	0.28
			Theatres	0.31	0.16	0.33
			Sports	0.17	0.18	0.18
			Work	12.57	11.59	11.34
				Work Disruptions	4.36	4.61
		Work from Home	4.21	1.86	2.14	
		Work Expectations Change	2.65	3.87	2.95	

Table 2. Cont.

Themes		Proportion of Epoch Responses (%)		
		Spring	Summer	Fall/Winter
Positive Impact	Work–Life Balance	1.17	1.19	1.09
	Work Related Travel	0.14	0.06	0.06
	Social	11.10	14.34	13.19
	In-Person: Friends/Family	3.93	4.94	4.42
	Consequences of Isolation	3.18	4.05	3.23
	Interpersonal Relationships	2.21	2.37	2.49
	COVID-related conflict	0.88	2.16	2.12
	In-Person: Work Colleague	0.61	0.27	0.54
	Physical Contact	0.30	0.54	0.41
	Worry	9.99	9.24	11.45
	Generalized Future	3.31	2.96	3.15
	For Others	2.68	2.47	2.73
	Virus Transmission	2.39	2.59	4.07
	Financial	1.61	1.22	1.50
	Children	6.65	5.11	3.84
	Education	2.07	2.63	1.40
	Childcare	1.83	1.03	0.81
	Child Mental Health	1.11	0.54	0.56
	Child Social Life	0.66	0.49	0.59
	Extracurricular Activities	0.59	0.30	0.33
	Other	0.39	0.11	0.16
	Daily Routine	4.22	4.42	6.60
	Financial	3.05	2.97	2.94
	Negative Other	1.51	1.99	1.83
Neutral Impact	Government Criticism	1.05	1.58	1.32
	Extremist Views	0.45	0.41	0.51
		8.52	4.94	6.19
	Improved Relationships	1.68	0.77	0.46
	New Activities	1.64	0.95	1.41
	Gratitude	1.50	0.83	1.21
	Improved Mental Health	1.10	0.70	0.87
	Re-openings	0.08	0.15	0.29
	Other	2.60	1.69	2.24
		2.58	5.11	7.25
	Pandemic Response	2.39	5.66	4.70
	Compliance	1.54	1.66	2.36
	Mask Use	0.85	4.00	2.34
	Communication			
	Tech	0.95	0.91	2.55

As themes emerged during data analysis, responses were broadly categorized into one of two categories: having experienced a pandemic-related impact or not. The participants largely reported pandemic impacts (>97% in each epoch), and this remained consistent across the three epochs. No impact responses slightly increased from the Spring into Summer and Fall/Winter and were largely reflected by comments that participants were adapting (“*No real effect. Having been adapting to changes*” (45–54 aged female from Alberta; Summer) or had returned to normal “*Not much change. Our school reopened and I’m back to a routine. . .*” (35–44 aged female from Saskatchewan; Fall/Winter). Impact responses were further categorized into negative, positive, and neutral impacts. Often, responses occupied multiple codes, spanning several themes. The negative impact category encompassed adverse effects resulting from the pandemic, while positive impact consisted of reported benefits. Alternatively, a third category of neutral impact was established to represent

reported experiences that were neither beneficial nor adverse but captured identified experiences nonetheless. Each sub-theme is described below.



**Figure 1.** Participant Responses Word Cloud Representing Broad Pandemic Impacts. Participants responded without restrictions to the open-ended question: “How else has the pandemic affected you?” following questionnaires on mental health and social connections during the pandemic. The word cloud represents frequency of words across all 1037 responses from April 2020–January 2021, with larger words indicating increased frequency relative to smaller words appearing in the word cloud. Larger words representant more prominent themes.

### 3.1. Negative Impact

The participants reported a subjective negative impact in the Spring (80%), Summer (77%), and Fall/Winter (79%) epochs. The most prevalent negative impacts (>5% of comments) were related to mental or emotional health, restricted activities, work, social impacts, feelings of worry, and children. Negative impacts on daily routines and finances and concerns about government responses and extremist views were also reported.

#### 3.1.1. Mental or Emotional Health

The negative impact on mental or emotional health was most reported by participants across epochs (Spring, 16.48%; Summer, 16.84%; Fall/Winter, 14.34%). Mentions of anxiety, stress and depressive symptoms were most common. Although mentions of stress remained constant across epochs, there were notable declines in mentions of anxiety and depression from the Spring and Summer to the Fall/Winter epoch.

Participants reported a sense of uneasiness and anxiety surrounding generalized uncertainties related to the pandemic, such as “*Life feels eerie and disjointed, increase in*



*anxiety and stress with so much unknown*" (35–44 aged female from Alberta; Spring), or feeling depressed in varying degrees in each Spring, Summer, and Fall/Winter epochs, such as *"I am a bit depressed and missing my everyday regular life"* (18–24 aged female from Alberta; Spring). Additionally, broad adverse impacts to their mental health were generally indicated as an impact of the pandemic and its subsequent public health policies, *"Lack of sports is hard for mental health and stress release"* (25–34 aged female from Alberta; Summer), and notable changes to general stress levels were frequently indicated, *"Makes me feel like my life is stopping. Angry a lot more. Stressed about when my life will begin—working again, getting a job in my field, finding a partner, etc."* (25–34 aged female from Alberta; Fall/Winter).

### 3.1.2. Restricted Activities

A negative impact of restrictions in activities was also consistent across epochs, although there was a slight decrease in this theme during the Summer as compared to the Spring and Fall/Winter. Reported impacts of the pandemic cited restrictions or elimination of organized activities such as, *"I can't go out to do fun things that I used to do, such as watch a movie at a theater"* (25–34 aged female from Alberta; Spring), or access to community resources, *"The lockdown has affected my ability to see my doctor in person"* (65–74 aged female from Alberta; Summer). These restrictions also affected rates of physical activity among participants, especially as weather changes eliminated outdoor options while public health policies limited access to indoor facilities, *"I am a little anxious about the winter setting in. I will have to find ways to continue to exercise outside. . ."* (55–64 aged female from Alberta; Fall/Winter). Additionally, restrictions to entertainment venues, restaurants, or organized sports were reported as impacts of the pandemic. For example, *"I haven't taken public transit or eating in a restaurant or gone to coffee shop since March. These are things I used to do multiple times a week"* (25–34 aged female from British Columbia; Spring). Participants also frequently commented on limited access to travel to connect with friends and family or loss of pleasurable activity, such as the following quote from the Fall/Winter: *"Inability to travel abroad or widely in Canada has been depressing as it is something I love to do"* (35–44 aged female from Alberta).

### 3.1.3. Work

The negative impact of the pandemic on work was consistent across epochs, particularly with respect to disruptions, working from home, changes in expectations, and work–life balance. Changes to work, such as loss of employment, were cited because of the pandemic in each epoch: *"I have been laid off for 8 weeks, and likely will be for 12 or more"* (35–44 aged female from Alberta; Spring). Changes to the working environment, specifically as a result of having to work from home, were noted as an upsetting consequence of the pandemic: *"Anxiety rises the closer I get to returning to work and having to figure out what to do with the kids. . ."* (35–44 aged female from Saskatchewan; Summer) and *"Significantly changed the nature of my work from face to face working with students to now interacting through google meet"* (55–64 aged female from Alberta; Fall/Winter). Having to work from home was mentioned more often in the Spring epoch compared to the Summer and Fall/Winter epochs. Along with work environment changes, modifications to their work, such as increased demands or intensities, were also reported, *"Increased work hours (job is in health and safety), staff training, new tasks at work"* (25–34 aged female from Alberta; Summer).

### 3.1.4. Social

Another major theme was the impact on participants' social connections due to the pandemic, specifically ability to see friends and family, impacts of isolation, and impacts on interpersonal relationships broadly. Negative impacts with respect to COVID-related conflicts, lack of contact with work colleagues, and lack of physical contact were also noted. Although pandemic-related restrictions eased during Summer 2020, with increased opportunities to connect socially, negative impacts reported regarding social connections were constant across the epochs.

Not being able to see friends and family in-person was a noted negative impact. For example, *“I have a parent in long term care, and I cannot see them. This without question has been the worst part of the pandemic”* (45–54 aged female from Alberta; Spring); *“The lack of friends wanting to hug or shake hands as usual is challenging for me”* (54–64 aged female from Saskatchewan; Summer); and *“Social media contact and phone calls are not the same as physical interactions. Humans are social beings that need interaction and physical contact. The pandemic is changing the way we see and experience life”* (Participant 133; Fall/Winter). Participants also widely reported consequences of isolation either due to the pandemic directly or due to pandemic-related restrictions, such as *“The social isolation is caustic. I want to hug my children. I want to work with my colleagues again”* (45–54 aged female from Alberta; Fall/Winter). Interpersonal relationship impacts were also a major theme, with participants reporting significant changes or conflicts that stressed their close relationships, *“Spending 24/7 with my spouse has also been a new challenge which has been both stressful and a form of growth. . .”* (45–54 aged female from Alberta; Spring) or *“Strained relationships with family members who do not think COVID needs to be taken seriously”* (25–34 aged female from Alberta; Fall/Winter).

### 3.1.5. Worry

Another major and consistent theme was that of experiencing worry, which experienced a sharp increase in the Fall/Winter, representing 11.45% of all responses. Although a generalized anxiety was captured in the mental health theme, the worry theme represented a distinct future-oriented concern for explicit pandemic-consequences, concerning the future broadly, for others, and for COVID virus transmission. Participants were concerned about the future broadly, *“Worry, loss of activities and friends, deep concern for the future”* (55–64 aged female from Alberta; Fall/Winter). Concern for others in lieu of themselves was also an observed concern, indicating that the participants felt secure in their position but had significant concern for their personal connections or those vulnerable to severe infection, *“I have a constant concern of the health risks on me and all my loved ones. I worry about the potential of one of them getting sick and me not being able to be there to take care of them”* (25–34 aged female from Alberta; Spring). Participants also expressed being scared about virus transmission, *“I am scared to leave my house, I am scared to get treatment for my medical conditions, I am scared to go anywhere without a mask and hand sanitizer”* (18–24 aged female from Ontario; Summer). Finally, although <2% of responses in each epoch, some participants made spontaneous reports of future financial uncertainties, *“The primary impact has come down to the financial side of things and the contributing uncertainty of what will happen next”* (35–44 aged female from Alberta; Spring).

### 3.1.6. Children

Many participants reported living with children and the negative impact of the pandemic related to their children. Child-related impacts were higher in the Spring and Summer, with a decrease in the Fall/Winter. Education, childcare, and child mental health were the most common concerns mentioned. Still, concerns about children’s social life and extracurricular activities were also noted.

Participants reported pandemic-related adverse impacts on children’s education and decisions surrounding their children’s schooling; the prevalence of education-related comments somewhat decreased during the Fall/Winter epoch after the return to school throughout Canada: *“Experiencing a great deal of concern/anxiety over the decision of whether or not to send our children to school in the fall”* (35–44 aged female from Alberta; Spring). Concerns related to securing childcare as a result of the pandemic and pandemic-related responses represented were also a cause for concern and impacted participants broadly. For example,

*not having childcare—either when they were closed in April/May, or now when the kids get runny noses they are home for 10–14 days . . . This makes it extremely difficult to get work done, and greatly increases the stress my partner and I feel.* (35–44 aged female from Alberta; Fall/Winter).



Lastly, some participants also reported concerns regarding their children's mental health, such as *"As a parent, mental health of daughter"* (35–44 aged female from Alberta; Spring), or *"I am just worried about how it is affecting the kids. It has caused a lot of anxiety and social issues in them in the last 6 months"* (45–54 aged female from Alberta; Fall/Winter).

### 3.2. Positive Impact

Although less prevalent, positive impacts were reported by participants across epochs, highest in Spring (8.52%), lowest in Summer (4.94%) and rebounded in Fall/Winter (6.19%). The most prevalent positive impacts reported were improved relationships, the discovery of new activities, gratitude, and improved mental health. For example, participants reported improvements in their interpersonal relationships as a result of the pandemic through pro-social behaviours such as *"Rather than intensifying negative emotions, mandatory lockdown has made me feel loved, supported and connected as my good friends have brought toys for my son to borrow, picked up and delivered groceries, called to chat and offered to help"* (25–34 aged female from Alberta; Fall/Winter). Additionally, discovering new activities that they would not have otherwise would have participated in was spontaneously reported as an impact of the pandemic that led to opportunities for new hobbies, *"It has given me a lot of time for reading and learning new things. I have been really working on learning Spanish"* (25–34 aged female from Alberta; Summer). Similarly, participants expressed generalized gratitude for their life after reflecting on the pandemic's wider impact, such as through their health, *"... I am thankful to be supported and healthy"* (25–34 aged female from Nova Scotia; Spring), or their current life circumstances, *"I'm very grateful for my current situation. ... I feel lucky to have a permanent job that can be done from home, that I work on a compassionate team, and that I live near family and friends"* (25–34 aged female from Alberta; Summer). Finally, the pandemic also positively affected participants' mental health, improving their overall wellbeing for a small proportion of participants, particularly those with pre-existing mental illnesses such as those with social anxiety, *"I was already an isolated person due to my anxiety, so if anything I've found this relieving"* (18–24 aged female from Alberta; Summer).

### 3.3. Neutral Impact

Finally, there were several neutral impacts of the pandemic in that participants did not view them as either positive or negative. These included comments on pandemic response, specifically compliance with public health responses and mask use, and new or increased use of communication technology, such as *"I am organizing online events, ... calling/texting more..."* (35–44 aged female from Alberta; Fall/Winter).

## 4. Discussion

The purpose of this study was to identify the perspectives and reported experiences that emerged in the initial phases of the COVID-19 pandemic from open-ended responses and whether themes varied over the follow-up period in each the Spring (April 2020–June 2020), Summer (July 2020–August 2020) or Fall/Winter (September 2020–January 2021) epochs. Consistent with previous studies, participants predominately reported negative impacts of the pandemic on their mental wellbeing, ability to engage in activities, work, social connections, worries, and adverse impacts on their children in each epoch. In the Spring, impacts were primarily centred around adverse mental health effects, with the highest reports of restricted activities and work- and child-related impacts. This Spring epoch also observed the highest, albeit minor, positive pandemic impacts. The Summer epoch continued to demonstrate negative impacts, primarily driven by mental health effects but saw a drop in restricted activities and work and child disruptions. Unexpectedly, given the increased accessibility to activities, the Summer epoch also saw a marked uptick in social connection disruptions alongside a fall in positive pandemic-related effects. The Fall/Winter epoch had a slight increase in negative impacts but decreased in the proportion related to mental or emotional health. This Fall/Winter epoch saw a rise in activity restrictions, similar to the proportion observed in the Spring, and ongoing social disruptions.

Although worry and daily routine disruptions increased to peak proportions, child-related impacts decreased, and positive impacts slightly increased relative to the earlier Summer epoch. Overall, although impacts were predominately negative, some participants reported positive impacts, such as strengthened relationships, trying and enjoying new activities, an overall sense of gratitude, and mentions of improvements to their mental wellbeing, suggesting an adaptation to the pandemic and pandemic-related responses.

Participants predominantly reported a negative impact due to the pandemic and public health-related restrictions, representing the largest theme in each epoch and indicating that the pandemic had a major detrimental effect overall. Negative impacts captured sub-themes indicating that the pandemic was disruptive to lifestyle, mental wellbeing, financial stability, social connections, elicited worry, restricted access to activities, created work-related adversity, and had detrimental effects on their children. Mental health impacts were the largest negative impact theme, aligning with other findings [5,7,8]. Worry about the future was also a prominent theme across epochs, which included worry for others, worry about infection transmission, and financial worries. Interestingly, prevalence of negative mental health comments did not fluctuate a great deal with changes to pandemic responses, lifestyle impacts or infection rates, which was the case for questionnaire-assessed mental health (depressive symptoms and anxiety) obtained from the same sample over the same period of time [9]. This relative lack of fluctuation in negative mental health impacts was consistent regardless of mental health code, including overall mental health, and specific mention of stress, anxiety, or depression. It is possible that differences in pattern could be due to measurement, with this study capturing between-person or group changes and previous analyses capturing within-person changes. Furthermore, discussion of mental health in an open-question context does not capture levels of mental health, only the presence or absence of impacts on mental health across the sample.

Restrictions in activities were another major negative theme noted throughout the follow-up, consistent with expected consequences of public health restrictions. Of specific activities affected, travel and lack of access to schools, despite online options were most noted [22]. Although impacts on community institution access, physical activity and sports, theatres, restaurants, and medical care were also mentioned, they were not highly prevalent themes. It is possible that these themes are less mentioned because alternative options quickly became available, such as telehealth options, physical activities at home, increases in takeout food and delivery services, and modified sporting events; as such, the overall impact on specific activities was ameliorated [23,24]. It is also possible that specific lifestyle disruptions did not emerge as major themes due to participant heterogeneity. For example, a lack of access to medical services would be more notable for populations affected by chronic health conditions. A conclusion from this theme is that the pandemic affected activities, but specific activity impacts reported will vary by participant or population.

A negative impact on work was also a common theme across the follow-up period. At the onset of the pandemic, there was a rapid shift to work from home or layoffs of “non-essential” workers due to widespread public health restrictions that involved business and school closures [25]. Interestingly, although negative impacts on work and evidence of work disruptions were consistently reported across the epochs, working from home was more noted in the Spring as compared to the Summer and Fall/Winter. It is possible that this decline was because participants had adjusted to working from home during the Summer and Fall/Winter, and it was no longer novel or notable. Although not as prevalent, negative impacts due to changes to work expectations and adversely affected work–life balance were also noted, possibly due to the blurred lines of work and life boundaries and responsibilities, especially for parents [26]. Notably less prevalent or absent as themes were negative impacts due to job loss and lack of contact with work colleagues. It is possible that job loss was not a major theme due to the higher socioeconomic status of the sample; the participants were more likely to have “white collar” jobs that could be completed in a home office or “essential worker” occupations. This could also explain why lack of contact with work colleagues was not a major theme: either participants maintained contact with

work colleagues through digital means or participants had “essential” occupations and continued to interact with their colleagues.

Participants also commented on negative pandemic-related impacts on social connections, including lack of in-person contact, feeling isolated, and missing physical contact. Previous analyses from the same sample specifically assessed pandemic-related impacts on social connections from another open-ended question and negative impact on social connections was most reported in the Spring epoch, then greatly decreasing across the Summer and Winter epochs [9]. In comparison, here negative impacts on social connections were consistently reported across epochs. That negative impacts on social connections were also detected here in general comments, despite the availability of other questions for impacts on social connections, potentially suggests the pandemic impacted social connections overall, beyond disruptions. However, due to the nature of the study, participants may have been disproportionately focused on social connections, making the impact salient and, therefore, further research is required.

Despite prominent concerns regarding finances on both a personal and a global economic scale, financial worries and financial impacts were not major themes [3,4,6]. It is possible that this could reflect the overall higher socioeconomic status of this sample, with most participants having “essential” jobs or work that could translate to a home office. Consistent with a lack of discussion of financial impacts, the majority of the sample reported no change, or a gain in household income (Table 1). For the third of participants who did report a loss, this could have been offset by restrictions that limited spending, or by the rapid availability of accessible government financial support [27]. Although not noted as a major negative impact, financial impacts could potentially have been more prevalent in a sample with more representation from lower socioeconomic status participants with jobs more likely to be affected by pandemic restrictions.

Also contrary to expectations, given the concerns related to children and despite half of the sample reporting residing with children, child-related concerns were not a major theme (<10% of comments across epochs), aligning with studies that report no change in the prevalence of childhood mental health disorders during the same stage of the pandemic when compared to pre-pandemic rates [28,29]. Comments about the negative impact on children were slightly higher in the Spring and Summer epochs compared to Fall/Winter, likely due to school closures and impacts on childcare. The Fall/Winter decreases could have been due to the implementation of strategies for maintaining children’s education by that time such as access to online learning and re-entry to in-person classrooms [22,30].

Although most participants reported major and predominantly negative impacts due to the pandemic, some also indicated that they did not experience or were minimally impacted by it, and this trend gradually increased over time. This may be due to the context in which the individual existed before the pandemic but may also indicate a gradual acclimation over time. Uniquely, this theme encapsulates a generalized adaptation to pandemic-related impacts for some participants. Positive impacts were also a surprising theme, and included improved relationship quality, discovering new activities, expressions of gratitude, and for some, improvements in mental health. Overall, this suggests that possible “silver linings” and opportunities for resilience in the context of a pandemic, aligning with the emerging literature that emphasizes the benefits of gratitude in times of crisis for overall wellbeing [31]. Although the literature predominately focuses on negative outcomes, the presence of positive impacts suggests that future research should include a stronger focus on resiliency.

There are several limitations to consider. First, the current study used a convenience sampling technique which may result in selection bias among participants. Primarily, this sample was recruited through an online university and social media channels and was conducted online, which may limit participation if internet or technology was inaccessible. Additionally, participants were predominately White and female. Women are generally more likely to participate in online research, both during the pandemic [32,33] and overall [34,35]. It is possible that gender differences in online survey response rates reflects

gender differences in decision making around survey participation or perceived value of research participation. Generalization of these findings must be approached cautiously. Second, not all participants responded to the general impacts open-response question, with an overall response rate between 37 and 63% in each epoch. It is possible that responders were systematically different from non-responders, which could affect any patterns detected. Third, the overall study focused on mental health and social connections, possibly priming participants to think about these issues particularly. However, the diversity of themes spontaneously produced suggests that participants were not unduly biased by the larger study. Due to the online nature of the study, the participants also did not have the opportunity to expand on their responses, limiting data saturation [36]. However, arguably, true saturation is rarely identified in qualitative work; rather, the open-ended nature of the responses provided an unmitigated opportunity to identify themes and experiences under the pandemic with sufficient sample size to achieve information power [37,38]. Fourth, because participant responses were succinct and because themes were analyzed by epoch rather than within-person, it was not possible to explore relationships between or co-occurrence of themes. However, these results point to future research that evaluates how these relationships interact may further increase understanding of how pandemic-related public health responses impact individual experiences. Fourth, as noted above, the sample was predominately of higher socioeconomic status. This would have affected pandemic impacts experienced and may not generalize to lower socioeconomic status participants. Finally, the conditions under which this study occurred were unique to the Canadian-specific pandemic landscape. For example, factors such as the time since the onset of the pandemic, the duration of pandemic-related health restrictions, fluctuations in the specific infection case rates, and the regional health policies implemented may have all contributed to participation and responses, which may limit the reproducibility of these findings. However, it is to be expected, given similar variables and experiences in future pandemic responses, that the findings of the current study may offer insight into expected experiences and impacts and reflect similar findings.

#### *Future Directions and Conclusions*

The current study provided rich insights into the unique lived experiences of individuals in the early stages of the COVID-19 pandemic and how the pandemic affected them over time. Participants were given the opportunity to respond in ways that were meaningful to them, providing insights into the impacts that were particularly salient for those impacted rather than responses to a priori assumptions and questions, which has practical implications for improving outcomes and experiences for those affected in future outbreaks and pandemic responses. Importantly, this research may inform future pandemic responses through intentional efforts to mitigate adverse effects found here. Particularly beneficial is the possibility that the findings from this study can inform future health policy creation that can incorporate supports that buffer adverse impacts. For example, participants largely reported negative impacts on their mental health as a result of the pandemic, and although public health restrictions were necessary to preserve physiological health, in future pandemic responses, these effects may be mitigated with the concurrent deployment of mental health supports. Similarly, activity restrictions may co-occur with offering accessible alternative community support activities.

In conclusion, the current study highlighted how the pandemic impacted the experiences of individuals during the initial stages of the COVID-19 pandemic. The current study is uniquely positioned to understand how the pandemic broadly impacted individuals and the importance of those impacts based on their lived experiences over time, extending the valuable knowledge gathered from niche studies. The current study also reflects the changes in the importance of impacts on individuals as the pandemic continued through the longitudinal and open-ended nature of this qualitative approach. Although negative impacts were predominately reported, particularly on mental health, access to activities,

and work, it is clear the pandemic had diverse and complex impacts, with some varying by time coinciding with public health restrictions and infection rates.

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