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Describing the Function, Disability, and Health of Adults and Older Adults during the Early Coronavirus Restrictions in 2019: An Online Survey

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Abstract: The restrictions in 2019 due to Coronavirus impacted Canadians' daily living, especially those at higher risk of compromised health conditions. This study aimed to describe the physical, psychological, and social well-being of adults with disabilities, and older adults from May to June 2020. Participants from the group of community-dwelling adults (≥19 years of age), who communicated in English, lived in British Columbia, and had Internet access via a computer, tablet, or smartphone with special focus on populations who had stroke, spinal cord injury and other disabilities were included. For measurement outcomes, an online survey was used to administer standardized measures of level of participation, mobility, anxiety and depression, boredom, resilience, technology readiness, social support, and social networks. Seventy-two participants were recruited, with a mean age (SD) of 61.2 (13.8). This study was comprised of two groups: the adult group consisted of individuals with disabilities under the age of 65 (48.6%) and the older adult group consisted of individuals over the age of 65 with and without self-identified disability (51.4%). There was no significant difference in the proportion of participation restriction between adult (83%) and older adult' (81%) groups ($p = 0.69$). In the study population, 27.8% and 16.7% of participants exceeded the anxiety and depression cut-off scores, respectively. Boredom was experienced by 76.4% of participants. Participants' mean (SD) resilience and life space scores were 72.4 (14.0) and 51.9 (24.0), respectively. The older adults (≥65 years) showed significantly lower depression ($p = 0.012$) and better resilience ($p = 0.038$), social support ($p = 0.043$), and social network ($p = 0.021$) than the younger adults. Issues with anxiety, boredom, participation, and life space activity were identified in both study groups. This information may provide supporting evidence when creating policies to mitigate existent health and social inequities.

Keywords: COVID-19; spinal cord injury; disability; stroke; well-being; social isolation

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1. Introduction

The novel coronavirus disease 2019 (COVID-19) was first reported in December 2019, spread globally, and was declared a global pandemic in March 2020 [1,2]. Many jurisdictions introduced restrictions to reduce virus transmission. In Canada, both the severity and unpredictability of the pandemic restrictions have affected Canadians' daily living [3–6]. The province of British Columbia, Canada, implemented a first phase occurring from

March to May 2020, with highly restrictive preventive measures instituted by the provincial government to achieve physical distancing by avoiding social activities and interactions [7]. The influence of these preventive measures further disadvantaged those who were already disadvantaged, including based on an individual's underlying health condition, living situation, and skills to cope with the new situation [8–12].

Research has shown the COVID-19 pandemic has broadly harmed people's well-being. Well-being has been defined by Columbo (1986) and cited by Yarcheski et al. (1994) as "a multidimensional construct incorporating mental/psychological, physical and social dimensions" (p. 288) (quoting from [13]). Studies show that the physical, psychological, and social aspects of well-being are threatened by the COVID-19 pandemic, especially those with specific needs, placing them at increased health risk and limiting activity [14–19]. COVID-19 physical distancing measures socially isolated these individuals [20] by disrupting pre-existing social networks [21], and changing their health and social care access [22,23]. Support service disruptions harmed some individuals' mental health and well-being, which may have contributed to health and social inequities [22,23]. In addition, for some, physical distancing measures and a limited social network meant spending more time at home and/or alone, increasing the risk of substance misuse or worsening anxiety and depression [4,24,25].

The need of people with disabilities and older adults for personal care puts them at risk of COVID-19 infection [25] or restricts their access to such support due to physical distancing measures [4,26]. In addition, for some, physical distancing measures and/or a limited social network mean spending more time at home and/or alone, increasing the risk of substance misuse or worsening anxiety and depression [23,27,28]. For example, a longitudinal study showed a positive and reciprocal association between the loneliness and the depressive syndrome [29]. Furthermore, there exist barriers to learning and adopting online technologies to access social support such as physical barriers and a lack of access or interest [25,30,31].

There have been recent calls for an inclusive pandemic response to minimize the negative effects of COVID-19 preventive measures on people with disabilities and older adults [17,32]. However, few studies to-date comprehensively describe and compare the physical, psychological, and social aspects between each of these groups' well-being during different pandemic stages. Therefore, the objective of this study was to describe and compare the well-being of older adults with and without disabilities ($\geq$65 years old) and adults with disabilities in terms of key physical, social and psychological factors during the first pandemic phase.

2. Materials and Methods

This study reports cross-sectional data obtained from the first time of a longitudinal study (19 May–20 July 2020, during the first COVID-19 pandemic phase), using a published protocol [33], in British Columbia, Canada. Ethics approval terms were obtained from the University of British Columbia Behavioral Ethics Board (H20-01109). The study is described according to the Checklist for Reporting of Survey Studies (CROSS) was used [34].

2.1. Participants and Procedures

Participants were recruited through existing participant databases who have consented to being contacted again from earlier studies, social media advertising, and snowball sampling. Only participants from the group of community-dwelling adults ($\geq$19 years of age), who communicated in English, lived in British Columbia, and had Internet access via a computer, tablet, or smartphone were included with special focus on populations who had stroke, spinal cord injury and other disabilities. Potential participants were excluded if they had moderate or severe aphasia or cognitive impairment. Participants were screened through a conversational screen with the research assistant and participants will be asked to answer to the following question: "Do you have any cognitive limitations? If so, what might they be?" Participants signed an online informed consent form on the Qualtrics XM

platform, a secure online survey distribution program of the University of British Columbia. Data collection was performed by sending an online Qualtrics survey link to participants' email address to prevent multiple participation and unauthorized access. This study with 72 participants consisted of two groups: the first one (adults' group) included individuals with disabilities under the age of 65, and the second one (older adults' group) individuals over the age of 65 with and without self-identified disability.

2.2. Measures

The International Classification of Functioning, Disability, and Health (ICF) [35] framework was used to identify relevant health measures to provide both specific and overall descriptions of study population's participation and function. The ICF model allows for an evaluation of the essential components of health and health-related domains using standard language [36]. The measures were selected to describe: 1. personal factors, 2. body function and structure, 3. environmental factors, 4. activity, and 5. participation. The measures used in this study are provided in greater detail in the study protocol [37].

2.2.1. Personal Factors

Socio-demographic data and comorbidities included age, gender, level of education, employment status, individual income, number of individuals in the participant's household, and pre-pandemic chronic health conditions.

The Technology Readiness Index 2.0 (TRI 2.0) [38] measures an individual's tendency to adopt and use technologies to achieve their ambition [39]. It includes sixteen items in four dimensions, including two contributors (optimism and innovativeness) and two inhibitors (discomfort and insecurity) of technology adoption. The mean score is reported for each dimension and ranges from 1 to 5; higher scores represent more positive attitudes toward technology platforms. Cronbach's alphas for each dimension within the current study ranged from 0.77 to 0.88.

Individual's ability to adapt, overcome adversity, and resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC25) [40]. This measure is comprised of 25 items arranged on a five-point scale ranging from 0 (not true at all) to 4 (true nearly all the time). The total score is reported for each dimension from 0–100, with higher scores indicating greater resilience. Cronbach's alphas for the CD-RISC25 within the current study was 0.91.

Individual's boredom was measured using the Multidimensional State Boredom Scale [41]. It includes 29-items in five dimensions, including disengagement, high arousal, inattention, low arousal, and time perception. The mean score is reported for each dimension and ranges from 1 to 7; a higher score represents greater boredom. Cronbach's alphas for each dimension within the current study ranged from 0.89–0.95.

2.2.2. Body Function and Structure

Body function and structure: the Hospital and Anxiety Depression Scale (HADS) [42] detects states of anxiety and depression in a non-psychiatric setting. It includes 14-items in 2 dimensions, including anxiety (HADS-A) and depression (HADS-D). The mean score is reported for each dimension and ranges from 0 to 21; For anxiety or depression alone, scores of 8 or more denote anxiety or depression (0–7: non-case/8–10: doubtful/11–21: defined case). Cronbach's alphas for each dimension within the current study ranged from 0.75 to 0.87.

2.2.3. Environmental Factors

Social support was measured using the Multidimensional Scale of Perceived Social Support (MPSS) [43]. It includes 12 items in 3 dimensions, including family, friends, and significant others. The mean score is reported for each dimension and ranges from 1 to 7; higher scores represent more perceived social support. Cronbach's alphas for each dimension within the current study ranged from 0.91 to 0.94.

The Social Network Usage Questionnaire (SNUQ) [44] includes 19 items measuring social network usage across 4 dimensions, including academic, socialization, entertainment, and informativeness. The mean score is reported for each dimension and ranges from 1 to 5; higher scores represent greater social network usage. Cronbach's alphas for each dimension within the current study ranged from 0.62 to 0.93.

2.2.4. Activity

The Life-Space Assessment (LSA) [45,46] measures the range, independence, and frequency of movement over the past four weeks. It includes five dimensions to determine their spatial mobility. Total scores range from 0 (totally confined to bed) to 120 (independent, with daily out-of-town mobility); a higher score represents a higher level of mobility. Cronbach's alpha within the current study was 0.77.

Substance use explores the overall use and the changes in substance use pattern during the pandemic, including tobacco, marijuana, alcohol, prescription drugs, and non-prescription drugs.

2.2.5. Participation

Perceived participation performance in the prior 4 weeks was measured using the Keele assessment [47]. It includes 10 items across seven dimensions, including mobility, self-care, domestic life, interpersonal interaction, major life, community, and social life. Total sum scores range from 0 to 11 (0 = no restrictions, 1 to 11 = any restrictions); the score indicates the number of restricted items, with higher scores representing greater participation restriction. Cronbach's alpha within the current study was 0.91.

2.3. Data Analysis

This study summarized survey responses using descriptive statistics. Categorical variables and continues were described using frequency and percentages, and mean and standard deviation (SD), respectively. All measures were compared between the two study groups, including individuals with disabilities under the age of 65 (adults' group) and individuals over the age of 65 with and without self-identified disability (older adults' group). Continuous variables were compared using independent samples *t*-test in the case the data was normally distributed; the Mann–Whitney U test was applied if the data were non-parametric. Regarding categorical variables, χ^2 test was used to compare proportions. All of the statistical analyses were completed using Statistical Package for the Social Sciences (SPSS) version 28 (SPSS Inc., Chicago, IL, USA). The specific significance level for *p*-value was a priori considered to be 0.05 (two-tailed).

3. Results

3.1. Sample Characteristics

Seventy-two participants were recruited, with a mean age (SD) of 61.2 (13.8). This study was comprised of two groups, the first group (adults' group) consisted of individuals with disabilities under the age of 65 (48.6%) and the second group (older adults' group) of individuals over the age of 65 with and without self-identified disability (51.4%). Slightly less than half of the participants were female (44.4%). Socio-demographic characteristics are described in Table 1.

Table 1. Socio-demographic samples characteristics.

		Adults (18–64 Years Old) N = 35 (%)	Older Adults (65+ Years Old) N = 37 (%)	Total Sample Distribution N = 72 (%)
Sex [a]				
	Male	20 (57.1)	19 (51.4)	39 (54.2)
	Female	14 (40.0)	18 (48.6)	32 (44.1)
Mean age		49.7 (10.6)	72.0 (4.5)	61.2 (13.8)
Education				
	High school or less	3 (8.6)	7 (18.9)	10 (13.9)
	Some college/university	9 (25.7)	9 (24.3)	18 (25.0)
	University and higher	23 (65.7)	21 (56.8)	44 (61.1)
Income				
	Less than 14,999	3 (8.6)	2 (5.4)	5 (6.9)
	15,000–44,999	13 (37.1)	12 (32.4)	25 (34.7)
	45,000–74,999	8 (22.9)	9 (24.3)	17 (23.6)
	Greater than 75,000	6 (17.1)	12 (32.4)	18 (25.0)
Employment status				
	Employed	5 (14.3)	0 (0)	5 (6.9)
	Home-office reduced work or unemployed (due to COVID-19)	5 (14.3)	1 (2.7)	6 (8.3)
	Unemployed (before COVID-19)	2 (5.7)	1 (2.7)	3 (4.2)
	Retired	3 (8.6)	32 (86.5)	35 (48.6)
	On disability assistance	13 (37.1)	0 (0)	13 (18.1)
	Others	7 (20.0)	3 (8.1)	10 (13.9)
Household living [b]				
	Living with a spouse or partner	13 (13.7)	21 (56.8)	34 (47.2)
	Live with one or more children	2 (5.7)	4 (10.8)	6 (8.3)
	Living in assisted living	1 (2.9)	1 (2.7)	2 (2.8)
	Live alone	17 (48.6)	11 (29.7)	28 (38.9)
	Others	2 (5.7)	8 (21.6)	10 (13.9)
Comorbidities				
	Yes	26 (74.3)	28 (75.7)	54 (75.0)
	No	9 (25.7)	9 (24.3)	18 (25.0)
Amount of Participation restriction				
	Any (>1 aspect)	29 (82.9)	29 (78.4)	58 (80.1)
	Minimal (1–3 aspects)	18 (51.4)	20 (54.1)	38 (52.8)
	Moderate (4–6 aspects)	8 (22.9)	6 (16.2)	14 (19.4)
	Substantial (7–11 aspects)	3 (8.6)	3 (8.1)	6 (8.3)

[a] One person preferred to not answer. [b] Number of individuals belongs to more than one group.

3.2. Personal Factors

Details of participants' personal factors are provided in Tables 2 and 3. The optimism dimension of technology readiness, one of the drivers of the TRI 2.0, had the highest mean score (4.1 ± 0.8), indicating a high amount of control, flexibility, and efficiency toward the new technology in participants' lives (Table 2).

Substance use, including smoking or chewing tobacco products, drinking alcohol, consuming marijuana, or other drugs was reported by 48 (66.7%) participants. Participants reported: tobacco use (n = 5; 6.9%), marijuana (n = 16; 26.4%), alcohol (n = 39; 54.2%), and other drugs (n = 7; 9.7%), of which 17 participants (23.6%) used one or more substances more frequently than before the pandemic. The greatest increase in substance use was alcohol (15.3%). Use of prescription drugs were reported by 61 participants (84.7%), of which 5 used prescription drugs more than before the pandemic (Table 3).

Table 2. Other personal characteristics and body function and structure characteristics of participants.

		Adults (18–64 Years Old) N = 35	**Older Adults (65+ Years Old) N = 37**	**Total Sample N = 72**	***p*-Value**
Technology readiness Mean ± SD (Scale: 1–5)		3.4 ± 0.5	3.2 ± 0.4	3.2 ± 0.5	0.086 [a]
HADS-Anxiety N (%) (Scale: 0–21)	Presence of significant symptoms	13 (37.1)	7 (18.9)	20 (27.8)	0.119
	Absence of significant symptoms	22 (62.9)	29 (78.3)	51 (70.8)	
HADS-Depression N (%) (Scale: 0–21)	Presence of significant symptoms	10 (28.6)	2 (5.4)	12 (16.7)	0.012
	Absence of significant symptoms	25 (71.4)	34 (91.9)	59 (81.9)	
Boredom score Mean ± SD (Scale: 1–7)		3.2 ± 1.4	2.7 ± 1.2	3.0 ± 1.3	0.110 [a]
Resilience score Mean ± SD (Scale:1–100)		68.9 ± 15.7	75.7 ± 11.2	72.3 ± 14.0	0.038 [a]
Social support Median (IQR) (Scale:1–7)		5.3 (4.0, 6.3)	6.0 (5.0, 6.4)	5.6 (4.8, 6.3)	0.043 [b]
Social Network (Scale: 1–5)		3.3 ± 0.8	3.7 ± 0.8	3.5 ± 0.8	0.021 [a]
Life Space Activity Mean (SD) (Scale: 0–120)		47.1 ± 22.1	56.6 ± 25.1	52.0 ± 24.0	0.097 [a]

[a] the result two-way Independent *t*-test. [b] the result of two-way non-parametric test (Mann-Whitney U Test).

Table 3. Frequency of Substance use, and substance use change during the pandemic by study groups.

Substance Use		**Adults (18–64 Years Old) N = 35 (%)**	**Older Adults (65+ Years Old) N = 37 (%)**	**Total N = 72 (%)**
Tobacco	Yes	3 (8.6)	2 (5.4)	5 (6.9)
	No	32 (91.4)	33 (89.2)	65 (90.3)
Tobacco change	More	1 (2.9)	1 (2.7)	2 (2.8)
	Less	1 (2.9)	0 (0)	1 (1.4)
	Had not changed	1 (2.9)	1 (2.7)	2 (2.8)
Marijuana	Yes	11 (31.4)	5 (13.5)	16 (26.4)
	No	24 (68.6)	30 (81.1)	64 (88.9)
Marijuana Change	More	4 (11.4)	1 (2.7)	5 (6.9)
	Less	2 (5.7)	0 (0)	2 (2.8)
	Had not changed	5 (14.3)	3 (8.1)	8 (11.1)
Alcohol	Yes	18 (51.4)	21 (26.8)	39 (54.2)
	No	17 (48.6)	14 (37.8)	31 (43.1)
Alcohol Change	More	8 (22.9)	3 (8.1)	11 (15.3)
	Less	5 (14.3)	3 (8.1)	8 (11.1)
	Had not changed	4 (11.4)	14 (37.8)	18 (25.0)

Table 3. *Cont.*

Substance Use		Adults (18–64 Years Old) N = 35 (%)	Older Adults (65+ Years Old) N = 37 (%)	Total N = 72 (%)
Other drugs	Yes	2 (5.7)	5 (13.5)	7 (9.7)
	No	33 (94.3)	30 (81.0)	63 (87.5)
Other drugs change	More	0 (0)	0 (0)	0 (0)
	Less	1 (2.9)	1 (2.7)	2 (2.8)
	Has not changed	1 (2.9)	2 (5.4)	3 (4.2)
Prescription drugs	Yes	32 (91.4)	29 (78.4)	61 (84.7)
	No	13 (37.1)	5 (13.5)	18 (25.0)
Prescription drug change	More	4 (11.4)	1 (2.7)	5 (6.9)
	Less	5 (14.3)	7 (18.9)	12 (16.7)
	Has not changed	17 (48.6)	21 (26.8)	38 (52.8)

The mean (SD) of resilience was 72.3 (14.0) and 76.4% of participants experienced boredom. Individuals with a disability had lower resilience scores compared to those without a disability, 69.9 (14.8) to 78.0 (9.8), and experienced higher boredom, 92.1 (39.6) to 72.3 (30.4). Older adults (Mean = 75.7, SD = 11.2) compared to adult group (Mean = 68.9, SD = 15.7) showed better resilience, $t(69) = 2.12$, $p = 0.038$, 95% CI: 0.4, 13.3.

3.3. Participation Restriction

Fifty-eight (80.1%) participants experienced participation restrictions (Table 1). The most restricted aspects of participation were social life (45.8%), interpersonal relationships (34.7%), community participation, including work (34.7%) and education (29.2%), and mobility outside the home (29.2%). There was no significant difference in the proportion of participation restriction between adults (83%) and older adults' (81%) groups ($\chi^2_{(9,N=71)} = 6.49$, $p = 0.69$).

3.4. Body Function and Structure

For anxiety, 21 (29.2%) and 7 (9.7%) participants had scores of 8–10 (possible case) and 11 or more (probable case), respectively. Furthermore, 11 (15.3%) and 2 (2.8%) showed a score of 8–10 and 11 or higher on the depression scale, respectively. There was a significant relation ($p = 0.012$) between the presence of significant depression symptoms and two study groups. The older adult group was less likely to show depression symptoms than adults' group.

3.5. Environment

The mean perceived social support score (SD) was 5.3 (1.3). The highest percentage of social network site (SNS) usage was for socialization, 62 (86.1%), followed by entertainment, 61 (84.7%), informative, 60 (83.3%), and academic purposes, 59 (81.9%). Environmental factor details are provided in Table 2. The mean social network scores were significantly higher ($t(69) = 2.4$, $p = 0.010$, 95 CI%: 0.7, 0.8) in the older adult group (Mean = 3.7, SD = 0.8) than the adult group (Mean = 3.3, SD = 0.8). Moreover, a Mann-Whitney U test shows that the older adult group (Mdn = 6) experienced a better social support than adult's group (Mdn = 5.3) ($U = 454$, $p = 0.043$).

3.6. Activity

The mean (SD) LSA score was 51.9 (24.0). Maximum scores were reported by 33 (45.8%) participants for living space component in other rooms, 25 (34.7%) for outside the house, 15 (20.8%) for inside the neighborhood, 6 (8.3%) for outside the neighborhood, and 2 (2.8%) for outside the town. Individuals with a disability felt more life space retractions 45.4 (19.0) in comparison to those without a disability 67.6 (27.6).

4. Discussion

The scarcity of data on adults with disabilities and older adults with or without disabilities is a barrier to creating inclusive responses [32]. Therefore, this study evaluated the physical, social and psychological aspects of well-being of these two groups living in British Columbia, Canada, during the first COVID pandemic phase. This study's findings suggested these individuals' well-being were at risk.

Consistent with other Canadian pandemic studies [3], this research showed substantial mental health challenges, primarily anxiety, among participants. Our sample's rate of depressive symptoms (16.7%) is comparable to other studies of the general population during the pandemic [3]. However, this study showed a higher prevalence of anxiety (27.8%) than the general Canadian population (20%) during COVID-19 [3]. Moreover, anxiety increased among people with disabilities [48] and older adults [49] during COVID-19. These results suggest the mental health of older adults and individuals with disabilities was threatened by the COVID-19 pandemic. This study showed that older adults had a lower level of depression. Although some studies identified concerns regarding the mental health of older adults [50], this study suggests that they were coping better than adults during the first phase of pandemic. This is in line with result of studies early in the pandemic [51,52]. For instance, the result of a USA cohort study of middle-aged and older adults showed a decrease in prevalence of depressive symptoms and loneliness with increasing age [52,53].

When individuals encounter increased psychological distress such as anxiety, depression, or boredom, they might resort to maladaptive coping mechanisms, including drinking alcohol or consuming various drugs [54]. Of the participants in this study, 15.3% reported an increase in alcohol use during the COVID-19 pandemic; this is consistent with the June 2020 U.S. health tracking pool, which shows a 12% increase in alcohol or drug use during the COVID-19 pandemic [54]. This underlines the importance of enhancing mental health and substance use screening among individuals with a disability and older adults and developing programs to facilitate access to appropriate health care services during a pandemic.

Resilience is a key factor to be examined in a crisis such as the COVID-19 pandemic [55]. Studies have shown that resilience is negatively associated with indicators of mental health issues, including depression and anxiety [56,57]. Furthermore, some studies documented the partially mediating role of resilience between COVID-19 burnout and COVID-19 stress [55,58]. Our study's participants showed a higher resilience score compared to other groups studied during COVID-19, such as health care workers in Indonesia and France (resilience score of 69) [59,60]. Furthermore, in our study older adults showed a higher resilience. Studies published pre-COVID showed that older adults have better proactive coping which is helpful for managing every day's hassles [51]. Studies published during COVID showed that this proactive coping might help older adults to deal with COVID-19 related stress too. Their cumulative life experience could contribute to coping with a stressor such as forced physical distancing [52]. Further qualitative and quantitative studies are needed to identify the reason for a high resilience score of these groups and investigate the factors associated with high resilience.

During past environmental disasters and pandemics, social support and community ties have played a protective role for mental health [61,62]. However, during the COVID-19 pandemic, messaging was poor, as officials frequently encouraged increased social distancing, when they meant physical distancing; this perhaps led to the perception of needing to isolate oneself socially, which may have lessened social support [61]. The results of this study showed older adults had higher levels of social support from family, friends, and significant others compared to younger adults; however, the amount of social support from family and friends was less than the amount of social support reported amongst the literature on people with disabilities [63] (5.88) and older adults [64] (6.4) before the pandemic. Furthermore, our study showed that older adults have better perceived social support. The literature suggests that although older adults concentrate on a circle of relative and friends that is smaller in size, which reduces their social network [65,66], and this

smaller group may have offered more social support during the COVID pandemic when physical distancing measures were in place. Recent studies have shown the positive effect of social support on resilience and reduced depression symptoms of this age group [62].

Digital technologies have potential to mitigate loneliness and social isolation during the pandemic. However, populations such as older adults and patients with sensory disabilities may have difficulty accessing alternative ways to meet life needs and care provided by digital technologies [67,68]. Participants showed more optimism toward technology during this pandemic, compared to pre-pandemic literature from the general population [69]; which is concordant with a recent poll [70]. Increased accessibility, as well as receptiveness, to technology for these groups may facilitate social fulfillment.

Online social networking could improve overall mental health and well-being [24]. This study's data showed participants used their social networks for socialization purposes to keep in touch with relatives or to become more social and strengthen their interpersonal relationship was the highest reported use. The use of digital technologies for socialization purposes is well known, and these findings suggests that the study sample may have used these technologies to counteract limited in-person interactions during the pandemic. This result helps us understand the needs and preferences of the population of interest for this study with regard to digital technology use, and researchers should consider them when designing future programs and studies.

As participants likely adhered to health authority recommendations to stay home and in place, this may have reduced their life space mobility. Some studies showed a significant reduction in the general population's life-space mobility during the COVID-19 pandemic [71]. The results of this study indicated that mobility was low during the pandemic.

When comparing the LSA scores of the study groups of this paper with similar groups pre-COVID-19 [72,73], the results showed limited mobility among people with disabilities during COVID-19, with mean LSA scores of 47 among adults with disabilities in this study. Data gathered before the pandemic reported a higher life space score, ranging between 62 and 70 [72,73]. This is consistent with other studies that suggest patients with physical disabilities experienced greater limitation when acquiring goods and services during the pandemic [74].

Social engagement requires the maintenance of social connections and relationships, and involvement in activities [75]. Studies have reported the patterns of social participation of individuals with disabilities and older adults changed because of physical distancing measures and the closure of workplaces [74]. Over eighty percent of study participants experienced a participation restriction during the first COVID-19 pandemic phase, similar to other studies [76]. Additionally, participation restriction was increased during COVID-19 preventive measures [77]. Pre-pandemic studies of older adults reported mobility outside the home was the most common area of participation restriction, and work was the least common area of participation restriction [75,78,79]. However, this study found social life and interpersonal relations were the most frequent participation restrictions during COVID-19.

This study's novelty stems from our use of the ICF model with a sample of two specific groups of interest during the COVID-19 pandemic. This study showed that individuals with disabilities and older adults with and without self-identified disabilities experienced several challenges of health and function within three components of the ICF model, including: (1) environmental factors and personal factors, (2) body function and structure, and (3) activity and participation. Among all of the components, issues were identified in terms of anxiety, boredom, participation, and life space activity for participants of this study. Furthermore, individuals with disabilities experienced anxiety, depression, boredom, restricted participation, and restricted life space more prominently than participants without disabilities.

Study Strengths and Limitations

A main strength of this study is the timing of data collection, which occurred at the end of the pandemic's first phase. The rich data of this study provide insight into the status

of vulnerable groups' well-being during a critical period in time. One limitation is that data collection was limited to one geographic area (British Columbia); therefore, the findings are not generalizable to the Canadian population. Furthermore, the small sample size limits the paper's ability to make conclusive inferences, and the findings should be interpreted with caution. Future works should consider the context of their study and emphasize a more nationally representative sample and targeting rural areas. Additionally, participant recruitment was limited to this study's databases and social media advertising, which might make the sample of the study less representative of the population at large, and individuals in remote areas or with limited access to digital technologies might have been underrecruited. However, about 96% of Canadians have access to social media and the internet [80].

5. Conclusions

This study described the well-being of two specific groups of individuals during the first phase of the COVID-19 pandemic in British Columbia, Canada. The results revealed that adults with disabilities and older adults with or without self-identified disabilities felt anxiety, boredom, lack of participation, and reduced life space activities; however, their resilience scores were still moderate to high. Generally, there was an increase in substance use during COVID-19, the greatest increase being alcohol. This study's participants showed a high amount of control, flexibility, and efficiency toward new technologies. However, social support across all study groups was lower than observed by pre-COVID studies. Overall, older adults showed better social support, social network, resilience, and depression symptoms than the adult group.

Based on the study's findings, further exploration of specific causes of deterioration in mental health, function and activity of these groups is required as well as an investigation into the coping strategies of older adults. To this end, more robust evidence may inform refinements to public mental health services and policies, in order to mitigate the harm to vulnerable individuals. When implementing social distancing and preventative measures in a pandemic, policy makers should consider implementing concurrent actions and policies to decrease the negative consequences on the health of vulnerable population members. Furthermore, future works should consider the context of their study to emphasize a more nationally representative sample and targeting rural areas.

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