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Exploring the Interpretation of COVID-19 Messaging on Older Adults' Experiences of Vulnerability

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Résumé

Les communications portant sur la santé publique et le discours sociétal au cours de la pandémie de COVID-19 ont constamment fait état d'un risque de morbidité et de mortalité plus élevé pour les personnes âgées, en particulier chez celles présentant des problèmes de santé multiples. Chez cette population, l'interprétation des messages liés à la pandémie peut influencer la vulnérabilité et les comportements. Cette étude a examiné les points de vue des personnes âgées sur les déclarations publiques concernant la COVID-19. Dix-huit personnes âgées vivant dans la communauté et résidant au Manitoba (Canada) ont participé à des entretiens téléphoniques semi-structurés entre juillet et août 2020, période pendant laquelle les cas de COVID-19 étaient peu nombreux dans la province. Une analyse thématique inductive a été effectuée pour identifier les thèmes clés décrivant les processus d'interprétation de l'information chez les participants lors de la réception de messages liés à la pandémie, pour évaluer leurs réponses émotionnelles à ces messages et la vulnérabilité qui en découle, ainsi que les impacts de ces messages sur leur vie quotidienne. Le fait de comprendre comment les personnes âgées ont appréhendé la COVID-19 et les communications liées à la pandémie, ainsi que leurs impacts sur les comportements quotidiens, constitue une première étape pour l'adaptation du discours sociétal, et ceci permettra de préparer le terrain pour l'évaluation des effets à long terme de la pandémie.

Abstract

Public health messages and societal discourse during the COVID-19 pandemic have consistently indicated a higher morbidity and mortality risk for older people, particularly those with multiple health conditions. Older adults' interpretations of pandemic messaging can shape their perceived vulnerability and behaviours. This study examined their perspectives on COVID-19 messaging. Eighteen community-dwelling older adults residing in Manitoba (Canada) participated in semi-structured telephone interviews between July and August 2020, a period of low COVID-19 cases within the province. Inductive thematic analysis was used to identify key themes that described participants' processes of information interpretation when consuming pandemic-related messages, their emotional responses to messaging and consequent vulnerability, and the impacts of messaging on their everyday lives. Understanding how older adults have construed COVID-19 and pandemic-related messages, and the subsequent impact on their daily behaviours, is the first step towards shaping societal discourse and sets the stage for examining the pandemic's long-term effects.

Background

Chronological age has been recognized as an important risk factor, amongst others, for COVID-19-related illness severity, hospitalization, poor recovery outcomes, and mortality (Centers for Disease Control and Prevention, 2021; Fiest et al., 2020; Shahid et al., 2020). Specifically, Canadians over 60 years of age constituted 95 per cent of COVID-19-related deaths as recently as May 2021, while only representing 18 per cent of all cases (Government of Canada, 2021). While the public health guidelines put in place by government officials, policy makers, and other authorities have aimed to reduce the COVID-19 exposure risk in the overall Canadian population (e.g., physical distancing protocols, mask-wearing policies, altered access to community services), much of the messaging early in the pandemic positioned older people as a “high risk group” who, arguably, must be more cautious with regard to their activities and social behaviours.

In January 2020, Canadian Chief Public Health Officer, Dr. Theresa Tam, and Public Health Minister, the Honourable Patty Hadju, conveyed that they believed the overall risk of COVID-19

to the Canadian population was low. According to these health officials, the most serious cases and deaths associated with the novel coronavirus identified in China reportedly affected mainly older people with underlying health conditions. As the pandemic progressed, scientific and societal discussion became more robust and also rapidly extended to crises of COVID-19-related mortality in nursing homes (also referred to as long-term care [LTC] facilities and personal care homes) (Allen & Ayalon, 2021; Powell, Bellin, & Ehrlich, 2020). Deploying the Canadian Armed Forces to support medical staff and personnel in Canadian LTC facilities (Government of Canada, 2020) brought attention to issues of viral transmission in institutional settings, predominantly those housing older persons, with ensuing public debate.

For community-dwelling older persons, conflicting outcomes of pandemic-related messaging have been raised. Guttman and Lev (2021) have highlighted how COVID-19 communication has instigated ethical issues related to general recommendations of wearing face-masks, spatial/social distancing, hand washing, and sanitizing. For example, they propose that distancing protocols can further isolate individuals who are already among society's most vulnerable (e.g., at a high risk of loneliness and social isolation caused by functional limitations), leading to potential deterioration in their physical and mental health. This concern has also been raised by others over the past year (Brooke & Jackson, 2020; Oliver, 2020; Tyrrell & Williams, 2020). The unintended social and medical consequences of this type of messaging have included heightened ageism and older people's delaying the seeking out of medical care (Guttman & Lev, 2021). Factors that may lead to these consequences during the COVID-19 pandemic, such as how messages are framed, who delivers the messages, and how they are interpreted, are currently not well understood.

As a counter approach to addressing some of these dilemmas, media and public health messages in the pandemic's early months also urged friends and family members to help their older relatives and neighbours by completing tasks for them, such as grocery shopping (Vervaecke & Meisner, 2020; Whitehead & Torossian, 2020). While well-intentioned, such approaches have been criticized by some for promoting paternalistic sentiments and perpetuating negative assumptions of helplessness in later life (Ayalon et al., 2020; Ehni & Wahl, 2020; Fraser et al., 2020; Lytle, Apriceno, Macdonald, Monahan, & Levy, 2020). Maxfield and Pituch (2020) characterized such messaging as ageist, classifying it as either hostile (i.e., devaluing the lives of older adults) or benevolent (i.e., encouraging compassion for older adults). However, there is limited understanding of how older adults have responded to general and age-specific COVID-19 public messaging and societal discourse, as well as of the implications that older peoples' perceptions of this messaging could have had on their navigation of life during the pandemic.

To further complicate pandemic-related messaging, the World Health Organization (WHO) has described the global overabundance of COVID-19-related information online, as early as February 2020, as an "infodemic", which includes exponentially increasing misinformation (World Health Organization, 2020). Indeed, distinguishing between accurate and inaccurate information about COVID-19 is essential to taking appropriate precautions. Older adults have been found to have sought out information from multiple traditional and online media sources, as well as dialogue within their social circles (Chen et al., 2021). Their attitudes towards digital information, as well as the perceived trustworthiness of information sources (individual or

organizational) and content have been raised as key components to understanding how older people interpret the messages that they are exposed to (Chen et al., 2021; Choudrie et al., 2021).

Emerging research has identified older adults as a growing demographic using technology to access information and for communication (Nimrod, 2020; Sims, Reed, & Carr, 2017). Over the past year, studies have illustrated how older people's media consumption habits often include televised and digital communication in order to access critical information about COVID-19 and public health protocols within their local contexts (Gonçalves et al., 2021; Seifert, Cotten, & Xie, 2020; Xie et al., 2020). However, a dearth of evidence still exists linking what COVID-19-related information is sought out by older people to how they interpret this information and, ultimately, how their behaviours are subsequently impacted. In addition, the implications of ageist societal discourse and public messaging on older adults' self-perceptions of their COVID-19-related vulnerability, as well as their consequent health and social behaviours, have not yet been explored (Meisner et al., 2020).

Therefore, the broad research question guiding this qualitative descriptive study was: *What are older adults' perspectives of COVID-19 messaging and societal discourse?* Our specific research objectives were to examine: (1) how older persons seek out and interpret COVID-19 messaging and discourse, and; (2) the implications of such messaging on perceived vulnerability in the context of their day-to-day behaviours.

Methods

Study Context

This study was conducted in Manitoba, the fifth most populated Canadian province (Statistics Canada, 2021). At the time of data collection for this study (July–August 2020), Manitoba was experiencing low, but steadily increasing, numbers of active COVID-19 cases (i.e., fewer than 50 new cases per day) based on provincial respiratory surveillance data (Manitoba Health and Seniors Care, 2021). During this period, local media outlets were reporting on outbreak clusters in workplaces and communal living communities, with the first outbreak in a Manitoba LTC facility being publicized on August 17, 2020 and the second just 10 days later (CTV News Winnipeg, 2021). By the end of study recruitment (mid-August 2020), there were approximately 1,410 reported COVID-19 cases within the province, with most fatalities reportedly occurring within older age cohorts (Manitoba Health and Seniors Care, 2021).

Theoretical Approach

Social constructionism (Burr, 2015a) was used as a guiding framework for this study. The premise of this theoretical approach is that knowledge is grounded in human thought, which is shaped by historical and cultural contexts. At a more macro level, it assumes that language shapes social interactions, norms, and customs, and is, therefore, the process by which social action is propagated (Andrews, 2012; Burr, 2015b). For example, discourses occurring within an environment, such as in public messaging and the media, shape an individual's understanding of reality. The individual's understanding of reality reciprocally shapes their actions and interactions within society, changing the environment in response (Andrews, 2012). This approach was well suited for this study aimed at exploring older adults' perspectives of COVID-19 and

pandemic discourse, and the influence of this discourse on their everyday lives.

Participants and Recruitment

Purposive sampling strategies were used to recruit potential participants between July and August 2020. Recruitment advertisements were electronically circulated through a biweekly newsletter distributed by the Centre on Aging at the University of Manitoba, as well as through community support services and organizations targeting older people (e.g., Manitoba Retired Teachers Association, Manitoba Association of Senior Centres, Men's Sheds). To be included in this study, individuals were required to be 65 years of age or older with conversational English proficiency and the ability to provide written informed consent. Each participant received a \$25 gift card from a local merchant of their choice as compensation for their time. This study describes a portion of baseline data collected for a larger, longitudinal study that was approved by the research ethics board at the University of Manitoba.

Procedure

Upon consenting to partake in the study, eligible participants completed a demographic questionnaire provided in an online or paper-based survey format. Each participant was then scheduled to partake in a one-on-one interview to examine their perspectives on COVID-19 and pandemic messaging. A semi-structured interview guide was developed in collaboration with a study advisory group composed of four older persons. The advisory group's role also included participating in monthly virtual meetings to discuss the study protocol, piloting the interview guide, and providing feedback on emerging ideas. None of the advisory group members were participants in this study. Evolving information and reporting about COVID-19 pandemic-related messaging was also used to inform interview questions designed to elicit open-ended responses. Selected questions are presented in Table 1.

Interviews lasted approximately 90 minutes and were all conducted by one investigator (R.S.) over the phone or via Skype videoconferencing. All interviews were audio-recorded and transcribed verbatim using the automatic-transcription software Transcribe[®], as well as being checked for accuracy and de-identified by research assistants not involved in data collection. Pseudonyms were used to maintain confidentiality.

Analysis

De-identified interview transcripts were examined using inductive thematic analysis (Braun & Clarke, 2006). In the first phase of this analytic process, an investigator (R.S.) familiarized themselves with the data in the audio recordings, transcripts, and field notes to generate initial ideas and codes. A preliminary codebook developed from an analysis of the first ten interview transcripts was reviewed by a second investigator (S.C.). The codebook, which included code definitions, was iteratively refined by these investigators. A constant comparative process was used to systematically code the remaining transcripts, of which the last five did not generate any new codes, suggesting information redundancy. Codes were consolidated into broader parent codes to inform themes. Definitions of each parent code and theme were further refined based on identified relationships between codes, as well as variations in participants' discussion of COVID-19 and pandemic-related public discourse and messaging. An investigator not involved in data

Table 1. Selected questions and prompts from the semi-structured interview guide

Interview Questions
1. Thinking about yourself before the pandemic, can you tell me about your experience as an older person? a. What has been your experience of aging/ growing older?
2. How has the pandemic caused you to become more aware of your age? a. If it has not, why do you think that is?
3. Tell me a bit about how the messaging you received about COVID-19 influenced how you managed your everyday tasks (e.g., grocery shopping, doctor's visits, pharmacy visits) during the pandemic? a. How were these different from what you did before?
4. What forms of media have you been consuming to get information about the COVID-19 pandemic (e.g., evening news, radio, local newspaper, Facebook, news Web sites, Twitter)? a. What type of information do you seek out from each of these? b. How much do you trust the information from each of these?
5. I want you to think back to the first few days/weeks of the pandemic and consider the public messaging you were hearing about COVID-19. Can you tell me what impact it had on you? a. How did you feel hearing/reading this information? b. What impact did it have on other older people you know?
6. Now thinking about all the messaging throughout the pandemic about older people, specifically, what are your thoughts? a. What did you see online? In other forms of media? b. What did you hear from community organizations?

collection (M.P.) reviewed the analytic process to confirm that final themes aligned with raw data and the coding framework. Rigor of the study procedure was ensured through use of verbatim transcriptions, iterative review of the coding framework, and reflective journaling which included decisions made during the analysis of interview data.

Results

This article includes 18 participants, who compose a segment of the 34 community-dwelling individuals who consented to participate in a longitudinal qualitative study. Consecutively interviewed participants were included in the analysis until data saturation was achieved (i.e., no new codes emerging from analysis in the last five consecutive interviews coded). Study participants were 67–91 years of age and resided in Manitoba (Canada). All participants self-identified as White/Caucasian, and 14 identified themselves as women. All but one participant had completed some form of post-secondary education, and eight lived alone. Additional socio-demographic characteristics are detailed in Table 2.

The interviews with the participants in this study prompted them to reflect on the early impact of COVID-19 messages and discourse on their lives and behaviours. Their perspectives, which appeared to be shaped by their evolving physical and social environments, provide unique insights into their individual and shared responses. Specifically, the participants described their engagement with the discourse in terms of the following major themes: (1) "Fact-checking": How older adults interpret early information and factors that influence their interpretation; (2) "Just be careful": Manifestations of vulnerability; (3) "Changed the lifestyle": Impacts on everyday living; and (4) "Not bad in my locale": Contextual considerations for discourse interpretation. Themes are presented using illustrative quotes and a visual representation of the thematic structure is presented in Table 3.

Table 2. Participants' sociodemographic characteristics ($n = 18$)

Sociodemographic Characteristic	Variable
Age (years) (mean [SD; min, max])	75.4 (7.0; 67, 91)
Gender (n [%])	
Female	14 (77.7 %)
Relationship status (n [%])	
Divorced	1 (5.6 %)
Widowed	7 (38.9 %)
Married	10 (55.6 %)
Highest education level completed (n [%])	
High school diploma	1 (5.6 %)
Some post-secondary	1 (5.6 %)
College diploma	3 (16.7 %)
Undergraduate degree	9 (50.0 %)
Graduate degree	4 (22.2 %)
Employment status (n [%])	
Retired	14 (77.8 %)
Self-employed	2 (11.1 %)
Employed part-time	2 (11.1 %)
Living arrangements (n [%])	
On their own	8 (44.4 %)
With a partner	10 (55.6 %)

Table 3. Visual depiction of themes and sub-themes

Theme	Sub-Theme
Theme 1: "Fact-checking": How older adults interpret early information and factors that influence their interpretation	1.1 A systematic approach to consuming COVID-19 messaging
	1.2 Intrinsic factors of discourse consumption and interpretation
	1.3 Extrinsic factors of discourse interpretation
Theme 2: "Just be careful": Manifestations of vulnerability	2.1 Emotional responses to early messaging
	2.2 Personalizing pandemic messaging
Theme 3: "Changed the lifestyle": Impacts of COVID-19 Messaging on everyday living	3.1 Disrupted routines
	3.2 Community engagement
Theme 4: "Not bad in my locale": Contextual considerations for discourse interpretation	4.1 Pandemic narrative
	4.2 Micro and macro contexts

Theme 1: "Fact-Checking": How Older Adults Interpret Early Information and Factors that Influence their Interpretation

A systematic approach to consuming COVID-19 messaging

All the participants communicated that their early engagement with COVID-19 and pandemic-related messaging was characterized by a need to gain knowledge about the virus. They mentioned

their understanding of not only the etiology and symptomology of the viral infection, but also an awareness of the absence of confirmed knowledge that existed at the time. Leah (age 81) described how "we've come to realize that the virus is not a stable entity, that it can change and that it can affect people differently." Interpreting messaging began with accessing multiple and relevant information sources to address their knowledge gaps. For Deena (age 68), her approach to gaining knowledge was driven by the applicability of the information to her own health conditions: "I did a lot of research and I was watching the medical reports on what kind of people were vulnerable. What were the risk factors? Like, I don't have diabetes and I'm slightly overweight, but I'm not obese."

Participants addressed their skepticism of COVID-19 messaging and societal discourse by characterizing their consulted sources across a spectrum of trustworthiness. Specifically, sources considered to be more reputable were perceived by the participants to be drawn from health-related research evidence. For example, Aiden (age 69) articulated how he accessed information from sources that he perceived as trustworthy:

...both my daughter and my partner did a lot of research online, mostly John Hopkins, World Health, Manitoba medical stuff. They go into journals and that type of thing. So, quite reputable sources, I would say. I mean, we will glance at the headlines that have all kinds of interesting stuff, but that's not what influences us.

Other participants described prioritizing messages received from reports and directives provided by public health leaders (e.g., Dr. Brent Roussin, Chief Provincial Public Health Officer of Manitoba; Dr. Theresa Tam, Canada's Chief Public Health Officer; Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases in the United States) because they assumed that these messages were evidence based: "I trust the professionals. I trust Fauci and I trust Roussin and I trust Tam. And, I guess they made a few little mistakes, but I trust the expertise of medical empirical data" (Naomi, age 82). Multiple participants also expressed caution when reviewing pandemic-related recommendations circulated through social media, stating that they needed to be taken "with a grain of salt".

The process of gathering information, assessing its reputability, and determining its relevance was also illustrated by participants when describing their approach to triangulating the information across multiple sources. For Barry (age 79), it was important to gain a broad awareness: "My reaction was to try to make sure that I listen to everything and [I] made sure I was aware of all the suggestions and the precautions that were being expressed by various agencies...". In addition, several participants conveyed a need for confirmation of findings or recommendations, given the evolving nature of the disease: "I do trust my capacity to verify information through a couple of sources before I will embrace it, recognizing that anything that has to do with the virus – the information can change tomorrow" (Brenda, age 68).

Intrinsic factors of discourse consumption and interpretation

Participants were varied in their approaches to consuming pandemic messaging, which impacted how many messages they were exposed to and subsequently, their perspectives on them. For some, consumption of COVID-19-related media and public messaging reflected media consumption routines that predated the pandemic. Alisa (age 73) suggested how her news consumption habits had not changed recently because she had always been "...a big news consumer, both print and or online print and TV...". For others,

they described more media consumption than usual which was frequently directed, in the early days of the pandemic, at seeking out COVID-19-related information. Among these individuals, some articulated a need to consciously disengage from pandemic-related media and societal discourse as the pandemic progressed. For Brenda (age 68), the impact of information repetition prompted a deliberate change in her consumption habits.

It has been suggested [by] some of the mindfulness practitioners that I follow or I read [to] avoid the news... I think, it's almost become a little bit of a sickness that I need to know, I have to know. So, I'm trying to cut back...I've unsubscribed to some stuff.... [There is] this sense of need for information and then there's those mixed feelings that so much of it is the same over and over and over again. It's too much information... finding that balance point where it's reasonable, I don't know that I'm there yet, but I'm working on it.

Alternatively, other participants indicated that their media consumption habits fluctuated in response to availability: "I usually watched Dr. Roussin on the daily update, which they've cut back [on delivering] now" (Deena, age 68).

When asked about their reactions to pandemic-related messaging, many participants mentioned how their lived experiences shaped their awareness of the complexity of the issue and interpretations of protocols that were directed at them. Brenda (age 68) described how "...I've known people in my life with post-polio syndrome, and post-polio was not recognized for years and years and years. And so, this time, they're going to be watching for a post-corona impact." In addition, these older adults discussed how living through world-changing events, such as polio and SARS outbreaks, influenced their understanding and acceptance of recommended protective protocols by government officials.

Extrinsic factors of discourse interpretation

The participants' interpretations of societal discourse seemed to be shaped, at least in part, by how they felt about protocols to protect identified "vulnerable" groups (e.g., older people with chronic conditions) were communicated by politicians and public health officials, as well as how they were enforced within communities. In general, participants believed Canadian politicians were managing the pandemic situation more adeptly than leaders in other nations. For example, Barry (age 79) explained how politicians' ability to provide transparent and realistic messages reflected their intentions for protecting society: "I generally felt pretty confident in all of those kinds of reports, and still do. Our politicians are doing a better job of clarifying what our particular situation is..." Similarly, within their local contexts, some participants described interpreting clear directives and enforced protocols as an indication of a business owner's commitment to protecting society.

...I see people promoting mask-wearing, promoting sanitizing hands, and promoting some physical distancing...so whenever I see a business do those things, then I think it's doing a positive thing for older people. It's saying, "you're valued and we protect you..."

(Isabelle, age 69)

Some participants mentioned how discourse specifically addressing age-related COVID-19 vulnerabilities contradicted other media reports, but suggested that message repetition influenced their interpretation.

We're told so often, doctors themselves say it so often, that we are the age that are more vulnerable. It doesn't matter who you listen to. They talk

about how much more vulnerable we are at our age, and yet when I look at the numbers...seniors are not near the top. So, I don't know why they keep saying we're as vulnerable as we are, but I guess we must be.

(Gloria, age 82)

Some participants, however, communicated how they perceived repetitive public messages touting the need to protect older adults as being disrespectful. Hanna (age 71) explained how "...they still feel that we need to be told more often because maybe we're forgetful, or maybe we didn't hear, or maybe we're not adhering...it's, you know, somewhat a lack of respect for our independence."

Theme 2: "Just be Careful": Manifestations of Vulnerability

Emotional responses to early messaging

Several participants voiced how COVID-19-related discourse elicited fears for the well-being of their loved ones as well as themselves. Brenda (age 68) stated, "I'm scared for my kids, I'm scared for everybody. I'm scared for my age-cohort friends." For her, and others, these fears also informed the precautions they took with the aim of maintaining their own well-being: "I was really hyper-vigilant...shutting the door of the house, not going outside, not ordering food from anywhere, just eating what we had...It was really scary to begin with" (Hannah, age 71). Participants also described how their fears led them to find ways to reduce the risk of contracting the virus, such as by ordering groceries online, diligently wearing masks and gloves, or regularly disinfecting high-contact surfaces in their home.

Concerns for maintaining their own well-being extended to participants' reflections on locating signs of hope within age-related COVID-19 messaging. Cynthia (age 87), for example, explained how seeing an older adult recover from COVID-19 symptoms eased her initial fears.

...right at the beginning, I think I saw on television...the 90-year-old woman who got it and recovered which made me...very pleased – thinking "oh, it isn't – doesn't have to be a death sentence" ...it just made me a little more comfortable thinking that if I did get it, maybe it wouldn't be the end.

Personalizing pandemic messaging

Several of the older adults in this study described that their feelings of vulnerability were based on public messaging emphasizing underlying health conditions or significant past medical history, rather than only their chronological age. For example, Isabelle (age 69) expressed how, "I'm told, always, that I could die from this thing very easily. I don't really have an underlying condition, but I could have – I've had pneumonia before and could've had a bit of a thing in my lungs." Eileen (age 72) reflected on how she did not internalize public messaging focused solely on age, but conceded to her vulnerability when underlying health conditions were raised.

At first, I wasn't really applying it to me. To me, it was those people in wheelchairs, those people that can't walk, those people that can't do their own grocery, those people, you know – "those people" – those other people. I still wasn't in the category in my head. I started being in the category when they were talking about underlying issues. So, then I would think, [groans] "maybe I'm in the category after all."

Multiple participants contextualized their vulnerability in terms of their perceived safety within their own communities. Hearing the

number of active COVID-19 cases in their locality was often described as an indicator of whether a participant felt that they were at risk of contracting the virus: “I just felt safer when there were none...I think that now, we know, we’ve got three new active cases and we don’t know from what area, well, we know they’re in our health area” (Gloria, age 82).

A few participants stated how cross-generational conversations, particularly those with their children, had prompted reflection on their own vulnerability. Cynthia (age 87) described the amplified impact of conversations with her children compared to hearing general age-related public messages.

Well, the public message was like, “be careful [because you are older].” The public message didn’t get to me as much as my kids did as they were really, really concerned. “You shouldn’t be going out at all. Why are you going to the store? Be careful.” This kind of thing, and that’s what impacted me more than just the public messages.

Other participants also considered the concerns expressed by their children to be endearing: “it was touching in a way, that was, that they were concerned. They didn’t often say, “concerned about you” before the pandemic [laughs]” (Aiden, age 69). Often, participants who spoke about their children also expressed how feelings of vulnerability were shared across the generations. For example, Barry (age 79) described communicating with his children as, “we, early on, we did check with each other ‘How are you doing?’ you know, we’d always end conversations on the phone or whatever with the phrase ‘wash your hands. Don’t touch your face.’ It became a mantra for all of us...” Conversations that participants had with their own parents, some of whom lived in LTC facilities, raised additional concerns for them. Brenda (age 68) pondered, “how do you balance the safety of my dad and other people’s dads and moms who are locked down and feel like they’re in prison if they’re still lucid enough?”

Theme 3: “Changed the Lifestyle”: Impacts of COVID-19 Messaging on Everyday Living

Disrupted Routines

Many of the study participants described the ways the pandemic had impacted how they engaged in their everyday activities. For example, enforcement of lockdown protocols, in conjunction with public messaging that encouraged older adults to stay at home, had led to disruptions in daily routines.

...[my routines have] been affected significantly because my daughter and I went exercising three times a week...we don’t do that now and I’m not very good at self-starting, so I tend to sit and play games on my computer and gain weight.

(Jessica, age 73)

Other participants articulated the impact of the pandemic protocols on their preferred lifestyles: “The pandemic has restricted me in doing a lot of things I used to do before as in travel...we do travel extensively within Canada itself...so it has changed the lifestyle” (Conrad, age 75).

The implications of messaging on the participants’ daily lives included changes to how they engaged with age-cohort friends and family. Cynthia (age 87) described interacting with a close relative who had an ailing husband enrolled in a clinical study: “...she brought over some food one day – and just outside the door, she wouldn’t come near...which was not normal for all of us, but we

were all scared in...even touching.” Similarly, Eileen (age 72) described how the extended impact of pandemic protocols had diminished her social circle.

...I am becoming used to being on my own. And in the beginning, there was a lot of Zooming calls with friends or, you know, talking on the phone or text or email, and I’ve noticed, not only have I stopped, but they’ve kind of slowed down too in that ability to connect.

Community engagement

Some participants communicated early resistance to public health protocols for out-of-home restrictions, which, upon reflection, they conceded to. Leah (age 81) explained this resistance as follows.

I got to think, “how are they going to prevent me from going out if I decide to go out to do something? I was initially a little, kind of uptight about it. I wondered if my rights were being infringed upon. However, I did conform and I would hate to have been the one to bring anything back in, you know.

When venturing out of their homes, participants described implementing the precautionary measures that they had heard about to reduce their risk of virus contraction. For Alisa (age 73), these measures included coordinated actions: “...I think twice about, you know, which store I’m going to mask-up and go to that’s most likely going to have what I need for around the house so I don’t have to go to, like, go to five different places.” This coordinated approach was echoed by Brenda (age 68) when she relayed her interactions with others within the community who were not following recommended or mandatory protocols: “I tend to be a bit of a control freak. And so, all I can control is my behaviour... and I’ve now become one of those really horrible people that gets really pissed off when I see people not social distancing, not wearing masks.”

Theme 4: “Not Bad in my Locale”: Contextual Considerations for Discourse Interpretation

Pandemic narrative

Many of the participants emphasized the importance of context when it came to interpreting COVID-19-related information, especially in terms of changing knowledge about the virus as the pandemic progressed. For example, Brenda (age 68) relayed how, at the start of the pandemic, she was exposed to messages encouraging her not to wear a mask because “...they need them for the health care providers...” and that “...they didn’t know what they didn’t know.” She then explained how her decision to start masking when venturing into her community was validated a few months later by changes in public messages indicating “...they’re saying that, actually, I’m really protecting myself. It’s not a hundred percent, but it’s substantially more than they thought.”

Other participants demonstrated how they adapted their social behaviours in direct response to protocols restricting physical interaction.

...especially in the first three months, we just observed isolation extremely carefully. Now we’re starting to have more interaction...we have camp chairs in the trunk of our car, and we call somebody up and say, “Let’s meet at the park and bring you a coffee.” And sit six feet apart outside.

(Aiden, age 69)

Micro and macro contexts

Media reports of specific issues concerning older adults within their local or national contexts, which some participants termed “sensationalized stories,” prompted reflection for several individuals. Meredith (age 77) described how she used her own experiences to contextualize news reports: “...we were told elderly should be isolated and looked after...which obviously in the care homes that was a different situation. And having worked in a care home, I understand how hard and difficult it is to adapt to a crisis like this.” An example of participants’ critical examination of the underlying issues within the LTC situation can be seen in the following quote: “Well, the kinds of things that the military was identifying were problems in these residential facilities were things related to quality of care, not quality of COVID-care, things like people weren’t getting personal care regularly” (Alisa, age 73).

All participants discussed how local issues raised greater concern for them when compared with media reports of issues occurring in other provinces or countries. For example, Francesca (age 91) described acknowledging the severity of the pandemic only when it became a national concern: “I don’t think it hit me that hard to start with – till it started to move into all the countries, and particularly when it moved into Canada.” Meredith (age 77) also provided an example of how local conditions dictated her perceived safety in terms of being able to “... maybe go to the hardware store and pick up whatever I need with my mask...because I knew things were not bad here – assuming they’re not bad in my locale here.” As such, time and place were important determinants of how participants internalized public health messages and societal discourse.

Discussion

Themes emerging from this study, which was conducted using a social constructionist approach, describe older adults’ processes for interpreting the information that they were exposed to in the early months of the COVID-19 pandemic. These themes also reflect how their interpretations may manifest as perceptions of vulnerability and potentially shape how older individuals interact within their communities. Community-dwelling older adults have depended on public messaging and communication with family and friends to direct their social and health behaviours during the pandemic. However, there remains a lack of understanding about older peoples’ interpretations of televised and digital communications regarding pandemic-related information (Meisner et al., 2020), and the factors that might inform these interpretations. The findings in this study present novel insights into how these early interpretations of COVID-19 messaging and societal discourse may have impacted how older Canadians have gone about their everyday lives.

Pandemic-Related Messaging is Repetitive, but not Always Relevant

Some older adults in this study discussed how repetitive, oftentimes age-specific messaging made them reflect on their own heightened risk for contracting COVID-19, but also that public messages emphasizing underlying health conditions as a risk factor had a greater impact on their perceived vulnerability. Messaging describing older persons as belonging to a high-risk group based on their older age and underlying health conditions has emerged as a perceptible self-identity in a segment of this population (Chen et al., 2021). The importance of accessing COVID-19-related

information that is relevant to older people’s personal situations has also been raised (Chen et al., 2021). Recognizing the relevance of such messaging appeared to be mediated in the present study by the emotional responses it elicited, such as fear and worry.

Fear was identified by some study participants as an emotional response to information about COVID-19 that highlighted feelings of vulnerability for themselves or their loved ones. Older adults have not been found to be unique in this regard. In a sample of 315 adults across the lifespan, Li (2021) found that frequent exposure to COVID-19-related media predicted perceived fear, regardless of whether the media information was positive or negative. Frequency of interpersonal communication focused on topics related to COVID-19 also predicted perceived fear (Li, 2021). However, the participants in this study suggested that positive media information and some conversations with friends and family elicited feelings of hope and resilience within them. We would suggest that further opportunities exist to examine the factors that mediate whether repeated exposure to pandemic-related messaging will lead to fears/worry or hope/resilience amongst individuals.

COVID-19 Messaging Requires Deliberate Interpretation

Findings from this study highlighted variability with regard to how messaging drew participants’ attention to their own illness susceptibility and risk of fatality. For example, some pondered how they dismissed early COVID-19 information while travelling outside the country, only realizing the severity when older adults were named as a particularly vulnerable group. Others broadly reflected on media stories which validated or conflicted with their familiarity and lived experiences of friends or parents living in LTC facilities. The media stories about the outbreaks of COVID-19 in LTC facilities were described by participants as “sensationalized stories” detailing older adults’ negative experiences with COVID-19, which have also been criticized for creating an atmosphere of fearmongering (Allen & Ayalon, 2021).

To modulate the sensationalistic tone of media and societal messaging, as well as their general approach to gathering, critiquing, and believing COVID-19 information, the older adults in this study raised the importance of trusting their information sources. Determining the trustworthiness of information sources has been identified as a means of mitigating misinformation during the COVID-19 pandemic (Chen et al., 2021; Choudrie et al., 2021). Indeed, participants in this study conveyed their approach to critically assessing the information that they were exposed to. In many cases, this reasoned approach also included taking steps to triangulate facts about events, virus transmission details, or pandemic protocols. These processes may have served as a protective factor for some participants when it came to managing their feelings of vulnerability or perhaps as an attempt to feel in control of their day-to-day lives.

Participants’ individual approaches to critically considering COVID-19 and pandemic messaging contributed to their near constant risk assessments when it came to having to make high-stake decisions to maintain their safety. For example, some described how they followed publicized protocols when they decided to meet up with family or amplified their practice of recommended public health behaviours (e.g., hand washing, social distancing, mask wearing) when venturing into their communities during periods of high active COVID-19 case numbers in their geographic area.

Public Messaging and Societal Discourse Encourage Rule-Following

According to the participants in this study, individual medical status played an important role in their perceived safety, their risk-assessment process, and subsequently, the actions they took to follow pandemic-related guidelines. Associations have previously been found between older adults' health-related worries and their anxieties about death within the context of this pandemic (Ring, Greenblatt-Kimron, & Palgi, 2020). Proposing that messaging can influence health-related worries, Ring *et al.* (2020) found that older adults' subjective appraisal of their nearness-to-death moderated these associations. Some of the participants described weighing the competing risks associated with their declining quality of life within the context of the pandemic (e.g., social isolation and loneliness) to proposed strategies that would allow them to maintain pandemic protocols while visiting with grandchildren and other family members.

Our study participants' responses to the pandemic appeared to also be informed by the multiple ways that public health messages had been disseminated in localities across the province, as well as how information was conveyed within their social circles. Indeed, digital social contacts with friends and family, at the very least, have been shown to be invaluable alternatives to in-person interactions and a source of joy for many older persons during the COVID-19 pandemic (Whitehead & Torossian, 2020). A collective understanding of the pandemic situation and shared norms for interaction created within friend and family groups were also discussed by some participants. Other researchers have also found that relationships between adult daughters and their older adult mothers dictated shared concerns and safety-promoting actions to prevent COVID-19 transmission (Ayalon & Segel-Karpas, 2021).

Participants in this study reported that their children's initial pandemic urgings for them to stay home or the taking on of responsibilities (e.g., buying their parents' groceries) could be argued to reflect "caremongering", as described by Vervaecke and Meisner (2020). Some participants did describe these interactions as an affront to their independence, but others characterized them as endearing. They described how their reactions to these conversations shaped their initial understanding of the pandemic and their perceived vulnerability. This is one example of how language, in social dialogue or public messaging, can influence a spectrum of affective reactions and actions within a social constructionist paradigm (Burr, 2015a, 2015b). Similarly, others described how the quantity of pandemic-related information that they initially consumed impacted future consumption. It remains unclear exactly how older adults' interaction with pandemic-related messaging from the media and conversations with friends and family will impact their perceived vulnerability and autonomy as the pandemic progresses.

An added complexity recognized by the participants in this study is that COVID-19-related information evolves almost daily, with new information often contradicting preceding recommendations. Study participants also expressed frustrations with conflicting messages from global and local information sources. As such, they mentioned being more interested in following the direction of local public health leaders, as well as focusing on protocols in their health regions for advice. Hence, older adults' ability to critically examine pandemic-related information for its accuracy and applicability to their personal situations should not be discounted.

Limitations

We acknowledge that this study has several limitations. To begin, it is worth noting that the interviews presented in this work were completed when the daily numbers of new COVID-19 cases and COVID-19-related deaths within the province of Manitoba were relatively low. This situation potentially impacted participants' interpretations of pandemic-related messaging (i.e., messages may have been perceived as being less consequential than, perhaps, in regions experiencing higher case counts or deaths).

The participants themselves represented a demographic with higher educational attainment status and presumed information literacy that may explain their empirical approach to critically appraising public and societal messages. All participants in this study identified as White Canadian, with some also describing European heritage. As a result, we are limited in our ability to investigate the impact that culture, ethnicity, and race might have had on how COVID-19 public messages were interpreted in this study. The participants also self-reported as being in generally good health, suggesting that they may not be representative of older adults who are more socially isolated or receiving home-care services. Of the 18 participants whose interview data were analyzed for this article, only 4 were men. As a result, the findings from this study may have failed to fully capture the gendered experience of pandemic message consumption and interpretation for men—a limitation that has been reported previously in pandemic-related literature (Losada-Baltar *et al.*, 2021). While the participants in this study may not reflect the heterogeneity in a broader population of older persons, including chronological age, older adults as a cohort should not be discounted given their cumulative years of wisdom when it comes to media consumption. With that being said, data collection for this study began 5 months after the global pandemic was declared, so it is possible that participants may have experienced a recall bias when describing their early reactions. However, collecting data at this time allowed for reflective responses and provided older respondents with time to consider the context and process of how they consumed COVID-19 and pandemic-related messaging. In addition, we achieved redundancy in key ideas, but also gained a diversity of perspectives reinforcing the heterogeneity in this segment of the population.

Conclusion

This study fills an important research gap by exploring older adults' early responses to COVID-19 and pandemic-related messaging. Our study findings describe how older adults went about making sense of emerging information, manifestations of emotion and vulnerability, and subsequent changes to the everyday lives of participants. These findings highlight the heterogeneity in how general messaging about a critical societal issue is responded to by older adults, which suggests that multi-pronged approaches to public messaging are warranted. Campaigns aimed at disseminating new directives related to public health issues, such as the COVID-19 pandemic, might consider communication strategies that support older adults' approaches to information critique and triangulation, and validate their emotional responses to the information. As part of a larger study, these findings set the stage for us to track participants' responses to public health messages and societal discourse over an extended period. Further research is needed to explain how changes in case numbers, community-based restrictions, and increasing media-reported knowledge about

the virus will impact older adults. Future studies will also need to examine how older adults can be supported in interpreting pandemic messaging and how messages should be portrayed to maximize relevance to older adults, as well as the implications of changing relationships with family and friends on long-term communication and cross-generational interactions.

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References

- Allen, L. D., & Ayalon, L. (2021). "It's pure panic": The portrayal of residential care in American newspapers during COVID-19. *The Gerontologist*, **61**(1), 86–97. <https://doi.org/10.1093/geront/gnaa162>
- Andrews, T. (2012). What is social constructionism? *Grounded Theory Review*, **11**(1), 39–46. <https://doi.org/10.4324/9781315715421-1>
- Ayalon, L., Chasteen, A., Diehl, M., Levy, B., Neupert, S. D., Rothermund, K., et al. (2020). Aging in times of the COVID-19 pandemic: Avoiding ageism and fostering intergenerational solidarity. *The Journals of Gerontology: Series B, Psychological Sciences and Social Sciences*, **76**(2), e49–e52. <https://doi.org/10.1093/geronb/gbaa051>
- Ayalon, L., & Segel-Karpas, D. (2021). When she worries I worry too: COVID-19 worries in the context of daughters' and mothers' relations. *Research on Aging*. Online ahead of print. <https://doi.org/10.1177/0164027521989028>
- Braune, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, **3**(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Brooke, J., & Jackson, D. (2020). Older people and COVID-19: Isolation, risk and ageism. *Journal of Clinical Nursing*, **29**(13–14), 2044–2046. <https://doi.org/10.1111/jocn.15274>
- Burr, V. (2015a). *Social constructionism* (3rd ed.). London: Routledge.
- Burr, V. (2015b). Social constructionism. In *International encyclopedia of the social & behavioral sciences*, Vol. 22 (2nd ed.) (pp. 222–227). Amsterdam: Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.24049-X>
- Centers for Disease Control and Prevention. (2021). *Older adults and COVID-19*. Retrieved 17 June 2021 from <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html>
- Chen, A. T., Ge, S., Cho, S., Teng, A. K., Chu, F., Demiris, G., et al. (2021). Reactions to COVID-19, information and technology use, and social connectedness among older adults with pre-frailty and frailty. *Geriatric Nursing*, **42**(1), 188–195. <https://doi.org/10.1016/j.gerinurse.2020.08.001>
- Choudrie, J., Banerjee, S., Kotecha, K., Walambe, R., Karende, H., & Ameta, J. (2021). Machine learning techniques and older adults processing of online information and misinformation: A COVID 19 study. *Computers in Human Behavior*, **119**, 106716. <https://doi.org/10.1016/j.chb.2021.106716>
- CTV News Winnipeg. (2021). INTERACTIVE: A timeline of COVID-19 in Manitoba. *CTV News*. Retrieved 17 June 2021 from <https://winnipeg.ctvnews.ca/interactive-a-timeline-of-covid-19-in-manitoba-1.4866501>
- Ehni, H., & Wahl, H. (2020). Six propositions against ageism in the COVID-19 pandemic six propositions against ageism in the COVID-19 pandemic. *Journal of Aging & Social Policy*, **32**(4–5), 515–525. <https://doi.org/10.1080/08959420.2020.1770032>
- Fiest, K. M., Krewulak, K. D., Plotnikoff, K. M., Kemp, L. G., Parhar, K. K. S., Niven, D. J., et al. (2020). Allocation of intensive care resources during an infectious disease outbreak: A rapid review to inform practice. *BMC Medicine*, **18**(1), 1–17. <https://doi.org/10.1186/s12916-020-01871-9>
- Fraser, S., Lagacé, M., Bongué, B., Ndeye, N., Guyot, J., Bechard, L., et al. (2020). Ageism and COVID-19: What does our society's response say about us? *Age and Ageing*, **49**, 692–695. <https://doi.org/10.1093/ageing/afaa097>
- Gonçalves, A. R., Barcelos, J. L. M., Duarte, A. P., Lucchetti, G., Gonçalves, D. R., Dutra, S. E. F. C. M., et al. (2021). Perceptions, feelings, and the routine of older adults during the isolation period caused by the COVID-19 pandemic: A qualitative study in four countries. *Aging & Mental Health*, 1–8. Epub ahead of print. <https://doi.org/10.1080/13607863.2021.1891198>
- Government of Canada. (2020). *News release: Update on Canadian armed forces' response to COVID-19 pandemic*. Retrieved 17 June 2021 from <https://www.canada.ca/en/departement-national-defence/news/2020/05/update-on-canadian-armed-forces-response-to-covid-19-pandemic.html>
- Government of Canada. (2021). *Coronavirus disease 2019 (COVID-19): Epidemiology update current situation*. Retrieved from <https://health-infobase.canada.ca/src/data/covidLive/Epidemiological-summary-of-COVID-19-cases-in-Canada-Canada.ca.pdf>
- Guttman, N., & Lev, E. (2021). Ethical issues in COVID-19 communication to mitigate the pandemic: Dilemmas and practical implications. *Health Communication*, **36**(1), 116–123. <https://doi.org/10.1080/10410236.2020.1847439>
- Li, R. (2021). Fear of COVID-19: What causes fear and how individuals cope with it. *Health Communication*, 1–10. Epub ahead of print. <https://doi.org/10.1080/10410236.2021.1901423>
- Losada-Baltar, A., Jiménez-Gonzalo, L., Gallego-Alberto, L., del Sequeros Pedrosa-Chaparro, M., Fernandes-Pires, J., & Márquez-González, M. (2021). "We're staying at home". Association of self-perceptions of aging, personal and family. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, **76**(2), e10–e16. <https://doi.org/10.1093/geronb/gbaa048>
- Lytle, A., Apriceno, M., Macdonald, J., Monahan, C., & Levy, S. R. (2020). Pre-pandemic ageism toward older adults predicts behavioral intentions during the COVID-19 pandemic. *The Journals of Gerontology: Series B*, 1–5. Epub ahead of print. <https://doi.org/10.1093/geronb/gbaa210>
- Maxfield, M., & Pituch, K. A. (2020). COVID-19 worry, mental health indicators, and preparedness for future care needs across the adult lifespan. *Aging and Mental Health*, **25**(7), 1273–1280. <https://doi.org/10.1080/13607863.2020.1828272>
- Manitoba Health and Seniors Care. (2021). *Provincial Respiratory Surveillance Report*. Retrieved 17 June 2021 from <https://www.gov.mb.ca/health/publichealth/surveillance/covid-19/index.html>
- Meisner, B. A., Boscart, V., Gaudreau, P., Stolee, P., Ebert, P., Heyer, M., et al. (2020). Interdisciplinary and collaborative approaches needed to determine impact of COVID-19 on older adults and aging: CAG/ACG and CJA/RCV joint statement. *Canadian Journal on Aging*, **39**(3), 333–343. <https://doi.org/10.1017/S0714980820000203>
- Nimrod, G. (2020). Technostress in a hostile world: Older internet users before and during the COVID-19 pandemic. *Aging and Mental Health*, 1–8. Epub ahead of print. <https://doi.org/10.1080/13607863.2020.1861213>
- Oliver, D. (2020). David Oliver: What the pandemic measures reveal about ageism. *BMJ*, **369**, 5–6. <https://doi.org/10.1136/bmj.m1545>
- Powell, T., Bellin, E., & Ehrlich, A. R. (2020). Older adults and Covid-19: The most vulnerable, the hardest hit. *Hastings Center Report*, **50**(3), 61–63. <https://doi.org/10.1002/hast.1136>
- Ring, L., Greenblatt-Kimron, L., & Palgi, Y. (2020). The moderating role of subjective nearness-to-death in the association between health worries and death anxieties from COVID-19. *Death Studies*, 1–6. Epub ahead of print. <https://doi.org/10.1080/07481187.2020.1821261>
- Seifert, A., Cotten, S. R., & Xie, B. (2020). A double burden of exclusion? Digital and social exclusion of older adults in times of COVID-19. *The Journals of Gerontology: Series B*, **76**(3), 99–103. <https://doi.org/10.1093/geronb/gbaa098>
- Shahid, Z., Kalayanamitra, R., McClafferty, B., Kepko, D., Ramgobin, D., Patel, R., et al. (2020). COVID-19 and older adults: What we know. *Journal of the American Geriatrics Society*, **68**(5), 926–929. <https://doi.org/10.1111/jgs.16472>

- Sims, T., Reed, A. E., & Carr, D. C. (2017). Information and communication technology use is related to higher well-being among the oldest-old. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, *72*(5), 761–770. <https://doi.org/10.1093/geronb/gbw130>
- Statistics Canada, Table 17-10-0009-01 Population estimates, quarterly. Retrieved 17 June 2021 from <https://doi.org/10.25318/1710000901-eng>
- Tyrrell, C. J., & Williams, K. N. (2020). The paradox of social distancing: Implications for older adults in the context of COVID-19. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*, 214–216. <https://doi.org/10.1037/tra0000845>
- Vervaecke, D., & Meisner, B. A. (2020). Caremongering and assumptions of need: The spread of compassionate ageism during COVID-19. *The Gerontologist*, *61*, 159–165. <https://doi.org/10.1093/geront/gnaa131>
- Whitehead, B. R., & Torossian, E. (2020). Older adults' experience of the COVID-19 pandemic: A mixed-methods analysis of stresses and joys. *The Gerontologist*, *61*, 36–47. <https://doi.org/10.1093/geront/gnaa126>
- World Health Organization. (2020). Novel coronavirus. *Situation Report*, *205*(6), 1–19. Retrieved 17 June 2021 from https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200812-covid-19-sitrep-205.pdf?sfvrsn=627c9aa8_2
- Xie, B., Charness, N., Fingerman, K., Kaye, J., Kim, M. T., & Khurshid, A. (2020). When going digital becomes a necessity: Ensuring older adults' needs for information, services, and social inclusion during COVID-19. *Journal of Aging and Social Policy*, *32*(4–5), 460–470. <https://doi.org/10.1080/08959420.2020.1771237>