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"We see each other from a distance": Neighbourhood social relationships during the COVID-19 pandemic matter for older adults' social connectedness

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ABSTRACT

Introduction: We extend previous research to illustrate how individual, interpersonal and neighbourhood factors in a high-density urban setting in Vancouver, Canada, shape social connectedness experiences of community-dwelling older adults during the first wave of the COVID-19 pandemic.
Methods: We conducted 31 semi-structured interviews and collected objective measures of loneliness and social connectedness (surveys).
Results: Three dimensions of the neighbourhood environment influenced social connectedness: (i) interactions with neighbours, (ii) involvement with neighbourhood-based organizations, and (ii) outdoor pedestrian spaces. Seventy-one percent of participants felt a strong sense of belonging to their local community, while 39% were classified as high or extremely lonely.
Summary: Many participants leveraged pre-existing social ties to maintain connections during the pandemic. However, volunteer outreach was vital for more isolated older adults. Although many participants felt lonely and isolated at times, the relative ease and accessibility with which they could connect with others in their neighbourhood environment, may have helped mitigate persistent loneliness.
Conclusion: Strategies that foster social connectedness over the longer term, need to prioritize the needs of older adults who face multiple barriers to equitable social participation.

1. Introduction

Social connectedness is vital for health and well-being (Bruggencate et al., 2018; O'Rourke and Sidani, 2017). It protects against loneliness and is associated with quality of life and greater longevity (Holt-Lunstad et al., 2015, 2017). Mounting evidence suggests that social connectedness is a key element of resilience—defined as the ability for individuals and communities to recover from disruption (Bruggencate et al., 2018; Jewett et al., 2021; Nitschke et al., 2020). Social connectedness also contributes to older adults' ability to live independently in their chosen home and neighbourhood (age-in-place), which in turn sustains health, economic, and social systems (O'Rourke et al., 2018; World Health Organization, 2021). We define social connectedness as "perceived extent to which one has feelings of interpersonal connection and meaningful, close, and constructive relationships with others" (P 45, O'Rourke and Sidani, 2017). Quality social relationships at the interpersonal, neighbourhood or community level contribute to social connectedness (O'Rourke and Sidani, 2017).

As people age, they are increasingly challenged to maintain social connectedness. Older adults are more likely than younger adults to live alone, bereave loved ones, have small social networks and experience barriers to communication technology (Fischl et al., 2020; Hagan et al., 2014; Ibarra et al., 2018). Physical factors such as limited mobility, sedentary lifestyle, and chronic illness may further limit social contacts (Franke et al., 2017, 2019; Hagan et al., 2014; Webber et al., 2010). Among older adults, characteristics such as limited education, low income, and gender or sexual minority status increase the likelihood that a person is socially isolated in later life (Gauthier et al., 2021; O'Rourke and Sidani, 2017; Perone et al., 2020; Wenger et al., 1996). While research outcomes that link racialization and social isolation are mixed

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(Ejiri et al., 2021; Joplin, 2015), barriers to social connectedness are greatest for older adults confronted with a lifetime of social disadvantage based on the convergence of low income and racialization and/or sexual minority discrimination (Chen et al., 2022; Gauthier et al., 2021; Perone et al., 2020).

Physical distancing—an essential public health strategy to slow the spread of COVID-19 is another barrier to social connectedness (Gloster et al., 2020). During the COVID-19 pandemic, health officials urged people to minimize social contact and shelter-in-place (Chiesa et al., 2021). This was especially important for older adults, as COVID-19 symptoms and the likelihood of dying worsen with age (Shahid et al., 2020). In response, the public and researchers expressed concern that pandemic protocols may increase social isolation and loneliness in older adults (Berg-Weger and Morley, 2020; Holmes et al., 2020; Holt-Lunstad, 2020). While conceptually distinct, social isolation is a risk factor for loneliness (Holt-Lunstad et al., 2015). Even prior to the pandemic one in four older adults experienced loneliness (Wu, 2020). Older adults are susceptible to persistent loneliness which, over time, compounds negative physical and emotional health (Kotwal et al., 2021).

Research conducted during the first year of the pandemic showed mixed-results about how physical distancing affected older adults. Descriptive studies that focused on individual behaviours, reported that increased isolation negatively impacted older adults physical and mental health (Arpino et al., 2021; Heid et al., 2021; Herron et al., 2021). Older adults adopted diverse cognitive and behavioral coping strategies to maintain their well-being (Finlay et al., 2021a). Strategies included adapted physical activities, structured daily-living, mindfulness, prayer, and web-based social engagement (Finlay et al., 2021a; Lopez et al., 2021; Whitehead and Torossian, 2021). Results varied widely; how individual factors such as income, racial/ethnic backgrounds, and access to social support, intersect with place-based context may help explain results (Finlay et al., 2021b; Kantamneni, 2020; Lee et al., 2020; Meisner et al., 2020).

On a neighbourhood level, public health orders reduced older adults' interactions with their immediate built and social environments (Honey-Rosés et al., 2020; Portegijs et al., 2021). Pre-pandemic, neighbourhoods provided important spaces for older people's social and physical activity. Older adults stay close to home, form social ties within their neighbourhood, and benefit from casual social encounters (Gardener and Lemes de Oliveira, 2019; Ottoni et al., 2016). These conditions were disrupted when public officials cautioned older adults to avoid public spaces, and closed community-centres (Honey-Rosés et al., 2020; Portegijs et al., 2021). Social engagement is an important factor that cultivates neighbourhood belonging, and in turn well-being, for older adults (Elliott et al., 2014; Garoon et al., 2016). Therefore, understanding the neighbourhood-level social impacts of physical distancing is critical.

Within and beyond the pandemic context, researchers call for a broader lens to investigate mechanisms that promote meaningful social relationships across the lifespan (Holt-Lunstad et al., 2015; Morgan et al., 2021; Nitschke et al., 2020). Research on social factors that protect one's health and well-being during the pandemic has largely focused on the individual (O'Donnell et al., 2022). Thus, we extend previous research to consider how individual, interpersonal and neighbourhood characteristics influence the social connectedness experiences of community-dwelling older adults. We use a strengths based approach to interview older adults directly, and explore the embodied and place-based manner in which meaningful social interactions occur to generate and sustain social connectedness (Gregory et al., 2021; Nitschke et al., 2020; Shahid et al., 2020). Our research adds value beyond the pandemic as one can apply our insights to policy and community-based programs to foster social recovery post-pandemic, and inform age-friendly urban planning practices in future.

1.1. Guiding framework and objective

Our research focus is on community-dwelling older adults' lived experiences during the first wave of the COVID-19 pandemic (March–July 2020) in Vancouver, Canada. Early on in that period, COVID-19 disrupted norms and patterns of social engagement. These conditions contributed to a unique research setting that allowed participants to reflect with heightened awareness on their pre-pandemic and current (pandemic) everyday social practices (Jensen, 2021). We draw on social constructivist theory to interpret meaning from how social interactions, rooted in neighbourhood places, impact older adults' experiences (Johnson and Onwuegbuzie, 2007). We conceive of "place" broadly as a meaningful location (Cresswell, 2014).

We situate our research within a socioecological framework that recognizes how factors on multiple social and environmental levels inform participant experiences of health and well-being (Stokols, 1996). The objective of our study is to describe how neighbourhood-based social relationships facilitate or hinder older adult social connectedness during the pandemic. Across academic literature, neighbourhood-level social connectedness overlaps with constructs of social capital, social cohesion, and social inclusion (Sones et al., 2021). In-line with our socioecological approach, we adopt social connectedness as an umbrella term to encompass and explore individual, interpersonal, and neighbourhood-level factors (Sones et al., 2021).

2. Data collection and methods

2.1. Neighbourhood context

We developed this community-engaged research project in partnership with the West End Seniors' Network (WESN). WESN is a community-based organization located in Vancouver's West End neighbourhood (West End Seniors Network, 2015). The study context is mainly the City of Vancouver (the City) and adjoining West End and Downtown neighbourhoods. These very high density neighbourhoods are dominated by rental apartments (City of Vancouver, 2020a). Fifteen percent of West End residents are older adults; 61% live alone. This proportion is twice as high as the city average (29%). Almost all older adults in the neighbourhood live in mid to high-rise apartments; 26% are considered low income (City of Vancouver, 2020a). Many older adults across income levels are challenged by housing affordability and security issues (City of Vancouver, 2020a), placing them at higher risk for social isolation and loneliness (Domènech-Abella et al., 2017).

2.2. COVID-19 pandemic context for data collection

In Vancouver, Canada, as in much of the world, initial COVID-19 cases escalated to a state of emergency in a short time span. Canadian public health officials announced the first presumptive COVID-19 case on January 25, 2020. Six-weeks later, March 11, 2020, the World Health Organization declared COVID-19 a pandemic (Cucinotta and Vanelli, 2020). In accordance with provincial public health measures, Vancouver announced a state of emergency on March 19th, 2020; the City banned large gatherings, restricted occupancy of public city premises, and closed restaurants, workplaces and recreation centres (CBC News, 2020; City of Vancouver, 2020b). Municipal officials lifted lockdown measures incrementally starting May 19, 2020 (City of Vancouver, 2020b). During "Phase II Reopening", the City reopened some small businesses, and parking lots, but stressed that people should physically distance in all indoor and outdoor public spaces, and only travel for essential purposes. We conducted 80% of our interviews during "Phase I lockdown"; the remaining 20% of interviews were conducted shortly after the official start of "Phase II reopening."

2.3. Data

2.3.1. Recruitment

We recruited older adults via WESN's email list serve. Eligible people were those aged 55 years or over, and able to understand basic English. We encouraged people marginalized on any grounds outlined under the Canadian Human Rights Code, including sexual orientation, gender identity, racialization, disability (Government of Canada, 1985), and/or those in receipt of home and community care to apply. Interested individuals contacted the primary researcher (CO) via email or telephone. CO recruited and interviewed participants on a rolling basis May 11-June 07, 2020. When we determined that the study had reached saturation (repetition of topics and themes), CO stopped recruiting participants.

2.3.2. Data collection

We developed the interview guide based on a priori concepts of older adult social connectedness, loneliness, health and well-being during the pandemic. The interview guide included questions about participants' typical day, current social and physical activities, perceived impacts of physical distancing, challenges to maintain desired social and physical activities and strategies to overcome these challenges. CO collected all data in accordance with strict University of British Columbia Research Ethics Board physical distancing guidelines. CO conducted semi-structured interviews and administered surveys to 31 participants via telephone (n = 22) or Zoom (n = 9), based on participant preference. Interviews lasted 45–75 minutes. At the end of the interview, CO verbally administered survey questions to capture demographic characteristics (Table 1). These included proxy measures for social connectedness: (i) The Lubben Social Network Scale-6 (LSNS- 6) which measures social isolation based on objective (size and frequency), and subjective (perceived support) domains of an individual's social network (Lubben et al., 2006); (ii) Hughes, validated the 3-part Scale for Loneliness (Hughes et al., 2004) and; (iii) the Vancouver My Health My Community survey question for community belonging (Vancouver Coastal Health and Fraser Health, 2019). CO assessed gender using Bauer's Transgender-inclusive, 3-question, Multidimensional Sex/-Gender Measure (Bauer et al., 2017). A research assistant sent participants a 25$ drugstore gift card following the interview.

Table 1
Demographic, mobility, and social connectedness characteristics of study participants.

Variable	RESULTS	
	N	%
All	31	100
Age		
<75	17	55
≥75	14	45
Gender		
Cis men	4	13
Cis women	27	87
Race		
White/European descent	25	84
Jewish	3	10
Chinese	1	3
South Asian	1	3
Co-habitation status		
Lives alone	21	68
Lives with spouse or partner	10	32
Education		
Secondary school or less	2	6
Some trade, technical or post-secondary school	12	39
Technical or undergraduate degree	9	29
Graduate degree	8	26
Overall health self-report		
Excellent	8	26
Good or fair	22	71
Poor	1	3
Access to Internet-based communication technology		
Very difficult or difficult	6	19
Neither difficult nor easy	5	16
Easy or very easy	20	65

2.4. Processing & analysis

In accordance with our pre-designed sample (e.g., older adults) and a priori topics (e.g., social connectedness and loneliness), we used framework analysis to achieve our objectives (Srivastava and Thomson, 2009). Participants' original accounts anchored and guided our descriptions and observations (Ritchie and Spencer, 2002). For analysis, we sifted, charted and sorted data based on key issues and themes using five steps. First, a professional transcribed each interview verbatim. Two-team members read through the transcripts to obtain a sense of the interviews (Step 1. *familiarize*). Then we combined inductive and deductive approaches to develop a thematic framework. To guide our initial framework, we first identified themes of significance from our literature review. To refine our framework, we incorporated topics that we recognized as frequently occurring in our data (Step 2. *identify a thematic framework*). We identified that a key overarching theme was the importance of neighbourhood-based social relationships for social connectedness. We identified sub-themes inductively based on: common topics and concepts, how outliers added depth of understanding to our overarching theme, and survey data outcomes *(*Steps 3 & 4. *index and chart)*. To compare and contrast themes within and across groups we adopted the constant comparison method; we explored similarities and differences across the data (Step 5. *map and interpret*) (Srivastava and Thomson, 2009).

Four strategies reinforced the rigor of our study. We cross-checked full transcripts against original audio files for quality and completeness. CO recorded reflexive memos during data generation and analysis. Using NVivo, CO applied our thematic framework to code full paragraphs of the interviews so that we did not lose contextual meaning. As a team, we discussed themes and those cases that did not "fit within themes". We replaced real names with pseudonyms to report results.

3. Findings

3.1. Study participants

We enrolled 31 participants who were 72 years old, on average. All participants identified as cis women 87% (27) or cis men 13% (4). Participants rated their overall health—compared to other people their own age—as excellent 26% (8), good or fair 71% (22), and poor 3% (1). We provide detailed demographic data in Table 1.

3.2. Proxy measures: social connectedness

We asked participants three survey questions that captured common proxy measures for social connectedness: community belonging, social network, and loneliness (O'Rourke and Sidani, 2017). When asked, "How would you describe your sense of belonging to your local community?" 71% (22) of participants responded "very or somewhat strong", 19% (6) responded somewhat or very weak, and 10% (3) responded "I don't know/prefer not to answer." Based on the clinical cut-point of 12 (Lubben et al., 2006) on the social-network survey, 68% (21) of participants were not isolated and 32% (10) of participants were socially isolated. From the UCLA 3-item loneliness scale, 45% (14) of participants were not lonely, 16% (5) were moderately lonely, and 39% (12) were high to extremely lonely.

3.3. Thematic summary: place-based mechanisms for social connectedness

When we asked participants about barriers and facilitators for social

connectedness, their responses very commonly centred on neighbourhood-based social relationships. We identified three central themes that illustrate how place-based factors influence social connectedness: (i) interactions with neighbours, (ii) involvement with neighbourhood organizations, and (ii) outdoor pedestrian spaces.

3.3.1. A delicate dance— apartment building neighbours

Most participants felt connected to their neighbours, despite less direct (face-to-face) social contact during the pandemic. Approximately 90% (28) of participants lived in apartments. Many participants maintained or increased the level of friendliness and respect that had been established prior to the pandemic. Participants recounted how they smiled as they dodged others in the hallway, read notes in the elevator that offered help, and waved from their respective patios during the "7 o'clock cheer" as they showed solidarity with healthcare workers. Commonly, participants felt that neighbours were "taking good care" about following pandemic protocols. "We all watch our p's and q's with social distancing. Wear masks if need be," commented Dianne. In some cases, participants physically distanced, while face-to-face, frequent encounters with neighbours led to friendships and intentional outdoor social interactions, such as walking (discussed further in section 3.5).

Some participants received support from neighbours with tasks of daily living. Neighbours that were strangers prior to the pandemic, knocked on participants' doors to offer help, and pick-up grocery items. This occurred both in apartments that primarily had older residents, and in apartments where residents had a greater age diversity:

> I'm the oldest person in the building, I think. And most of the people who live in the rental units tend to be younger people. And they have all, when they've seen me said let me know if you need anything. "I can do any errands you need." And my next-door neighbour is a young man, he's about 35. He has been just wonderful. And he loves to bake, so, you know, I'll open my door and there'll be a little box of cookies or brownies. He said, what can I get for you? So, I gave him a list. And he's gotten me Lysol disinfectant and masks and– he's just a darling. And every night when we go out to applaud the frontline workers we have a little chat. Because his apartment is right next door to mine. So, it's been wonderful. It really has.
>
> -Hilary, 84 years, lives alone

Participants also received and/or offered help from neighbours with whom they had an established relationship prior to the pandemic. Josephine, explained:

> … Like, I even have a neighbour that – I was bringing stuff over and just knocking on her door. And not because she can't cook. Just she likes my cooking. It would just give me something to do and make me feel like I had somebody I could give to. But I think it was a month and a half into it and I said, "Please just come out in the hallway and at least wave to me. We'll both be at the end of our hallways, but I need to see a face that I know." So, in a way there was no seeing of anybody, but in another way, I realized how much I have built a community [in my building]. I had people I could rely on. And I knew if I needed anything, that I could just– they were just a phone call away.
>
> -Josephine, 63 years, lives alone

Josephine expressed a sentiment echoed by other participants—-while they felt isolated in general, they were comforted by the support of neighbours.

Some participants met with their neighbours for social gatherings– "from a safe distance". Design elements of their buildings facilitated these interactions. Residents often repurposed the hallways, lawns, and rooftops of apartment buildings for informal gatherings where they brought their own lawn chairs. Irene (72 years, lives alone), who indicated that the "isolation thing" was "hitting really hard", described how she socially interacted with her neighbours:

> We see each other from a distance. Once a week we meet outside on the patio, standing the distance apart with our coffee mugs or our wine glasses and just have a visit there for a short while. And that sort of reconnecting again which is nice, yeah.

Irene had lived in her building for over 10 years and had established trustworthy relationships with her neighbours that were reinforced during the pandemic. Although not formally organized, a few participants intentionally sought out casual social encounters with their neighbours. They would venture to the lobby or rooftop patio to see if there was anyone sitting there with whom they could talk.

Many participants suggested that they relied more heavily on immediate neighbours to fulfill social needs, than prior to the pandemic. The majority of participants, many of whom did not own cars, had stopped travelling outside their neighbourhood to see friends and family. Although some participants regularly talked with family via telephone or Internet-based communication, very few had in-person contact. Taken together, almost all participants suggested that easily accessed social interactions close to home promoted their social connectedness during the early pandemic.

A few participants felt more isolated from their neighbours during the pandemic. Some linked this feeling directly with their building's physical distancing protocols:

> This building that I'm in, there are people who are very vulnerable to the whole COVID thing. Some of them seniors, some of them not. But the building has installed some very, very strict features. Like, only one person on the elevator at a time. No visitors allowed, period. And that's kind of disappointing 'cause I do have a couple of people who usually would come over to see me during the day at times. Plus, also the tension in the back of my head all the time, 'cause I've had two heart attacks. I have diabetes 2 and so I'm a very vulnerable person for it evidently.
>
> -Larry, 66 years, lives with partner

Kathleen (61 years, lives alone) described her belonging to her local community as "somewhat weak because of the COVID thing." Her building manager cut-off coffee service in the lobby as well as the Wi-Fi, which limited social connectedness internally among residents, and externally via virtual networks. Charles also explained how pandemic conditions increased his isolation:

> I have no connection with anybody in this building during this time. A friend of mine used to come and visit me once a week or once every two weeks and have a glass of wine and we'd chat about things. And I haven't spoken to her in eight weeks. Funny enough when I went shopping today– oh, I actually got dressed today. First time in three days. But now, and you know we got notices saying please don't visit your neighbours. And all the activities that used to go on in this building have been shut down.
>
> -Charles, 71 years, lives alone

Among participants who felt isolated from their immediate neighbours, "I seldom see anybody" was a common sentiment.

A few participants distrusted, felt negatively, and/or "overly judgemental" towards those neighbours they perceived as "unconcerned" about the virus. They commented on how these neighbours were "not observing safe distancing" and cited examples where they had invited guests into their homes, and received rides in others' cars. Some participants walked specific routes to avoid physical encounters with these neighbours. Sharon (74 years, lives with partner) who does not interact with her neighbours reflected: "There's a lot of fear people have to get over. Because we've been taught to be afraid and we've been taught to view our neighbours and strangers as the enemy or potential harm, right." Taken together, fear of contracting COVID-19 was a common factor that diminished social connections among neighbours.

3.3.2. Dark buildings, light phone-calls – neighbourhood organizations

Participants' social connectedness during the pandemic was also shaped by their involvements with neighbourhood-based, not-for-profit service and recreation organizations (neighbourhood organizations). All neighbourhood organizations had closed facilities and shut-down in-person services at the time we conducted interviews. Thus, the tenor of participants' comments about their relationships (or lack thereof), with friends, acquaintances, and patrons they had interacted with via neighbourhood organizations, depended largely on whether they had ongoing contact during the pandemic. Prior to the pandemic, participants interacted with others in common-interest classes or as volunteers, we discuss examples of each below.

3.3.2.1. Common interest classes. Many participants described how their social and physical activities decreased after the City temporarily closed the physical facilities of neighbourhood organizations. Participants' social interactions in public indoor spaces, exercise or common interest classes, culturally affiliated organizations, and library services were halted. While the impact ranged from subtle to large, participants suggested these losses negatively impacted their well-being. A few participants stressed that structured classes had motivated them to get out and about, and that they had been mostly sedentary and isolated since the start of the pandemic. Vivian explained:

> Oh, I'm finding it very, very bad. Every week we'd finish exercise we go to lunch together as a group. And now we can't do anything. I'm really worried about losing my muscles. So, I go there. It's not because the food, because we talk like– all the friend at the table we talk different things. So, during the lunch you have these communications because we are all alone at home.
>
> -Vivian, 76 years, lives alone

For Vivian, neighbourhood organizations served as a primary outlet for social and physical activities, and she struggled with facility closures. Sally, who was also heavily involved in organized groups prior to the pandemic stressed:

> And you're searching for a sense of belonging because I don't have a nuclear family. I don't have a husband. I don't have children. I don't have a partner. I have no grandchildren. So, these other groups give me a sense of belonging. I'm no longer attached to them 'cause you can't be because of the numbers game, right. So, you know, the one-on-one stuff is a substitute which is actually essential for me to have at this point, because the lack of the groups.
>
> -Sally, 68 years, lives alone

Sally stressed how participating in group activities was integral for her social connectedness.

Some participants described how they received assistance from neighbourhood organizations that had previously offered in-person classes. Vivian explained how telephone outreach helped her feel connected to community, despite also feeling isolated. Similarly, Nell (75 years, lives alone), who described herself as anxious, isolated, and depressed, suggested that support from a neighbourhood organization was vital. A volunteer called her to organize grocery delivery and a telephone-based peer counsellor meeting.

3.3.2.2. Volunteer. A few participants volunteered in peer outreach. This provided them with a meaningful avenue of connectedness. Although the facilities run by neighbourhood organizations had closed, some participants communicated with other older adults via telephone or Internet. On the phone, they heard hardships of loss, illness, and isolation – "And there are two other women who are essentially alone and they're so sad. It's very, very sad," Susan recounted. James (67 years, lives with partner), who was on the executive committee of an organized group of older gay men, explained how members organized weekly wellness check-ins, via phone, text, or email, to ensure that no one "fell through the cracks." James felt well connected, although he worried about those members who lived alone with no close family. Ruth (68 years, lives alone) who talked to two women in long term care regularly explained:

> … it really gives me a lift to talk with them. Because they enjoy talking to me. But, you know, I'm not there to talk, really. I'm there to listen.

A few participants were concerned with how they lost contact with people they served in their volunteer roles. Leslie (75 years, lives alone) explained how a drop-in warming centre and food-bank closed at the outset of the pandemic:

> The building is in darkness … I'm very worried about what's happened – all the other seniors I interacted with there, where are they? They've all disappeared into the shadows. Not all of them were part of the [name of organization]. And I ask around, but I don't know how to find these people. Not all of them even have telephones. So, I'm very aware that myself, I'm in a very fortunate position.

Lynn (72 years, lives with her husband), who volunteered for a different neighbourhood organization expressed a similar concern for older adults with fewer economic and social resources, who experienced language barriers:

> We'd have– we have a little coffee machine there and people can come in and sit down for 10 minutes if they want. And you see that there are seniors who live in the West End who take advantage of that, who really are alone. And I thought of those people many times during this self-isolation. Because they were very vulnerable at the best of times. In these times they are– well, I can't imagine how they've been coping. I think definitely not well.

Lynn illustrated how the neighbourhood organization fostered an important social hub for marginalized older adults. She expressed concern about having no means of contact now that their facilities had closed.

3.3.3. New routes, less people—neighbourhood outdoor spaces

Outdoor spaces conducive to walking such as sidewalks and parks featured prominently as they both facilitated and hindered participants' social connectedness. Most participants already had an established walking practice prior to the pandemic, but they suggested the importance of walking increased with the onset of the pandemic. While guidelines instructed individuals to 'shelter-in-place', many participants underscored that getting out of their small—for some, 340–500 square foot—apartment was essential for their well-being. A key finding is that participants sought out walking companions that lived nearby. Couples often walked together. Many participants who lived alone reached out to select friends in their neighbourhood:

> I have no children. I don't have a partner. I live alone in a 55-plus building. So, I'm not wealthy by any means. And I have to reach out to people on a daily basis, like, it becomes essential for me to reach out somehow … so, I have connected with some women that are willing to meet in the outdoors and go for walks when we social distance … And then we talk while we walk, right. And so, there's no sitting around having coffee or, you know, just chatting with several people at a time like I'm used to doing.
>
> -Edith, 63 years, lives alone

A few participants cycled through friends to "keep the conversation fresh". A minority of participants walked to family members as a destination. Dorothy walked an hour, "64 blocks" almost daily, to sit outside her husband's long-term care home window and talk to him via cell-phone. Jane walked to her daughter's nearby apartment. However, Jane and Dorothy were exceptions: most participants said their family lived farther afield.

While some participants felt outdoor green and pedestrian spaces

promoted social connectedness for one-on-one interactions, others intentionally chose walking routes and times to avoid people, and almost always walked alone. Josephine (63 years, lives alone) explained:

> My route is completely different than what it would have been before. Before, I would have been on the streets that were busy because I wanted to see people. Like, I wanted to feel that excitement of people around. I would have been looking at people at restaurants and all that. While now I'm picking streets that don't have people. Or less people I should say.

Hilary (84 years, lives alone) explained how she no longer enjoyed interacting socially while on the sidewalk. She used to walk her dog with other dog walkers she encountered in her neighbourhood. During the pandemic she found afternoon walks stressful as she felt the need to dodge other people.

4. Discussion

Our findings illustrate how neighbourhood-based social relationships mattered for community-dwelling older adults' social connectedness during early stages of the COVID-19 pandemic. Three dimensions of the neighbourhood environment influenced social connectedness: immediate neighbours, neighbourhood organizations, and outdoor pedestrian spaces.

The stories that participants shared about their own lives, and those who mattered to them, help us better understand the complex nuances of older adult social connectedness. Participants felt at once isolated and connected, they missed their pre-pandemic lives and yet were grateful for their current supports. Most participants felt a strong sense of belonging to their local community; a small majority were not socially isolated. Yet more than half of participants also experienced some degree of loneliness. Alarmingly, 39% (12) of participants were classified as being high to extremely lonely. Below we further discuss the meaning and implications of these findings.

Overall, social connectedness was strengthened through symbolic and practical acts of interpersonal, community, and society level solidarity to slow the spread of COVID-19. Participants recounted how their neighbours participated in the 7 o'clock cheer, posted notes in the hallways, and left food on doorsteps—all to show they cared. Neighbours and participants followed norms established by physical distancing directives. They demonstrated adherence to directives with visual cues such as hallway dodging, mask wearing, and lawn chairs spaced six feet apart. In addition, participants socialized or walked with neighbours they viewed as holding similar values—to stay healthy and active, while also following physical distancing directives. In sum, for many participants, during the early stages of the pandemic, their neighbourhood environment provided a heightened display of caring about others and feeling cared for by others, shared values, trust and belonging—all recognized as core characteristics of social connectedness.

Our findings are important to consider in relation to factors that mitigate persistent loneliness. Researchers state that loneliness in itself is not negative. It exists by psychological design to provoke an individual to reach out for connection (Cacioppo and Patrick, 2008). The concern is when an individual who experiences loneliness, loses their initiative or willingness to reach out to others. This leads to persistent or chronic loneliness which compounds negative physical and emotional impacts (Cacioppo and Patrick, 2008; Holt-Lunstad et al., 2017). Participants in our study initiated and connected socially within their immediate neighbourhood: they recruited walking partners, requested face-to-face encounters in hallways, and ventured to common-spaces in buildings. The relative ease and accessibility with which many participants could connect with others, or felt connected to others, facilitated social connectedness. This may have helped mitigate persistent loneliness—despite pandemic restrictions.

Pandemic conditions illuminated how social connectedness with neighbours and in neighbourhood-places mattered for older adult well-being. For some, what began as geographically circumstantial relationships, developed into meaningful friendships. While many participants communicated with family members regularly, family often lived outside Vancouver. Compared with pre-pandemic environments, participants relied more heavily on their neighbours for practical and social support. Previous research on community resilience suggested that family networks are important for many older adults. However, when regular support pathways are disrupted through natural disaster or pandemics like COVID-19, avoiding travel and relying on neighbours and community services become paramount (Heid et al., 2017; Mann et al., 2018; Thornley et al., 2015). Our research supports that many older adults looked directly to their neighbours for emergency goods, and social support. It is important to note that many participants had pre-established relationships with their neighbours that were strengthened during the pandemic. This suggests that fostering social networks prior to the onset of emergency circumstances is vital; closer neighbour relations may contribute to more frequent and reliable outreach in times of distress (Cheshire, 2015).

On a collective level, despite fears at the pandemic outset that communal or public spaces may be permanently transformed (Honey-Rosés et al., 2020), neighbourhood places where people interacted regularly continued to promote social connectedness. Within apartments in particular, participants creatively used shared spaces (i.e. rooftops, hallways, and lawns) to connect with others. Also, patios became a key platform for interactions. However, in some instances building managers enforced protocols that impeded interactions. Beyond the pandemic, this finding suggests that managers, strata councils, and residents play an important role to either inhibit or promote social connectedness; outdoor and shared indoor spaces in apartments where people can interact regularly support older adults' well-being and build community resilience.

Our findings also illustrate the importance of neighbourhood organizations and related facilities (e.g., municipal recreation) that support older adult well-being. During the early stages of the pandemic, many organizations transcended physical place to connect with members via telephone. They provided important avenues of emotional and practical support through peer outreach channels. Participants actively engaged with more marginalized older adults to provide peer support. In line with previous research (Bruggencate et al., 2018; Morgan et al., 2021), reciprocity was a key component of participants' social connectedness; service to others gave meaning to their day-to-day lives and contributed positively to their self-worth. In sum, telephone outreach via neighbourhood organizations or peer groups made an important difference in the lives of more isolated older adults.

While the majority of participants experienced moderate to strong social connectedness, some participants illustrated how physical distancing protocols, and fear of contracting the virus, hindered their social connectedness. These participants expressed distrust, judgment, and intentionally avoided people who they perceived were not abiding by public health directives. Participants who interacted with strangers while out walking pre-pandemic, now perceived strangers as a health threat. Previous research suggests casual social interactions on animated streets provide meaningful social connections for many older adults living in high-density urban settings (Gardener and Lemes de Oliveira, 2019; Ottoni et al., 2016). Our research shows, how pandemic conditions have, in some cases, shifted these social interactions from positive to being negative. If left unattended, pointing fingers at, and fear of others, has potential to entrench social exclusion between different groups of people (Ahmed, 2000).

Many participants were keenly self-aware of their social privilege—they felt economically and house secure, and socially supported through the early stages of the pandemic. As most participants belonged to the white, racial majority of their neighbourhoods and had adequate housing, it is a challenge to disentangle participants' positive

experiences of social connectedness from social privilege. Some participants established their social position, as they expressed concern about socially and economically disadvantaged older people they knew through volunteer outreach—people who had 'disappeared' from their neighbourhood. Other participants spoke of how chronic health conditions, imposed building restrictions, solitary living, or lack of family, added to feelings of isolation and loneliness. These experiences together, highlight the precariousness of social connectedness for older adults who may experience multiple barriers to social participation. From this perspective, our research highlights the importance of an intersectional lens, that recognizes how individual characteristics intersect with societal systems of privilege to shape older adult experiences of social connectedness (Collins, 2019).

4.1. Limitations and considerations for future research

Our study has several limitations. First, we collected data at a single time-point during the first three months of the pandemic. Researchers may glean further insights from longitudinal studies that explore how older adults' experiences persist, shift over time, or revert to pre-pandemic conditions. Second, a number of factors limit the generalizability of our findings. We recruited older adults via a neighbourhood organization that was located in a predominately white neighbourhood (City of Vancouver, 2020a). While the racial composition of our sample is similar to older adults who live in that neighbourhood, our sample is less racially diverse than the City of Vancouver overall (City of Vancouver, 2020a). Thus, our results mostly reflect experiences of white, cis-gendered, apartment-dwelling older adults, with pre-existing neighbourhood social ties, some level of post-secondary education or higher, and who are currently socio-economically secure. Future research on social connectedness of older adults, might consider neighbourhood context in relation to older adults with more diverse characteristics (Gauthier et al., 2021; Joplin, 2015; Morgan et al., 2021). Capturing diversity is especially important as the COVID-19 pandemic exacerbated pre-existing inequities (Gauthier et al., 2021; Kantamneni, 2020). We have much to learn about the longer term impacts for older adults who face barriers to equitable social participation that place them at greater risk of social isolation and loneliness.

5. Conclusion

We extend previous research to illustrate the nuances of how interpersonal, place-based social relationships influence social connectedness for older adults during the pandemic. We position our work within widespread efforts to mitigate loneliness in cities—which has recently and rapidly progressed from an issue of concern to a public health crisis (Berg-Weger and Morley, 2020; Cacioppo et al., 2009; Holt-Lunstad, 2020; Holt-Lunstad et al., 2017; Lim et al., 2020). We adopted a socio-ecological research lens to comprehensively understand the multifaceted nature of social connectedness (Cacioppo and Patrick, 2008; Holt-Lunstad et al., 2017). Similar to pre-pandemic conditions, older adults with pre-existing social networks, socio-economic stability, who resided in an urban environment that facilitated social interactions, may have experienced loneliness, but were better protected against persistent loneliness. Informal networks, volunteering, and neighbourhood organizations supported older adults in vital ways. Neighbourhood access to pedestrian friendly infrastructure and spaces where apartment building residents could interact also mattered for social connectedness.

We call on city officials, neighbourhood organizations, and multi-unit housing managers to prioritize policies and programs that foster social connectedness among older adults who face multiple barriers to social participation. Older-adults most at-risk of social isolation and loneliness prior to the pandemic, are *most likely* to be negatively affected by the COVID-19 pandemic over the longer term (Bambra et al., 2020; Gauthier et al., 2021; Sharifi and Khavarian-Garmsir, 2020). Therefore, as pandemic restrictions lift, decision makers should ensure that recovery efforts recognize the diverse needs of older adults. This may include bolstering neighbourhood-based efforts to mobilize low-barrier access to in-person, telephone or Internet-based social-engagement opportunities for older adults who are historically, persistently, or currently marginalized on the basis of language, racialization, income, physical-ability, gender, or sexuality. Finally, we challenge the dominant portrayal of older adults as simply vulnerable (Finlay et al., 2021a). While participants indeed experienced isolation and loneliness during the pandemic, they were also resourceful, adaptable and contributed to their communities at-large.

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