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The public library as social infrastructure for older patrons: Exploring the implications of online library programming for older adults during COVID-19

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ABSTRACT

Public library systems' websites were often the sole means for older patrons to access library services and programming during the COVID-19 pandemic. This study integrated Pauwels' (2012) framework to analyze 25 Ontario public library systems' websites for evidence of their available programming for older adults during the early months of COVID-19. The 640 identified programs for older adults revealed a number of patterns, including issues regarding visibility and representation of older patrons on library websites as well as assumptions surrounding older adults' access to technologies. Discussions consider three implications for public libraries as they reopen and create new virtual spaces "postpandemic": questioning (re)distributions of resources that support both virtual and in-person services, questioning implicit assumptions that digital connection will foster social connection, and questioning the effects of the library as a virtual space on feelings of social connectedness.

1. Introduction

Older adults are estimated to spend 80% of their time at home (Oswald & Wahl, 2005), meaning their home and local communities are especially pivotal in their lives. Governments at all levels have embraced "aging in place" (AIP) policies and strategies to empower older adults to remain in their homes and communities as they age, instead of relocating to costly hospitals or long-term care facilities (Caro & Fitzgerald, 2016; Vasunilashorn, Steinman, Liebig, & Pynoos, 2012). In addition to fulfilling an economic imperative, AIP aligns with the preference of 85% of Canadian older adults who intend to remain in their homes to maintain their independence and remain strongly connected to their communities (Canadian Mortgage and Housing Association, 2015). Recent research, however, posits that an unintended consequence of AIP for some older persons may be increased risk for social isolation (Coyle & Dugan, 2012), which has only been exacerbated with physical distancing mandates introduced during the COVID-19 pandemic. AIP strategies may exacerbate social isolation unless adequate, accessible, and responsive social infrastructures are in place (Bigonnesse & Chaudhury, 2020; Vasara, 2015). With growing emphasis on AIP (Dalmer, 2019; Wiles, Leibing, Guberman, Reeve, & Allen, 2012) and

increasing decentralized health and wellness resources (Ward-Griffin & Marshall, 2003), public libraries' staff, spaces, materials, and programming are even more crucial for its older adult patrons.

COVID-19 has prompted a number of shifts in public library practices, with a majority of services and programming turning virtual as a means to adhere to public health mandates. Holding these two facts in hand, here the authors relay findings from the first of three studies in an interconnected study "Aging in Place with Public Libraries: Mobilizing Social Infrastructures for Social Inclusion". In this present study, the authors employ an environmental scan to document public libraries' shift to virtual programming for older patrons and discuss the implications of this shift. In doing so, the authors make use of and advocate for the utility of Pauwels' (2012) framework for analyzing public library websites as a means to make more and better use of the "many layers of potential meaning that reside in the multimodal nature of websites" (p. 259).

As older adults want and plan to age in place, connections to a community public library branch can help maintain a sense of identity, facilitating adjustments into older age (Lenstra, Oguz, Winberry, & Wilson, 2021; Wiles et al., 2012). Therefore, bringing attention to public libraries as key social infrastructures that engage with and support

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community-dwelling older adults is especially important given that when the impact of social infrastructures on older adults' sense of community and belonging are discussed, particularly in gerontological research, places such as senior centres, religious organizations, health clinics and shopping centres are included, with public libraries consistently excluded from such conversations.

2. Problem statement

Without a fulsome awareness of older adults' changing contexts, public libraries' strategies for engaging with older adults may inadvertently exacerbate feelings of social disconnection. To determine what these strategies might be, the authors intertwined two concepts in order to highlight how public libraries and older adults mutually shape and inform one another. First, community gerontology (Greenfield, Black, Buffel, & Yeh, 2019) is a recent framework that draws inspiration from environmental gerontology and promotes communities as fundamental contexts of aging. While a majority of social isolation-focused gerontological research has targeted either the macro-level (e.g., research on national housing policies) or micro-level (e.g., research on the meaning of isolation to individual older adults), community gerontology instead orients attention to the interconnections across these areas of research by specifically drawing attention to meso-level contexts and outcomes. In this case, the public library branch is considered as an integral meso-level context. Second, the authors draw on Zweig's (1973) observation that "probably the most persistent limitation of the prior studies is that the researchers have examined the user from the perspective of the library. In effect, they have looked at the user in the life of the library rather than the library in the life of the user" (p.15, emphasis in original). Wiegand (Wiegand, 1999, 2003, 2015), embracing Zweig's focus on and privileging of the user, helped to draw the library and information science (LIS) community's attention to its blind spots, information/library contexts, reiterating that "it might be more illuminating to focus on the library in the life of the user" (Wiegand, 2003, p. 372). This focus on the library user is especially crucial given the changing roles and functions public libraries are playing, as libraries are conceived as social infrastructures (physical places and organizations that shape communities' resilience and the way people act and interact, see Audunson et al., 2019; Mattern, 2014, 2021) as they take on (willingly or appropriately funded or not) increasing community and social connection roles as community centres, think tanks, hubs, makerspaces, and public squares.

Grounded in these two concepts, the problem statement is further refined by first asking what public library programming for older adults entailed during the first waves of COVID-19 and, second, considering the implications of a shift to virtual library programs for older library patrons over the COVID-19 pandemic. An exploration of the potential impact of these questions for public libraries as they begin to reopen "post-pandemic" is also included.

3. Literature review

3.1. Public library services for older adults

Libraries serve their older patrons in different ways, with marked inconsistencies among library systems in how they choose to deliver, label, and market their programming and services (Angell, 2009; Wynia Baluk, Griffin, & Gillett, 2021; Lenstra, Oguz, & Duvall, 2020; Perry, 2014; Piper, Palmer, & Xie, 2009). An environmental scan of programming for older adults of forty Canadian Urban Library Council (CULC) member library systems' websites, revealed that most library systems offered book clubs, writing groups, computer training, English as a Second Language resources and learning opportunities, knitting circles, author readings, informational sessions, and movie showings (Dalmer, Griffin, Wynia Baluk, & Gillett, 2020; Wynia Baluk et al., 2021). The content of programming specifically for older adults often

aligned with "traditional" categories of older adult library programming, with educational programming for older adults featuring biomedical topics, such as lectures and informational sessions on "dementia, fall prevention, advanced health care planning in later life" (Dalmer et al., 2020, p. 26). These topics align with past critiques of public libraries' narrow and reductionist engagement with older adults, where older age is equated with decline, frailty, and dependency: "the traditional framework underpinning public library services to older adults focuses primarily on older adults as: recreational readers, technology novices, vision impaired, hearing impaired, family history enthusiasts and housebound" (Joseph, 2009, p. 116).

Some library systems offer a diversity of specialized programming for the specific needs of older adult patrons (Lenstra et al., 2020), acknowledging the unique experiences of later life. A majority of research in this area, however, reveals that public libraries often do not offer specialized programming and services for older adult patrons in their community (Bennett-Kapusniak, 2013; Cavanagh & Robbins, 2012; Dalmer, 2017; Lenstra et al., 2020). Piper et al. (2009) uncovered a general lack of attention paid to the specialized needs of older adults among the Maryland library systems surveyed. This can be a deliberate move. Some library systems deliberately avoid labeling programming as specifically targeting older adults, due to the fear of alienating those who do not identify themselves as being older or to encourage inter-generational connection and to ensure age inclusivity (Wynia Baluk et al., 2021).

Where age or number labels are used, the literature reveals a multiplicity of terms used to define and describe older adults on library systems websites (Dalmer, 2017; Perry, 2014). While the use of chronological age as a categorizing tool in library programs may offer order and organization, determining what is or is not considered to be an "age appropriate" program can simultaneously create and exacerbate ageist stereotypes (Dalmer et al., 2020, p. 27). Perry (2014) illuminated that many older library patrons want to participate in programs with broader age targets and prefer not to be segregated into specialized older adult programs. There is some evidence to suggest that the availability of specialized older adult programs is less important to older library patrons than having a generally positive and friendly sense of place that the library offers (Piper et al., 2009). Despite a lack of specialized programming for older adults, many older patrons continue to express a general satisfaction and approval with their libraries (Piper et al., 2009).

A rapidly growing and changing older adult population presents both opportunities and challenge for public libraries as they responsively adjust their programming, services, materials, and spaces to maximize and emphasize feelings of social connectedness among this age group. Wynia Baluk et al. (2021) identified public libraries as community hubs that can help to create more age-inclusive and socially connected communities and societies. Public libraries engage with community partners, train staff to develop programming related to digital, health and financial literacy, and generate opportunities for intergenerational and social connection (Wynia Baluk et al., 2021). At the same time, however, literature also reveals the many ways public library systems must update their infrastructures to ensure their preparedness for an increasingly aging society (Wynia Baluk et al., 2021; Charbonneau, 2014; Dalmer, 2017; Lenstra et al., 2020). Dalmer (2017) uncovered a substantial lack of integration of older adult library patrons' feedback and suggestions for programming and services. Wynia Baluk et al. (2021) illuminated "limited space, budgets and staff" (p. 475) as marked challenges in creating programming for older adults.

Furthermore, in response to the expectation that many older adults may be less immersed in digital culture than younger library patrons, public library systems have begun to offer digital literacy programs for older adults (Wynia Baluk et al., 2021). This is a notable shift from earlier studies, where technology training programs in public libraries were not specifically created and intended for older adults (Bennett-Kapusniak, 2013). As has only been made that more visible throughout the COVID-19 pandemic, accessible and tailored digital training

programming for older adults can support socially isolated older adults in maintaining contact with family and friends, foster the formation of new connections, and facilitate access to support for age-related challenges (Seifert, Cotten, & Xie, 2021).

3.2. Libraries and social connection among older patrons

A 2012 report undertaken by the International Federation on Aging found that “the number one emerging issue facing seniors in Canada is keeping older people socially connected and active” (National Seniors Council, 2014, p. 1). Between 19 and 24% of older people in Canada experience some level of isolation, and over 30% of older Canadians are at risk of isolation (Keefe, Andrew, Fancy, & Hall, 2006; National Seniors Council, 2014; National Seniors Council, 2016). Social isolation occupies an increasingly important place in conversations surrounding aging in Canada, in part due to the COVID-19 pandemic that has exacerbated feelings of social isolation among older adults and in part due to its negative effects on older adults' physical and mental health and well-being, including premature mortality, depression, as well as increased risk for falls, cardiovascular disease, and dementia (Hawton et al., 2011; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). Social isolation among older adults can be a result of several factors, including physical changes (such as sickness, disability, or reduced mobility; Edelbrock, Buys, Creasey, & Broe, 2001), life course transitions (such as the loss of a spouse, retirement, or geographically distant family; Wenger & Burholt, 2004), and social and environmental factors (such as poverty, inadequate transportation, or inaccessible communication tools; Mackett & Thoreau, 2015). As prevalence rates of social isolation increase, it is likely that whole communities may experience negative effects, such as the weakening of social bonds across generations and social groups (Weldrick & Grenier, 2018).

There is an abundance of literature that explores the ways in which public libraries engage in the public sphere and encourage social inclusion and social connectedness among patrons (see, for example, Kerlake & Kinnell, 1998; Morgan et al., 2021; Scott, 2011; Sloan, 2009; Vårheim, Skare, & Lenstra, 2019). Public libraries serve a positive role as community meeting spaces where community-building can occur (Vårheim et al., 2019). Scholars have also noted the need for meeting spaces that facilitate and support social inclusion due to an increasingly fragmented wider society (Vårheim et al., 2019). This is especially crucial for older adults, as scholars have identified use of the public library as a key “third place” as they age (Dalmer et al., 2020), as access to the “second place” (the workplace) dwindles. This has been particularly relevant during the COVID-19 pandemic when barriers to social inclusion have been exacerbated and further entrenched.

Morgan et al. (2021) recently uncovered what matters to older people with regard to social connectedness: the importance of getting out of the home, the ability to connect with others, and wanting to avoid burdensome feelings. An essential aspect of social connectedness for older adults is the desire to be identified as “resourceful agents” who can create and foster relationships through mutual respect (Morgan et al., 2021, p. 1126). Social connectedness was understood by older adults to be a multi-leveled concept, encompassing quality interpersonal relations and a sense of belonging within the neighbourhood, community and larger society. Facilitators and barriers to social connectedness are critical to consider as social connectedness is fundamental to good health and social outcomes for older adults. Fittingly, reducing and mitigating isolation and promoting and facilitating socialization are identified as essential roles of the public library in supporting older adults, in addition to stimulation and bringing older adults together (Sloan, 2009).

There is increasing emphasis on the importance of enabling those who are marginalized or vulnerable and are therefore at greater risk of social exclusion to access a sense of connection via digital technologies (Vårheim et al., 2019). In response, public libraries are mitigating digital inequalities to increase individual participation in the public sphere,

thereby promoting social connectedness (Lenstra et al., 2021; Sloan, 2009; Vårheim et al., 2019). Given the importance of social connectedness for older adults during the COVID-19 pandemic due to physical distancing mandates, the unavailability of the physical library as a place to meet and gather, and older adults' overall decreased adoption of technologies, libraries have employed different approaches to engage and support older patrons. In a national study of public libraries in small and rural American communities, libraries promoted the social connectedness of older adults throughout the pandemic in five key ways: expanding virtual services and programming; serving homebound older adults, including material delivery services; organizing physically distanced programming such as intergenerational mentoring programs and other volunteer opportunities; reinforcing the libraries' role as a meeting space in both a virtual and in-person context; and finally, cross-promoting programs and services provided by other community organizations for older adults (Lenstra et al., 2021). Despite these approaches, only half of participants reported that their relationship had remained about the same as compared to before the pandemic (Lenstra et al., 2021). These decreased feelings of connectedness with the library are likely due, at least in part, to the barriers identified in this study: a need for better technology, increased library advocacy for digital inclusion among older adults, and more opportunities to receive ideas from library patrons (Lenstra et al., 2021). The present study expands on Lenstra et al.'s (2021) focus on small and rural public libraries in the United States of America by examining older adult programming offered in both rural and urban public libraries (and implications for feelings of social connectedness) throughout the Canadian province of Ontario.

4. Methods

To develop a comprehensive overview of the present state of public library programming for older adults in Ontario during COVID-19, an environmental scan of websites of public libraries in both urban and rural locales was conducted. Environmental scans of public libraries' websites have been previously used when examining public library programming for older adults (see, for example: Bennett-Kapusniak, 2013; Charbonneau, 2014; Dalmer, 2017; Dalmer et al., 2020). Unlike these previous website scans, however, this study took place during the COVID-19 pandemic and as such, an environmental scan of websites was specifically selected given that public library systems' websites were likely the primary interfaces through which patrons would experience and interact with their local library. In other words, unlike previous studies where the library website was but one of many points of entry to discover information about the library (availability of programs, etc.), in this study, an analysis of public library systems' websites is crucial given that libraries' websites were often the sole point of entry for patrons during much of the COVID-19 pandemic.

4.1. Framework

As a result of the library as place operating as a *virtual* place during the COVID-19 pandemic (thus magnifying the importance and impact of libraries' virtual presence), the authors further refined our environmental scan method drawing on Pauwels' (2012) six-phased framework for analyzing websites. Pauwels (2012) understands websites as “unique expressions of contemporary culture” (p. 247), that is, repositories that can reveal data about contemporary ways of doing and thinking, including norms and values, roles and expectations. The authors sought to integrate a more formal method as a means to guide the increasing use of web resources as a source (not only tool or means) of research and to suggest the utility of this framework for upcoming virtual environmental scans to move beyond the descriptive and make better use of the many “layers of potential meaning” that websites contain (Pauwels, 2012, p. 259). This framework comprises six steps, moving from broad-level data to increasingly interpretative analytic tasks: 1. Preservation of first impressions and reactions; 2. Inventory of salient features and topics; 3. In-

depth analysis of content and formal choices; 4. Embedded points of view or voice and implied audiences and purposes; 5. Analysis of information organization and spatial priming strategies; and 6. Contextual analysis, provenance and inference. As such, moving from collecting easily quantifiable data (taking inventory of programs) in step two and examining the language used to describe older adult patrons in step three, to progressively more interpretative analyses in steps four and five as the intended audiences and the implications of the websites' structure and navigational options and constraints were considered and analyzed, to uncovering the intended and unintended meanings embedded in the websites' content, features, and organization in step six.

4.2. Data selection

The province of Ontario was selected given that it is the most populous province in Canada and contains a wide variety of highly dense metropolitan cities as well as remote and rural settings. The authors utilized the Federation of Ontario Public Libraries' (FOPL) Data Report (2018), which provides a grouping of public libraries by resident population size, to ensure an equitable selection of library systems to analyze from a range of population grades. For the purpose of analysis, the authors drew upon the FOPL groupings to identify five resident population bands: Resident Population Greater than 250,000; Resident Population Greater than 100,000 and Fewer than 250,000; Resident Population Greater than 30,000 and Fewer than 100,000; Resident population Greater than 5000 and Fewer than 30,000; and finally, Resident Population Fewer than 5000. A manageable number of five library systems from each population band were selected. Convenience sampling was utilized when possible to identify library systems for analysis based upon the principal author's established relationship with library staff given that future studies in this larger project will include interviews with library staff and library patrons to achieve a fulsome examination of public library services for older adults. If there was no preexisting relationship with library staff, the authors utilized purposive sampling to identify and select library systems with active websites. There was notable difficulty in identifying libraries within the smaller resident population bands that had active, searchable websites. As a result, the representative sample included in this study comprised a total of 25 library websites, which serve populations ranging from fewer than 5000 to greater than 250,000 in both urban and rural areas throughout Ontario.

4.3. Data collection and analysis

The 25 library websites were searched for their available older adult programs, with data collection and analysis largely occurring in tandem. Our data collection and analysis was shaped by the ways in which previous environmental scans (e.g. Bennett-Kapusniak, 2013; Charbonneau, 2014; Dalmer, 2017; Dalmer et al., 2020) collected, categorized, and organized their identified older adult public library programs. Accordingly, older adult programming was identified through the "Events", "Calendar" and/or "Programs" pages of the library websites. Programs for older adults offered within the four-month timeframe of January 1, 2021 through May 31, 2021 were included in the environmental scan. The scan incorporated all programs open to older adults (adult programs, intergenerational programs, and older-adult-specific programs). The inclusion of all programs which older adults could attend allows for a fulsome picture of programming available to older adults in Ontario. The programs were organized in a table that included: a description of the program, the frequency of program, the time(s) the program was offered, what age(s) the program was advertised for, and program delivery platform. In total, 640 programs were documented across the 25 public library systems.

To enhance this environmental scan, in keeping with Pauwels' (2012) approach, to ensure that as many layers were uncovered as possible, our analysis necessitated that the authors consider the website

as a whole. Therefore, in addition to the information gathered as outlined above, our analysis was attuned to the ways in which older adults were (or were not) represented on each public library system's website, documenting where programs were located on the website, the language that was used to describe and categorize different age groups, and the ease with which these programs were retrievable. To privilege the library in the life of the user, the authors documented the number of clicks required to find and view programming for older adults; whether programming for older adults was visible on the main page; whether programming for children and teens was visible on the main page; and finally, if there were opportunities for library patrons to suggest programming. Lastly, in keeping with the tenets of community gerontology and in considering the role of the public library as an integral meso-level context, the authors documented whether there was available outreach information for older adults on each website and whether any community partners were listed as collaborators with the different older adult programs.

5. Findings

In examining the 25 Ontario rural and urban library systems' websites included in the environmental scan, patterns emerged with regards to library programming content, the visibility and representation of older patrons on the libraries' website, and accessibility issues linked to technological access.

5.1. Programming

The environmental scan of 25 library systems within five different resident population bands from both rural and urban locales documented a total of 640 programs open to older adults. These included adult programs, specialized older adult programs and intergenerational or all-ages programs. There was not a great divergence in the total number of programs offered across resident population categories. With the exception of the smallest resident population band with 51 programs for older adults, the other bands offered a similar number of programs (ranging between 120 and 180) despite their highly disparate population sizes. Furthermore, the survey revealed that a larger resident population did not equate to more programs for older adults. Table 1 documents that in fact the second largest population band (Resident Population Greater than 100,000 and Fewer than 250,000) offered the largest number of programs for older adults; and further, that the largest resident population band (Resident Population Greater than 250,000) offered only four more programs for older adults than the second smallest population band (Resident Population Greater than 5000 and Fewer than 30,000).

The most common program types documented across the five resident population bands were Reading & Writing Clubs (118 total programs), Digital Literacy & Technology Training (82 total programs), and Author Talks and Lectures (53 total programs). In most library systems, their most frequently offered program type was Reading & Writing Clubs. This is the case in all resident population bands except one (Resident Population Greater than 5000 and Fewer than 30,000), in which the library systems that make up this band appeared to prioritize Digital Literacy & Technology Training, offering almost five times as many of Technology based programs (53) than Reading & Writing Clubs (11). Across resident population bands there existed similarities in the number of programs offered in the realm of Environmental Science & Gardening (48), Health & Wellness (46), and Arts, Culture, Entertainment & Performance (45).

Table 2 documents the number of each type of program offered by resident population bands, illuminating the general trends as well as slight differences among resident population bands. These findings suggest that the library systems that make up the different resident population bands have particular areas of focus, possibly driven by the needs of their library patrons, by the expertise of library staff, or the

Table 1
Number of programs.

	Resident population greater than 250,000	Resident population greater than 100,000 and less than 250,000	Resident population greater than 30,000 and less than 100,000	Resident population greater than 5000 and less than 30,000	Resident population less than 5000	Total
Number of Programs	148	180	117	144	51	640

Table 2
Program types.

Program type	Resident population greater than 250,000	Resident population greater than 100,000 and less than 250,000	Resident population greater than 30,000 and less than 100,000	Resident population greater than 5000 and less than 30,000	Resident population less than 5000	Total
Book, Writing & Podcast Clubs	40	37	20	11	10	118
Digital Literacy & Technology Training	19	7	1	53	2	82
Author Talks & Lectures	10	19	6	10	8	53
Environmental Science & Gardening	7	19	5	8	9	48
Health & Wellness	4	14	14	11	3	46
Arts, Culture, Entertainment & Performance	14	16	4	11		45
Arts, Crafts & Hobbies	8	7	8	8	3	34
Games	4	7	9	3	7	30
Language Learning	12	2	8	3		25
Take & Make	1	6	5	6	4	22
Employment Help	3	7	11			21
Genealogy, Family & Local History	2	8	3	6		19
Personal Finance	6	4	1	2		13
Special Event		8		1	2	11
Lifestyle & Education	3		5		2	10
Family	6	2		2		10
Legal & Law	2	3	3	1		9
Conversation	1	2	3	1	1	8
Baking & Cooking		4	1	3		8
Small Business	2		5			7
Science		3	1	3		7
LGBTQ+ Programs		3	3			6
Tax Clinics	2	1		1		4
Newcomer	2	1	1			4

relevance of subject matter to the area in which the library system is situated. The survey revealed that older adult library patrons have variable opportunities to suggest programs. Four of the five library systems within the largest band (Resident Population Greater than 250,000) and four of the five library systems within the second smallest band (Resident Population Greater than 5000 and Fewer than 30,000) offered opportunities to suggest programming. Only one library system in the second largest resident population band (Resident Population Greater than 100,000 and Fewer than 250,000) invited program suggestions. These findings indicate that population size does not correlate to opportunities to suggest programming. Therefore, resident population categories with more opportunities to suggest programming may be more reflective of the wants and needs of older adult patrons.

The environmental scan additionally revealed a number of ways in which community partners help bolster and/or facilitate library programming for older adults. All but two library systems identified programming targeted to all ages, adults or older adults that were offered in collaboration with community partners and organizations. During the pandemic, public libraries across the five resident population bands drew on meso-level connections with various community partners in order to offer a variety of virtual programming; and thus, to continue to engage older adult community members and library users. Community partners commonly collaborated on programming in areas such as Arts, Culture and Entertainment; Health and Wellness; Legal, Law and Personal Finance; and Education. Libraries in Ontario partnered with

organizations including local branches of the Alzheimer's Society, cultural centres, museums, and universities. As such, the library performed a unique role as a point of entry and platform for greater virtual community connections during a time in which individuals were physically distanced or isolated from their larger communities. Only eight of the 25 library systems, however, included landing pages with outreach information and other resources specifically for older adults. Moving forward, it will be important for library systems to ensure that their websites offer older adults visible and accessible links to connect them with or make them aware of other community organizations' physical and virtual spaces.

5.2. *Visibility and representation*

The survey of each of the 25 library systems' available programming for older adults revealed considerable difficulty in navigating their websites to find programming for older adults. There was a marked contrast between the visibility of programming for older adult patrons and programming for children and teens. Representation of different age groups was not equitable. Of the 25 websites surveyed, 20 had visible and available information on programming for children and teens on the main page. Conversely, only eight had locatable tabs or landing pages for customized programs, resources or services for older adults. Children and teens were most frequently the only available age cohort that had easily locatable tabs or landing pages with age-specific programs and

services (20 out of 25 library systems). Fourteen of the 25 library systems' websites lacked a designated population group or age filter for older adults. In contrast, younger age cohorts were most often divided into multiple age groupings and provided with their own customized age filter for program-searching purposes, such as baby, toddler, children and teens. In many instances, the general and seemingly all-encompassing term 'adult' was the only available population category to encompass any and all library patrons aged 18 and older (14 out of 25 library systems). Furthermore, across the 640 programs surveyed, only six programs had "senior" in the program title. Where references to older adults were found, the scan revealed that public library systems used a variety of terms to describe older adults. There was little consistency both within and across resident population bands in terms of nomenclature employed to identify and define older adults. Library systems' websites variously utilized the terms "older adult", "senior", "55 years and up" and "65 years and up".

5.3. Accessibility

During COVID-19, library systems across Ontario had to make the shift to a virtual delivery of their programming. Across the 25 library systems, there was a diversity of online delivery platforms used to facilitate programming for older adults. Between one and five different online platforms were used within the same library system. Twelve percent (three out of 25) of library systems utilized only one virtual delivery platform. The most commonly used virtual platforms were Zoom, YouTube, and Facebook. Less frequently used delivery platforms included Webex, Kahoot, Microsoft Teams, and Crowdcast.

The COVID-19 pandemic has demonstrated that access to and an understanding of how to use online resources and services is vital in maintaining feelings of social connectedness. Accordingly, the significant digital divide that exists for older adults in Ontario may have resulted in diminished access to library programs offered in this new virtual format during COVID-19. Whether due to a lack of digital literacy, training or familiarity with these virtual platforms or lack of access to the required technology, older age is the most significant predictive factor to not using the internet, particularly for older adults aged 75 and over and those who live alone (Stone, 2021). Importantly, in an attempt to mitigate this substantial risk, 15 library systems across the 25 library systems commonly offered Digital Literacy and Technology Training programs. Such programs were the second most commonly offered program type following Book Clubs. Unfortunately, a prerequisite for taking part in such digital and technology training is access to a technological device compatible with such virtual platforms. As two examples of positive deviance (Herington & van de Fliert, 2018), where libraries' helpful behavior was a departure from the norm of other libraries' surveyed, for those older adults who do not have access to the technology required to access these programs, four of the 25 library systems surveyed included phone-in programs, whereby library patrons could connect via landline or cell phone. Another two library systems offered technology lending services specifically for older adults expressly enacted during the pandemic to reduce older adults' social isolation and increase access to library programming.

6. Discussion

The overarching findings of the analysis of the 25 public library websites and the included 640 programs echo findings in previously published environmental scans of public library websites (Bennett-Kapusniak, 2013; Charbonneau, 2014; Dalmer, 2017; Dalmer et al., 2020). Despite calls for change in each of the above articles, accessibility issues and locating library programs or information tailored for older patrons continues to be difficult across a majority of public library websites and there remains an imbalance of programs across age groups, with more programs and more website space dedicated to younger age groups. That said, encouragingly, and perhaps in recognition of the

growing diversity of the older adult population, there appears to be a growing variety of library programs to which older adults could connect and participate in virtually. And so, while findings in this study generally mirror previously illuminated findings, the novelty and value in this study lie in its articulation of the implications of these findings in light of libraries' slow, "post-pandemic" reopening. Public libraries are having to thoughtfully consider and decide what the future may hold for their services, programs, and spaces. The implications of these decisions will certainly come to bear on older patrons' sense of social connectedness in their communities and with their local public library branches.

Needless to say, the transformation that digital technologies has brought to bear on institutions, cities, relationships, activities and the ways that individuals access, store, and distribute information preceded the COVID-19 pandemic. And so while unsurprising, the most striking shift in the analyzed older adult programming, as compared to the results of previous environmental scans, was the move to deliver all programming virtually. The implications of this shift necessitate conversation and consideration for a myriad of complex, intertwined factors, though here the authors focus on three reasons that extend well beyond the current pandemic and that can impact the future of public library practices with older patrons.

6.1. Questioning (re)distributions of resources that support both virtual and in-person services

First, while previous work has examined the changing understandings of libraries' services and spaces, grappling with the implications of a public library that is simultaneously physically closed and virtually open during COVID-19 (Dalmer & Griffin, 2022), new questions are now arising as public libraries are in the process of reopening and are (re)evaluating how to move forward and where to (re)allocate, distribute, dedicate resources. These decisions are unavoidably taking into account the shift to digital (for programs, services, collection, etc.) that was prevalent, and was indeed the norm, throughout the pandemic. For example, Anthony Marx, president of the New York Public Library, wrote in an op-ed for the *New York Times*, that central to his agenda for the post-pandemic library was investing in "digital and virtual technologies and expertise" (Marx, 2020). Notably, such statements that positively position technologies harken to the technological optimism that underpins the AgeTech industry, where digital technologies are poised as "solutions" for the many supposed "problems" that a rapidly aging population pose (Neven & Peine, 2017).

These decisions to invest in digital technologies are shaped not only by the shift to the virtual during the pandemic. As Leorke, Wyatt, and McQuire (2018) have articulated, libraries' integration of technological devices, hubs, and centres is the result of 'libraries' entanglement with the digital visions for their cities' (p. 37), that is, a broader shift to the post-industrial economy, where libraries are positioned and compelled to support entrepreneurship, innovation, and digital literacy. Such shifts, however, can be problematic if we consider the libraries' capacity for supporting social inclusion, as the technologized vision of the smart city (including the public library) may be at odds with the public role and public service space public libraries play (Greene, 2016). As the library's sociotechnical infrastructures will and perhaps must remain, as one way to judiciously move forward, the authors offer Mattern's (2021) suggestion that the library might offer an "otherworld, a space of exception to the commercially and carceral networked city, a city that, today, watches and tracks and scores and sorts, and metes out reward and punishment inequitably. We could develop useful, productive knowledge and equip ourselves to live critically and consciously among the automated digital systems, while also leaving room for slow and inefficient ideas, for the 'unexpected, the irrelevant, the odd and the unexplainable'" (p. 104, emphasis in original). This notion of an otherworld is a way forward for libraries post-pandemic, that simultaneously accommodates multiple publics, multiple abilities, and multiple interests.

6.2. Questioning implicit assumptions that digital connection will foster social connection

Second, in looking at the library programs included for analysis in this study, a worrying assumption underlying the programs emerged. There appears to be an implicit understanding that digital connection will organically lead to or encourage social connection. Not only does this equation overlook Wyatt, Mcquire, and Butt (2018) assertion that “an enhanced public culture will not flow automatically from the mere availability of new technologies” (p. 2936), but it similarly overlooks the impact of digital exclusion on library patrons, including older adults. This is especially troublesome as those who are digitally excluded (more likely to be older adults) can be more vulnerable to social exclusion. This warrants consideration should libraries choose to continue to hold some library programs online, as libraries' ability to foster social inclusion is made that much more difficult if digital exclusion exists.

Public libraries' virtual space was the primary medium through which informational and social functions occurred during COVID-19, and while necessary, exacerbated feelings of social exclusion among those unable to access or use technological infrastructures and devices. Such digital inequalities replicate and exacerbate other socioeconomic inequalities. There are alarming correlations between digital disengagement and age; older age remains the strongest single predictor of (decreased) internet access and use (Stone, 2021). As compared to younger people, older adults are less likely to adopt digital technologies and are more likely to stop using digital technologies with age, often due to feelings of exclusion, stigmatization, or feeling seen as incompetent with technologies (Betts, Hill, & Gardner, 2019). A number of recent studies are highlighting the double exclusion that older adults have had to contend with throughout COVID-19, simultaneously navigating digital *and* social exclusion, both separately and together negatively impacting on their quality of life (Seifert et al., 2021; Weil, Kamber, Glazebrook, Giorgi, & Ziegler, 2021; Xie et al., 2020). However, the age-based digital divide (sometimes labeled as the ‘grey divide’ to highlight the impact of age on digital exclusion) must be more complexly understood. Age intertwines with other factors, such as disability, health status, educational attainment, immigration, rural residence, and income (Neves, Waycott, & Malta, 2018) to create differing degrees of digital exclusion. Key, then, as libraries choose what to keep or move on or offline for older patrons, is an understanding that despite prevailing assumptions that surround technophobia in later life, older adults can be willing and indeed are keen to learn to use new technologies and acknowledge the benefits of technologies for social connectedness (Betts et al., 2019; Neves, Franz, Judges, Beermann, & Baecker, 2019). Moving forward, libraries need to carefully consider the intimate relationship between digital exclusion and social isolation when considering whether to keep or move services, programs or collections online. Furthermore, in considering the grey divide, library staff must remember that chronological age is but one factor that *may* impact access and understanding; technological, personal, generational, and social contexts interact and each must be considered. A careful balance is therefore needed, being attuned to the impact of age on digital inclusion/exclusion (and, consequently, the linked social inclusion/exclusion) yet being mindful and careful of not drawing any assumptions about technology use and/or knowledge. Ultimately, further conversations with libraries' older patrons and community members are needed as to how to most responsively deliver socially inclusive programs and whether to deliver these programs in person or online.

6.3. Questioning the effects of the library as a virtual space on feelings of social connectedness

As Mickiewicz (2016, p. 239) observed, “libraries are no longer ‘just libraries’, but a hybrid of different specializations and services that have come together to create a new public space.” This certainly holds true as libraries have pivoted and shifted throughout the COVID-19 pandemic.

And so third, and finally, where libraries choose to hold their programs, services, and collections (whether online, in-person or a hybrid combination thereof) will carry significant implications for understandings of the library as place for older adults who are aging in place. Previous research (e.g. Dalmer et al., 2020; Mersand, Gasco-Hernandez, Udoh, & Gil-Garcia, 2019) has examined the importance of the physical library as a “third place” for older adults for establishing feelings of a sense of place and identity, particularly for older adults who may no longer have access to the “second place” (typically their work). Morgan et al.'s (2021) conversations with older adults underscored the importance of getting out of the home in their local community as a key way for participants to feel socially connected; “‘being out’ was seen as related to attaining social recognition and as well as maintaining a connection beyond their ‘four walls’” (p. 8). How older adults conceive of the library if library programs are held virtually remains to be captured and understood, particularly how the move to the virtual impacts their sense of social inclusion in their local neighbourhoods. A question, then, for LIS scholars and practitioners is how to move forward in creating bricolages of physical *and* virtual spaces that are accessible, welcoming, and that provide a sense of social connection that, for older adults, might be typically ascribed to physical spaces?

7. Conclusion

The implications of this environmental scan signal that technologized visions of the public library, which have been hastened with the COVID-19 pandemic, have the potential to exacerbate feelings of social disconnection among older patrons. This is especially so if digital connection is conflated with social connection in older adult library programming. As public libraries carefully consider the technological continuum (from in-person programs to entirely virtual programs and the range of options in between) along which to offer programming for older patrons who may have navigated digital *and* social exclusion throughout the pandemic, of importance is to hold space for and support those individuals who choose to opt out of participating virtually, whether due to desire, ability, access, etc.

Finally, the results of this environmental scan echo past scans' findings, suggesting a stagnancy in public library scholarship and practice surrounding later life. Future studies may wish to provide context to these findings by additionally analyzing public library systems' policies regarding programming development and/or their website development mandates.

To continue to bring attention to the role of public libraries as key social infrastructures and to more deeply examine the library in the life of the user (and to respond to critiques in LIS scholarship that researchers often fail to engage with older adults), a second phase of this larger study underway includes speaking with over 50 older adults in the province of Ontario about their engagement and feelings of connectedness (or exclusion) with their local public library throughout the COVID-19 pandemic.

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