Unexplored territory: information behaviour in the fourth age

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Abstract

Introduction. World population is ageing at unprecedented rate. Little is known about the information behaviour of persons in the fourth age (also known as ill-derly or disability zone), most of whom are very old. The study explored the everyday life information needs of these people, the sources and processes they used to meet those needs, and their continuing ability to use computers and the Internet for meeting those information needs.

Method. Employing an interpretivist/constructivist worldview, this two-year, largely qualitative study employed semi-structured interviews and observation to study the information behaviour of 25 participants residing at two independent-living retirement communities.

Analysis. Interviews were taped and transcribed; observation notes were taken and transcribed. The interview transcripts and observation notes were analysed for themes and categories.

Results. The major information needs were: the health and wellness of themselves and their families and friends, pharmaceuticals, personal income and finance, assistive devices, safe mental challenges, legal matters, consumer goods, and benefits and services. Information sources included: caregivers, intimate social networks, wider social networks, mass media, small world sources, and outside professional and institutional sources. Proxy information seekers became increasingly important.

Conclusions. Information needs, sources and processes inevitably decline as individuals proceed through the fourth age. However, by providing opportunities to engage in favoured activities and offering outside support, that decline can often be slowed or even temporarily reversed.

Introduction

While society's attention has focused on the positive lifestyles of healthy older adults, the needs of the truly senescent remain underexplored. As explained below, this population may now be identified by specific, measurable losses in bio-cultural abilities and are said to be members of the fourth age. This paper reports on a two-year field investigation into the information behaviour of such individuals living in two independent living retirement communities. This introduction includes a discussion of the study's significance and the research questions. The literature review, research design and methods, and findings follow. The conclusion discusses what might be done to enhance the information behaviour of people in the fourth age.

Calendar age versus fourth age

While the World Health Organization acknowledges calendar age is the generally accepted definition of old, it cautions that this 'assumes equivalence with biological age, yet... these two are not necessarily synonymous' (World Health Organization, 2007). Ergo, studies employing only calendar age risk having a sample that includes what Moody (2005) termed both the well-derly and the ill-derly. Attempting to address this problem, some researchers (e.g., Turock, 1982) subdivided old age into the young aged (ages 65-74), the old-old (75-84), and the very old (85 and older). This last group has been characterized as having considerable age-related decline in function, high rates of morbidity, dementia and frailty, and to be high consumers of formal and informal care (Andrews, Clark and Davis 2006, p. 319). That might lead one to conclude that the very old are the ill-derly. However, research studies do not support this convenient explanation. For example, Suzman, Harris, Hadley, Kovar and Weindruch (1992) found that over half of their very old participants reported no significant physical disabilities and indicated they were able to go about their daily activities without personal assistance.
Consequently, Laslett (1991) proposed the four ages classification system. This was accomplished by adding a new age, retirement, to the traditional three ages of life: youth, adulthood, retirement and old age. Thus, old age became known as the fourth age and most important was subsequently defined by specific, measurable bio-cultural losses. Adapting Baltes and Smith (2003), membership in the fourth age is defined here as three or more losses critical to information behaviour: vision, hearing, strength, functional capacity, cognition, and illness.

**Significance of study**

The world is experiencing an ageing paradigm shift. By 2050, 30% or more of the populations of Australia, Canada, China, Japan, Western Europe, and the continental United States will be aged 65 and older. The elderly populations of Russia, most of South and Central America will exceed 22.5 per cent, while the elderly populations of Northern Africa and Eastern Europe will range between 15 and 22 per cent (Kaneda, 2006). This unprecedented population shift 'may actually do more to reshape our collective future' than any other global challenge in this century (Peterson, 1999, p. 42). Despite this pending crisis, most nations 'remain significantly more knowledgeable about (and interested in) issues associated with children than they are about population aging as an unfolding and complex twenty-first century reality' (Takamura, 2007, p. 545). Certainly there has been little emphasis on older adults in information science (Asla, Williamson and Mills, 2006; Williamson and Asla, 2009; Williamson and Asla, 2010; Julien, Pecoskie and Reed, 2011).

**Research questions**

As noted earlier, this study investigated the roles that information and technology played in the daily lives of retirement community residents who were in the fourth age. The research questions relevant to this paper are:

1. What were the everyday life information needs of people in the fourth age?
2. What sources did they use to meet those needs and what processes were involved?
3. Were they willing-and able-to use computers and the Internet for meeting those information needs?

The last question was a matter of particular interest. Today, more and more information is only available online. Despite rosy reports, there is good reason to doubt the ability of older adults to maintain existing technology skills, let alone master new ones (e.g., Dickinson and Gregor, 2006).

**Literature review**

The literature appropriate to this study drew heavily from gerontology as well as from library and information science. The latter has always been highly interdisciplinary (Prebor, 2013) and the need for interdisciplinary studies continues (as advocated, e.g., by Julien et al., 2011). The focus here is on the information behaviour literature.

**Information behaviour research**

Earlier information behaviour research that was useful in shaping the thinking for the study included Dervin's (1983) Sense-making Methodology, Savolainen's (1995) everyday life information seeking, McKenzie's (2003) proxy information seeking, Pettigrew's (1999) information grounds, and affective information (e.g., Nahl, 2005a, 2005b).

Dervin's (1983) methodology was based on the view that information is largely personally constructed and that the resulting personal reality is fluid, subject to change due to time and circumstances, and differs from person to person. This supports the argument that human information behaviour may differ not only from person-to-person, but also throughout the successive ages of life.

Savolainen's (1995) research was particularly relevant because he studied everyday life information. His work dovetails nicely with Chatman's (1991, 1992) study of the information behaviour in a retirement community and her subsequent 'small world' theory (Chatman, 1996).

McKenzie's (2003) concept of proxy information seeking referred to 'making contact with or interacting with information sources through the initiative of another agent' (p. 27). It seemed highly likely that increasingly frail and cloistered participants might call upon others to seek information on their behalf.

The concept of an information ground has been defined by Karen Fisher (n&ecute;e Pettigrew) as an 'environment temporarily created by the behavior of people who have come together to perform a given task, but from which emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information' (Pettigrew, 1999, p. 811). So, for example, residents waiting in a retirement community's lobby until the dining room opened for dinner might share information with one another.

Emotion has long figured in information behaviour theories and models (e.g., Nahl, 2005a, 2005b). However, the role of affect in relation to information behaviour in the fourth age had yet to be explored. There is significant evidence in the gerontological literature that positive emotions are central to ageing well, e.g., Mather and Carstensen (2005). Ketelaar and Tung Au (2003) went so far as to propose an affect-as-information model, suggesting older adults shape their social strategies to help insure positive emotional outcomes.

**Information behaviour studies on ageing**

Less than one percent of information behaviour research published from 1990 to 1998 listed ageing as a subject topic (Julien and Duggan, 2000). Nearly all of those (e.g., Niemelä, Huotari and Kortelainen, 2012) used calendar age to define old, rendering their findings suspect. Despite sharing that flaw, the work of Chatman (1991, 1992), Williamson (1995, 1997, 1998), and Wicks (1999, 2004) were of immense value because of their subject matters.

Chatman (1991, 1992) was a two-year ethnographic study of 55 single older women (average age 82) living in a retirement community. Chatman (1992, pp. 125-126) identified three levels of information and related information sources. First-level information, which she
called 'chit chat', was freely shared with all. The most common information sources were mass media. Residents turned to family members for second-level information (e.g., personal finances) as discussing such information with other residents might result in a loss of face or social position. Third-level information-secret information was only shared with professionals (e.g., physicians) who had to respect confidentiality. Chatman (1996) subsequently defined such a closed society as a small world within which 'mutual opinions and concerns are reflected by its members... In its truest form, a small world is a community of like-minded individuals who share co-ownership of social reality' (p. 213).

Williamson's (1995, 1997, 1998) study examined the information needs and sources of 202 older adults whom she classified into three age groups just as Turock (1982) had done earlier. Her findings regarding the very old were valuable to the present study as many members of this calendar age group are likely to be in, or nearing, the fourth age. A key finding was that, 'on average, the very old needed significantly fewer information topics than the old-old who, in turn, needed significantly fewer topics than the young aged' (Williamson 1995, p. 251). Key information topics were health, income and finance, recreation, government, and pharmaceuticals, though there were others that were needed less often, such as legal and consumer information. There was a difference in source use according to age: the very old used significantly fewer sources than the old-old who, in turn, used significantly fewer sources than the young aged. In addition 'the oldest two groups set particular store by professionals for meeting key information needs ... [and] appeared to be more reliant on family members and, to a lesser extent, on friends; than they were on other information sources' (p. 253). Key professionals were in the medical field, particularly. Williamson found friends were not a key information source for some of the very old, because they were increasingly isolated due to failing health and were losing friends through death or other circumstances. Sometimes they appeared to be unable to sustain the effort needed to maintain friendships.

Wicks (1999) interviewed 15 participants, aged 57 to 95, at two retirement communities and concluded that informal, interpersonal sources were preferred, including family members and persons in position of authority or with expert knowledge (Wicks, 1999). Referring to his 1999 study, Wicks (2004) noted staff and family members were often used as proxy information seekers, although he did not use that term, per se. Wicks (1999) also concluded that role identity was not a significant factor in the lives of his participants.

Computers and the Internet

After reviewing the literature, Dickinson and Gregor (2006, p. 744) found that 'technology is frequently presented as a panacea for the support needs of the ageing population' but that research did not support that conclusion. Research shortcomings included 'failure to distinguish between the effects of training/support and computer use; misattributing causality; [and] inappropriately generalizing results from a different population' (p. 744). Likewise, Lenhart (2003) identified a number of factors that inhibited older adults' use of technology including a negative outlook on life, a sense of having no control over their lives, and lack of interest (p. 4). Socio-economic factors and race now appear to be less of an issue than originally thought (e.g., Fox, 2004) with little effect on adoption or use (Zickuhr and Smith, 2012). Rather, physical, cognitive and sensory losses are the major factors for not using the Internet (e.g., Stark-Wrobleski, Edelbaum and Ryan, 2007). Wales (2004, p. 41) summed it up best, noting that older adults' use of the Internet was 'a person issue before a technology issue'.

Research design and methods

As stated earlier, an interpretivist and constructivist framework was adopted for this study. As such, it emphasised the meanings of participants and was conducted in their own environments. Reality was considered to be both personally constructed (e.g., Kelly, 1955) and socially constructed (e.g., Berger and Luckmann, 1967). On the one hand, the most distinguishing personal factor of the fourth age was participants' diminishing abilities to seek and process the information needed to maintain their personal realities. On the other hand, because participants were cloistered in a retirement community, there tended to be peer-enforced social constructed reality, in keeping with Chatman's (1996) concept of a small world. Yet, personal construct theory was relevant to the study because of the importance this framework attaches to human emotions or, in our terms, affective information. In the social constructivist approach, the emphasis is on shared understandings, practices, language, and such (Schwandt, 2000), meaning that personal affect is not a consideration.

Field site selection

Both retirement communities, Plaza Towers and The Midlands (not their real names), served some 150 residents and were designed specifically to address the needs of older adults capable of living independently. They offered such amenities as computer centres, fitness rooms, libraries, game rooms, art rooms, lounges, meeting rooms, conversation areas, and large multi-purpose halls. Both provided support services such as housekeeping, maintenance, dining, fitness classes, security, and home nursing. They differed primarily in that The Midlands' residents were affluent whites while Plaza Towers served low-income blacks. Consequently, The Midlands employed professional staff to manage its programmes and activities, whereas Plaza Towers had to rely on volunteers when they could be found.

The sample

Participants were selected using a variant of purposive sampling known as criterion sampling. The first of three criteria was that participants reside at one of the two field sites. The second, that participants should be in the fourth age, proved problematic as the US Healthcare Information Portability and Accountability Act of 1996 protects personal health information. However, the losses defining the fourth age (discussed above) mirror losses that make older adults surrender their car keys (e.g., Lyman, McGwin and Sims, 2001). As management could help with that information, driving cessation was used to identify prospective participants. To test the validity of this assumption, two outliers who still drove daily were included, speculating that they would prove to be in the third age. As a goal was to study participants' ability to use information technology, the third criterion was that one-half of the sample use, or have recently used, technology issue

Table: Spectrum of participants at time of interviews

http://www.informationr.net/ir/20-1/isic32.html#.WdbNwFuCxEa
Data collection

Data collection was primarily qualitative, consisting of interviews and observation. There was one quantitative instrument, the Life Satisfaction Index-A. Additionally, the retirement communities’ in-house communications were reviewed. The advantage of using multiple approaches to data collection, as well as two interview sites, was the opportunities this offered for triangulation of the data. This helped to enhance the trustworthiness of the research, as described in the literature (e.g., Denzin and Lincoln, 1998). Each hour-long interview began with a review of the ethics materials. Next, the Life Satisfaction Index-A was administered orally; 18 questions designed to elicit the participant’s sense of ageing successfully. This instrument has proven to be reliable, regardless of sample size, age or gender (Wallace and Wheeler, 2002). Of particular interest were questions related to making plans for the future, as this would suggest a need for information. Next, background information was collected through a semi-structured series of 25 life history questions, arranged chronologically and designed to gather information behaviour-related data as well as basic demographics (quantitative questions mostly). The semi-structured information behaviour portion of the interview-consisting of six questions concerned with information needs, sources and processes-followed. It was often possible to build on remarks, observations and incidents from the backgrounder interview. Given participants’ diminished cognitive and physical abilities, it seemed likely the interview data would be less rich than one might find with younger populations. Therefore, extensive observation data were crucial. The participants at the Midlands were observed throughout the two-year study by the researcher who also became involved in daily life at Plaza Towers. At both retirement communities, he had the opportunity to obtain key insider information and to validate interview data through observations (Roper and Shapira, 2000, p. 18).

Data Analysis

The interviews were recorded with the permission of the interviewees and the audio-recordings were transcribed either by the researcher or a trained transcript typist. Although the research method was not grounded theory in itself, the analysis was influenced by the constructivist grounded theory approach of Charmaz (2003). Constructivist grounded theory recognizes that, despite all efforts by researchers to present the views of participants, “the viewer creates the data and ensuing analysis through interaction with the viewed” (p. 273) and therefore the data do not provide a window on an objective reality. The analysis involved initially identifying categories and sub-categories (codes) from the interview data and then the merging of these into key themes (Morse, 2008). Quotations from the interviews that illustrated the themes were recorded; resulting in the construction of a voice sheet on each theme, so named because the quotations represent the voices of the participants. As each voice sheet was completed, an overview or summary of the data in that voice sheet was constructed. The themes with illustrative quotes informed the findings, which are presented below. The journal of observations was also analysed into themes, categories and sub-categories that were mainly comparable to those for the interview data. In place of voice sheets, observation sheets were compiled.

There were also some quantitative data from the backgrounder demographics, analysed by frequency counts on a spreadsheet, and from the Life Satisfaction Index-A for which the standard two-point agree/disagree method of scoring was employed. Particular attention was given to the participants’ responses to the questions related to future plans (e.g., ‘I have made plans for things I’ll be doing in a month or a year from now’) as a positive perception of the future was usually expressed through plans activities (e.g., Bryant, Corbett and Kutner, 2002).

Findings

The findings focus on information needs, and information sources and processes. Computer and Internet use follow.

Information needs

Five major categories of information need were identified. Table 2 presents these along with their associated sub-categories.

<table>
<thead>
<tr>
<th>Third age</th>
<th>On the cusp</th>
<th>Fourth age</th>
<th>Late fourth age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne (TM) 75 †</td>
<td>Charlie (PT) 79 †</td>
<td>Alfa (PT) 94</td>
<td>Clever (TM) 83 †</td>
</tr>
<tr>
<td>Christian (PT) 86</td>
<td>Christiana (PT) 75</td>
<td>Buster (TM) 84 †</td>
<td>Doc (TM) 85 †</td>
</tr>
<tr>
<td>Cybel (TM) 90*</td>
<td>Gibby (PT) 81</td>
<td>Cherrie (PT) 81 †</td>
<td>Gloria (TM) 84 †</td>
</tr>
<tr>
<td>Henry J (TM) 88* †</td>
<td>Jen (TM) 82†</td>
<td>Jeannie (PT) 70</td>
<td>Maria (PT) 79</td>
</tr>
<tr>
<td>Joe Snow (TM) 87* †</td>
<td>Nannah (TM) 80* †</td>
<td>Marion (TM) 85 †</td>
<td>Mildred (TM) 84 †</td>
</tr>
<tr>
<td>Sonny (PT) 92</td>
<td>Starr (TM) 90* †</td>
<td>Ruth (PT) 87</td>
<td>Zelda (TM) 86 †</td>
</tr>
</tbody>
</table>

TM = The Midlands, PT = Plaza Towers, † = Computer/Internet user, * = Moved fully into Fourth age during study, ‡ = Died during study.

At the time of the interviews (2005-2008), Anne and Christian, the two frequent drivers, proved to still be in the third age with no disabilities. Ten participants who still drove occasionally had one or two losses and were classified as being On the cusp (half of them moved into the fourth age before the study ended). Thirteen participants were either in the fourth age (11) or late fourth age (2); the last two passed away during the study.

Table 2: Information needs
Regarding information needs of daily living, all but two needs confirmed the findings of Williamson (1995, 1997, 1998). The first of the exceptions is adaptive devices for which about 80 percent of participants expressed a need for information, mostly for vision and hearing losses. The second is safe mental challenges which was encompassed in Williamson’s ‘recreation category’. This need was mentioned by 22 of the 25 participants:

Because you got a brain and if you do not use it, then it is going to get dormant and you are going to get dormant with it (Charlie).

These safe mental challenges usually involved such non-competitive activities as matching wits with television game shows like *Wheel of Fortune*.

With regard to their small worlds, the last, related to internal volunteer opportunities, challenges the work of Wicks (1999) who concluded that life-long role identity played no significant part in the information behaviour of his retirement community participants. Especially at The Midlands, management consciously tailored volunteer opportunities to residents' interests (e.g., artist, librarian), which resulted in role identities for those involved.

The major information needs regarding the greater world outside are listed according to frequency of mention, with almost all of the participants wanting information on world, national, and local events. The findings are largely congruent with those of Williamson.

All 25 participants reported seeking positive affective information. Indeed, the participants' quest for positive affect was so strong that it corroborated Ketelaar and Tung Au's (2003) argument for affect-as-information:

You gotta think positive because if you think negative all the time, you will kill yourself (Jeannie).

Resident peer pressure rigorously—one might almost say ruthlessly—enforced this positive affect culture among residents and staff members alike:

It's true. Employees who aren't positive don't stay. The system weeds them out (The Midlands Chief Executive Officer).

This supports Chatman's (1996) small world theory that such closed cultures shape their members' behaviour.

### Information sources and information-seeking processes

Information sources were increasingly limited as participants became more cloistered and their social networks declined. As a consequence, they increasingly relied on others to seek information for them as shown in Table 3.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregivers</td>
<td>Primary proxy information seeker</td>
</tr>
<tr>
<td>Intimate personal networks</td>
<td>Family, friends, some staff members</td>
</tr>
<tr>
<td>Wider personal networks</td>
<td>Old and new acquaintances, some staff members</td>
</tr>
<tr>
<td>Mass media</td>
<td>Television, radio, printed works</td>
</tr>
<tr>
<td>Small world sources</td>
<td>Retirement community staff, gatherings, publications, information grounds, professionals (visiting and internal)</td>
</tr>
<tr>
<td>Outside professional and institutional sources</td>
<td>Lawyers, physicians, bank officers, accountants, social and professional organizations, government agencies, churches</td>
</tr>
</tbody>
</table>

There was an overlap between the first two categories, given that caregivers were usually a close family member or friend. Because participants often relied on their caregivers to serve as proxy information seekers, i.e., to seek information on their behalf (McKenzie, 2003), a number of the participants reported sharing with them what Chatman (1992, pp. 125-126) called ‘secret information’, such as health or financial concerns:

When I want to talk about more important things, I have my kids come over. We have something to talk about besides what's happening here (Starr).

This contradicts Chatman's (1996) conclusion that, in a life lived in the round in a small world like a retirement community, her participants did not ‘share critical information with family, caregivers, and friends’ (p. 199).

The intimate personal network consisted of a diminishing circle of family members and old friends:

My friends are a thousand miles away and six feet under (Buster).
Chatman (1991, 1992) and Williamson (1995, 1997, 1998) found the same pattern of losses. Contradicting Chatman's finding of divisive employee/resident relations, five participants included staff members among their few close new friends:

Some... are better friends than some of the residents (Sunflower).

Significantly more residents and employees (usually line staff and department heads) were counted among the acquaintances that made up the bulk of participants' wider social networks. Failure to establish new close friendships with other residents was often due to a fear of emotional attachment and loss:

These are old people, you don't want to get too close 'cuz one day soon they'll be gone (Zelda).

Not surprisingly, mass media information sources included television, newspapers, and books and periodicals. Again this supports the findings of Chatman and Williamson.

Small world sources included management meetings and communications, other residents and staff, visiting and internal professionals, and information grounds. All participants made mention of at least one information ground as conceptualised by Pettigrew (1999), although they did not use that term. These included the dining rooms, game rooms and, at The Midlands, the beauty salon:

The beauty salon is the soul of the community because people visit and talk. It's life; it's about who's sick and what you can do for them and who's getting married-it's normal, neighbourhood talk (Starr).

Information grounds were particularly useful for information regarding residents who may have died or been hospitalized, as management was prohibited by health privacy laws from sharing this information without the individual's consent.

Outside professionals and institutions that served as information sources included lawyers, physicians, bank officers, accountants, social and professional organizations, government agencies, and churches. Once again, this supported Williamson's findings.

In terms of information processes, all 25 participants reported using proxy information seekers while only five recalled serving as proxy information seekers for others. Proxy information seekers were most often the participants' caregivers:

My sons, they'll look something up and tell me about it (Cybel).

The most cited uses of proxy information seekers were helping with finances and seeking health information. Observations over the two-year period support the view that individuals in the fourth age often become increasingly reliant on proxy information seekers in their daily lives, i.e., the use of proxy information seekers increases as information skills decline.

Computers and the Internet

Fifty percent of participants used, or had recently used computers and/or the Internet. Three, who were recent adopters, reported being motivated to do so by peer pressure from family members and friends:

[My sister] got a computer and on the Internet and she thought I was living in the dark ages (Anne).

Most were long-time users, having used them in their jobs. As shown in Table 4, computer uses included playing video game versions of traditional games like solitaire, writing letters and life stories—all forms of safe mental stimulation. Those who were also on the Internet used it for e-mailing, searching, and shopping, supporting the findings of Wicks (2004).

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers</td>
<td>Games, writing letters, books and life stories (mental stimulation)</td>
</tr>
<tr>
<td>Internet</td>
<td>E-mails, searching, shopping</td>
</tr>
</tbody>
</table>

At the beginning of the study, the Internet seemed to be a valuable tool for cloistered participants:

I've shopped on the Internet and I'm going to do more on it because I can't go very far nowadays (Gloria).

However, by the end of the two-year study, not one participant had been able to independently master, let alone successfully maintain a new computer or Internet skill. As their physical and cognitive health failed, they needed more and more technical support and services and had to rely more and more heavily on proxy information seekers. The most dramatic example of this was Starr who lost her vision to age-related macular degeneration and, in just 18 months, went from being an avid computer user to being unable to operate a simple three-button CD player. Starr's and the other participants' stories support the cautionary concerns expressed by Dickinson and Gregor (2006) and others regarding the ability of many older adult to use computers and the Internet.

Discussion

This study investigated the roles information and technology play in the daily lives of retirement community residents who were in the fourth age. It sought to identify the everyday life information needs of people in the fourth age, the sources and process they employed and their ability to use computers and the Internet.

Research question 1
Concerning the everyday life information needs of people in the fourth age, an interesting finding was that the Life Satisfaction Index-A indicated, and observation confirmed, that nearly 80 percent of The Midlands participants were making plans for activities they would be participating in a month or a year. These plans often resulted in information needs. This compared with just 20 per cent of their counterparts at Plaza Towers. As one Plaza Towers participant noted:

It is kind of like you're just on the last days of going and they kind of put you on a shelf and let you keep on (Cherrie).

This suggests that activities within the small world of the retirement community-specifically those designed to prolong residents' interests and role identities—can increase a resident's number of information needs.

Research question 2

With regard to the participants' information sources and processes, the number of family members and close friends was declining. Moving to a retirement community did not fully resolve this problem as other residents tended to be treated as acquaintances not friends; suited for only first level information (i.e., chit chat) rather than meaningful discussions. This finding supported Chatman (1992). The participants' solution to the problems of shrinking networks and declining personal health was having others do the information-seeking-the proxy information seekers suggested by McKenzie (2003). Participants also acquired information by frequenting information grounds, such as The Midlands Beauty Salon, an important subject being who might have died or be in the hospital:

The only way we can find out who is in the hospital is if we ask [the Beauty Salon Manager] and she is usually very accurate as she goes to see all of them (Jen).

Research question 3

With regard to using computers, the Internet and other technologies, it was apparent that physical and cognitive losses—not generational issues—had the greatest impact; impacting even the most experienced participants' continuing abilities to use even the simplest technology.

Conclusion

Driving cessation proved to be a reliable indication of membership in the fourth age in a metropolitan area with little mass transit and long distances to be travelled. This might not prove to be so in areas where driving was not an absolute necessity of daily life.

While the fourth age is a time of losses, the good news is that the retirement community environment can help residents in the fourth age retain or rediscover information needs by supporting individuals' life-long role identities and interests. Information grounds and, most especially, access to proxy information seekers, also help residents continue functioning longer. The challenge is to accomplish this outside the controlled environment of a retirement community, given that the majority of older adults are expected to age in place, i.e., in the community at large (AARP, 2005). The decline in individuals' abilities to master new technologies, or even use old ones, suggests a greater need for automated monitoring systems; future technologies will need to be increasingly autonomous while functioning in the roles of proxy information seekers, interested listeners, and health and wellness medical informants. Encouraging signs of this are everywhere: intelligent homes, vehicles that drive themselves, conversation companion robots, and even caregiver robots. On the human front, progress is being made regarding improved treatments for dementias, deafness, and vision-related problems like age-related macular degeneration-major factors in human information behaviour.

Finally, the public needs to be educated regarding the realities of ageing and ageing well, lest society continue to exist in a world of what Patrick Wilson (1977) termed ‘public knowledge and private ignorance’.

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About the authors

Terryl Asla's award-winning work in the field of Seniors’ Housing and Long Term Care includes: information researcher on the first subdivision of universal design homes in the United States (US); project manager for the first empirically validated online health assessment program for use in retirement communities; and founding director of the first professional computer center in the US retirement community, demonstrating the ability of technology and the digital humanities to enhance the quality of life of older adults. He has presented his work at Harvard University, the Australian Senior Computer Club, the American Association of Homes and Services for the Aging (formerly, Leading Age), the American Society on Aging and the Southwest Society on Aging. He completed his doctoral thesis in library and information studies at Charles Sturt University, Australia, some of the findings from which are presented in this article.

Kirsty Williamson is Adjunct Senior Research Fellow at Monash University's Caulfield School of IT and Charles Sturt University's School of Information Studies. She has undertaken many research projects, funded by a range of different organizations including the principal funding body of Australian Universities, the Australian Research Council and also has a strong publication track record. Her principal area of research has been human information behaviour. Although many different community groups have been involved in her research, including women with breast cancer and online investors, her greatest interest has been in older people who were the focus of her PhD research. Asla’s PhD research, which she supervised, was of special interest to her because of its focus on a particularly marginalized group of older people.
References


