

Dividing the Grey Divide: Deconstructing Myths About Older Adults' Online Activities, Skills, and Attitudes

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Abstract

Although research has demonstrated a grey divide where older adults in comparison with younger adults are less involved and skilled with digital media, it has overlooked differences in older adults' digital skills and media use by treating them as a homogenous group. Based on 41 in-depth interviews with older adults (aged 65+ years) in East York, Toronto, we developed a typology that moves beyond seeing older adults as Non-Users to include Reluctants, Apprehensives, Basic Users, Go-Getters, and Savvy Users. We find a nonlinear association between older adults' skill levels and online engagement, as many East York older adults are not letting their skill levels dictate their online involvement. They engage in a wide range of online activities despite having limited skills, and some are eager to learn as they go. Older adults often compared their digital media use with their peers and to more tech-adept younger generations, and these comparisons influenced their attitudes toward digital media. Their narratives of mastery included both a positive sense that they can stay connected and learn new skills and a negative sense that digital media might overwhelm them or waste their time. We draw conclusions for public policy based on our findings on how digital media intersect with the lives of East York older adults.

Keywords

older adults, digital divide, digital inequality, digital skills, user typology, digital media, Internet, telephones, networked individualism

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Introduction

Older adults have lagged behind younger generations in the use of digital media such as websites, social media, mobile phones, and tablets (Anderson & Perrin, 2017; Comunello, Ardèvol, Mulargia, & Belotti, 2016). This grey divide suggests that age-related factors—beyond income, education, and gender—affect older adults, hindering their ability to take advantage of digital media. Investigations into the grey divide have examined older adults' involvement in a variety of digital media, such as Internet use (Friemel, 2016), social networking sites (Haight, Quan-Haase, & Corbett, 2014), and Twitter (Blank, 2017). It is not so much that older adults have started using technologies, but that longtime users of digital media have grown up into older age (Quan-Haase, Wang, Wellman, & Zhang, 2018; Wang, Zhang, & Wellman, 2018).

Past research has overlooked differences in older adults' digital media use. Yet, it is useful to rethink the term "grey divide" that inaccurately assumed that older adults have had similar experiences over their life course that homogenized their digital engagement. It also assumed that older adults as a group shared beliefs, assumptions, and savviness about digital technology. In short, this approach dichotomized the digital divide by portraying those younger than 65 years as adept natives, while those aged 65+ years as digitally illiterate immigrants (Bennett, Maton & Kervin, 2008). Such overgeneralization has also hindered policy development by ignoring variations in usage patterns within age groups. It has also ignored that old age is never a static demographic—no one is ever born into it—and that older adults carry with them the skills and attitudes they have grown up with.

In fact, many older adults are networked individuals who are actively involved in diverse networks and exchanging information from multiple sources (Quan-Haase, Wang, et al., 2018; Rainie & Wellman, 2012). For example, digital involvement can be particularly beneficial for older adults, providing capabilities to connect over distances or overcome physical constraints in order to access the abundance of health information and applications available online (Cotten, Ford, Ford, & Hale, 2012; Quan-Haase, Wang, et al., 2018).

This article discusses how older adults see themselves and their digital skills in comparison with their family, friends, and members of other generations. Furthermore, we build on past user typologies based on the general population by Horrigan (2007) and Brandtzæg, Heim, and Karahasanović (2011) to deconstruct variations in the older adults' adoption, digital skills, and attitudes. These typologies suggest the usefulness of going beyond lumping older adults into one category. Hence, we have developed a new typology that distinguishes among the patterns and skills of older adults' digital media use, and we use this typology and our analyses of older adults' narratives of mastery to suggest policies to support the expansion of their digital skills.

Our article has four main objectives:

1. To examine the first- and second-level digital divides in our sample of older adults.
2. To develop a user typology of older adults based on their digital skill level and number of online activities.

3. To investigate with whom older adults compare their digital skills.
4. To describe older adults' positive and negative narratives of mastery of digital media.

The grist for our analysis comes from 41 in-depth interviews with older adults living in the East York area of Toronto, Canada.

Levels of the Digital Divide for Older Adults

The *first-level digital divide* describes differences among social groups in the ownership, access, and use of digital media. A robust finding over time and across nations is the strong association between age and digital media access and use (Chayko, 2016). More than a decade ago, Selwyn, Gorard, Furlong, and Madden (2003) found that the low digital media use of older adults was related to perceiving it as not useful, while Czaja et al. (2006) found that older adults often experience issues of computer anxiety and low self-efficacy that affect their adoption of digital media. Our interviews show that things have changed, with older adults being more engaged with digital media, but with many harboring concerns about their own skills.

The *second-level digital divide* moves beyond questions of access to examine how skills—often referred to as digital literacy—affect people's ability to engage with digital media in ways that are meaningful to their needs (Hargittai & Hinnant, 2008). A low level of skill can hinder older adults' use of digital media (Stoica, 2015; van Deursen & van Dijk, 2015), perhaps because most did not grow up with it and had to learn skills later in life (Schreurs, Quan-Haase, & Martin, 2017; Taipale, 2016). Yet not all older adults have a low skill level. Younger seniors, who were generally more educated and with greater economic means, tended to use the Internet more actively for a range of social benefits (Cotten et al., 2012). These findings suggest that rather than treating older adults as a homogenous group of digital laggards, there is a need to examine variations in their use of digital media (Hargittai & Dobransky, 2017).

Having confidence in one's computer use and comfort with the use of basic features (Neves, Amaro, & Fonseca, 2013) can help older adults maintain an active lifestyle (Mitzner et al., 2010) and provide social support (Quan-Haase, Mo, & Wellman, 2017). For example, digital media can reduce levels of loneliness and strengthen interconnections for those living in assisted and independent living communities (Cotten, Anderson, & McCullough, 2013). For older adults, digital media can help maintain and extend social networks through frequent communication—in particular, contact with distant family and friends at a distance that increases their quality of life (Winstead et al., 2013). However, older adults can feel relatively deprived when they compare their perceived lack of digital skill with younger generations (Crosby, 1976; Helsper, 2017; Schreurs et al., 2017).

User Typologies

A key message of this article is that older adults vary in their use and skill levels of digital media. Noting that age and Internet access were the most salient predictors for

their typology, Brandtzæg et al. (2011) found that Non-Users and the Instrumental Users were older compared with the other user groups. In the present article, building on this finding, we use detailed descriptions of the types of users and their media habits and attitudes to develop a typology that takes older adults' unique contexts into account. Our analysis is informed by several typologies describing the multiple ways in which people use digital media. For example, Brandtzæg et al. (2011) segmented Europeans aged 16 to 74 years into five clusters:

- *Non-User* (42%): People who do not use the Internet on a regular basis.
- *Sporadic User* (18%): Characterized by occasional and infrequent use of Internet services.
- *Entertainment User* (10%): Used Internet radio, TV, and downloaded games or music.
- *Instrumental User* (18%): Performed goal-oriented activities on the Internet such as e-banking.
- *Advanced User* (12%): A higher level of instrumental uses.

Horrigan (2007) used Pew data to develop a typology based on U.S. survey data by examining the three dimensions of assets (Internet devices), actions, and attitudes. "Actions" described the types and frequency of online activities, such as communicating, online information searching, and creating online content. "Attitudes" were the participants' views and opinions on the value of using digital media. Horrigan identified three main clusters of users:

- *Elite Users* (31%): Heavy users of various types of digital media and engaged with user-generated content.
- *Middle of the Road Users* (20%): Used digital media more for communication than for self-expression.
- *Few Technology Assets* (49%): Considered digital media use to be peripheral to their everyday lives.

This typology shows considerable variability in Internet adoption and use among the general population. It also suggests that fewer older adults have adopted digital media, with the median age of users in the Few Technology Assets group older (aged 53 years) than those in the Elite (aged 36 years) and Middle of the Road (aged 39 years) groups.

Methods

We rely on evidence from the fourth of the East York studies begun in 1968 (Wellman, 1979; Wellman et al., 2006; Wellman & Wortley, 1990). East York is an area of Toronto, with a population of a little more than 100,000, comprising both working- and middle-class families and single adults living in small houses and high-rise apartments (Quan-Haase, et al., 2017; Wellman et al., 2006).

For the fourth study, participants were obtained from a list comprising a random sample of 2,321 East York households provided by the Research House list-services company. We sent personal invitation letters in 2013-2014 explaining the nature of the study to 304 residents that were randomly selected from the original list. Of those contacted, 101 agreed to be interviewed; a response rate of 34%. They received a follow-up telephone call to make appointments for in-person interviews. Those who agreed to participate were offered a \$50 gift card in appreciation for their time.

The semistructured 1.5-hour interviews contained a series of questions and in-depth probes (see full interview guide at https://sociodigitaltest.files.wordpress.com/2017/12/interview-schedule_ni-project.pdf). Participants were asked to indicate in what group they would fall: *no skill*, *not very skilled*, *fairly skilled*, or *expert*. The follow-up question used to determine the participants' comparison of their self-perceived skills against those in their networks was: *How do you think of your skills compared with those of your friends and relatives?* Trained research assistants conducted and transcribed the interviews. As Internet-savvy university students (aged 23-30 years) conducted the interviews, this could have affected older adults' self-assessments of their digital skill level. The interviews resulted in a rich data corpus; we have about 35 pages of text for each interviewee.

This article reports on a subset of 41 older adults, nonfrail and English speaking. They range in age between 65 and 93 years, with a median age of 73 years. More than half (56%) were older than 70 years; half (54%) were women. Most participants were retired from paid work while remaining actively engaged with friends and family, and many participated in community activities such as church or sports clubs (Table 1). Most were ethnically British Canadian, with the rest having diverse backgrounds reflecting Toronto's cosmopolitanism: from European homelands as well as India, Jamaica, and Vietnam.

Our analysis stays close to the data and is based on thematic analysis (Braun & Clarke, 2006). We developed themes and engaged in open and selective coding with the intention of establishing distinctions among participants on the basis of digital media use. Subsequently, memos were written for each participant, followed by refining the initial codes and identifying additional themes. A second coder then went through the data set to confirm the initial set of codes. A new theme that emerged from the second round of coding was how older adults compared their skills with those of their friends and family, as well as how they compared themselves with young people.

Central to our analysis was the creation of a two-dimensional graph that mapped skill level by number of activities. These dimensions helped formulate additional research questions for this article. We systematically coded each participant for these two dimensions and looked for anomalies. In a final step, the full team reviewed themes interthematically and intrathematically for coherence during report production, allowing for an additional occasion for analysis and providing guidance in the selection of meaningful examples to highlight key findings (Braun & Clarke, 2006). We use thick description to increase the trustworthiness of the data (Houghton, Casey, Shaw, & Murphy, 2013) and replace names with pseudonyms for confidentiality.

Table 1. Demographic Characteristics of Older Adults ($N = 41$).

Characteristics	<i>n</i>
Gender	
Men	19
Women	22
Age, years	
65-70	18
71-76	11
77-82	8
83+	4
Employment	
Paid work	8
Retired	33

Table 2. Devices Owned by Older Adults ($N = 41$).

Device	Number of participants	Percentage
Computer	37	90
Desktop only	14	34
Laptop only	10	24
Both desktop and laptop	13	32
Landline telephone	40	98
Mobile phone: Basic/smart	35	85
Tablet	9	22

Findings

Objective 1a: First-Level Digital Divide: Device Ownership and Internet Use

Almost all of the East York older adults owned traditional landline telephones (98%), personal computers (90%), and mobile phones (85%; see Table 2). Desktop computers were slightly more prevalent (34%) than laptops (24%), and 32% owned both. For those who owned both a desktop and a laptop, the laptop was considered an upgrade because it provided greater flexibility and mobility. Despite the high ownership of mobile phones, only one fifth (20%) used them for texting, with the remainder 65% using them exclusively for phone calls, often in cases of emergencies (see also Neves et al., 2013). None of the participants who owned a basic mobile phone said they planned to change to a smartphone, but we suspect that some have adopted them since the interviews took place in 2013-2014.

Table 3. Self-Reported Digital Skill Level (N = 40^a) ©Quan-Haase.

Skill level	Number of participants (%)	Participant ID
No skill	2 (5)	P43, P45
Low skill	14 (35)	P2, P11, P20, P29, P33, P49, P53, P68, P69, P72, P82, P84, P90, P97
Mid skill	21 (53)	P3, P7, P8, P15, P26, P31, P37, P40, P55, P58, P62, P65, P73, P77, P83, P92, P93, P95, P96, P98, P101
Expert	3 (7)	P38, P60, P80

^aP76 was not asked this question and was excluded from the analysis.

Table 4. Number of Online Activities (N = 40^a) ©Quan-Haase.

Number of online activities	Number of participants (%)	Participant ID
0	6 (15)	P11, P29, P43, P45, P73, P84
1-2	15 (37)	P8, P15, P26, P31, P37, P49, P53, P62, P77, P83, P90, P92, P93, P97, P101
3+	19 (48)	P2, P3, P7, P20, P33, P38, P40, P55, P58, P60, P65, P68, P69, P72, P80, P82, P95, P96, P98

^aP76 was not asked this question and was excluded from the analysis.

Objective 1b: Second-Level Digital Divide: Digital Skills and Online Activities

The participants identified themselves as belonging to one of four skill levels, ranging from 1 = *no skill* to 4 = *expert* (see Table 3). Half of the participants said they had a midrange skill level (53%), and about a third said they had a low skill level (35%). Only two participants (5%) said they had no digital skills. One of these two participants only had a landline phone and the other only had a basic mobile phone. At the other end of the spectrum, three highly skilled participants used digital media frequently, up to several hours per day.

A majority (85%) of these older adults engaged in at least one online activity, with 47% engaging in three or more (Table 4). A small number of participants did not engage in any kind of online activity (15%), Yvonne (P45, W, 82) had never used the Internet, while five others had used e-mail or computer applications at work but now that they were retired chose to stay offline:

I used to use it when I worked, but we're retired now. (Magdalena, P73, W, 75)

The most frequently mentioned online activity was keeping in touch with family and friends: e-mail was used by 80% of participants. E-mail was often used for communicating with

geographically distant family members without incurring long-distance telephone charges and for keeping in touch with former coworkers. By contrast, fewer older adults used social media (34%). Social media use varied between those who enjoyed its interactivity and those who only recently started using it to keep up with family and friends. One third (34%) used Facebook, while only 2% used Twitter. None of the image-based social media—Instagram, Pinterest, or Snapchat—were mentioned. The more than one quarter (29%) who used Skype, especially for long-distance ties, saw its real-time conversations as more personal than e-mail and other digital media because its visual display allowed them to see the other person, giving a stronger sense of copresence (see also Quan-Haase et al., 2017; Quan-Haase, Wang, et al., 2018).

For about half of these older adults, the Internet was more than a tool for communication. They engaged in online information searching (49%), economic tasks such as electronic banking or working online (37%), and entertainment such as watching Netflix or YouTube (32%). Information searching was a prevalent online activity for older adults as many recognized the convenience of access to information at their fingertips. For instance, Benjamin (P31, M, 80) viewed the Internet as an encyclopedia for conducting research on any subject and Marigold (P49, W, 93) used the Internet for online banking from her home. For 27% of the East York older adults, the Internet was a great tool for time-shifting: watching movies, documentaries, and television shows and listening to radio programs at their leisure. Many East York older adults reported busy schedules filled with activities and appointments, hence the ability to view content flexibly was important to them. Tom (P55, M, 68) decided to cancel his cable TV service to take advantage of the multiple options available by online streaming that were more tailored to his personal interests and schedule.

Objective 2: A Typology of Older Adults Using Digital Media

Our second research objective was to develop a typology of older adults using digital media. The clusters are based on the participants' self-reported digital skill level (*x*-axis: 1-4 scale; 1 = *no skill* to 4 = *expert*) and their self-reported number of online activities (*y*-axis: *none* = 0 activities; *few* = 1-2 activities; and *multiple* = 3+ activities). Our two-dimensional diagram deconstructs the grey divide, showing that East York older adults were not a homogenous group but were distributed across multiple, diverse clusters (Figure 1).

Cluster 1: Non-Users (No Digital Skills, No Online Activities): 10%. Participants who did not use digital media comprised 10% of our sample. They reported lacking digital skills and did not engage in any kind of online activity. They feared that learning to use a new device or application was too daunting to make the task worthwhile. While most reported having had some experience using digital media, they did not feel comfortable with it anymore:

It's too much of an effort. I've got to remember to do this and remember to press that and to do this. I'm not that educated. (Yvonne, P45, W, 82)

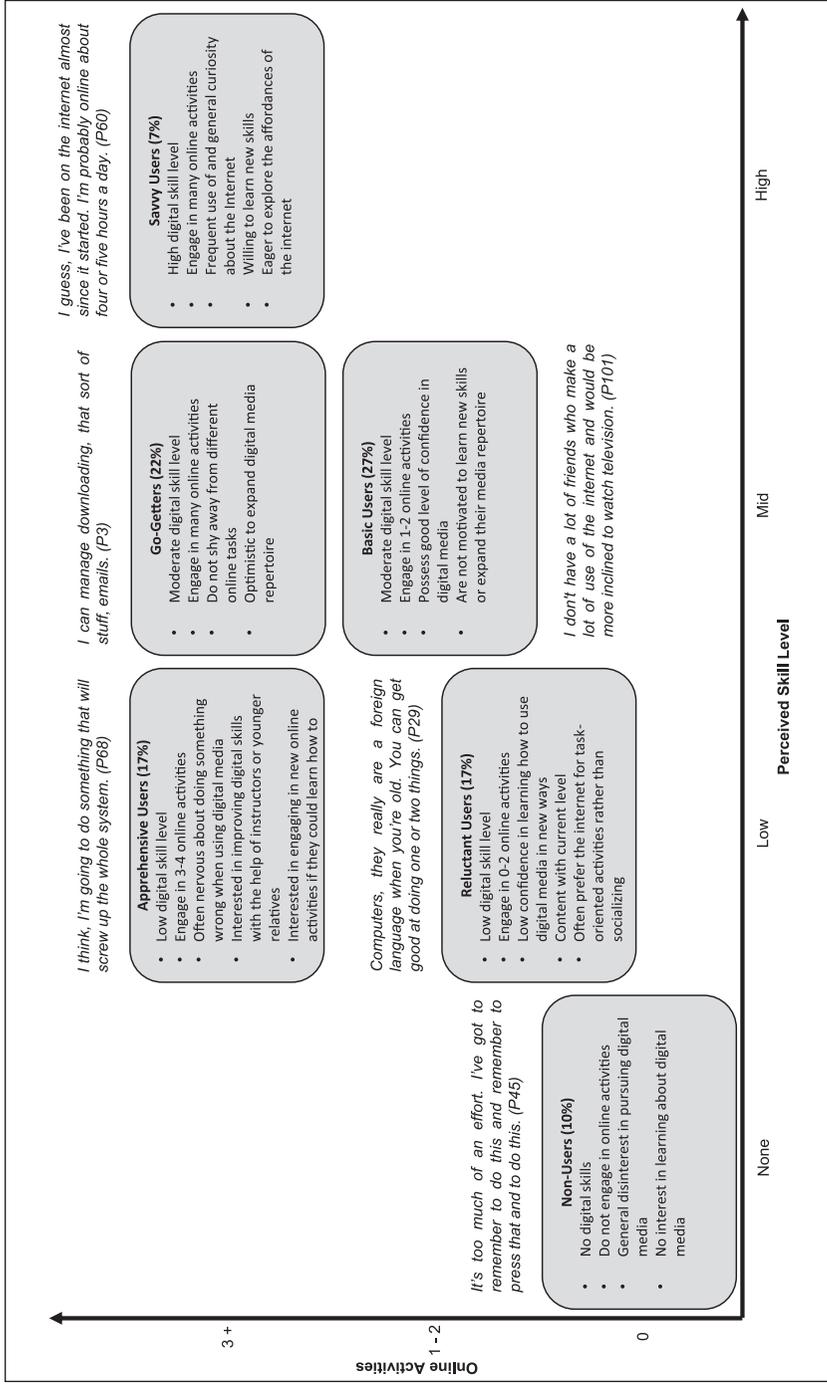


Figure 1. User typology of East York older adults: Number of online activities by perceived digital skill level (N = 41) ©Quan-Haase. Note. P = participant.

One anomalous Non-User said that her skill was midrange prior to retirement, but it was out of date now:

In computers, I'm just half-skilled. I just don't use it anymore. I used it in the old days, but . . . it's a lot different today. And I haven't kept up with it. (P73, W, 75)

Cluster 2: Reluctant Users (Low Digital Skills, 0-2 Online Activities): 17%. Reluctants attributed their basic digital skills to their age. Three of the seven (P11, P29, P84) did not report engaging in any online activity even though they had some digital skills, while four engaged in one or two activities (P49, P53, P90, P97) such as e-mailing, paying bills, or online information searching. Despite their low confidence in taking on new tasks, three Reluctants were content with their ability to accomplish a set of specific tasks when online. For example, Michael was good at doing "one or two things" and found the Internet useful for obtaining information, yet he preferred the more familiar telephone for interacting with his friends and relatives:

Computers really are a foreign language when you're old. You can get good at doing one or two things, but then you've got to learn something else and it's a problem every time. It's easier to pick the phone up and talk to somebody. (P29, M, 91)

Cluster 3: Apprehensive Users (Low Digital Skills, 3+ Online Activities): 17%. The seven Apprehensives evaluated their digital skill level as low, with Olga describing herself as "one step up from being a Luddite" (P20, W, 80). Participants attributed their low skill level to a lack of exposure earlier in their lives either at work or school and they often experienced anxiety when using digital media:

I think I'm always going to break it. (Thomas, P68, M, 67)

Yet despite their fears, these Apprehensives had integrated between three to six online activities into their routines such as e-mail, Skype, and online search. Several were interested in improving their digital skills but did not have confidence in learning alone and looked for support in their social networks:

It's lack of basic training . . . I've got left behind, that's the truth. . . . If someone wanted to teach me how to do typing, I'd do that as well. (Duncan, P33, M, 83)

Cluster 4: Basic Users (Mid-Level Digital Skills, 1-2 Online Activities): 27%. The 11 Basic Users were more comfortable than the Apprehensives, even though their use of digital media was more limited. They considered themselves competent with digital media and regularly engaged in one or two online activities. While they felt their digital skills paled in comparison with younger relatives, they considered their skills to be good in comparison to their peers. They attributed this difference to their greater willingness to learn how to use digital media and the recognition that it takes some effort to learn new digital skills:

The people I went to school with, a lot of them won't even use the computer at all. They don't use it at all, so I'm more used to it than most of them. I guess they can't be bothered learning. (Benjamin, P31, M, 80)

Cluster 5: Go-Getters (Mid-Level Digital Skills, 3+ Online Activities): 22%. Although the nine Go-Getters engaged in three to six online activities, they too felt they had only mid-range skills. Yet their appreciation for digital media allowed them to pursue new online activities. While they did not see themselves as experts, their competence and curiosity regarding digital media translated into diverse uses. They did not shy away from engaging in multiple tasks, including e-mail, Skype, Facebook, and online information searching. They valued the benefits of expanding their digital media repertoire by including nonfamiliar tools such as Facebook, especially for maintaining connections with distant family across generations:

I like Facebook because I have a lot of young cousins, who I can see what they're up to. And I like that because when I was growing up, we all lived in the same city block. . . . And I just like that kind of family connection that I can get on the Internet. That's better than seeing them once a year or whatever. (Rose, P40, W, 67)

Cluster 6: Savvy Users (High Digital Skills, 3+ Online Activities): 7%. The three Savvy Users reported having both a high level of digital skill and frequently engaging in a wide range of online activities. They devoted more time to digital media than the other participants. They had confidence in their skills and lacked the anxiety most other older adults experienced when using digital media, often helping others to navigate it. For example, Mark (P80, M, 65) used Facebook to maintain a page for a voluntary organization. He had developed such strong digital media skills that his friends occasionally turned to him for help. Catherine attributed her high-skill level to frequent use and a general curiosity about the Internet; she often checked e-mail, used Facebook, and did online banking:

Oh I use it all the time, it's my lifeline now. I've never used that expression but that is what it is . . . I wouldn't live without my PC. (P38, W, 73)

She was not afraid of expanding her skills, for example, as she wanted to use her computer in conjunction with her new digital camera, she was reading a handbook on how to use it more skillfully.

Two of the three Savvy Users had gained their digital skills from jobs when they were younger adults. For example, Devon had been an early adopter using technology as a younger adult and had long integrated online activities into his daily routines. Now, as an older adult he enjoyed using chat forums related to stocks and had a Twitter account where he followed 406 accounts, helping him stay up to date with "the latest news":

I guess I've been on the Internet almost since it started. My wife says I spend far too much time online, so I'm probably online about four or five hours a day. (P60, M, 70)

Objective 3: Relative Digital Divides

The East York older adults compared their digital skills with others, young and old (Helsper, 2017). Most comparisons were with other kin—both immediate and distant family members (93%) and peers—friends and acquaintances (88%). A particularly important distinction made by participants was whether they compared themselves with kin of their own generation or of younger generations. No one compared themselves with older generation kin, except for one, with an older mother.

All of the older adults who compared their digital skills with younger kin felt that the skills of their children, grandchildren (except for a very young grandchild), and nieces and nephews dwarfed their own. They measured themselves against their most adept network members, evaluating themselves harshly, despite being able to master several online activities. Twelve compared their skills with their adult children who were either adept as a result of their jobs or simply enjoyed keeping up with new media. Two referenced their grandchildren, noting that their abilities seemed almost “automatic” (Elena, P96, W, 75). Another four similarly compared their skills unfavorably with their nieces and nephews.

About half (18 participants) of the participants compared themselves with same-generation kin: seven compared themselves with a spouse/partner, four with a brother or sister, three with an in-law, and four with family in general. Four participants evaluated their skills to be comparable to those with their same-generation kin, seven evaluated them as higher, and seven as lower.

Most participants (88%) also compared their skills with those of peers—friends, and so on—who were not kin. Of those who compared themselves with peers, one third (33%) of the participants thought their digital skills to be above their peers and 6% saw their digital skills to be about the same. For example, Catherine, a Savvy User, thought that some of her peers lagged far behind her own savviness:

Some of them still aren't even on a computer . . . I've got two, and I keep urging them, but nope, they won't even get a computer. (P38, W, 73)

About half (47%) saw their digital skills as lagging behind their same-generation peers, as they felt it was hard to keep up with new developments. Yet most did not say they were worried or concerned about their lower skill level. Rather, they acknowledged it as a status quo. The only exceptions were three participants who felt left behind, with Thomas saying:

They're experts . . . miles ahead of me . . . I have a great desire to go to a beginner's course. Like not to plug it in and start it, but a bit above that. (P68, M, 67)

Indeed, 14% of the participants gave more nuanced answers, explaining how they were less skilled than some of their younger older adult peers but at about the same skill level as peers of the same age.

Objective 4: Narratives of Mastery

The six clusters show that the underlying orientations of these older adults varies, depending on their past experience with digital media at work/school, level of confidence/curiosity, and the digital expertise available in their social network. Hence, we identified negative and positive narratives that influenced the participants' digital engagement, their attitudes toward digital media use, and the effort they invested in expanding their digital skills.

Time Waster. Some East York older adults referred to digital media as a time waster, seeing it as separate from other parts of their everyday lives. This narrative also pushed back against prevalent stereotypes of older adults having too much idle time. Two studies from Australia report that active older adults spent their daytime in a myriad of activities, engaging in paid work, volunteer work, study, caring, health care, supporting others, rest, physical activities, and spirituality (Espinel, Chau, van der Ploeg, & Merom, 2015; McKenna, Broome, & Liddle, 2007). In the case of these East York older adults, their active lifestyles allowed them to fit digital media into idle time here and there but precluded them from spending extensive amounts of time in front of screens:

I kind of resent the fact that people think you sit beside your computer all day so they can send you messages. So I only check it first thing in the morning and before I go . . . well in the evening, not necessarily before bed, but in the evening. (Joe, P7, M, 73)

Most older adults in our study reported having busy lives. Some continued to engage in paid work (20%), many volunteered, and a large majority (76%) were members of social groups such as sports clubs, cultural groups, and religious groups—with most belonging to at least two groups ($M = 2.3$). For example, Angela's busy schedule included a part-time job at an office for 20 hrs/week and membership in three social groups (a religious group, a sport club, and a choir): All of these activities left little time for the use of digital media for leisure. She saw digital media as “play[ing] around” rather than as a utilitarian tool that could add benefit to her life:

When I come out of the office, it's just sit down there, and all the dictation, and just sit down there and do all the work. And that's so, there is no time to sit there and play around. . . . Because I'm into running right now, or crafting in addition, or this or that. (P11, W, 77)

This narrative that digital media is a pastime or hobby rather than a useful set of tools was independent of the participants' skill level or the number of activities they regularly performed. Even the tech-adept older adults wanted to limit their digital media use while those who rarely used digital media said that their time was better spent on other activities:

If you have nothing to do, then you will say, “I need to watch what other people are talking about, so that I have some gossip material.” (Luisa, P69, W, 68)

As such participants evaluated the value of digital media on the basis of entertainment rather than as an instrumental tool providing information and sociability, hence they were not enticed by it:

If you have the time and you find it relaxing that's one thing, but . . . the cell phone, the iPhone for texting, and the Internet or the MSN Messenger—you can be in front of the computer for a long time. (Malik, P8, M, 70)

For many older adults, time was a key dimension to take into account when weighing whether to engage in online activities. Duncan volunteered at a hospital 3 days a week. He thought his time was well spent on volunteer work, but saw time spent on the computer as “self-indulgence.”

I can get on the computer and spend hours on it. There's nothing to show for it in the end when you're just chatting to people. I have to go to meetings and write papers. So I could do all those sort of things but I am not tied to self-indulgent things on the computer. (P33, M, 83)

Not Worth the Effort. A second theme was the notion that learning to use digital media was not worth the effort needed. Many participants believed that updating their digital skills and habits required committing significant amounts of time and energy to the challenge, and they viewed this as too costly. Linked to the previous narrative, they felt they simply did not have the time to spare, with their days filled with other activities they highly valued. As some Non-Users thought that the learning curve involved in navigating digital media was too steep to make the effort worthwhile, they were not motivated to go online. And some more digitally skilled participants explained that the additional learning curve was the reason for why they did not expand their digital media repertoire.

Coupled with a fear of encountering a problem or breaking a device, the perceived effort involved in learning how to be more effective online deterred many participants. Yet not all saw the difficulty in learning as a barrier. For example, Aaron, a Go-Getter, positively appraised the learning process because he had been a part of his elderly mother's experience with how to use e-mail. He believed that technology had reached a point of accessibility for all ages and skill levels.

Because once the Internet became very easy for everybody. I mean my mother . . . used to send me e-mail, and she's ninety-two. So anybody can kind of learn it, and it has changed the ways in which people communicate for sure. (P3, M, 69)

Social Comparisons. Many participants believed that younger generations are all tech-adept and use digital media 24/7. They viewed their adult children and their grandchildren as fluent and efficient in their media use. These older adults not only believed that their digital media abilities were inherently different from those of younger generations, but also that their views about the role of technology in one's daily life differed. They concluded that what younger generations considered routine

digital media use was unachievable and undesirable. Some participants' negative attitudes toward younger generations' media use seemed to affect their belief that digital media was a "time waster." They felt that young people's absorption in their devices or their oversharing of personal information online was associated with a decline in face-to-face communication. Although this belief is inaccurate (Wang & Wellman, 2010), it reflects a longstanding and widely reported moral panic (Hampton & Wellman, 2018).

Continued skills. Not all narratives of mastery were negative. Many participants had actively used digital media when they had done paid work, been a volunteer, or in their leisure time; and their previous experience positively influenced their development of digital skills. Rachel thought back to her life as a teacher:

We had to [become skilled]. We had to do all the report cards on them, and had to send them to the office through computers. (P98, W, 72)

Curiosity. For some of the participants, the motivation to gain digital skills came from curiosity and a desire to learn new things. They saw many social and informational benefits in using digital media and were willing to spend time and effort to obtain the needed skills.

I'm a gadget girl. . . . Even if I'm no good at them, I'm interested in them. I like to try them . . . I'd like to try Skype, but I can never get it to work. But if somebody shows me, I'll probably figure it out. (Rose, P40, W, 67)

For one older adult, the motivation came from a sense of necessity to learn new things:

I think I've mastered it, paying my bills. I thought that would be something that would really be handy and I need to know more about it. (Marigold, P49, W, 93)

Appreciating Digital Affordances. Most participants also appreciated easy, affordable long-distance communication with former colleagues, family, and friends. Three participants (7%) were fascinated with all of the information accessible online. Such positive narratives showed that not all older adults felt excluded from the digital sphere. For example, Veronika had reinvented some of her identity to reflect a willingness to engage in the digital world, even as she realized that her skill level was not on par with that of younger generations:

Because I find it kind of fascinating. . . . Because information is endless. Whatever anything that I come across that if I hear on the news something and I don't quite know where it is located or whatever, I mean I can [find it] instantly. (P62, W, 73)

Discussion and Conclusion

Older adults are not disconnected; it is just that they are different kinds of users. They are less likely than younger adults to adopt and frequently engage in a wide range of social media. Most of the East York older adults we interviewed owned one or more digital media devices but used them in more limited ways than many younger adults. Although mobile phone ownership was widespread, few texted because they did not see the benefits and had difficulties navigating the small screens and keyboards of mobile phones. Their low use of smartphone features reduced the kinds of activities in which they could engage while on the go, suggesting a possible *mobile grey divide* (see also Comunello et al., 2016; Neves et al., 2013).

Old age is not a static category: As they transitioned from being younger adults, the East Yorkers brought their lives, relationships, and experiences with them. For some, their media repertoire continued the use they had established in earlier days of the Internet when e-mail and online information searching were prevalent and social media such as Facebook were nonexistent. This suggests that digital media habits formed earlier in life prevail in their everyday lives as older adults.

We have deconstructed the grey divide to learn about older adults' experiences with digital media, building on past user typologies to reflect variability in their adoption of devices, uses, and digital skills (Brandtzæg et al., 2011; Horrigan, 2007). We have concomitantly identified how older adults' key comparison groups affect their attitudes regarding digital media. Relative deprivation is particularly critical for older adults as past research has shown that older adults tend to compare their own digital media use and skills with younger generations (Helsper, 2017; Schreurs et al., 2017).

Our typology is based on a two-dimensional analysis and takes into account both older adults' digital skills and number of online activities. The typology includes six clusters: Non-Users, Reluctants, Apprehensives, Basic Users, Go-Getters, and Savvy Users. Our findings shed light on the nonlinear association between older adults' skill levels, underlying orientations, and online engagement (as measured through the number of online activities). We had assumed that as digital skills increased, the number of online activities would also increase. This was true for some of the participants as there was an increase in both the skill level and number of activities from Non-Users to Savvy Users. However, the linear association did not hold for Apprehensives and Go-Getters who engaged in three or more online activities despite their low- to mid-level skills. Such a lack of linear association contradicts the assumption that digital skill alone determines the extent to which older adults use digital media. Many of these older adults were not letting their skill levels dictate their online involvement. They engaged in a wide range of online activities despite having limited skills, and some were eager to learn as they go. Finding information to deal with health issues was a special concern, but so were more positive desires to find information about travelling to visit relatives and connecting with geographically distant social ties.

We also found some interesting patterns in the typology. For example, despite reporting having good skills, Basic Users seemed content with their limited online engagement and did not feel much desire to improve their skills. By contrast,

Go-Getters had mid-level digital skills but were engaged in multiple online activities, suggesting their self-confidence and curiosity translated into diverse uses.

We examined with which social groups East York older adults compared themselves and how these comparison groups influenced their own self-perceptions of mastery of digital media and digital media's potential value for their everyday lives. Many of the older adults felt inferior when comparing themselves with their relatives and peers. Comparisons with relatives were different for same-generation and younger generation kin. When older adults compared themselves with same-generation relatives, the comparison was often positive, although about half saw their digital skills as lower than those of their peers. By contrast, their comparisons with their grown children, grandchildren, or nephews/nieces gave them the sense that they were lagging behind. Even when they had some skills, they compared themselves unfavorably with their younger kin, feeling that it was impossible to keep up with the myriad of new developments.

Some older adults viewed digital media as a leisure activity rather than as a valuable life tool just as older adults had done a decade earlier (Selwyn, 2004). Such older adults were less likely than younger adults to see digital media as seamlessly integrated into their everyday lives and did not see them as necessarily more efficient. This narrative was independent of either the participants' skill level or the number of activities they performed. Even adept participants wanted to limit their digital media use, while those who did not use digital media frequently said that their time was better spent on other activities.

Despite all of these reluctances and ambivalences, our interviews showed that rather than being cocooned as the grey divide metaphor would suggest, many of the East York older adults were networked individuals, who were using digital media in conjunction with in-person interactions to connect with others, learn things, and do things (Rainie & Wellman, 2012, in press). We expect that in the near future even fewer older adults will feel deprived as the digital skills—and the knack of learning new skills—they acquired when they were younger adults will continue in their lives.

Policy Implications

Despite the myth of the grey divide, there is no sad category of digitally unconnected older adults (see also Quan-Haase, Zhang, Wellman, & Wang, in press). In practice, older adults vary substantially in their digital media skills, behaviors, attitudes, and comparisons with others such as similar-age peers, younger age relatives, and the misleading myth of the supreme competency of tech-savvy younger generations.

As most younger adults are tech-adept, there are key differences between them and most older adults (Rainie & Wellman, in press). A sense that digital media deters people from engaging in everyday life activities and takes time away from their already full schedules deters older adults from more fully adopting digital media and expanding their digital media repertoire. Almost all marketing of digital media is aimed at younger users, but older adults are rapidly increasing worldwide (United Nations, 2017). It is critical to develop tools and applications that specifically support older

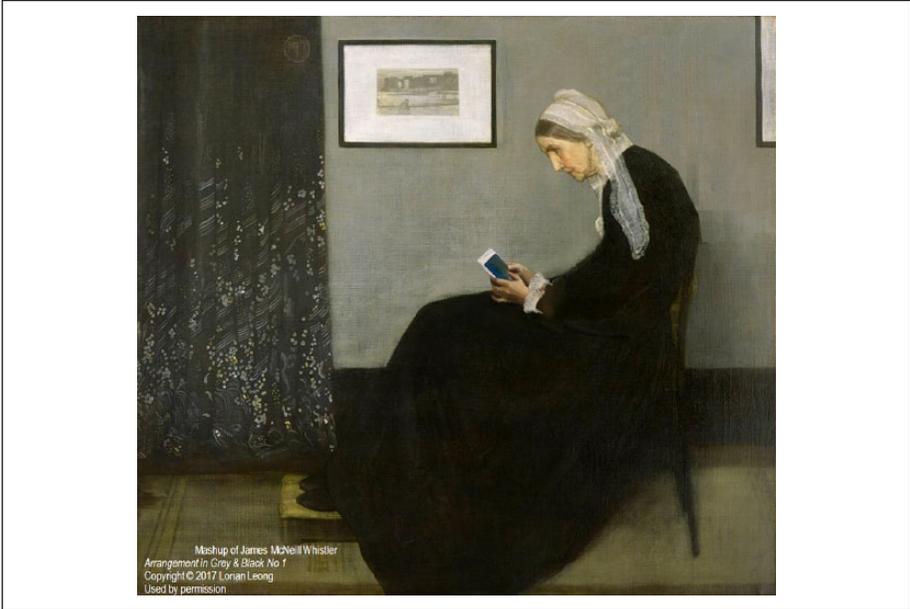


Figure 2. Whistler's networked mother.

adults' current activities and goals rather than pushing tools at them that are not linked to their everyday practices.

Fine-grained understandings of users and barriers are critical for implementing policies geared toward increasing digital skills among various user groups. Our typology suggests that by determining in what user cluster older adults belong, training programs could be devised that fit their specific needs and desires. Moreover, Savvy Users may be important role models and mentor other older adults. This is particularly important as past research suggests that digital skills are best learned from opinion leaders that peers see as members of their own community.

Hence, there is a need to make digital media more approachable and useful in providing functions that suit older adults' needs. This could be done by reducing the negative connotations surrounding digital media use and emphasizing to some older adults that online activity can be gratifying and manageable for all ages rather than just a hobby or a form of entertainment. Integrating digital media into older adults' lives should have positive benefits for their well-being including lower levels of loneliness by strengthening social relationships (Cotten et al., 2013), increasing social capital, providing relevant information, making arrangements, and shopping (Neves, Fonseca, Amaro, & Pasqualotti, 2018; Quan-Haase et al., 2016). Such a policy might aid older adults to develop more confident narratives of digital mastery and succeed in using it on their own terms. This new reality of connected older adults will then replace the old myth of grey older adults languishing at home like Whistler's Mother (Figure 2).

Limitations and Future Research

Our cross-sectional research design did not allow us to investigate changes in activities, skills, and attitudes toward digital media over time. Further research could rely on longitudinal data to disentangle cohort-based from generational differences.

We note that our reliance on self-report digital skill levels is problematic in two ways. First, the lack of direct observations of skill levels may have allowed inaccurate self-assessments (Cotten, 2017; Hargittai & Hsieh, 2012). Second, because younger adult, tech-savvy student assistants interviewed the older adults, their self-assessments could have been unfavorably biased, in a situation of researcher reactivity (Berg & Lune, 2017; Schreurs et al., 2017).

While our small sample size facilitated in-depth analysis, survey data could aid in further validating the typology—for all ages. Survey data would also provide a more reliable means for understanding how other individual (gender, ethnicity) and relational (network structure and composition) characteristics affect users' relative digital skills. A useful follow-up research question would be to see if those embedded in networks of savvy digital media users would see themselves as more adept and empowered or feel relatively deprived.

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