"He explained it to me and I also did it myself": How older adults get support with their technology uses

Hunsaker, Amanda ; Nguyen, Minh Hao ; Fuchs, Jaelle ; Djukaric, Teodora ; Hugentobler, Larissa ; Hargittai, Eszter

Abstract: Given that older adults constitute a highly heterogeneous group that engages with digital media in varying ways, there is likely to be large variation in technology support needs, something heretofore unaddressed in the literature. Drawing on in-depth qualitative interviews with a multinational sample of older adults, the authors explore the support needs of older adults for using digital media, including their perceptions of whether the support they receive meets their needs. Participants obtained assistance from both informal (e.g., adult children) and formal (e.g., computer classes) sources. However, the support given can lack immediacy, leaving older adults dependent on others' availability to provide it. Educational approaches that emphasize individualized support and wide availability might allow an improved experience for a population that is increasingly online with an interest in a wide range of activities.

DOI: https://doi.org/10.1177/2378023119887866

SOCIUS
Original Article

ASA AMERICAN SOCIOLOGICAL ASSOCIATION

Socius: Sociological Research for a Dynamic World
Volume 5: 1–13

DOI: 10.1177/2378023119887866
srd.sagepub.com
SAGE

"He Explained It to Me and I Also Did It Myself": How Older Adults Get Support with Their Technology Uses

Amanda Hunsaker[1], Minh Hao Nguyen[1], Jaelle Fuchs[1], Teodora Djukaric[1], Larissa Hugentobler[1], and Eszter Hargittai[1]

Abstract

Given that older adults constitute a highly heterogeneous group that engages with digital media in varying ways, there is likely to be large variation in technology support needs, something heretofore unaddressed in the literature. Drawing on in-depth qualitative interviews with a multinational sample of older adults, the authors explore the support needs of older adults for using digital media, including their perceptions of whether the support they receive meets their needs. Participants obtained assistance from both informal (e.g., adult children) and formal (e.g., computer classes) sources. However, the support given can lack immediacy, leaving older adults dependent on others' availability to provide it. Educational approaches that emphasize individualized support and wide availability might allow an improved experience for a population that is increasingly online with an interest in a wide range of activities.

Keywords

older adults, technical support, social support, technology use, Internet skills, Internet use, qualitative interviews

Introduction

The aging experience is highly heterogeneous, stemming from the numerous ways that individual characteristics (e.g., sociodemographics, genetics, health behaviors) as well as environmental factors (e.g., housing, transportation, working conditions) affect health and the aging process (Lowsky et al., 2014; Pongiglione, De Stavola, and Ploubidis 2015; World Health Organization 2018). This variability across a range of factors creates an increasingly diverse group of older adults (Stone et al. 2017) who in turn use the Internet in vastly different ways (van Boekel, Peek, and Luijkx 2017). Nevertheless, popular media and research often portray aging in a negative light and view older adults as a homogeneous group (Lloyd-Sherlock et al. 2012). Stereotypes also abound about how older adults go online, rendering all older adults as perennially behind in their technology use (Schreurs, Quan-Haase, and Martin 2017). Applying a homogenous view to aging also means multiple generations (e.g., the baby boomers, the silent generation) are collapsed into a single older adult age group, even though they may in fact have had varying experiences with technology use as the Internet was introduced during their private and/or professional histories. Similar to Quan-Haase et al. (2018), we do not assume homogenous experiences across older adults and include older adults from across the age spectrum to investigate their experiences with getting support for their technology uses.

The number of older adults going online and using digital media over the past decades has increased steadily (Anderson and Perrin 2017; Eurostat 2016, 2018b). Older users express an interest in using such technology in varying ways, including for informational and social reasons (Schehl, Leukel, and Sugumaran 2019), which has implications for how they connect with others and general well-being (Forsman et al. 2018; Quan-Haase, Mo, and Wellman 2017; Shillair et al. 2015). Additionally, older adults express an interest in learning more about digital technologies and the benefits they offer (Schreurs et al. 2017), pointing to a need for support. The diversity in the ways older adults use digital media and the overall heterogeneity of this age group in turn suggest a large

[1]University of Zurich, Zurich, Switzerland

Corresponding Author:
Eszter Hargittai, Institute of Communication and Media Research, University of Zurich, Andreasstrasse 15, Zurich 8050, Switzerland.
Email: pubs@webuse.org

variation in digital support needs. However, exactly how this growing diversity of technology use and generational context interplays with technical support remains less understood. Understanding what support needs this group has and whether their needs are being met is essential to knowing how to support the growing number of older adults as they increasingly incorporate digital media into their everyday lives.

This study examines how older adults experience problems when using their computers and phones, and the ways they address difficulties using digital media. In a multinational sample of adults 59 years and older, we explore (1) whether and how older adults receive support in using digital media and (2) older adults' perceptions of whether the support they receive meets their needs. We begin by reviewing literature about providing technical support focusing on what has been found with respect to older adults in particular and how it relates to the social context of this age group.

Social Support and Help with Technology Use

A substantial percentage of older adults (73 percent) report needing technical support when they first set up and use new electronic devices (Anderson and Perrin 2017). Technical support, defined as help to facilitate the use of available technology (Lam and Lee 2006:186), may be derived from varying sources, such as help desks or computer stores or informal sources including family and friends (Francis et al. 2018). Past work documents that across age groups, individuals turn to their social networks for technical support, and the prospect of such a network of technical support has bearing on whether and how one goes online (DiMaggio et al. 2004; Hargittai 2003).

In fact, among adults of all ages, receiving offers of technical support from friends and family relate to both Internet adoption and the continuance of Internet use (Hsieh, Rai, and Keil 2010), as well as better Internet skills (van Deursen and van Dijk 2011). For older adults, having potential support in their midst, such as a partner who uses technology, relates to a greater likelihood of being an Internet user (König, Seifert, and Doh 2018), while a lack of technical support may create a hindrance to going online (Friemel 2016; Lam and Lee 2006). Qualitative work shows that technical help via intergenerational relationships (i.e., support from grandchildren) in particular is important for digital technology adoption (Barbosa Neves, Amaro, and Fonseca 2013).

Older adults differ in how their professional lives interacted with the emergence of the Internet, and among this age group, a person may be more likely to be an Internet user if he or she used a computer during employment (Friemel 2016). However, past research has also found the opposite: older adults who used computers in their working lives may not continue to use such technology in retirement because of its complicated nature for which no support exists in the home (Selwyn 2004). Indeed, recent work reveals differing levels of Internet skills among older adults, where those who are younger, have more education, and have higher incomes also have higher Internet skills (Hargittai and Dobransky 2017; Hargittai, Piper, and Morris 2018; Hofer et al. 2019). More specifically, older adults report difficulties coping with new technology when it was first introduced in their workplaces, possibly because of ineffectual training approaches (or a complete lack thereof) and leading to early retirement or a disinterest in using technology in their personal lives (Barnard et al. 2013).

To whom older adults turn for technical support has bearing on whether and how support is obtained (Friemel 2016; Peek et al. 2016; Selwyn 2004). For instance, Selwyn (2004) described immediate family members or other close ties in particular as playing key roles in the adoption of information and communication technologies among older adults, while Friemel (2016) found that support at home from family and friends is the most preferred setting for learning Internet use. Older adults may even derive more support from such sources than from formal modes, such as online or telephone support (Selwyn et al. 2003). Overall, family provide the bulk of information and influence with regard to adopting new technologies, though sometimes a mismatch between the interests of older adults and their families can occur (Peek et al. 2016).

Indeed, family dynamics may play a significant role in how support is provided as well as how beneficial the receiver views the support. Some older adults describe frustrations with how support is given by certain family members and shy away from asking the same individuals for technical support again (Peek et al. 2016). Therefore, the success of such support may be influenced by how the support is given. Older adults voice varying preferences for ways to learn how to use new technologies, either through step-by-step instruction, independently playing with the device, reading instruction manuals, or a combination thereof (Barnard et al. 2013; Friemel 2016; Tsai, Shillair, and Cotten 2017).

Receiving technical support can also have positive implications for healthy aging. Several studies point to the importance of social support when technical difficulties occur and that receiving technical support may create opportunities for social connection with loved ones (Barnard et al. 2013; Cornejo, Tentori, and Favela 2013; Francis et al. 2018; Quan-Haase et al. 2017; Tsai et al. 2017). On the basis of in-depth qualitative interviews with older adults in a Canadian city, Quan-Haase et al. (2017) found that learning how to use technology became a method of garnering social support and even led to strengthened social networks for older adults. In a study of Mexican families' intergenerational support for using a social media platform, older adults reported improved social interactions both online and offline (Cornejo et al. 2013). A qualitative study in the U.S. Midwest even found that older adults developed and maintained relationships with formal technical support representatives, having derived

positive experiences from such interactions (Francis et al. 2018). Receiving formal Internet training and support can have implications for greater well-being and improved social interactions (Shapira, Barak, and Gal 2007). Adding to this body of literature, we examine the technical support experience of older adults in countries that have not been the focus of such qualitative investigations. We detail our methods below.

Data and Methods

This study draws on a larger study of in-depth qualitative interviews with 57 older adults aged 59 and older about how they keep in touch with people and institutions in their lives as well as about their experiences with the Internet and other digital technologies. As part of the larger study, we asked questions about participants' experiences with technical support. Questions covered (1) initial support received when first starting to use the Internet, (2) recent experiences with needing help with technology use, (3) barriers to receiving help, (4) sources of support and availability of support sources, and (5) specific queries regarding support for social media use and online security.

We conducted interviews in three European countries: Hungary, the Netherlands, and Switzerland. The vast majority of studies tend to include data from just one country, and a large portion of those include data only from the United States or Canada (see studies cited earlier). Our goal was to expand the literature to populations that have not been examined nearly as much. Although several studies about Swiss and Dutch older adults' Internet uses exist (e.g., Friemel 2016; van Deursen and Helsper 2015), these are almost exclusively all survey based. Our purpose in including participants from multiple countries is not to conduct comparative analyses; rather, we see it as an often ignored factor of diversifying a sample.

Unique to this literature and given the multiple generations that constitute this age group, we specifically explore technical support from the Internet's emergence to present-day Internet use, as we anticipate that how older adults experienced this trajectory may substantially differ. Given the wide span of time, technical support here can refer to support with computer hardware and software, online services, and uses of mobile devices. We explore the sources of support, the underlying rationales for support seeking, and the processes and ways for getting technical support. Because past work has found that the dynamics surrounding the source of support may particularly matter (e.g., Peek et al. 2016), we examine how older adults voice their expectations around support and whether and how those expectations are met.

Data Collection

We conducted one-on-one, in-person interviews with 57 adults 59 years and older during the last week of 2018 and the first several weeks of 2019. An age cutoff of 60 years is often applied to define older adulthood (United Nations 2016; World Health Organization 2015). Two respondents were either just a few days or just a few weeks away from their 60th birthdays, so we decided to include them. We used snowball sampling in three countries (Hungary, the Netherlands, and Switzerland) to identify potential participants. We conducted the interviews in respondents' preferred languages (mostly in Hungarian, Dutch, and German but in some cases also in English for some non-native speakers of the languages and multilingual participants). During recruitment, we paid special attention to including approximately equal numbers of men and women in each country and a diversity in age, which is reflected in the sample characteristics described below. Interviews took place in people's homes, in cafés, and in one case at the respondent's place of employment. Interviews ranged from 18 to 135 minutes, with variation in length based largely on the extent of digital technology and Internet use of each participant.

Respondents also completed a short self-administered survey. Questions covered demographics (age, gender, education, marital status, employment status, and household size) and Internet experiences. The latter asked about whether participants had ever taken courses or workshops about the Internet and ownership of and Internet access on a smart phone or cell phone, tablet, desktop, or laptop. We also asked about daily frequency of Internet use (number of hours). The survey additionally included an Internet skills measure that queried understanding of 8 Internet-related terms (Hargittai and Hsieh 2012). Participants used a scale ranging from 1 to 5, where 1 = no understanding, 2 = little, 3 = some, 4 = good, and 5 = full understanding. We averaged these scores, and higher scores indicated greater skills. The mean for the sample was 2.9 (SD = 1.1). The purpose of this short survey was to get some sense of the overall demographics of the sample and their online experiences.

Sample Characteristics

Table 1 provides sample characteristics. Briefly, the mean age of our sample is 70 years (range = 59–91 years), and just over half are women (55 percent). About half completed a college degree or more (53 percent). Almost half of the sample resides in Switzerland (n = 27 [47 percent]), while 18 (31 percent) live in the Netherlands and 13 (22 percent) live in Hungary. More than two thirds are married or living with a partner (67 percent), and the majority (72 percent) are retired.

When inquiring about Internet experiences, we found that about a third (35 percent) have previous experience with taking a course about using the Internet, and all but one are currently Internet users (98 percent). Almost all participants own a cell phone or smart phone (97 percent) and a desktop or laptop (93 percent), while fewer, but still the majority, own a tablet (72 percent). Most participants report Internet access on their cell phones or smart phones (83 percent) and

Table 1. Sample Characteristics (n = 57).

	Frequency	Percentage	Mean	*SD*
Sociodemographics				
Age (range = 59–91 years)			71	7
Female	31	54		
Education				
High school or less	14	25		
Some college	12	21		
College degree or more	31	54		
Country of residence				
Hungary	13	23		
The Netherlands	18	32		
Switzerland	26	46		
Marital status				
Never married	1	2		
Married/living with a partner	38	67		
Divorced/separated	5	9		
Widowed	13	23		
Employment status				
Retired	42	74		
Working	11	20		
Other	4	7		
Internet experiences				
Internet user	56	98		
Taken course about using the Internet	19	33		
Ownership				
Cell phone/smart phone	55	96		
Desktop/laptop	53	95		
Tablet	41	72		
Internet access				
On cell phone/smart phone	47	82		
On desktop/laptop	53	93		
On tablet	41	73		
Frequency of Internet use (hours/week)			2.0	1.4
Internet skills (range = 1–5)			3.1	1.3

desktops or laptops (83 percent) and tablets (71 percent). Participants report visiting Web sites, including social media but not counting email, an average of 2 hours each day (range = 0–6). The mean for Internet skills was 3.1 (*SD* = 1.3). These sample descriptive statistics suggest that the group is relatively privileged in their Internet access.

Analytical and Coding Procedures

All interviews were audio-recorded and transcribed. Additionally, interviews conducted in High German, Swiss German, Hungarian, and Dutch were translated to English for coding. We began with open coding to identify emerging themes and create coding categories (Corbin and Strauss 2015), with each team member identifying themes after coding two or three interviews. We then held a consensus meeting to determine an overall coding scheme, and applied this scheme to a second group of two or three interviews. After coding this next group of interviews, we held a second consensus meeting to refine and finalize the coding scheme. We additionally held weekly meetings and used a shared online document to discuss areas of coding in which we identified uncertainties to ensure intracoder reliability.

Throughout the coding process and after coding two or three interviews, each coder drafted a memo to document general observations regarding the emergence of patterns, any new codes that could be applied, and overall questions regarding the coding process (Babbie 2005; Silverman 2015). When we identified new codes, we went back and recoded cases we had already processed earlier to make sure we did not miss instances of the new codes. Memos were shared with all coauthors for feedback and as an additional tool for ensuring reliability across coders. Each coder drafted a case summary to describe the overall experience of support for each participant she coded. We did all of the coding in Microsoft Word using comments, which we then exported en

masse into Microsoft Excel using the DocTools ExtractData add-in for Word. Once in Excel, we sorted quotes by thematic content, on the basis of our coding scheme. For each theme, we continued with the process of memo writing, highlighting examples of thematic findings and refining these in the process, as well as confirming results with the research group. These memos then formed the basis of the "Findings" section, in which we first briefly describe the kinds of technical issues that occurred for older adults, followed by a detailed discussion of the three themes derived from our interviews: needing support, getting support, and availability of support.

Findings

In this section, we start by briefly describing the types of technical problems respondents reported facing. Then we explain the three major support themes that emerged from the conversations followed by a detailed examination of each with example quotations to illustrate them.

Types of Technical Problems

The types of technical problems older adults faced varied highly and ranged in the specificity of the problem. These instances were depicted as problems in which a program or device no longer worked or when "things go wrong and you can't go further" (65, male, Switzerland). The complexity of such problems also varied across participants. Technical problems could be highly specific, such as how to edit an Instagram post, or very general, such as the desire to understand technology better. Respondents described needing help with social media functionality, online security, setup and connections between technical equipment or devices, and tasks such as Internet banking, online photo management, and shopping online. Participants also described professional reasons for technical support that occurred when the Internet was first diffusing to the mass population and many were in the workforce. The need for technical support could concern a specific incident in the moment, such as needing to change a password for a Web site, or could be a recurring issue, such as regular help with online purchases from other countries.

Major Support Themes

From our conversations with older adults regarding their technical support experiences, we identified three overarching themes: needing support, getting support, and availability of support. We define needing support as instances when participants relayed technical dilemmas necessitating support or described situations in which they considered requesting support from others. Participants' need for support differed in relation to type of technological activity, self-confidence in technology use, and over time may depend on the Internet's stage of development. In these cases, participants described a lack of knowledge and/or insecurity in relation to the given task and in some cases also expressed concern in their abilities to locate technical support. In contrast, participants also described instances of not needing help, recalling the completion of different technical tasks on their own or confidence in doing such tasks independently.

Differing from needing support, instances of getting support were descriptions of actually receiving technical support that in some cases, but by no means all, co-occurred with voiced technical support needs. Participants described the reasons for receiving support, the sources of such support, and the ways they received support. Participants also relayed stories of successes and frustrations in getting technical support often pertaining to the availability of sources of support and the approaches such sources provided. We found that overall, both needing and getting support could each relate to a targeted technical problem and to accessing general knowledge and training.

A final theme centered on the availability of support, or the accessible nature of support, and was prominent in relation to both needing and getting support. Participants discussed availability in relation to support from formal and informal sources and relayed instances in which support was entirely unavailable, lagged in availability, or was consistently available. In exploring these themes, the following sections describe older adult's experiences as they navigated technical issues from the beginning of the Internet's mass diffusion into their present day lives.

Needing Support

The theme needing support refers to moments of technical difficulty that necessitated support leading older adults to consider asking for help from others. Such need for help could be ongoing, could vary across time, and could be addressed through ongoing support. For example, one participant relayed an ongoing need for help that coincided with getting help during the Internet's early years (70, male, Netherlands):

> I think at first, there were a lot of times when I asked for help, but often something [some kind of support] had already started, for instance at work, when there were new computer programs. Yes, then first there is a course [about the new computer program]. And, well, then there are always things that you don't understand. And that's when you ask.

We found other instances in which participants voiced needing help in tandem with getting help. For example, this participant (65, male, Switzerland) described the typical process of asking his sons for help and how help is provided: "So we're on the phone [with sons] and say, 'Listen, we need help,' and they can normally sort it out. They can always tell us and give us tips."

Insecurity and Confidence in Digital Skills and Support. Although not a universal to our sample, some older adults relayed a lack of confidence in their own ability to address their technical problems, and these expressions of insecurity in digital skills often co-occurred with needing help. One participant believed that she had no "computer savvy" (65, female, Switzerland), while another expressed a lack of knowledge that creates a barrier to further computer activity and a need for support from his wife (71, male, Netherlands):

> If I have a problem doing something with it [his computer], she can solve it in 9 out of 10 cases. I immediately stand with my hands in [my] hair. I have no idea what to do. I don't know which button to press. No idea. So she has led me a bit into that.

Insecurity could also co-occur with an interest in knowing more about how to complete technology-related tasks as well as dependence upon others (82, female, Switzerland):

> Yes I would like to understand more of all of that, about these technologies. . . . I depend on people to explain it to me and to install something for me and all that. I would appreciate it if I understood it a bit better.

Insecurities also manifested in relation to finding technical support. One participant (82, female, Hungary) described her attempts to find help information online in relation to making holiday cards:

> And I was looking for how to download it and couldn't find the answer anywhere. I probably don't know how to look for it. . . . I guess if I really want something then I will figure it out even if I don't know.

This participant voiced a preference for reaching her own solutions to technical problems, but also received help from her adult children and neighbor. Another participant (77, male, Netherlands) described an interest in using new technology but not knowing where to begin with getting help or being able to set aside time to pursue such activities:

> Yes, there must be an opportunity. Of which I think: 'Yes, well, that's a good time to do that.' That has not happened yet. . . . Because it is a bit new. I need to dive into it: How exactly do I do that?

Participants spoke about their insecurities in being able to define their support needs clearly. One participant (63, female, Hungary) who generally prefers to get help with solving technical problems noted constraints in knowing the types of online activities for which she could receive support:

> **Interviewer:** Is there any kind of online activity or mobile activity that you would like to get help with?
> **Participant:** I'm sure I do [need digital media help], I just don't know it well enough so that I would know what to ask about or ask for.

In this instance, the participant believed that the complexities of Internet use fell beyond her scope of understanding.

We found that such insecurity in need for support additionally co-occurred with doing nothing, exemplified by this participant (84, male, Hungary) when he relayed a problem with the language setting of a spellchecking tool. When asked what he would do in order to solve the problem, he simply replied, "Nothing." We therefore found that a need for technical support was not always followed by receiving such support.

Alternatively, need for support could also interact with confidence in digital skills. Those who expressed more confidence in their digital abilities relayed situations in which they needed help with problems perceived as more difficult. One participant (71, male, Switzerland) explained his need for help with complex technical issues in relation to the ease of solving technical problems for his sister: "because if it's my sister's problem, I need 10 seconds. If sometimes I have a problem, I need three days to solve it. It's a different order of magnitude." This respondent's professional background in computer science allowed him to help others as well as solve technical problems primarily on his own. Another participant (67, male, Switzerland) distinguished between the kinds of technical activities where he needs help as opposed to those he has mastered:

> The printer doesn't work, or the router is out, or we are not online. . . . But I mean, by now I know a bit what can go wrong, and if something goes wrong, I know I can follow a pattern, and then if it doesn't work anymore, I find the boys [his sons] or the help desk. But it's the tech part. I don't need to ask them to find a home page or whatever. I'm using it [the Internet] often.

Lack of Support Needs. Although many participants voiced a need for help with digital media, others, often long-time users of the Internet, described no need for such support. These participants instead relied on their own abilities to solve technical problems. For example, when asked about needing help with Facebook, one participant (73, male, Hungary) replied, "No, it can be figured out if you have been using the Internet for a long time." In particular, we found that older adults who currently or who had in the past used the Internet for work, many of whom were now retired, reported fewer or no existing support needs.

As noted earlier, support needs varied on the basis of the kinds of technical issues that arose. Some expressed need for support for certain issues and not for others. Other participants voiced confidence in all aspects of their digital use and therefore no need for help. For example, one participant (72, female, Netherlands), when asked about technical support needs replied with total confidence:

> **Participant:** I did it myself. All by myself.
> **Interviewer:** Did someone ever help you set up an account?
> **Participant:** No, not [for that] either. [Laughs]
> **Interviewer:** Was that easy for you?
> **Participant:** Yes, absolutely.

Lack of need occurred as early as when people initially started using the Internet. For example, when asked who helped him at the start of Internet availability, one participant (68, male, Hungary) simply replied, "Well, myself."

Those expressing no need for help described "learning by doing" (61, male, Switzerland; 70, female, Switzerland). For example, one participant (84, male, Netherlands) shared his process of learning about the early uses of the Internet, where help might have occurred in parallel with an interest in exploring and learning independently:

> He [his son-in-law] explained it to me, and I also did it myself. . . . I thought, 'I want to discover it myself. Try it myself.' Because it is nice that in the beginning there is help, the basics. But the rest I just want to discover myself. And if I do it wrong, well then I do it wrong, then I will start again. It is a device where you can start over and over again.

Some participants specified that they addressed technical problems through Internet searches. For example, when asked why he does not need help, one participant (72, male, Netherlands) replied, "Because I can usually solve it myself, by looking it up on the Internet."

Participants also described over time changing their approaches to learning how to use the Internet. Such cases often concerned people requiring support initially but being self-sufficient after receiving support. One participant (77, male, Netherlands) noted an initial need for help with online security that diminished over time, "Yes, absolutely, now I know. But at first I did not, of course. Because with everything you first think, 'Oh!' And then you understand the logic and then you make it your own."

An additional rationale for not needing support related to a general sense of fulfillment from their current abilities and little interest in extending their Internet purview. For example, one participant (72, female, Switzerland) described an awareness of her limited use yet also a sense of contentedness in the ways she goes online:

> Usually, I mean I am well aware that most of the stuff I use, there's much more I could do with it. But one, I'm not that interested. And two, it's just, I'm just happy if it functions without big problems. . . . My ambitions are quite low in this regard.

Another participant (59, female, Hungary), when asked whether she wanted Internet help, said, "Well, I really don't think so. No. So what I need it for, I know how to use it, and that's enough for me. For now, I do not want to deal with much more than that."

On occasion, needing help coincided with not needing help and such distinctions occurred on the basis of the technical task at hand. For example, one participant (69, female, Switzerland) described needing support with setting up a retail Web site, but not needing it with the site's ongoing management. Overall, we found that older adults are making nuanced decisions about when they need technical support, and their support needs highly vary on the basis of their own appraisal of their technical abilities and requirements. Next, we turn to the experience of receiving technical support, including an examination of who provides it and how such provision occurs.

Getting Support

Participants relayed numerous experiences of actually receiving technical support. Throughout their stories of getting help, participants described the reasons they received support, who provided support and how much support they got. As noted earlier, instances of getting help intertwined with discussions of not getting help, or a lack of needing support.

Older adults relayed experiences of receiving technical help in both their personal and professional lives. For this age group, at the time of the Internet's emergence, getting technical support seemed to be a universal experience on the basis of many related quotations from participants. One respondent (66, male, Switzerland) with a professional background in computer science even recalled that everyone was getting help when the Internet began, "Well, everybody had to do it to some degree." Finally, participants shared stories of successes and frustrations in getting technical support in relation to who provided the support and how the support was obtained.

Sources of Support. When older adults spoke of getting technical support, they often described who provided such support. Older adults received support from informal sources such as family (spouses, adult children, siblings), friends, neighbors, and work colleagues (the latter referring to non–information technology [IT] professionals). Spouses and adult children often served as the first line of informal support, while other sources such as grandchildren and friends were less common. Participants also described getting support from formal (paid) sources through computer courses and in-store assistance, as well as remote (phone or online) or on-site (home-based) customer support. Descriptions of using varying sources of support were common; participants might rely on adult children as well as technical support staff for problem solving depending on the task at hand or the availability of support. Variation in the sources of support related to the availability of such sources; in several instances participants expressed that their adult children were not always accessible. In these situations, participants turned to paid options when informal support was unavailable. For example, one participant (59, male, Netherlands) described a friend being available "Not every minute, but when he has time for me," while his daughter was "rarely" available. Another respondent (75, female, Switzerland) noted that her children are unavailable to provide support and described using varied formal sources of support, including computer classes and store-based technical support:

> If I had problems using [technological devices] then we went to [computer support store], and we went to their school . . . and they gave us an hour and downloaded everything for us, and explained everything to us. . . . I mean, you pay a bit for that, but still . . . it's worth it to have the knowledge and the peace of mind.

Some participants reported a preference for using paid sources of support or "experts." More specifically, we found that older adults with professional backgrounds in IT and presumably high digital skills could recognize where they lacked specific technical understanding and therefore needed the support of an expert. One participant (66, male, Netherlands) who worked in IT described the importance of getting support specifically from security experts in his professional world and why he approached getting support in this way:

> No. I don't know anything about that [online security] and I want to keep it that way. We are in a separate profession. It's not a matter of fiddling a little . . . I use it professionally. So it's my job. And if that thing breaks down, I can't work and I can't earn any money.

Others also placed value on expertise found in paid technical support. One participant (70, male, Netherlands), although not possessing an IT background, explained his rationale for seeking formal support for online security:

> I'm not experienced enough. Maybe I have to do it once in a year. And they [experts] do it every day. They also immediately check whether everything is right. If I would always be busy with that, I could do it. It is not necessary. I prefer a professional who does it well. Then I know it's right. Otherwise I think I'm not safe.

In these instances, participants placed a high value on formal technical support and conveyed a certainty regarding the technical areas (often security-related) necessitating specific skills available from such support sources.

Mode of Support: Doing versus Teaching. Participants described two primary ways of getting support from others: by someone completing the task for the participant or by another individual showing or providing instruction in how to complete a technical task. Both methods of support could occur for the same older adult, although in certain instances participants voiced a preference for one or the other.

Among participants who expressed a preference for others completing technology-related tasks for them, such preference occurred for tasks done with less frequency or which could potentially be time consuming. One respondent (75, female, Switzerland), who relied on several different sources of support, described satisfaction with others completing the task:

> but my son will do that for me. . . . I have an Excel program for my daily budget or for our family budget, and he does the transferring for me. He set up the new tablet for me for this year. I know it's not very complicated, but if you only do it once a year. . . . I mean, it takes him 5 to 10 minutes to do it. That would be something that I could learn, but I feel like if I don't use it daily then I let someone do it for me.

Some participants even relayed that they used a shared screen viewer so that formal and informal support sources could access their computer and solve technical issues. One respondent (75, female, Switzerland) who frequently receives help from her brother described that he set up such a method so that he could help her remotely and with greater ease:

> My brother has the team viewer with me, because he's living [a long distance from participant]. And in the beginning I called him daily, and he had to always come [laughs] and he then gave up. He made this team viewer, so . . . I can just call him or send him a mail, and he comes . . . to my computer. He always helps me [with] something that is not okay.

Instances of teaching included participants sitting with and receiving instruction from support sources to complete a task or learning from formal courses. One participant (74, female, Switzerland) described getting ongoing informal support from her daughter: "If there are new programs [she] usually shows them to me and shows me how they work." The teaching approaches used by informal support sources were not always so hands-on. One participant (66, female, Netherlands) shared that her son simply explained that she should independently look for answers to technical problems online:

> But I have my eldest son and he just says "Mom you have to Google it." Okay type in your question, "How can I? How should I?" and then you find the answer. . . . Well, the rest is a bit of a try.

Although this participant did not describe full satisfaction with this approach, she conveyed a willingness to undertake his suggestion.

Frustrations could arise in relation to the method of providing support. The above participant who was given advice to run a search on Google described a generally hurried approach by her children for providing technical support to her when she had first begun using the Internet: "Especially in the beginning when I had no idea how to do something. And then you have children and they are behind you and they move the mouse, and then you think, 'What's happening?!'" Another participant (84, male, Netherlands) described a time when he corrected the way his son-in-law provided support:

> Well, if I can't find a solution at all, if I don't know a solution, then I ask my son-in-law, "How should I do that and that?" And then he's like: "Oh, I'll do that," and then he does it too quickly. "Do it slowly," I say. And then I can see it myself, you know?

Such certainty regarding one's preferred way to receive support might in turn lead to greater independence in solving technical problems in the future so it can be helpful for those giving support to listen to feedback provided by those needing their support.

Availability of Support

As noted above, respondents discussed the accessibility of support prominently in relation to both needing and getting technical support, and such availability could even be a main determinant of when and whether help actually occurred. We defined availability as whether and when support sources could provide the requested help. Although instances in which technical support was not immediately available pervaded, examples of continuous support from informal and formal support sources also occurred. Participants additionally relayed instances of waiting for help to become available both when participants expressed a need for help and in describing the process of getting help.

Lack of Availability. A lack of availability of informal support coincided with not getting help from both informal and formal sources of support. Phrases such as "they're never available" were repeated by several participants (75, female, Switzerland; 65, male, Switzerland) when describing potential support from adult children and grandchildren. These instances occurred both when children were living far away as well as in close proximity to their parents. As one participant (75, female, Switzerland) who earlier described getting help from her children further conveyed, "They're always doing something. They're studying, or they're abroad, or they're then having their own family . . . so it's difficult to, even though they have quite a comprehension, it's hard to get their assistance often." Another participant who earlier shared his process of distinguishing between the technical situations that require or do not require help (67, male, Switzerland) later described encouragement from his children to look for answers to solving his technical problems independently before turning to them for support: "Because with things like this, when I was told by the boys [his sons], 'Don't ask me, check first.'" The same participant acknowledged not getting support from his spouse, because they were of the same generation and thus shared the same skill set or technical knowledge base: "[My wife] doesn't help that much because she's also my age." Finally, one participant (84, male, Hungary) described a preference not to ask a knowledgeable grandchild because of the burden that asking the grandchild creates:

> **Participant:** By the way, one of my grandchildren is a computer whiz, but I don't like to contact him because he doesn't like to give information.
> **Interviewer:** Do you know why he doesn't like to give you any information?
> **Participant:** Because it's cumbersome.

Other participants described a lack of availability from some potential sources of informal support and turned to other support sources in their place as in the case of this respondent (63, female, Switzerland): "[Son] just doesn't have time, sometimes he doesn't answer things for a long time, but my friend can do that well."

Lack of availability of formal support also occurred in the stories participants shared of seeking technical support in their professional lives. One participant (66, male, Switzerland) with a long career in IT described professional moments when getting help from other specialists was not always possible:

> you sort of probe around and sometimes people will tell you, "We're not going to tell you that [computer coding considered proprietary information]." You can ask again and sometimes they'll tell you, but sometimes they really are . . . they're not going to tell you.

Another participant (78, male, Switzerland) experienced a general lack of availability of computer or technical classes for the advanced knowledge he required in his work setting and instead learned on his own through his professional experiences.

Recurring Availability. Some older adults used certain support sources in a repeated fashion. In these instances, older adults noted a general availability of formal sources of support and their recurrent use of such sources as well. For example, one woman (75, Switzerland) described her satisfaction and repeated use of technical support at an Apple store:

> Then I bought the course for 144 francs [~$144], it is good for any year [time during the year]. Arrive every day if I wanted to get one-to-one. Then I learned everything. . . . Now it's five years ago, but when I have something [a technical problem], I have to pay. But if I [call in advance] they say, "You come on Thursday, 10:30 for 10 minutes, it's without paying."

Recurring availability and frequent support occasionally emerged for informal support sources as well. One participant (73, female, Hungary) noted, "It happens all the time with my daughter. She helps me find Web sites and many other things."

Waiting for Help. Participants expressed a dependence on the availability of others that resulted in waiting for problems to be solved while also noting their own lack of urgency for technical support. One participant (75, male, Switzerland) simply turned off the computer and waited until his spouse was available. Others paired having to wait until help was available with their own sense that the issue was of minor importance, as in the case of this participant (77, male, Hungary): "I e-mail, I'll wait until a visit. I don't remember that I would have urgent necessities." We found one participant who voiced a desire for instant help (74, female, Switzerland) and stated, "When I have a problem I

usually ask for help immediately." However, in another instance she described her problems as usually not being pressing: "No, but in most cases my problems are not so urgent that they have to be solved immediately. I wait until [my daughter] is reachable again." Such waiting occurred when participants sought help from family or other sources of informal support. In relation to formal support, several participants noted that they had considered attending a computer class but had not yet pursued it or expressed that it was not a current priority.

Those waiting for help were reliant upon when family members were ready to provide help, such as for this participant (82, female, Switzerland): "Yes, yes, but sometimes I have to wait until he [son] does whatever. Like installing something new or something like that, he does that when he feels like it." Another participant (77, male, Netherlands) described receiving support when his grandchildren visit: "Very occasionally I call one of my grandchildren. Or that is especially when they are here, that I ask them something." Of note, participants did not express that waiting could be a barrier to using digital technology, though these experiences of delayed support availability could constrain technology use.

Discussion and Conclusion

In studying older adults' need for getting technical help and whether they received their desired help, we found considerable diversity mirroring the large variation in how older adults use the Internet (van Boekel et al. 2017). Older adults voiced a highly varying range of need for technical support as well as varying instances of both receiving and not receiving technical help. We also found that needing technical support could co-occur with expressions of insecurity regarding technical abilities, while older adults not needing support were long-time users and may specifically express confidence in their skills. Participants reported receiving help from different informal (e.g., spouses, adult children, grandchildren, siblings) and formal (e.g., computer classes, store-based and remote technical support staff members) sources. However, in certain instances the support given lacked immediacy, which poses challenges for older adults who depend on the availability of their support sources.

Importantly, we found that despite widespread assumptions to the contrary (Schreurs et al. 2017), there are older adults who are quite self-sufficient in the ways they use digital technology. Past work notes that older adults may first work independently to solve computer problems rather than turn to others for advice (Selwyn et al. 2003), findings our data also support. As voiced by some of our participants, a preference for independence builds up self-reliance in digital technology activities, which decreases the need for subsequent support needs. Some in our sample described using the Internet since its inception and expressed confidence in their technical abilities because of their long-standing use, corresponding with previous work that connects preretirement computer use to being an Internet user in older age (Friemel 2016; Quan-Haase et al. 2018; for an exception, see Selwyn 2004). Long-time users expressed comfort with solving technical problems on their own yet also acknowledged knowing when they needed to seek support from other experts. Some older adults with later Internet adoption also shared their comfort with learning to solve problems on their own as well, by searching online or reading manuals, corresponding with previous work (Barnard et al. 2013). Others expressed general satisfaction with their Internet skills and contentment with the kinds of online activities they pursued, similar to past work (Quan-Haase et al. 2018).

A sense of self-sufficiency appeared whether older adults had been long-time Internet users or adopted the Internet later in life. We may presume that older adults with high self-sufficiency in digital media use and an awareness of their skill level have a substantial amount of understanding regarding the kind of user experience they are seeking. Recent work finds that older adults who use the Internet in multiple ways and have medium to higher levels of Internet skills place value on expanding their own abilities and become sources of technical support for others (Quan-Haase et al. 2018), supporting this posit. We also found that older adults who do need help learned from getting such help and then can become self-sufficient in their digital lives. This finding implies that investing in digital-media support can have beneficial outcomes. Past work shows that formal computer training can enhance the computer and technical self-efficacy of older adults (Czaja et al. 2018; Laganá and García 2013; Seo et al. 2019). Exploring whether informal support sources may also benefit self-efficacy, and whether informal and formal support differs in the effect on self-efficacy, may offer guidance in determining what kinds of support may be most useful. Past work examining Internet self-efficacy among older adults reports that seeking technical support in course settings could create a source of Internet self-efficacy (Lam and Lee 2006; Lin et al. 2013), though further work could better tease out whether informal support makes a difference. As digital media continues to change with the emergence of new devices and platforms, whether and how older adults obtain technology support, including those who are more self-sufficient, are important considerations.

Not all who receive support pronounce full satisfaction with their support system. Some older adults described having to turn to other sources of support when their main sources were unavailable. They also made decisions not to seek support when potential support sources are deemed "cumbersome." We also found instances in which older adults who used informal sources of support, often adult children, would also engage professional support, either for specific tasks or for when informal support was unavailable. Using professional support additionally occurred when older adults were dissatisfied with the way support was provided by their informal sources.

The availability of informal support sources can be a key driver of whether support occurs, as we found in particular when participants described waiting for support to be given. Although our participants did not always equate dissatisfaction with the lack of immediacy in getting help from others, such waiting may be deterring actual use of digital media that could otherwise be benefitting the older adult. Lack of urgency implies that the mobilization of one's social network to provide help is also delayed, and therefore so are the secondary benefits of such connection (Francis et al. 2018; Quan-Haase et al. 2017). Further work to characterize the timeline of technical support, as well as how it affects digital media use for this age group, is warranted.

Differing from past work (Cornejo et al. 2013; Francis et al. 2018), we found fewer instances of support garnered from grandchildren and more support arising from adult children. We surmise that the availability of grandchildren to provide support might be diminished by the availability of their parents, the adult children of our participants. Future work might better explore how these family constellations affect technology support for this age group. Indeed, tensions regarding support from family (e.g., adult children, grandchildren) may create a reluctance to seek technical support from family sources. Past qualitative work finds that older adults may also be reluctant to adopt technology because of the burden such use may create for their family (Peek et al. 2016). Other qualitative work finds that older adults perceive themselves to be dependent upon their support sources (Schreurs et al. 2017), something some of our participants also express. In these instances, older adults recognize the benefit of turning to alternate support sources.

Like all research, this project has limitations, inspiring avenues for future research. First, we obtained information only from older adults about their views of technical support; we did not speak to the sources of support directly and thus have data about only one side of that relationship. How the sources of support view the helping process may differ from the respondents' reports. Future work could extend to examining views of the support relationship from those providing it.

Second, the goal of our study was to gain a deeper understanding of older adults' support seeking with digital media rather than a population-based look at technical support among older adults. Therefore, we allowed several threats to generalizability in our sampling process due to convenience and snowball sampling. Older adults may have self-selected whether to participate in the study upon hearing that we were looking for people to answer questions about their communication practices and using the Internet, although we purposefully left the study description vague in anticipation of this issue. Nonetheless, those who are not Internet users may not have responded to our call for participants, and indeed, just one participant in our study reported not being an Internet user, even though a larger proportion of the population of older adults are nonusers. Our sample has a higher education level than is reported for older adults in each country (Eurostat 2018a), and we may also underrepresent individuals who are less skilled in using technology. The sample is also relatively privileged in that most have several devices on which they can go online. Were the sample even more diverse, the variations in experiences that we find regarding support needs would likely be even larger. Future work might apply stratified sampling approaches on socioeconomic status to investigate whether differences occur on such dimensions.

In sum, drawing on in-depth interviews with a multinational sample of older adults, we examine experiences with technical support in everyday life and perceptions of whether the received support is meeting the desired needs. We found considerable heterogeneity in the ways that older adults expressed their needs for technical help, the types of tasks for which they needed technical help, and the ways that they obtained such support. Social networks play a critical role in providing assistance, yet availability and approaches to support provision can hamper support outcomes. Although most often family members, especially adult children, are the main source of support, greater access to alternative community-based support may be an additional source of help for individuals who lack satisfactory options within their own social circles (Seo et al. 2019). Additionally, given our findings that older adults can have great ease with solving technology-related problems, peer-driven support networks where older adults can offer support to others in need may be an effective approach to providing digital technology guidance. Tailoring support to individual technical needs and learning preferences, possibly via peer-led support programs, might enable an improved user experience and greater independence in Internet use. Training family members in ways to support their loved ones most effectively in their technology use may also be of benefit to the support providers as well as the support recipients.

Acknowledgments

We thank our study participants for giving their time to this project. We appreciate support from the University of Zurich that made this study possible.

ORCID iD

Eszter Hargittai https://orcid.org/0000-0003-4199-4868

References

Anderson, Monica, and Andrew Perrin. 2017. "Tech Adoption Climbs among Older Adults." Retrieved August 28, 2017. http://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/.

Babbie, Earl. 2005. *The Basics of Social Research—Instructor's Edition*. 3rd ed. Toronto, Canada: Wadsworth.

Barbosa Neves, Barbara, Fausto Amaro, and Jaime R. S. Fonseca. 2013. "Coming of (Old) Age in the Digital Age: ICT Usage and Non-usage among Older Adults." *Sociological Research Online* 18(2):1–14.

Barnard, Yvonne, Mike D. Bradley, Frances Hodgson, and Ashley D. Lloyd. 2013. "Learning to Use New Technologies by Older Adults: Perceived Difficulties, Experimentation Behaviour and Usability." *Computers in Human Behavior* 29(4):1715–24.

Corbin, Juliet, and Anselm Strauss. 2015. *Basics of Qualitative Research*. Thousand Oaks, CA: Sage.

Cornejo, Raymundo, Mónica Tentori, and Jesús Favela. 2013. "Enriching In-Person Encounters through Social Media: A Study on Family Connectedness for the Elderly." *International Journal of Human-Computer Studies* 71(9):889–99.

Czaja, Sara J., Walter R. Boot, Neil Charness, Wendy A. Rogers, and Joseph Sharit. 2018. "Improving Social Support for Older Adults Through Technology: Findings from the PRISM Randomized Controlled Trial." *Gerontologist* 58(3):467–77.

DiMaggio, Paul, Eszter Hargittai, Coral Celeste, and Steven Schafer. 2004. "Digital Inequality: From Unequal Access to Differentiated Use." Pp. 355–400 in *Social Inequality*, edited by K. Neckerman. New York: Russell Sage.

Eurostat. 2016. "Internet Access and Use Statistics—Households and Individuals." Retrieved October 29, 2019. http://ec.europa.eu/eurostat/statistics-explained/index.php/Internet_access_and_use_statistics_-_households_and_individuals.

Eurostat. 2018a. "Educational Attainment Statistics." Retrieved June 20, 2019. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Educational_attainment_statistics.

Eurostat. 2018b. "Internet Access and Use Statistics—Households and Individuals." Retrieved June 24, 2019. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Internet_access_and_use_statistics_-_households_and_individuals&oldid=379591#Internet_activity_by_age_group.

Forsman, Anna K., Johanna Nordmyr, Tihana Matosevic, A-La Park, Kristian Wahlbeck, and David McDaid. 2018. "Promoting Mental Wellbeing among Older People: Technology-Based Interventions." *Health Promotion International* 33(6):1042–54.

Francis, Jessica, Travis Kadylak, Taj W. Makki, R. V. Rikard, and Sheila R. Cotten. 2018. "Catalyst to Connection: When Technical Difficulties Lead to Social Support for Older Adults." *American Behavioral Scientist* 62(9):1167–85.

Friemel, Thomas N. 2016. "The Digital Divide Has Grown Old: Determinants of a Digital Divide among Seniors." *New Media & Society* 18(2):313–31.

Hargittai, Eszter. 2003. "Informed Web Surfing: The Social Context of User Sophistication." Pp. 257–74 in *Society Online: The Internet in Context*, edited by P. Howard and S. Jones. Thousand Oaks, CA: Sage.

Hargittai, Eszter, and Kerry Dobransky. 2017. "Old Dogs, New Clicks: Digital Inequality in Skills and Uses among Older Adults." *Canadian Journal of Communication* 42(2):195–212.

Hargittai, Eszter and Yuli Patrick Hsieh. 2012. "Succinct Survey Measures of Web-Use Skills." *Social Science Computer Review* 30(1):95–107.

Hargittai, Eszter, Anne Marie Piper, and Meredith Ringel Morris. 2018. "From Internet Access to Internet Skills: Digital Inequality among Older Adults." *Universal Access in the Information Society* 18(4):881–90.

Hofer, Matthias, Eszter Hargittai, Moritz Büchi, and Alexander Seifert. 2019. "Older Adults' Online Information Seeking and Subjective Well-Being: The Moderating Role of Internet Skills." *International Journal of Communication* 13(0):4426–43.

Hsieh, J. J. Po-An, Arun Rai, and Mark Keil. 2010. "Addressing Digital Inequality for the Socioeconomically Disadvantaged through Government Initiatives: Forms of Capital that Affect ICT Utilization." *Information Systems Research* 22(2):233–53.

König, Ronny, Alexander Seifert, and Michael Doh. 2018. "Internet Use among Older Europeans: An Analysis Based on SHARE Data." *Universal Access in the Information Society* 17(3):621–33.

Laganá, Luciana, and James J. García. 2013. "The Mental Health Impact of Computer and Internet Training on a Multi-ethnic Sample of Community-Dwelling Older Adults: Results of a Pilot Randomised Controlled Trial." *International Journal of Biomedical Science* 9(3):135–47.

Lam, Jolie C. Y., and Matthew K. O. Lee. 2006. "Digital Inclusiveness—Longitudinal Study of Internet Adoption by Older Adults." *Journal of Management Information Systems* 22(4):177–206.

Lin, Yi-Chun, Jyh-Chong Liang, Ching-Ju Yang, and Chin-Chung Tsai. 2013. "Exploring Middle-Aged and Older Adults' Sources of Internet self-Efficacy: A Case Study." *Computers in Human Behavior* 29(6):2733–43.

Lloyd-Sherlock, Peter, Martin McKee, Shah Ebrahim, Mark Gorman, Sally Greengross, Martin Prince, Rachel Pruchno, Gloria Gutman, Tom Kirkwood, Desmond O'Neill, Luigi Ferrucci, Stephen B. Kritchevsky, and Bruno Vellas. 2012. "Population Ageing and Health." *Lancet* 379(9823):1295–96.

Lowsky, David J., S. Jay Olshansky, Jay Bhattacharya, and Dana P. Goldman. 2014. "Heterogeneity in Healthy Aging." *Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 69(6):640–49.

Peek, Sebastiaan T. M., Katrien G. Luijkx, Maurice D. Rijnaard, Marianne E. Nieboer, Claire S. van der Voort, Sil Aarts, Joost van Hoof, Hubertus J. M. Vrijhoef, and Eveline J. M. Wouters. 2016. "Older Adults' Reasons for Using Technology While Aging in Place." *Gerontology* 62(2):226–37.

Pongiglione, Benedetta, Bianca L. De Stavola, and George B. Ploubidis. 2015. "A Systematic Literature Review of Studies Analyzing Inequalities in Health Expectancy among the Older Population." *PLoS ONE* 10(6):e0130747.

Quan-Haase, Anabel, Guang Ying Mo, and Barry Wellman. 2017. "Connected Seniors: How Older Adults in East York Exchange Social Support Online and Offline." *Information, Communication & Society* 20(7):967–83.

Quan-Haase, Anabel, Carly Williams, Maria Kicevski, Isioma Elueze, and Barry Wellman. 2018. "Dividing the Grey Divide: Deconstructing Myths about Older Adults' Online Activities, Skills, and Attitudes." *American Behavioral Scientist* 62(9):1207–28.

Schehl, Barbara, Joerg Leukel, and Vijayan Sugumaran. 2019. "Understanding Differentiated Internet Use in Older Adults: A Study of Informational, Social, and Instrumental Online Activities." *Computers in Human Behavior* 97:222–30.

Schreurs, Kathleen, Anabel Quan-Haase, and Kim Martin. 2017. "Problematizing the Digital Literacy Paradox in the Context

of Older Adults' ICT Use: Aging, Media Discourse, and Self-Determination." *Canadian Journal of Communication* 42(2). Retrieved October 29, 2019. http://www.cjc-online.ca/index.php/journal/article/view/3130.

Selwyn, Neil. 2004. "The Information Aged: A Qualitative Study of Older Adults' Use of Information and Communications Technology." *Journal of Aging Studies* 18(4):369–84.

Selwyn, Neil, Stephen Gorard, John Furlong, and Louise Madden. 2003. "Older Adults' Use of Information and Communications Technology in Everyday Life." *Ageing & Society* 23(5): 561–82.

Seo, Hyunin, Joseph Erba, Darcey Altschwager, and Mugur Geana. 2019. "Evidence-Based Digital Literacy Class for Older, Low-Income African-American Adults." *Journal of Applied Communication Research* 47(2):130–52.

Shapira, N., A. Barak, and I. Gal. 2007. "Promoting Older Adults' Well-Being through Internet Training and Use." *Aging & Mental Health* 11(5):477–84.

Shillair, Ruth J., R. V. Rikard, Shelia R. Cotten, and Hsin-Yin Tsai. 2015. "Not So Lonely Surfers: Loneliness, Social Support, Internet Use and Life Satisfaction in Older Adults." Presented at iConference 2015, Newport Beach, CA. Retrieved October 29, 2019. http://hdl.handle.net/2142/73666.

Silverman, David. 2015. *Interpreting Qualitative Data*. London: Sage Ltd.

Stone, Mary Ellen, Jielu Lin, Dale Dannefer, and Jessica A. Kelley-Moore. 2017. "The Continued Eclipse of Heterogeneity in Gerontological Research." *Journals of Gerontology: Series B* 72(1):162–67.

Tsai, Hsin-yi Sandy, Ruth Shillair, and Sheila R. Cotten. 2017. "Social Support and 'Playing Around': An Examination of How Older Adults Acquire Digital Literacy with Tablet Computers." *Journal of Applied Gerontology* 36(1):29–55.

United Nations. 2016. "Ageing." Retrieved March 14, 2019. http://www.un.org/en/sections/issues-depth/ageing/.

van Boekel, Leonieke C., Sebastiaan T. M. Peek, and Katrien G. Luijkx. 2017. "Diversity in Older Adults' Use of the Internet: Identifying Subgroups through Latent Class Analysis." *Journal of Medical Internet Research* 19(5):e180.

van Deursen, Alexander J.A.M., and Ellen J. Helsper. 2015. "A Nuanced Understanding of Internet Use and Non-use among the Elderly." *European Journal of Communication* 30(2):171–87.

van Deursen, Alexander J. A. M., and Jan van Dijk. 2011. "Internet Skills and the Digital Divide." *New Media & Society* 13(6):893–911.

World Health Organization. 2015. "World Report on Ageing and Health." Retrieved October 29, 2019. http://www.who.int/ageing/events/world-report-2015-launch/en/.

World Health Organization. 2018. "The Determinants of Health." Retrieved September 26, 2018. http://www.who.int/hia/evidence/doh/en/.

Author Biographies

Amanda Hunsaker is a postdoctoral scholar at the Institute of Communication and Media Research of the University of Zurich and is a part of the Internet Use and Society Division. She completed her doctorate at the University of Pittsburgh School of Social Work. She conducts research on Internet use among older adults, as well as health and aging more generally.

Minh Hao Nguyen is postdoctoral scholar at the University of Zurich, Institute of Communication and Media Research, where she is part of the Internet Use and Society Division. She received her PhD from the Amsterdam School of Communication Research, University of Amsterdam. Her research focuses on the content, uses, and consequences of new media technologies (e.g., the Internet, social media, mobile technology) in relation to health and well-being.

Jaelle Fuchs is currently pursuing her master's degree in Internet and Society at the Institute of Communication and Media Studies of the University of Zurich. She is working as a research assistant in the Internet Use and Society Division. She finished her BA in media and communication studies and wrote her bachelor's thesis on the focusing effect of terrorist attacks on political communication on Twitter. Her research interests include political participation on social media and the motivations and actions of active Internet users such as Wikipedia editors.

Teodora Djukaric is a research assistant at the Institute of Communication and Media Research, University of Zurich, where she is part of the Internet Use and Society Division. She received her bachelor's degree in media and communication studies and cinema studies from the University of Zurich. Her research focuses on intergenerational communication practices and uses of new media as well as Internet and algorithm skills.

Larissa Hugentobler is a PhD student and research and teaching assistant at the University of Zurich's Institute of Communication and Media Research. She received her master's degree in English and Communications and Media Studies from the University of Zurich. Her research focuses on the intersections of active online participation and memorialization processes as well as Internet use among gender and ethnic minorities.

Eszter Hargittai is a professor and chair of the Internet Use and Society Division at the Institute of Communication and Media Research, University of Zurich. In 2019, she was elected fellow of the International Communication Association and also received the William F. Ogburn Mid-Career Award from the American Sociological Association's Section on Communication, Information Technology and Media Sociology. For two decades, she has researched people's Internet use and how it relates to questions of social inequality.