

Mobile Mundane (Dis)Connections: Examining Older Migrant Adults' Mobile Media Automation During the COVID-19 Pandemic Through a Digital Kinship Lens

EARVIN CHARLES B. CABALQUINTO¹
Monash University, Australia

LARISSA HJORTH
RMIT University, Australia

Automated mobile applications played a key role in informing individuals and communities on navigating safety during the pandemic. Applications such as QR codes were adopted and normalized as a way for people to access a range of COVID-19-related information—such as exposure sites and the need to test and isolate because of infection. However, for some of the population such as older adults (60-plus years old), automated apps were not familiar. Drawing on remote interviews with 15 culturally and linguistically diverse (CALD) Australian older adults in 2020 and 2021, we examine mobile application use as part of automation in everyday life. Deploying a digital kinship lens, our findings reveal the ways positive and negative perceptions and experiences of automated apps were shaped by differing sociotechnical networks, literacy, and illiteracy. By illuminating digital (dis)connective practices of older adults, we offer a nuanced perspective on inclusion in an increasingly automated society.

Keywords: mobile applications, older migrants, COVID-19 pandemic, digital kinship, (dis)connection

Datafication—that is, the rendering digital all facets of life—can both empower and exclude individuals and groups (van Dijck, 2014). During the pandemic, automation in everyday life was amplified. Many everyday practices like going to the supermarket or doctor were restricted to online only. Additionally, going to physical places required check-ins, which information mediated people's perception of safe mobility. Although automation did not begin during the pandemic, the pivot to digital for most activities made it all-pervasive (Burgess, Albury, McCosker, & Wilken, 2022; Pink, Berg, Lupton, & Ruckenstein, 2022). However,

Earvin Charles B. Cabalquinto: earvin.cabalquinto@monash.edu

Larissa Hjorth: larissa.hjorth@rmit.edu.au

Date submitted: 2023-06-15

¹ I would like to express my deepest gratitude to the research participants who gave their time and shared their experiences on using digital technologies during the pandemic. We are also grateful for the anonymous reviewers for their insightful and helpful feedback.

Copyright © 2025 (Earvin Charles B. Cabalquinto and Larissa Hjorth). Licensed under the Creative Commons Attribution Non-commercial No Derivatives (by-nc-nd). Available at <http://ijoc.org>.

in this digital ubiquity of services during the pandemic, many were left behind—especially in terms of older adults and digital access and literacy (Figueiredo et al., 2021; McCosker et al., 2020). Even so-called “easy” and mundane techniques like QR codes were misinterpreted, especially for older adults during the pandemic in which they tried to navigate family and friends at both home and away.

Take, for example, the story of 67-year-old grandfather, Filimore Vuna. Filimore believed he was “checking in” via the QR codes by taking a picture of them (rather than clicking on the activated link) everywhere he went in New Zealand. New Zealand, like Australia, introduced QR codes as a mandatory process for contact tracing during the pandemic. Filimore’s phone storage soon became full of pictures of QR codes. When his 16-year-old granddaughter, Praize Vuna, looked at his phone to see why his storage was full, she realized Filimore had not understood how to use the “easy” QR codes. Praize went public with the experience to raise awareness about the need for grandchildren and adult children to check on their older adult parents and see that they were digitally literate (Wilkie, 2021).

There are many stories like Filimore and Praize’s. The pandemic pivot to the digital for everyday activities challenged many people with lower digital access or literacy. In many cases, intergenerational kinship was key in ensuring social inclusion. QR codes represent a key moment in “mundane” automation—that is, embedded in everyday, familiar practices in ways that are almost natural. Although QR codes have been deployed in China and Japan for decades, it was during the pandemic that Western governments like Australia adopted them for contact tracing. However, as governments halted mandatory check-ins, QR codes quickly took on different roles—for example, automated viewing and ordering menus in cafes and restaurants. For many older adults, QR codes are a form of introduction to automation in everyday life (Pink et al., 2022). Thus, mundane mobile communication like QR codes offer a fascinating study in understanding the differing perceptions and practices of everyday automation in older adults’ lives. This is particularly highlighted in the case of culturally and linguistically diverse (CALD) older adults, whereby cultural and linguistic nuances inform sociotechnical factors across digital media literacy, motivations, and engagement.

In this study, we draw from remote interviews with 15 CALD Australian older adults (60 years and older) in 2020 and 2021 to explore some of the perceptions and practices around mobile applications as part of automation in everyday life. The remote interviews—via Zoom and a phone call—were conducted by the first author during a series of lockdowns in Victoria, Australia, in 2020 and 2021. Reflecting on how all facets of everyday life become automated and digitally mediated, we map the different sociotechnical factors that shape the positive and negative perceptions and experiences of older adults in connecting with and disconnecting from QR codes, and what the outcomes reveal in terms of possibilities and limits of digitalization of everyday lives (Dalmer, Ellison, Katz, & Marshall, 2022). By deploying the lens of digital kinship (Hjorth et al., 2020) we make sense of the wide spectrum of digital literacy skills, relational upskill (through trusted network and blood and nonblood kinship ties), and how older migrants are using technology for social inclusion and mundane everyday practices (Baldassar & Wilding, 2019; Baldassar, Wilding, & Worrell, 2020; Ekoh, Okolie, Nnadi, Oyinlola, & Walsh, 2023).

To examine this topic, we begin with a discussion of the relationship between digital access and kinship for older adults. We then turn to contextualizing older migrants in Australia and their digital media use. We also provide a brief background of the COVID-19-related mobile applications implemented by the

Victorian government to redress the safety of Australians during the pandemic. We then turn to our ethnographic study into CALD older adults' perceptions and experiences with mobile application use as part of everyday automation. We end the study by offering recommendations for the project's policy implications on digital inclusion for older migrants.

Digital Inclusion in Later Years

In the last decades, scholars have highlighted the heterogenous mobile practices of older adults (Fernández-Ardèvol, 2020; Hänninen, Taipale, & Luostari, 2020; Karaoglu, Hargittai, Hunsaker, & Nguyen, 2021). For instance, several studies have identified that everyday mobile communication has been shaped by access and competencies (Hänninen, Pajula, Korpela, & Taipale, 2021; Hänninen, Taipale, & Korhonen, 2021; Karaoglu et al., 2021) as well as the availability of support networks in managing digital difficulties (Hunsaker et al., 2019; Hunsaker et al., 2020). Studies have shown how digital technologies allow older adults to access useful information and services contributing to maintaining connections, enjoying entertainment and leisure, and learning a new skill or taking up a hobby (Karaoglu et al., 2021).

However, studies have also shown the barriers that constrain mobile use of older adults. For instance, age, educational levels, and income status shape constraints in accessing and using digital technologies among older adults (Hargittai & Dobransky, 2017; Neves & Amaro, 2012; Tirado-Morueta, Rodríguez-Martín, Álvarez-Arregui, Ortíz-Sobrino, & Aguaded-Gómez, 2021; van Deursen & van Dijk, 2010). In some cases, not having a stable and sustainable digital access (Hargittai & Hinnant, 2008) and the technological competencies to produce and consume contents for a range of purposes and meet needs (Hargittai & Walejko, 2008; Karaoglu et al., 2021) generate digital exclusion (Hargittai, 2002; Hargittai & Hsieh, 2013; Helsper, 2021). Furthermore, new forms of exclusion manifest especially when individuals feel anxious about their privacy and security (Bossio & McCosker, 2021), leading to nonuse of digital devices (Karaoglu et al., 2021).

There have been many important studies examining the digital practices of older adults. Yet, few extant literatures have examined the social, cultural, and digital engagements of migrants aging in place (Baldassar, Wilding, Boccagni, & Merla, 2017) or individuals who migrated to a foreign country and are now aging with their family members or living alone. This study addresses this lacuna. To begin with, studies have shown that older migrants connect locally and transnationally by using digital technologies and the Internet (Khvorostianov, Elias, & Nimrod, 2012), paving the way for enacting cultural identities and maintaining and extending social networks in digital environments (Baldassar & Wilding, 2019; Baldassar et al., 2020; Khvorostianov et al., 2012).

However, various factors also impede everyday digital practices—including access and competencies (Baldassar & Wilding, 2019). Older migrants often contend with language barriers (Buchert, Kemppainen, Olakivi, Wrede, & Kouvonon, 2023; Rosenberg, 2022), declining health (Kouvonon et al., 2022), and safety concerns because of digital illiteracy (Kouvonon et al., 2022). To navigate barriers, older migrants rely on their family members (Baldassar, Stevens, & Wilding, 2022). Younger family members assist in setting up and using mobile devices and online channels among older migrants (Selwyn, Johnson,

Nemorin, & Knight, 2016; Worrell, 2021). They act as “proxy Internet consumers” (Selwyn et al., 2016, p. 9) for their older family members in accessing informational, financial, and entertaining contents.

For households with older migrants, intergenerational support through tech assistance acts as a form of care practices often shaped by familial obligations and expectations (Baldassar & Wilding, 2019). During the pandemic, household members were relied on to manage digital constraints, especially at a time when tech support in semipublic spaces was inaccessible because of lockdowns and travel restrictions (Cabalquinto, 2020). During this period, the use of the digital for the presence and support of household members were crucial in facilitating healthy social connectedness (Farmer et al., 2019).

To date, no study has been made on how older migrants use mobile applications such as QR codes during the pandemic, despite the growing body of work on the ways older people use QR codes in Australia (Andrejevic, Davies, DeSouza, Hjorth, & Richardson, 2021; Yu, Zhang, & Hjorth, 2023). In this study, we approach the uptake QR codes through the conceptual frame of digital kinship (Hjorth et al., 2020). This concept illuminates the entanglements of digital, social, and material worlds, and the ways this deep interlinking impacts the everyday lives of individuals—especially during the pandemic. To begin with, this perspective is key in overcoming the tensions between biological and social kinship models (Trautmann, Mitani, & Feeley-Harnik, 2011), underlining how nonblood relationality and being in the world involved more than humans’ dimensions (Carsten, 2020; Van Horn, Kimmerer, & Hausdoerffer, 2021).

More recently, kinship has been extended in the context of understanding everyday digital practices and connections. Considered through the relationality of humans, more than humans, and the world (Van Horn et al., 2021), it is conceived as “digital kinship” by Hjorth and colleagues (2020). They coin the term to elucidate everyday digital behavior as a continuous and relational process rather than a *disruption* to everyday rhythms and rituals. Digital kinship attends to the rituals around connectivity, care, and relationality. In the first instance, scholars have mapped how care practices are enacted through digital technologies, ranging from formal (Pols, 2012) and informal care spaces such as a residential home setting (Juil, Wilding, & Baldassar, 2019; Sinanan & Hjorth, 2018). Maintaining kinship involves a constant tinkering of digital media and tethering the attunements of intergenerational often-tacit media etiquette.

During the pandemic, digital kinship manifested in how family members—and even volunteers—cared for older adults by helping them scan the health codes and do online shopping (Yu et al., 2023). Nevertheless, knitting care and media practice together, contemporary forms of kinship marry the digital, social, and material in complex ways. However, our work also advances the conception of digital kinship by playing close attention to the imbalances, disruptions, and disconnections facilitated by digital media use among older migrants. Studies have exposed how uneven access (Millard, Baldassar, & Wilding, 2018), digital illiteracies (Buchert et al., 2023; Ekoh et al., 2023), and health issues (Kouvonen et al., 2022) often constrain older migrants in using communication technologies and online channels.

Older Australians in a Digital Society: A Brief Overview

This study focuses on the case of Australia, a state with an increasing number of older people embedded in a digital world. Older adults make up 20% of the Australian population (Australian Institute of

Health and Welfare, 2018). Notably, older adults (and informal carers) were disproportionately disadvantaged, especially because they have one of the most divergent digital literacies spectrum (Maccora, Rees, Hosking, & McCallum, 2019; Thomas et al., 2020). Negative attitudes about aging and older people—ageism—is a key driver of failures in safety, quality of care, and quality of life within the Australia (Dasey, 2022). During the pandemic, the link between the digital and social inclusion for older adults (McCosker et al., 2020) as well as obstacles (Figueiredo et al., 2021) has been magnified.

It is worth noting that there have been multiple reports on the ways Australia-born older adults use digital technologies to navigate the lockdown (Australian Communications and Media Authority, 2021; esafety Commissioner, 2020; Good Things Foundation Australia, 2020; Notley, Chambers, Park, & Dezuanni, 2021). As the pandemic impacted people's physical mobility, older Australians begun using a range of Internet-enabled channels to access services. For instance, in a report released by Australian Communications and Media Authority (2021), elderly Australians used e-mail (95%, up from 87% in June 2017), online banking (77%, up to from 59% in 2017), watching videos (71%, up from 43% in June 2017), shopping (64%, up from 44% in June 2017), and listened to audio content (35%, up from 21% in June 2017).

Additionally, Internet access at home increased from 68% in June 2017 to 93% in June 2020 (Australian Communications and Media Authority, 2021). Meanwhile, several reports have also underscored the potential risks and vulnerabilities encountered by older adults in a digital space. For example, Good Things Foundation Australia (2020) reported that several older Australians did not have access to Internet-connected devices at home, making it challenging for community organizations and digital mentors to administer remote digital assistance and training. Meanwhile, the Australian Competition and Consumer Commission (2021) reported that people aged 55 and older lost over \$4.4 million to an online scam, which is part of the \$7.2 million stolen from Australians by scammers.

However, few studies have focused on the digital access and constraints experienced and navigated by older adults from CALD backgrounds during the pandemic in Australia (Cabalquinto, 2022a, 2022b; De Souza et al., 2020). Based on the 2016 Australian Bureau of Statistics (ABS), there were 1.2 million overseas-born Australians, representing more than one-third (37%) of the older Australian population (Australian Institute of Health and Welfare, 2021). In this study we focus specifically on the digital practices of older CALD people in Victoria, Australia, and the ways they used COVID-19 mobile applications to navigate a series of lockdowns in 2020 and 2021.

COVID-19 Mobile Applications in Victoria, Australia

Victoria experienced some of the longest lockdowns in the world with more than 250 days during 2020–2021 (Jose, 2021). In Australia, Victoria is one of the leading states with the greatest number of lockdowns, followed by New South Wales. In 2020, it was subjected to a stringent lockdown, and people were allowed to leave their houses for only four reasons: buying essential goods, caring duties, work and study when it is impossible to do so at home, and exercising for a limited time. In the earlier days of the lockdowns in Victoria in 2020, there was no vaccination rollout yet. As a result, the high risk of infection compelled people to follow stay-at-home orders and be extra careful in leaving their houses for the four

reasons mentioned earlier. In 2021, there were still a lockdown, and in addition to the four reasons, Victorians could leave their houses to receive their vaccinations.

The restrictions made digital media even more palpable in everyday life. To ensure safety during the pandemic, mobile applications such as the COVIDSafe app (Australian Government, 2020) and the Service Victoria app (State Government of Victoria, 2021) were both promoted by the Australian government among Australians, with the latter Victoria-based. The Service Victoria app was, for a period, mandatory. The public was required to read QR codes through the app to confirm their movement across places and confirm their vaccinations. Previous studies have shown how Australians used COVID-19 mobile applications to check-in in semipublic spaces to manage their own safety (Andrejevic et al., 2021). However, this practice demonstrates certain levels of digital access and literacy to participate in digital environments (Andrejevic et al., 2021). To date, we know little about how older migrants were perceiving and practicing mobile application use during the pandemic in Victoria, Australia. As we argue through fieldwork, older migrants' positive and negative perceptions and experiences of mobile applications were shaped by differing sociotechnical networks, literacy, and illiteracy. We now turn to our methods to locate the study.

Methods, Recruitment, Participants

This study is based on a broader project examining the diverse digital media practices of 15 CALD older adults during the pandemic times. The pandemic has stretched from early 2020 to now, with every country following different methods to contain and constrain outbreaks. In Victoria, long, strict lockdowns were implemented to address the lack of vaccinations available in 2020–2021. The study consisted of nine females and six males—ages ranging from 60 to 96 years old. We recruited participants aged 60 years and above, following the definition of an old person from the United Nations.

Most of the participants were born in Asia and the Pacific, with one each from the Middle East and Europe. Twelve participants migration to Australia between the 1960s and the 1990s, and three migrated in 2012 and onward through the support of their family members in Australia. Three of the participants were still working, and the rest were already retired. In terms of educational background, 13 participants completed their bachelor's degree. Two of the 15 participants had a doctorate degree, and three completed a diploma course in Australia. As seen in Table 1, four participants were living alone in their residential homes, whereas most were living with their partners or family members. We acknowledge that this is a limitation of the diversity insofar as participants are mostly highly educated.

Because of a series of lockdowns in Victoria, the interviews in 2020 and follow-up interviews in 2021 were conducted remotely. In August to September 2020, out of the 15 participants, nine were interviewed via a phone call, and six were interviewed via Zoom. In August 2021, 10 of the same 15 participants were engaged in follow-up interview sessions. Five were interviewed via a phone call, and five opted for a Zoom interview. The participants were recruited via different migrant organizations. The main author approached the migrant organizations via e-mail, circulating a call for participants (CFP) for the research project. The main author also placed the CFP via online spaces, such as X (formerly Twitter) and a Facebook group run by migrant communities.

The process of recruitment and remote data collection indicate the limitations of the study. Because of the lockdowns, those participants who were recruited and interviewed remotely had digital access and capabilities. Given the technological and logistical considerations during a pandemic (Lobe, Morgan, & Hoffman, 2020), remote interviews may not capture a diversity of everyday practices (Oliffe, Kelly, Gonzalez Montaner & Yu Ko, 2021), especially among older migrants who may not have digital access and capacities. Noting this, we recommend that future research must explore and engage with older adults with less digital access and competencies, and which findings can be captured through a face-to-face interviewing session.

The interviews lasted for 60–120 minutes in 2020, and 30–60 minutes in 2021. The first author asked the participants about their histories of migration to Australia, living arrangements, everyday digital practices during the pandemic, as well as the benefits and limits of using a range of mobile devices and online platforms. The participants spoke about the different online channels they use and do not use, and the drivers behind their practices. This provided a complete picture of an ecology of media channels that the participants operate in their personal, familial, and social lives on a national and transnational domain.

One of the salient themes in the interviewing sessions was the way participants used and did not use a COVID-19 mobile application. In 2020, six participants downloaded the COVIDSafe app (Australian Government, 2020) but did not use it, whereas the rest did not download the app at all (see Table 1). In 2021, eight participants downloaded and used the Service Victoria app (State Government of Victoria, 2021), whereas two opted to use and check in via a pen and paper as the result of an incompatible device and preference (see Table 1).

Table 1. Representing the Use and Nonuse of QR Codes by the Older CALD Participants. ²

Participant	Gender	Age	Educational background	Country of Origin	Living arrangement	COVIDS safe app	Service Victoria app (2021 follow-up interviews)
Mohammed	M	77	BA and a Dip.	Syria	with wife	X	Yes
Rosa	F	79	Secondary school	Macedonia	alone	X	X
Maly	F	60	BA	Cambodia	with husband and a daughter	Yes (not used)	Yes
Maria	F	65	BA	Philippines	alone	Yes (not used)	Not interviewed
Mercy	F	62	BA, Cert. in Disability, and Advanced Dip. in Disability	Philippines	with two international students	X	Yes
Sonny	M	71	BA	India	with wife and son's family	X	No (incompatible device)
Lena	F	68	Unfinished BA	India	with husband and son's family	X	Yes
Ella	F	65	MA	Taiwan	alone	Yes (Bluetooth off)	Yes
Donna	F	96	BA	Philippines	alone	X	Not interviewed

² Note all names are pseudonyms. BA stands for bachelor's degree. Dip stands for diploma. MA stands for master's degree.

Dorothy	F	70	MA	Philippines	with two siblings	Yes (not used)	X (prefer pen and paper)
Rahul	M	63	Doctorate	India	with wife	X	Yes
Edwin	M	66	Doctorate	Indonesia	with wife	Yes (not used)	Yes
Lothika	M	70	Postgrad Dip.	Sri Lanka	with son	X	Not interviewed
Vince	M	70	BA	Hong Kong	with wife	Yes (not convinced with effectiveness)	Yes
Anna	F	85	College degree	Malaysia	with daughter's family	X	Not interviewed

For this study, we focused on how the COVIDSafe app (Australian Government, 2020) and the Service Victoria (State Government of Victoria, 2021) app were accessed and not accessed by the participants. The data were analyzed through a thematic analysis of the interview transcripts (Braun & Clarke, 2006) and coded through coding techniques in qualitative research (Saldaña, 2011). The first author coded the use and nonuse of the COVIDSafe app in 2020 and the Service Victoria app in 2021. The study mapped the main themes based on the major categories derived from coding the use and nonuse of the COVIDSafe app in 2020 and the Victoria Safe App in 2020 (see Table 2).

Table 2. The Theme and Categories Based on Coding the 2020 and 2021 Data.

2020 Data		2021 Data			
Nonuse		Use		Nonuse	
Theme	Categories	Theme	Categories	Theme	Categories
Sociotechnical network	Consuming COVID-19 information through networks	Sociotechnical network	Learned via a network	Sociotechnical Network	Opting for nonmedia-related health protocol
	Consuming COVID-19 information through other media channels		Learned via a media resource		Internalized ageism
	Opting for nonmedia-related health protocol				
Sociotechnical Literacy	Technical skills	Sociotechnical Literacy	Trusted the government		
Sociotechnical Illiteracy	Technical constraints		Confidence on personal data	Sociotechnical Illiteracy	Technical issues
	Lack of technical knowledge		Technical skills		Suspicion

Based on the categorization, the study presents the three major themes of the study—sociotechnical network, sociotechnical literacy, and sociotechnical illiteracy. By applying a digital kinship lens, our findings reveal the entanglements of uneven digital, social, and material worlds that impact the everyday lives of older migrants. In the following sections, we show and analyze the findings. We incorporate selected quotes from the participants. The quotes were edited slightly for clarity. Pseudonyms were also used to protect the privacy of the participants. The project was granted ethics approval from HAE-20-106.

Reimagining Automation During the Pandemic: The Case of Migrant Older Adults

The pandemic and its digital pivot during lockdowns have highlighted that understanding the relationship between networks, access, kinship, and literacies has never been more significant. In this

section, we focus on the positive and negative perceptions and experiences of automated apps among older migrants as informed by human and nonhuman networks, literacies, and illiteracies.

Sociotechnical Network

While conducting remote interviewing in 2020, only six out of the 15 participants downloaded the COVIDSafe app (Australian Government, 2020). They also did not use the COVIDSafe app. The perceptions and nonuse were evident at a time when the participants were not fully aware of how the app worked, such as identifying an infected person and being informed if one was exposed to this person.

Their negative perceptions of the app that led to nonuse were informed by perceiving the app as another source of COVID-19 information. Some participants argued that they had already been receiving information through their support networks, including family members and peers, for example, Mohammed, the 77-year-old Syrian Australian, and was living with his wife, who was studying remotely during the pandemic. It was through his wife that he received COVID-19 information. He said, "She brought lot of news [*from the university*] and she is doing well. I am reading all the information about the COVID-19 how to protect ourselves."

For some participants, a work colleague was the source of COVID-19 information. This was articulated in the statement of Mercy, a 62-year-old Filipina Australian, who was working remotely in aged care:

We did not download it because most of my workmates did not do it because they get a lot of information from him [*referring to the boss*] . . . Our boss is always giving us information, even about cyberattacks and all these hackers, what we have to do, and also not to do.

In some instances, the access to a plethora of media channels and information discouraged the participants from using the COVIDSafe app. A case in point is Dorothy, a 70-year-old Filipina Australian, who said,

I already know about it [*referring to COVID-19*] because heaps of papers are coming from the different government agencies like Department of Health, the local Council, or on Facebook. Heaps of things to read. . . . If you know already what it is, then you don't have to be notified again and again and again. I believe it's useless. Not useless, I mean a waste of time, a waste of energy reading.

Meanwhile, Rosa, a 79-year-old Macedonian Australian, highlighted the use of an ethnic media as a reason for not using the COVIDSafe app. She said, "I have the SBS (multicultural TV) app, which has a translation into Macedonia." It is worth noting that during the interview, Rosa's granddaughter assisted Rosa in translating some of the interview questions of the first author. The granddaughter also helped in expressing Rosa's ideas. In this case, the choice of an online channel and media information is often shaped by cultural literacies (Ekoh et al., 2023).

Some participants felt that there was no need to use the app because of observing a health protocol, such as opting to stay at home or observing hygienic practices. For example, Rosa said that she does not use the COVIDSafe app because she does not go out. Meanwhile, Maria, a 65-year-old Filipina Australian who was living on her own during the pandemic, said, "I'm just following the rules. They said put the face mask, have the sanitizer, and exercise only within one kilometer." In this case, it can be argued that the participants were not fully aware of how the app works, such as identifying an infected person and being informed if one was exposed to this person.

However, in 2021, among the 10 participants who were engaged in follow-up interviews, eight downloaded and used the Service Victoria app (State Government of Victoria, 2021). Apart from the mandate from the government to use the app while moving across and visiting public spaces, the participants had a clear understanding that the app was created for reporting exposure sites and for contact tracing. Notably, we observed that the use of the app was informed by learning from the social and media network.

Some participants sought support from their networks to install and use the mobile applications. Scholars have argued that digital access and use are often shaped by intergenerational support and assistance in the older migrants' households (Selwyn et al., 2016). For instance, at the time of the interview in 2021, Maly, a 60-year-old Cambodian Australian, was living with her daughter and her husband in Victoria. She shared how she accessed and learned using the app: "My children help me with that [*referring to the Service Victoria app*]. Like they have tried to register on my phone. So, they really set up everything for me." In some cases, the networks in the workplace assisted. Rahul, a 63-year-old university professor, reflected on how he learned using the app. He was also able to go to the university when the lockdown in Victoria was lifted. He said, "My colleagues, they're here and there. There are always some people who are more aware that taught us around. They started helping us. They downloaded those things and they explained, and then we are using it."

The participants also sought assistance from people around them, especially at times when their family members were absent. These people served as informal tech support (Hänninen, Pajula, et al., 2021; Hänninen et al., 2020) for older migrants. For example, Mohammed had the Service Victoria app in his mobile phone. His son, who was able to visit him and his wife when the lockdown was lifted, assisted him with downloading and using it. However, while in a pharmacy, he forgot how to use it. So, he sought the help of a staff. He shared, "The pharmacy which I am dealing with, is security man. He operated it to me [*sic*]." When asked about how his experience was, he responded, "Believe me, young people are much better than us in dealing with electronic devices. For us, and the elderly people, it's very hard for us to discover or to follow up the updated security."

In a similar case, in 2021, Rahul, the university professor, sought help from staff in using the app. He said,

I try and do it. But sometimes I don't know what happens, a mistake happens from my side. So if there is a person I tell them, and they usually particularly the supermarkets have the person standing and they take down name and number.

These findings show that aging impacts the use of technologies (Kouvonen et al., 2022; Neves & Amaro, 2012) despite the participant's educational background.

The sociotechnical network also informed the negative perception and eventually nonuse of the Service Victoria app in 2021. We observed that an internalized ageism (see Cook et al., 2022) mediated perceptions and nonuse of QR codes. Here we see some participants opting for a nonmedia-related health protocol, such as using a pen and paper to log one's personal data in semipublic spaces. For example, Dorothy, who did not download the Service Victoria app, opted using a pen and paper. She said,

I'm not using my mobile to take a picture of the QR thing, I just write down my name because that is what they do. They know that old people do not have access to modern technologies. So, they just asking [*sic*] people to write down their names.

In a similar comment, Lena, despite downloading the app into her device, said, "We are older people. we are not used to this. We are older people and normally we use a diary and pen."

Sociotechnical Literacy

The participants had differing sociotechnical literacies in perceiving and using/not using the COVID-19 mobile applications. In 2020, some participants opted not to use the mobile application because of one's understanding of how mobile applications should work effectively. This was the case of Edwin, a 66-year-old Indonesia-born. He obtained a PhD in information technology. He has also been active in running programs to support Indonesians in using digital technologies in various economic and social transactions in Indonesian villages, demonstrating high levels of literacy in navigating technological features. In 2020, he downloaded the COVIDSafe app (Australian Government, 2020) and used it. When asked about his mobile experiences, he expressed his skepticism.

There's nothing which makes it easy to start to set that going to make it turn on, because you have to physically go in and put the Bluetooth on and then you have to make sure it's actually on. I don't know if other people are using it very well either. . . . It only tells me if you're 15 minutes with someone who's had it. We don't often stay 15 minutes with anybody. . . . So you don't really sit with someone for 15, for long enough for the COVID app to actually record that you've been with someone who's positive. . . . I'm not convinced that it's a very useful application.

Edwin's point highlighted the importance of Bluetooth for the COVIDSafe app to work. This was underlined in the website of the Australian Government Department of Health (2021):

COVIDSafe, which like TraceTogether, uses Bluetooth® technology on mobile devices to look for other devices with the app installed. COVIDSafe is designed to take note of contact users have with other users and shows potential close contacts to health officials through the Health Portal. These are users who have been within 1.5 metres of a positive case for 15 minutes or more. It is also underpinned by strong privacy safeguards that

prevent the application from tracking a user's location or collecting information on their movements. (p. 4)

However, Edwin pointed out that this operation was not convincing to use the mobile application. As a result, he discontinued using the mobile application.

However, it was digital literacy that compelled some participants to download and use the Victoria Safe app in 2021. The participants drew from their digital skills and knowledge. For example, Edwin downloaded and used the Service Victoria app, reiterating,

As you may recall I am actually in the IT industry, so my background is programming. So, in terms of what QR codes, I have known that for some time, but it actually is for the COVID registration that was known through the media.

Similarly, Vince, a 70-year-old retiree born in Hong Kong, who obtained his bachelor's degree on biochemistry in Australia and worked as a researcher in various industries, admitted in the interview that he learns many skills usually on his own. He commented,

Well it's just, whatever on the Internet. It's quite easy for me anyway. I mean some people maybe have a problem. I'm finding it quite easy to get it [*referring to the app*]. And all this IT thing, it's okay for me.

Based on the 2021 data, we observed that some of the participants trusted the collection of personal information through the mobile application. During the interview, Vince admitted that he did not have any difficulty in downloading and using the Victoria Safe app. Further, he trusted how the app operates. He said, "Well what's the information in there? It's just a form and my name—I don't think any secrets in there. I am not worried too much about it." This sentiment was similar to Rahul, the university academic, saying,

I am personally not concerned for myself. You see if it is a sensitive data then perhaps it has got some concern, but who would be interested in my data? If they want to take it for deciphering for what?

In some cases, the participants with digital competencies helped other older peers. In 2021, Vince helped others in using the app, saying, "I actually helped a few friends and relatives to do that [using the app]." When asked how he did it, he explained, "I teach them to get their phone and do it step-by-step. And sometimes, just over the Internet and give the instructions over WhatsApp." Indeed, Vince's digital capabilities echoed the findings of other studies showing older adults with advanced understandings of certain online channels can assist other individuals (Birkland, 2022; Hunsaker et al., 2020).

Meanwhile, Ella, a 65-year-old Taiwan-born, used "bubbling" to help and assist an elderly friend within the area where she lives. During the interviews, she shared confidently that she is knowledgeable in using the check in app, "I am pretty good at it." During one of the lockdowns in Victoria, people were

not allowed to travel beyond their 25-kilometer radius. This situation, therefore, created physical separation among families. In 2021, Ella created a bubble with a friend and convinced her about the importance of using the QR code. She said, "I told her, 'If you don't learn the QR code, you can't go anywhere. Since you like to run around, you better learn the QR code.'" Through this statement, her friend learned from her and used the app. She reiterated, "I helped her figure this out [the app]. I made sure she could do it without me."

Sociodigital Illiteracy

There were participants who remained left behind in a digital space because of digital illiteracy (Hargittai, 2002). In 2020, there were participants who were unsure about how the app works. Lothika, a 70-year-old Sri Lankan Australia, thought that the COVIDSafe app (Australian Government, 2020) would consume his mobile data. He said,

I don't have it. I hate it. . . . It's consuming too much data. When you have an app, you can go there, and look it's using data. I use the data from the phone. But if I use my computer, the data is from Wi-Fi. It's unlimited because it's Wi-Fi. So I don't use it [*referring to the app*].

In some cases, suspicion compelled some participants to not use the app. In 2020, Rahul, the university professor, did not download the COVIDSafe app.

I did not download. I have not asked my son. I am not comfortable. They asked me a few questions, every person forcefully downloads everything. Why do we have to? I gave these questions to the bank. I do net banking. But I told them that, "Why do you want us to download? Why?" When we ask for the particular website to do the net banking, 90 percent, "Download this. Download this. Download this." No, I don't know. And then they start asking other questions.

In analyzing the statement of Rahul, we can see how the discomfort and anxiety felt by older adults who question how the technical features and data-collection processes of digital devices undermine their security, often leading to nonuse (Karaoglu et al., 2021). Moreover, Rahul's response exhibits what Leszczynski (2015) calls the anxieties of control or feeling helpless in controlling data sharing.

Meanwhile, a participant in 2021 expressed her concern in sharing her data online. This was the case of Dorothy, who talked about her experiences with scamming that impacted her perception and nonuse of the Service Victoria app. Before, she would often receive an SMS congratulating her for winning a prize or a phone call about an exclusive offer. Drawing on her experience, she perceived the use of the Service Victoria app as risky. She said, "I don't want anybody to get my mobile because every now and then I get an advertisement. I know it is a scam because for many times I receive that call or there are illegal activities." This statement stemmed from her recent experience on someone using her credit card. As Dorothy narrated:

Only last week I received a message from my mobile that someone used my credit card. It's for one thousand two hundred dollars. So, I rushed to the bank and then the bank cancelled my credit card. So, for the whole week I was unable to buy something because I didn't have my card.

In Dorothy's comments, we hear the discomfort and fear of using a mobile application, which was perceived as a potential outcome in using the Service Victoria app (State Government of Victoria, 2021).

Indeed, many of these stories about potential risks create a sense of fear and worry often shaped by digital illiteracy (Helsper, 2021). As Figueiredo and colleagues (2021) note in their study of Australian older adults during the pandemic, perceptions of risk can take many forms and serve as a complex psychological barrier to the uptake of digital media and mobile apps. As they argue, addressing the differences between perceptions and practices can help to break down the barriers and allow older adults to feel more comfortable when it comes to digital media use and literacy. Understanding perception as "beliefs" about potential harm or the possibility of a loss is an important step.

Reimagining Automation During the Pandemic: The Case of Migrant Older Adults

In this study, we have discussed how sociotechnical networks, literacies, and illiteracies impact the positive and negative perceptions and practices associated with mobile application use of older migrants during the pandemic. However, digital exclusion persists because of fear and worry on mobile application use and data sharing. It is through this point that we argue the need for codesigning online channels with older adults—especially culturally and linguistically diverse—to ensure their perceptions are shaped by informed evidence. This is best done, as we have shown, through acknowledging the differing digital access, literacies, and relational practices that are embedded in this process. Importantly, as this study has focused on a small sample during the pandemic, future research can study a larger sample and generate insights on the ways older migrants integrate digital technologies, online channels, and even emerging technologies in their everyday personal and social lives. This approach will inform policies and interventions on digital inclusion (Notley et al., 2021) designed to address complex cultural and linguistic diversity while also acknowledging the powerful role kinning can play in automation literacy (Robertson, Magee, & Soldatić, 2022; Tsatsou, 2022).

As we argued through the notion of digital kinship (Hjorth et al., 2020), paying close attention to imbalances, disruptions, and disconnections can be found in the adoption of everyday automated practices (Pink, 2022). As we have presented, harnessing an inclusive automated society necessitates an understanding of the entanglements of differing and uneven digital, social, and material worlds to determine and examine the perceptions and experiences of automated mobile applications during and beyond pandemic times.

References

- Andrejevic, M., Davies, H., DeSouza, R., Hjorth, L., & Richardson, I. (2021). Situating "careful surveillance." *International Journal of Cultural Studies*, 24(4), 567–583.
doi:10.1177/1367877921997450
- Australian Communications and Media Authority. (2021). *Communications and media in Australia, the digital lives of older Australians*. Retrieved from <https://www.acma.gov.au/sites/default/files/2021-05/The%20digital%20lives%20of%20older%20Australians.pdf>
- Australian Competition and Consumer Commission. (2021). *Computer takeover scams on the rise*. Retrieved from <https://www.scamwatch.gov.au/news-alerts/computer-takeover-scams-on-the-rise>
- Australian Government. (2020). COVIDSafe app [Digital contact tracing app]. Retrieved from <https://github.com/AU-COVIDSafe>
- Australian Government Department of Health. (2021). *Report on the operation and effectiveness of COVIDSafe and the National COVIDSafe Data Store*. Retrieved from https://www.health.gov.au/sites/default/files/documents/2021/07/report-on-the-operation-and-effectiveness-of-covidsafe-and-the-national-covidsafe-data-store_0.pdf
- Australian Institute of Health and Welfare. (2018). *Older Australia at a glance*. Retrieved from <https://www.aihw.gov.au/reports/older-people/older-australians/contents/about>
- Australian Institute of Health and Welfare. (2021). *Older Australians—Culturally and linguistically diverse older people*. Retrieved from <https://www.aihw.gov.au/reports/older-people/older-australia-at-a-glance/contents/demographics-of-older-australians/culturally-linguistically-diverse-people>
- Baldassar, L., Stevens, C., & Wilding, R. (2022). Digital anticipation: Facilitating the pre-emptive futures of Chinese grandparent migrants in Australia. *American Behavioral Scientist*, 66(14), 1863–1879.
doi:10.1177/00027642221075261
- Baldassar, L., & Wilding, R. (2019). Migration, aging, and digital kinning: The role of distant care support networks in experiences of aging well. *The Gerontologist*, 60(2), 313–321.
doi:10.1093/geront/gnz156
- Baldassar, L., Wilding, R., Boccagni, P., & Merla, L. (2017). Aging in place in a mobile world: New media and older people's support networks. *Transnational Social Review*, 7(1), 2–9.
doi:10.1080/21931674.2016.1277864

- Baldassar, L., Wilding, R., & Worrell, S. (2020). Elderly migrants, digital kinning and digital home making across time and distance. In B. Pasveer, O. Synnes, & I. Moser (Eds.), *Ways of home making in care for later life* (pp. 41–62). Singapore: Palgrave Macmillan.
- Birkland, J. L. H. (2022). How older adult information and communication technology users are impacted by aging stereotypes: A multigenerational perspective. *New Media & Society, 26*(7), 1–22. doi:10.1177/14614448221108959
- Bossio, D., & McCosker, A. (2021). Reluctant selfies: Older people, social media sharing and digital inclusion. *Continuum, 35*(4), 634–647. doi:10.1080/10304312.2021.1937941
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. doi:10.1191/1478088706qp0630a
- Buchert, U., Kemppainen, L., Olakivi, A., Wrede, S., & Kouvonon, A. (2023). Is digitalisation of public health and social welfare services reinforcing social exclusion? The case of Russian-speaking older migrants in Finland. *Critical Social Policy, 43*(3), 375–400. doi:10.1177/02610183221105035
- Burgess, J., Albury, K., McCosker, A., & Wilken, R. (2022). *Everyday data cultures*. Cambridge, UK: Polity.
- Cabalquinto, E. C. (2020, December 4). *The COVID-19 pandemic and ageing migrants' digital lives*. Retrieved from <https://disruptr.deakin.edu.au/society/the-covid-19-pandemic-and-ageing-migrants-digital-lives/>
- Cabalquinto, E. C. (2022a). "Come on, put Viber, we can drink coffee together": Performing (im)mobile intimacy in turbulent times among aging migrants. *Communication Culture and Critique, 15*(2), 244–260. doi:10.1093/ccc/tcac011
- Cabalquinto, E. C. (2022b). "Without technology we'd be very stuck": Ageing migrants' differential (im)mobile practices during a lockdown. *Media International Australia, 188*(1), 3–17. doi:10.1177/1329878X221095582
- Carsten, J. (2020). Imagining and living new worlds: The dynamics of kinship in contexts of mobility and migration. *Ethnography, 21*(3), 319–334. doi:10.1177/1466138120940343
- Cook, P., Curryer, C., Banks, S., Neves, B. B., Omori, M., Mallon, A., & Lam, J. (2022). Ageism and risk during the coronavirus pandemic. In D. Lupton & K. Willis (Eds.), *The COVID-19 crisis: Social perspectives* (pp. 207–218). London, UK: Routledge.
- Dalmer, N., Ellison, K., Katz, S., & Marshall, B. L. (2022). Ageing, embodiment and datafication: Dynamics of power in digital health and care technologies. *International Journal of Ageing and Later Life, 15*(2), 77–101. doi:10.3384/ijal.1652-8670.3499

- Dasey, J. (2022, April 9). *Turning 60 is not "end of the road" but ageism in Australia makes life a challenge for new seniors*. Retrieved from <https://www.abc.net.au/news/2022-04-10/ageism-in-australia-turning-60-david-campese-seniors-age-bias/100907090>
- De Souza, R., Dimopoulos, M., Ellem, D., Hjorth, L., Barbosa Neves, B., Sanin, J., . . . Waycott, J. (2020). *Alone together, connecting through COVID-19: The experiences of older CALD Australians*. Retrieved from <https://www.rmit.edu.au/content/dam/rmit/au/en/research/ecps/post-covid-restart/alone-together-report.pdf>
- Ekoh, P. C., Okolie, T. J., Nnadi, F. B., Oyinlola, O., & Walsh, C. A. (2023). Understanding the impact of digital technology on the well-being of older immigrants and refugees: A scoping review. *Digital Health, 9*, 1–11. doi:10.1177/20552076231194947
- esafety Commissioner. (2020). *COVID-19 impact on Australian adults' online activities and attitudes*. Retrieved from <https://www.esafety.gov.au/sites/default/files/2022-08/COVID-19-impact-on-Australian-adults-online-report.pdf?v=1741054189710>
- Farmer, J. C., Jovanovski, N., De Cotta, T., Gaylor, E., Soltani Panah, A., Jones, H., & Farmer, J. (2019). *Healthy social connections: A multidisciplinary exploration*. Melbourne, Australia: Social Innovation Research Institute.
- Fernández-Ardèvol, M. (2020). Older people go mobile. In R. Ling, L. Fortunati, G. Goggin, S. S. Lim, & Y. Li (Eds.), *The Oxford handbook of mobile communication and society* (pp. 187–199). Marquis, Canada: Oxford University Press.
- Figueiredo, B., Aleti, T., Reid, M., Martin, D., Hjorth, L., Buschgens, M., . . . Sheahan, J. (2021). *Reducing perceived risk and promoting digital inclusion for older Australians*. Retrieved from https://accan.org.au/files/Grants/2021%20RMIT%20Older%20Australians/RMIT_ACCAN%20report_v2covers.pdf
- Good Things Foundation Australia. (2020). *Reinventing digital literacy support in a crisis: The impact on community-based digital inclusion program*. Retrieved from <https://goodthingsaustralia.org/news/reinventing-digital-literacy-support-in-a-crisis>
- Hänninen, R., Pajula, L., Korpela, V., & Taipale, S. (2021). Individual and shared digital repertoires—Older adults managing digital services. *Information, Communication & Society, 26*(3), 568–583. doi:10.1080/1369118X.2021.1954976
- Hänninen, R., Taipale, S., & Korhonen, A. (2021). Refamilisation in the broadband society—the effects of ICTs on family solidarity in Finland. *Journal of Family Studies, 27*(2), 161–177. doi:10.1080/13229400.2018.1515101

- Hänninen, R., Taipale, S., & Luostari, R. (2020). Exploring heterogeneous ICT use among older adults: The warm experts' perspective. *New Media & Society*, 23(6), 1584–1601. doi:10.1177/1461444820917353
- Hargittai, E. (2002). Second-level digital divide: Differences in people's online skills. *First Monday*, 7(4). Retrieved from <https://firstmonday.org/ojs/index.php/fm/article/view/942/864>
- Hargittai, E., & Dobransky, K. (2017). Old dogs, new clicks: Digital inequality in skills and uses among older adults. *Canadian Journal of Communication*, 42(2), 195–212. doi:10.22230/cjc.2017v42n2a3176
- Hargittai, E., & Hinnant, A. (2008). Digital inequality: Differences in young adults' use of the Internet. *Communication Research*, 35(5), 602–621. doi:10.1177/0093650208321782
- Hargittai, E., & Hsieh, Y. P. (2013). Digital inequality. In W. H. Dutton (Ed.), *The Oxford handbook of Internet studies* (pp. 129–150). Oxford, UK: Oxford University Press.
- Hargittai, E., & Walejko, G. (2008). The participation divide: Content creation and sharing in the digital age. *Information, Communication & Society*, 11(2), 239–256. doi:10.1080/13691180801946150
- Helsper, E. (2021). *The digital disconnect: The social causes and consequences of digital inequalities*. London, UK: SAGE.
- Hjorth, L., Ohashi, K., Sinanan, J., Horst, H., Pink, S., Kato, F., & Zhou, B. (2020). *Digital media practices in households: Kinship through data*. Amsterdam, The Netherlands: Amsterdam University Press.
- Hunsaker, A., Nguyen, M. H., Fuchs, J., Djukaric, T., Hugentobler, L., & Hargittai, E. (2019). "He explained it to me and I also did it myself": How older adults get support with their technology uses. *Socius: Sociological Research for a Dynamic World*, 5, 1–13. doi:10.1177/2378023119887866
- Hunsaker, A., Nguyen, M. H., Fuchs, J., Karaoglu, G., Djukaric, T., & Hargittai, E. (2020). Unsung helpers: Older adults as a source of digital media support for their peers. *The Communication Review (Yverdon, Switzerland)*, 23(4), 309–330. doi:10.1080/10714421.2020.1829307
- Jose, R. (2021, October 20). *Melbourne readies to exit world's longest COVID-19 lockdown*. Reuters. Retrieved from <https://www.reuters.com/world/asia-pacific/melbourne-readies-exit-worlds-longest-covid-19-lockdowns-2021-10-20/>
- Juul, A., Wilding, R., & Baldassar, L. (2019). The best day of the week: New technology enhancing quality of life in a care home. *International Journal of Environmental Research and Public Health*, 16(6), 1–17. doi:10.3390/ijerph16061000

- Karaoglu, G., Hargittai, E., Hunsaker, A., & Nguyen, M. (2021). Changing technologies, changing lives: Older adults' perspectives on the benefits of using new technologies. *International Journal of Communication, 15*, 3887–3907.
- Khvorostianov, N., Elias, N., & Nimrod, G. (2012). "Without it I am nothing": The Internet in the lives of older immigrants. *New Media & Society, 14*(4), 583–599. doi:10.1177/1461444811421599
- Kouvonen, A., Kemppainen, T., Taipale, S., Olakivi, A., Wrede, S., & Kemppainen, L. (2022). Health and self-perceived barriers to Internet use among older migrants: A population-based study. *BMC Public Health, 22*(1), 574–574. doi:10.1186/s12889-022-12874-x
- Leszczynski, A. (2015). Spatial big data and anxieties of control. *Environment and Planning D: Society and Space, 33*(6), 965–984. doi:10.1177/0263775815595814
- Lobe, B., Morgan, D., & Hoffman, K. A. (2020). Qualitative data collection in an era of social distancing. *International Journal of Qualitative Methods, 19*, 1–18. doi:10.1177/1609406920937875
- Maccora, J., Rees, K., Hosking, D., & McCallum, J. (2019). *Senior surfers: Diverse levels of digital literacy among older Australians*. Brisbane, Australia: National Seniors Australia.
- McCosker, A., Tucker, J., Critchley, C., Hiruy, K., Walshe, J., Suchowerska, R., & Barraket, J. (2020). *Improving the digital inclusion of older Australians: The social impact of Be Connected*. Retrieved from <https://apo.org.au/sites/default/files/resource-files/2021-01/apo-nid305919.pdf>
- Millard, A., Baldassar, L., & Wilding, R. (2018). The significance of digital citizenship in the well-being of older migrants. *Public Health, 158*, 144–148. doi:10.1016/j.puhe.2018.03.005
- Neves, B. B., & Amaro, F. (2012). Too old for technology? How the elderly of Lisbon use and perceive ICT. *The Journal of Community Informatics, 8*(1), 1–12. doi:10.15353/joci.v8i1.3061
- Notley, T., Chambers, S., Park, S., & Dezuanni, M. (2021). *Adult media literacy in Australia: Attitudes, experiences and needs*. Retrieved from https://medialiteracy.org.au/wp-content/uploads/2021/04/FINAL_Australian_adult_media_literacy_report_20212.pdf
- Olliffe, J. L., Kelly, M. T., Gonzalez Montaner, G., & Yu Ko, W. F. (2021). Zoom interviews: Benefits and concessions. *International Journal of Qualitative Methods, 20*, 1–8. doi:10.1177/16094069211053522
- Pink, S. (2022). Methods for researching automated futures. *Qualitative Inquiry, 28*(7), 747–753. doi:10.1177/10778004221096845
- Pink, S., Berg, M., Lupton, D., & Ruckenstein, M. (2022). *Everyday automation: Experiencing and anticipating emerging technologies* (1st ed.). London, UK: Routledge.

- Pols, J. (2012). *Care at a distance: On the closeness of technology*. Amsterdam, The Netherlands: Amsterdam University Press.
- Robertson, S., Magee, L., & Soldatić, K. (2022). Intersectional inquiry, on the ground and in the algorithm. *Qualitative Inquiry, 28*(7), 814–826. doi:10.1177/10778004221099560
- Rosenberg, D. (2022). Socio-demographic predictors of e-government use in later life: Results from the Israel Social Survey. *Journal of Cross-Cultural Gerontology, 37*(1), 127–138. doi:10.1007/s10823-022-09448-0
- Saldaña, J. (2011). *Fundamentals of qualitative research*. New York, NY: Oxford University Press.
- Selwyn, N., Johnson, N., Nemorin, S., & Knight, E. (2016). *Going online on behalf of others: An investigation of "proxy" Internet consumers*. Retrieved from https://accan.org.au/files/Grants/ACCAN_Monash_2016_Going%20online%20on%20behalf%20of%20others_WEB.pdf
- Sinanan, J., & Hjorth, L. (2018). Careful families and care as "kinwork": An intergenerational study of families and digital media use in Melbourne, Australia. In B. B. Neves & C. Casimiro (Eds.), *Connecting families? Information & communication technologies, generations and the life course* (pp. 181–199). Bristol, UK: Bristol University Press.
- State Government of Victoria. (2021). Service Victoria App [Mobile app]. Retrieved from https://play.google.com/store/apps/details?id=au.gov.vic.service.digitalwallet.citizen&hl=en_AU
- Thomas, J., Barraket, J., Wilson, C. K., Holcombe-James, I., Kennedy, J., & Rennie, E. (2020). *Measuring Australia's digital divide the Australian Digital Inclusion Index 2020*. Retrieved from https://www.digitalinclusionindex.org.au/wp-content/uploads/2021/06/TLS_ADII_Report-2020_WebU.pdf
- Tirado-Morueta, R., Rodríguez-Martín, A., Álvarez-Arregui, E., Ortiz-Sobrino, M. Á., & Aguaded-Gómez, J. I. (2021). Determination of Internet appropriation by older people through technological support services. *New Media & Society, 25*(5), 1065–1086. doi:10.1177/14614448211019155
- Trautmann, T., Mitani, J., & Feeley-Harnik, G. (2011). Deep kinship. In A. Shryock & D. L. Smail (Eds.), *Deep history: The architecture of past and present* (pp. 160–188). Berkeley: University of California Press.
- Tsatsou, P. (2022). Editor's introduction. *New Media & Society, 24*(2), 271–278. doi:10.1177/14614448211063175
- van Deursen, A., & van Dijk, J. (2010). Internet skills and the digital divide. *New Media & Society, 13*(6), 893–911. doi:10.1177/1461444810386774

van Dijck, J. (2014). Datafication, dataism and dataveillance: Big Data between scientific paradigm and ideology. *Surveillance & Society*, 12(2), 197–208. doi:10.24908/ss.v12i2.4776

Van Horn, G., Kimmerer, R. W., & Hausdoerffer, J. (2021). *Kinship: Belonging in a world of relations*. Centre for Humans and Animals. Retrieved from <https://humansandnature.org/kinship/>

Wilkie, K. (2021). *Family discovers grandad's phone filled with dozens of pictures of QR codes in COVID app mix-up*. Retrieved from <https://7news.com.au/lifestyle/health-wellbeing/family-discovers-grandads-phone-filled-with-dozens-of-pictures-of-qr-codes-in-covid-app-mix-up-c-2045636>

Worrell, S. (2021). From language brokering to digital brokering: Refugee settlement in a smartphone age. *Social Media + Society*, 7(2), 1–11. doi:10.1177/20563051211012365

Yu, H., Zhang, G., & Hjorth, L. (2023). Mobilizing care? WeChat for older adults' digital kinship and informal care in Wuhan households. *Mobile Media & Communication*, 11(2), 294–311. doi:10.1177/20501579221150716