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From technology to autonomy: Exploring ICT use and self-determined living in older Koreans

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Abstract

Background: Information and communication technologies (ICTs), especially smartphones, have become embedded in daily lives, allowing communication, access to information, and the organization of everyday tasks. In the context of older adults, the use of digital technology can promote and undermine self-determination needs.

Research aims: Connecting Self-Determination Theory (SDT) with ageing in place, we aimed to explore how older adults in urban South Korea embedded digital technologies into their daily home routines and how these practices relate to autonomy, relatedness, and competence.

Methods: We conducted focus groups with 18 older adult participants, including group discussions and elicitation activities like floor plans, which were analyzed using Qualitative Content Analysis (QCA). We used six home dimensions, privacy, security, family, intimacy, comfort, and control, as an analytical framework to analyse the collected data in relation to SDT.

Results: We identified linkages of the home-related aspects of safety and comfort with experiences of autonomy. Relatedness was articulated through family and intimacy, and competence through privacy and control. While digital technologies supported the SDT needs for autonomy and relatedness, findings suggest that the need for competence in navigating digital environments remains insufficiently fulfilled.

Conclusion: ICT use can contribute positively to self-determined ageing and well-being when embedded in supportive environments. To ensure that digital technologies enhance well-being without introducing new vulnerabilities, tailored support and education are needed, and issues of transparency and privacy should be prioritised in the design of ICTs.

Keywords: ICT; ageing in place; older adults; self-determination theory; South Korea

Introduction

Digital technologies have undoubtedly changed home environments as well as the daily practices of many people. Stationary phones have been replaced by mobile phones, and the television set is now one of many screens, including smartphones and tablets. These devices allow intergenerational communication, access to information and entertainment, and the performance of everyday tasks such as online shopping with great flexibility, entailing what Kuoppamäki et al. (2018) refer to as a "digitalisation of domestic environments."

While the smartphone offers new opportunities for communication and information, it can also create the opposite: "death of proximity", when people sitting next to each other disengage due to their retreat to their smartphone (Miller et al., 2020:219-2020). Beyond the proliferation of technology in the home, scholars have conceptualised the smartphone itself as a kind of home - what Miller et al. (2020) call a "transportal home." In this sense, the smartphone is not merely a communication tool but "a place within which we now live." (Miller et al., 2020:219). Like a physical home with distinct rooms for different purposes, smartphones provide various applications that support everyday activities. In Korea, the super-app 'KakaoTalk' which is commonly used in everyday life, exemplifies this, as it integrates messaging, payment, entertainment, telemedicine, and more into a single platform (Roa et al., 2021; Hasselwander, 2024). These services offer potential for participation using digital technologies, but also raise questions about access and inclusion, particularly for older adults.

Existing research has documented the potential of digital tools to support older adults' independent daily living in home environments. The use of digital tools can remove barriers of geographic

distance (Alhussein et al, 2023) and provide cognitive and social support to older adults (Carros et al., 2022). Yet the use of digital technologies can also create barriers or introduce new forms of exclusion - e.g., due to a lack of access, digital competencies, socio-economic or health-related aspects (Paccoud et al., 2024; Schwaninger et al., 2023; Münter et al., 2024; van Kessel et al., 2025). For this reason, digital practices such as smartphone use may both support and undermine self-determined living among older adults. Self-determination refers to a broad theory of human development and wellness that emphasizes life-long learning (Ryan and Deci, 2017).

Although demographic and digital transformations are global challenges, we argue that the Republic of South Korea (hereafter Korea) provides a particularly interesting case for exploring the experiences of older adults with ICTs. With the lowest fertility rate in the world (0,72 in 2023; KOSIS, 2024), Korea became a "super-aged" society in 2025, with over 20% of the population aged 65 years and over. The rapid increase in Korea's internet penetration rate is unparalleled, rising from 85.1% in 2015 to 94% in 2023 (Statista, 2025), and Korea consistently ranks among the top countries in the Digital World Competitiveness Ranking, particularly in its readiness to adapt to future technological developments (IMD, 2023).

Hjorth and Kim (2011) have shown that mobile media can not only be used for communication but also provide new models for capturing and sharing events, both on the individual and the collective level. Prior studies (Fang et al., 2018) demonstrate that the benefits of ICTs enhance the psychological well-being and social connectedness of older adults, and the need to improve ICT access and literacy among older adults for an inclusive society. Self-Determination Theory (SDT) as formulated by Ryan and Deci (2017), offers a psychological framework for understanding human motivation, well-being, and learning. It highlights three fundamental needs: autonomy, relatedness, and competence as essential for well-being. In the context of ageing, these needs help explain how older adults experience independence, social connection, and the ability to manage daily tasks. Given the increasing emphasis on ageing in place as a policy goal (Bieg et al., 2022; Owusu et al., 2023), we argue that older adults' capacity for self-determined living is closely tied to the experience of home. Home is not only a physical location where basic needs are met but also an emotional and symbolic concept. It is, as Zuboff (2019) notes, "where we know and where we are known. Where we love and are beloved."

Our research is guided by the following questions: How do participants experience everyday digital practices in relation to the six home aspects: privacy, security, family, intimacy, comfort, and control? And in what ways do these digital practices provide opportunities or constraints to in relation to SDT needs (autonomy, competence, and relatedness)?

To explore how older adults integrate digital technologies into their everyday lives, this study combines Self-Determination Theory (SDT) with the concept of home. While SDT provides a theoretical framework for understanding the psychological needs of autonomy, relatedness, and competence, the six home aspects (privacy, safety, family, intimacy, comfort, and control), describe different dimensions of the home environment (Moore, 2000). These aspects are often interlinked with each other. Rather than assuming fixed or causal relations between these concepts, we use the six home aspects as an analytical lens to explore how participants articulate their digital practices in relation to the three SDT needs.

The above elements also intersect with the (WHO 2024) framework for healthy ageing, defined as the process of developing and maintaining the functional ability that enables well-being in older age, and the symbolic and material dimensions of home. As prior studies have shown, digital technologies can support or obstruct the fulfillment of these psychological needs (Zhao et al., 2023). Recent research has evaluated older adults' engagement in meaningful activities using digital technologies and their support of self-determined living (Zhao et al., 2023; Bieg et al., 2023; Schwaninger et al., 2020), also taking into account cultural particularities (Schwaninger & Zhan, 2023).

The primary aim of this study is to understand how digital habits among older Korean adults contribute to or challenge their self-determination within home environments. In addition to the scholarly publication, we produced a short documentary film to visualise the findings for a broader audience, titled "Silver Surfers - Aging in Digital South Korea", available on Youtube (https://www.youtube.com/watch?v=2IFbMMtBJqw)

Methods

Data was collected during a fieldwork stay in Seoul in August 2023, with four focus group interviews with 18 older adults, informal ethnographic street interviews, and interviews with 13 experts from academia, policy, business, and research and development (R&D). The expert interviews have been used to corroborate our data and are not analysed separately in our results section. The eth-

nographic street interviews were used for audio-visual representation of our findings and are therefore also not separately discussed in this paper.
The participants for the focus groups were recruited by our Korean cooperation partners at the AgeTech Research Institute, Kyung Hee University. In our recruitment flyer, we introduced our study interest in the digital literacy of older adults and their digital habits in their home environments. We asked participants to prepare a floor plan of their home beforehand and to bring it to the focus group. Two focus group interviews were conducted at Kyung Hee University in the greater Seoul area, one at the Seocho Welfare Center, and one at the KORDI - the Korea Labor Force Development Institute in Seoul. Participants of the focus groups were compensated with a shopping voucher. We invited older adults to participate in our study, who were physically and cognitively able. Before participating, we provided information sheets and consent forms in Korean language to all participants. Participation was entirely voluntary, and individuals were free to withdraw from the study at any point without any negative consequences or impact on their involvement. An overview of the institutions and focus groups conducted is presented in *Table 1*.

To test and adjust the methodological approach of the focus group interviews beforehand, we conducted a pilot focus group interview with digitally active seniors in Vienna, Austria. Our understanding of a digitally active person is someone who uses a smartphone and possibly more devices (such as PC, smartwatch etc.) regularly for communication and information. In our recruitment process, we sent out a short explanation of our project in which we emphasized that a minimum requirement for participation was smartphone usage. Whereas definitions of digital competence encompass a combination of knowledge (e.g., information and data literacy), skills (e.g., digital content creation and problem solving), and attitudes (e.g., critical and responsible use of digital technologies) (Vuorikari et al., 2022), we narrowed our definition to information literacy and communication, to cover a wide range of smartphone and other digital use.

Limited access to older adults' homes to conduct in-situ research is particularly challenging, and therefore, we used qualitative interview settings to benefit from elicitation methods, and to better unpack day-to-day experiences (Lee and Šabanović 2013; Schwaninger et al., 2021). To stimulate discussions in focus group settings and to understand what people feel or think about various issues (e.g. Mehra et al. 2016, Yamaguchi 2020, Yoshida 2020), we asked participants to bring rough sketches of their homes (floor plans), including the position of the digital devices they use. Inspired by IDEO, floor plans are commonly used in user-centred design as they can facilitate imagination on daily practices and technology at home, which has also shown effectiveness for ideation purposes with older adults as the target group (Schwaninger et al., 2021). In a previous study conducted in Korea, floor plans were also created with participants to understand family and gender roles around daily practices and smart home devices in living spaces (Lee and Šabanović 2013).

Furthermore, for the field research in Korea, a culturally appropriate definition of home was of great importance in both the conceptualization of the focus group interviews and the analysis to understand the participants' views of home in connection to digital transformation. We chose three terms to represent their ideas of home in the Korean language: 집 (*chip*) a pure Korean, and 家 (*ka*) a Sino-Korean Hanja word, with the meaning of both house and family; as well as 가정 (家庭 *kajŏng*), a term emphasizing a community of family members living together.

The audio records of the four focus groups were transcribed and translated by a Korean native speaker. We then processed the data using qualitative content analysis (QCA), as described by Kuckartz and Rädiker (2023), with the program MAXQDA. The analysis followed a primarily deductive approach, in which the three dimensions of Self-Determination Theory (autonomy, relatedness, and competence) and the six home aspects (privacy, safety, family, intimacy, comfort, and control) served as the initial analytical framework. The focus group transcripts were reviewed repeatedly and coded in relation to these predefined categories.

We began our focus groups in Korea by introducing the term 'digital transformation' [디지털 전환], inviting the participants to write down their initial thoughts on the term. Furthermore, we had asked the participants to bring their floor plans to the meeting. We then encouraged them to note down the digital devices they frequently use at home. Subsequently, we asked participants to briefly present their plans and devices to the group. During a short discussion, we invited participants to share the types of apps they use on their smartphones with the group, linking these activities to specific locations in their homes if applicable. With permission, we also took photos of smartphone screens displaying the app icons.

Next, we presented and explained the six home aspects to the participants, using a Power Point

Table 1. Overview of the institutions and focus groups

Institution	Description	Focus Groups	Participants
Kyung Hee University's Global Campus	The campus in the greater Seoul area with ongoing research through the living lab.	2 (Kyung Hee 1, Kyung Hee 2)	4 female, and 5 male participants, age range: 67-75
Seocho Welfare Center	Neighbourhood community service center for seniors: educational and leisure activities	1 (SWC)	3 female, 2 male participants, age range: 63-70
KORDI (Korea Labor Force Development Institute for the Aged)	Governmental institution supporting programs for older adults' employment and social activity support programs	1 (KORDI)	4 male participants, age range: 65-66
		Total 18:	7 female, 11 male participants, age range 63-75

Presentation and describing the home aspects in both Hangeul and Hanja (Chinese) characters. We invited the participants to take notes and discuss on how each aspect is linked to their personal digital habits. For example, the home aspect "family" was linked by participants with the convenience to communicate with family members, e.g. via KakaoTalk, text messages or video calls. In a final discussion, participants shared their experiences of how digital habits have changed since the start of the pandemic, presuming a rise in technology usage (cf. European Parliament 2022).

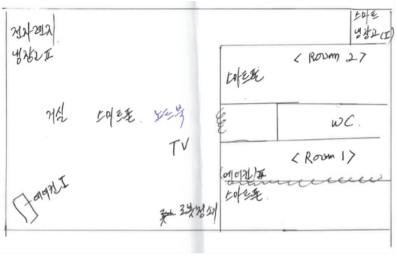
Findings

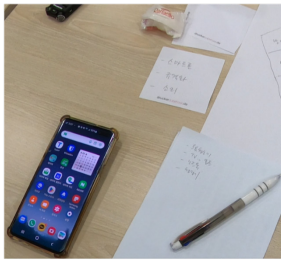
In this section we illustrate how participants articulated experiences of autonomy, relatedness and competence through home-related aspects.

Safety and comfort

Regarding safety (*anjŏn*, 安全), most of the devices discussed were related to health monitoring and emergency responses. Participants frequently mentioned using smartphones and AI devices like Genie, which can be used to call emergency services (119) quickly. Health-related apps were also prominent, such as medication reminders, blood pressure monitors (often in connection with smartwatches), pedometers, and electrocardiograms. Some participants shared their experiences using health-related digital features: "I can control my smartwatch here, check my blood pressure and electrocardiogram, and see how many steps I walked. I use many features, like pulse checks and walking history, to walk at least 10,000 steps daily." (m, 72)

Figure 1-2. Floor plan and notes during the focus group discussion.





Others emphasised the importance of managing daily activity and physical well-being: "Regular signals [from health app/device] (to exercise) can keep everybody motivated and take care of themselves." (m, 66). Alarm functions were also used as a reminder to take medicine. Participants highlighted the convenience and usefulness of devices to monitor physical health and provide emergency assistance. "For example, a smartwatch can alert someone if we fall and need help." (m, 72)

In addition to health-related topics, participants mentioned security measures, such as burglary protection and door codes.

In summary, the focus on physical health demonstrates the primary link between technology and the concept of safety for the participants, showing how technology helps participants maintain a sense of well-being in their everyday lives. Secondary components of the concept of safety were shown through the discussions on protection of the home.

Comfort (*p'yŏnan*, 便安) was frequently associated with the convenience that digital tools provided to the participants, allowing them to adapt their daily lives to the changing demands of ageing. Many participants expressed that digital technology - particularly smartphones, apps, and online services - helped them manage tasks that might otherwise require physical effort or travel. Participants acknowledged a sense of relief that digital tools provided by eliminating the need to visit physical locations for tasks such as banking, especially during the pandemic, and as they aged: "And then I had to go to the bank to transfer money, and now that I've learned this [online banking], I'm comfortable transferring that as well [digitally]." (f, 69)

"Mobile banking is very convenient and good. I use it myself. I can see all the deposits and with-

drawals…I also use online shopping for everything I need here and there. The thing I use a lot, that Koreans use a lot, is Coupang [a Korean site for online shopping]!... It's very convenient." (f, 63)

One participant noted: "And now that we're older, there are many times when it's a trouble to go somewhere. So, I communicate a lot through phone calls or KakaoTalk. I'm very active." (m, 72) This statement underscores how digital tools have become a part of everyday digital practice that provides convenience to users, as participants valued the possibility to perform digital tasks from home. However, they also reflected on how these practices have been introduced only during the COVID-19 pandemic:

"YouTube is convenient, but we interact a lot through KakaoTalk, since we couldn't meet our friends during COVID." (f, 70)

"Since I couldn't meet people [during COVID], I watched church services online on YouTube. I noticed that this makes lazy." (f, 76)

However, while the convenience and efficiency provided by digital tools, especially mobile banking, were discussed, participants also recognized some downsides. One issue raised was the negative impact of digitalization on work opportunities, particularly the decrease in available jobs due to the rise of self-service counters (so-called kiosks):

"For example, kiosks are now all done by machines. When placing an order or something like that. So, in such cases, jobs are becoming fewer, but we have more convenience." (f, 67)

In summary, the focus on bridging geographic distances and mobility support was the primary link between technology and comfort.

Family and intimacy

Furthermore, we identified the significance of the home aspects of family and intimacy that represent important relational dimensions through which social bonds and emotional closeness are maintained. These aspects provide a lens for examining how digital communication technologies are integrated into everyday social interactions within and beyond the household. Both family (*kajok*, 家族) and intimacy (*ch'inmilgam*, 親密感) were most frequently associated with the messenger app KakaoTalk and the video conferencing platform Zoom. These programs, particularly Zoom, gained significant popularity during the COVID-19 pandemic as they became essential for communication with people outside one's household. Five of the 18 participants lived in a household with a child (three men lived with their spouse and their son, two women lived with their daughter). With most of the informants living apart from their children, messenger apps were important for maintaining intergenerational connections.

"Usually, we exchange pictures and video calls via KakaoTalk. Even when we are not together, we can share our experiences quickly. Especially during COVID, we contacted each other a lot." (m, 72)

"The world has improved. It doesn't cost much to talk on video calls. If there's Wi-Fi, everything works, and you can use KakaoTalk. It's convenient and cheap." (f, 76)

The participants generally agreed that using smartphones has brought them closer to family and friends:

"By using smartphones a lot, we become closer. [...] for example, me and my spouse and our children, me and my younger siblings, and my family are mostly connected like that." (m, 67)

The digital tools have helped bridge physical distance, fostering a sense of intimacy:

"Despite the distance, we stay connected through phone calls and frequent video chats, which helps us feel intimate…through KakaoTalk, we share and celebrate good news and support each other during difficult times…I wonder whether the digital society can be a good medium for the family in this time of disconnection." (m, 66)

Although the overall perception of these messenger apps was positive, a few participants highlighted some downsides. Some felt overwhelmed by the frequency and volume of KakaoTalk messages, which could create a sense of pressure:

"KakaoTalk messages keep coming. It's like an addiction. Even if I haven't received a message, I check my phone constantly. It's become a [bad] habit." (f, 67)

In conclusion, the use of messenger apps, particularly KakaoTalk, has been crucial for maintaining family and intimate connections, especially during the time of the pandemic. While some participants experienced mild stress due to message volume, the overall sentiment was that these digital programs contributed positively to their relationships and well-being.

Privacy and control

In the home context, privacy and control are important aspects that relate to individuals' ability to regulate personal boundaries and maintain oversight of their environment.

Privacy (*sasaenghwal*, 私生活) emerged as a concern for many participants, particularly regarding their digital interactions and the handling of personal data. While digital tools like smartphones and apps offered convenience, they also raised privacy concerns, especially with platforms like KakaoTalk, where participants felt overwhelmed by constant notifications and conversations.

"Generally speaking, by using smartphones a lot we become closer… but it also raises privacy issues or other problems. I try to not be on social media… I don't like it when people I don't know keep talking to me, so there is a bit of a negative side to it all in that regard." (m, 67)

Many participants mentioned feeling uncomfortable with the frequency of unsolicited messages and calls, especially from telemarketers: "There are so many [spam] calls; it's hard to decide whether to pick them [unknown calls] up or not." (m, 65)

Another participant expressed frustration with privacy concerns related to social media, particularly when personal spaces, such as pictures of their physical homes, were shared online without consent of other family members. There was also a sense of unease around the perceived visibility of personal data and images, even to technicians or other service providers, which made one of the participants feel observed: "I get the feeling that technicians can see my photos whenever they want…" (m, 66). Interestingly, some participants were less concerned about privacy, particularly those who felt that the potential risks were irrelevant because of their situations: "I don't have a lot of money, so even if I do internet banking, well, they can't do much with it." (f, 76)

However, as described by most participants, the lack of transparency about how their data was being used created negative feelings and anxiety about privacy violations. According to the discussions, this ignorance or lack of control over personal data contributed to a broader sense of discomfort, undermining the sense of privacy within their own homes.

In summary, while digital tools have fostered closeness and convenience for elderly participants, privacy concerns remain a significant issue. Constant notifications, unsolicited messages, and the potential misuse of personal data have caused unease, leading to a more cautious approach to digital engagement for some. The perceived lack of control over personal information and the intrusion into their private lives have contributed to mixed feelings about the digital transformation, particularly regarding the protection of personal boundaries.

For the focus group participants, control (*t'ongje*, 統制) over digital devices played a crucial role in how they interacted with their homes and their surroundings. Technology was seen as a tool that empowered them to organise their environments according to their preferences, giving them a sense of independence and ease.

One participant highlighted that technology enables them to control lightning automatically, illustrating how technology enables them to manage their homes with greater efficiency and convenience. This form of control was viewed positively, as it enhanced their ability to maintain a comfortable living space without relying on others. However, the concept of control was not limited to the physical environment. Participants also discussed the loss of control in various digital contexts, such as with the younger generation and self-regulation. One participant expressed concern about how children are exposed to inappropriate content online, particularly if adults do not monitor their activities:

"It's an issue if a person doesn't have self-control, like children. When they play games or watch YouTube, they are exposed to a lot of danger if adults don't regulate it." (f, 70)

The issue of self-control was also mentioned in the context of social interactions, where participants noted that smartphones had disrupted the way people engaged with one another:

"When we met up with people, we used to talk a lot. Nowadays, everyone is just looking at their phones." (f, 67)

One participant experienced a loss of control upon realising that he had inadvertently left his smartphone in his car and consequently had no access to it for a brief period:

"I lost my smartphone for about 4 hours. I left my smartphone in the car. So it was not beside me for about 4 hours. I [thought I] lost it. I searched for it through several different routes, but since I didn't have my smartphone for those 4 hours, everything stopped." (m, 65)

In conclusion, control over one's environment was seen as a significant benefit by participants, while losing control over devices (over the loss of the physical device or data) was a concern for some participants. Instances when phones were lost, hacked, or malfunctioned raised anxieties about the vulnerability of their personal informa-

tion. Participant shared their concerns about the ease with which private images or data could be shared in the wrong groups, or data could be published without permission.

The table (2) provides an overview of how participants described their everyday ICT practices in relation to the six home aspects, which we linked to the three SDT needs. The table provides an overview of the six home aspects (left column), the representative ICT practices described by participants (middle column), and their analytical relation to the three SDT needs (right column). It summarises how recurring patterns in the empirical material are interpreted within the analytical framework of this study.

Focus group discussions related to the home aspects of safety and comfort primarily concerned the management of health-related data and everyday tasks through digital devices. Based on these patterns, we analytically relate these aspects to the SDT need for autonomy, as participants' accounts point to practices that support independent action and the organisation of daily life.

Discussions of family and intimacy centred on the use of digital technologies for communication and maintaining social ties. We therefore interpret these aspects in relation to the SDT need for relatedness, as participants emphasised ongoing connection and emotional closeness with others.

Finally, the home aspects of privacy and control were predominantly discussed in relation to concerns about data privacy, unwanted contact, and the perceived loss of control over devices or personal information. We analytically associate these aspects with competence, as these accounts reflect participants' efforts to manage digital technologies and the associated flows of information.

Table 2. Home aspects, ICT practices and SDT needs

Home aspect	Representative ICT practices	Relation to SDT needs (as articulated by participants)
Safety	Health monitoring apps, smartwatches, emergency call functions	Frequently discussed in relation to experiences of autonomy, particularly in managing health and risks autonomously
Comfort	Online banking, online shopping, access to online services	Often associated with autonomy, especially in performing everyday tasks independently without having to leave the comfort of home
Family	Messaging applications (e.g., KakaoTalk), sharing photos and updates	Linked to relatedness through maintaining family and friends' connections
Intimacy	Video calls, emotional support via digital communication	Associated with relatedness, particularly emotional closeness despite physical distance
Privacy	Spam calls, data sharing concerns, unwanted or overwhelming contact	Discussed in relation to competence, especially in managing personal boundaries and personal information
Control	Smart home devices, notification settings, time spent online, device management in general	Associated with competence in handling digital environments, loss of control over data

Discussion of the findings against the literature

The use of digital technology can promote and undermine older adults' self-determination needs (Zhao et al., 2023; Schwaninger et al., 2023). According to our findings, the use of digital technology can bridge geographic distances, facilitate a sense of safety, and strengthen social relationships and participation, fostering healthy ageing. The super-app 'KakaoTalk' commonly used in Korea provides a whole range of features potentially facilitating social relationships, mobility, banking, entertainment, social participation and others.

In the context of ageing in place, autonomy is closely connected to how individuals manage everyday activities within their home environment (Reis da Silva, 2023). Home aspects such as safety and comfort describe conditions that can shape how autonomy is experienced in daily life (Oswald et al., 2007). Our findings suggest a positive effect of ICT usage on the need for autonomy. Participants reported positive experiences through ICT usage that provided a feeling of safety and security. Digital tools helped our participants manage their physical health more effectively, offering reassurance in tracking vital signs such as blood pressure and heart rate. In support, literature affirms that elderly ICT users are positive towards technology because it helps them manage their health-related data and keep track of their health problems (Vassli and Farshchian 2018; Young et al. 2014). A recent study further indicates that the intention to adopt technology among older adults varies depending on their health status, particularly their level of frailty (Shin et al., 2023). Health-related data has thus become more interpretable and helps understand health information better (Price et al. 2013). Beyond health-related aspects, our focus group participants' ability to use technology for safety against unauthorized intrusions, like smart door locks, also contributed to participants feeling more secure at home. However, the resulting dependency on technology could potentially lead to anxiety in cases of malfunction or data breaches, where the sense of control over one's safety could be compromised (Young et al. 2014). Comfort was one of the most appreciated aspects of ICT usage, as it allowed participants to conduct tasks like banking, shopping, and socializing from the convenience of their homes. Notably, findings from multiple studies on Korean older adults

have consistently shown that perceived convenience is a key factor influencing their intention to adopt various assistive and digital technologies (Kim et al., 2023; Shin et al., 2020). However, participants were aware of the fact that the convenience of ICT usage also comes with social costs, such as reduced face-to-face interaction and job loss.

Relatedness concerns meaningful emotional connections and a sense of social belonging (Ryan and Deci 2017). Within the home context, family and intimacy represent important relational dimensions through which social bonds and emotional closeness are maintained. Our participants' experiences of family and intimacy were strengthened using communication platforms like KakaoTalk and Zoom, which allowed participants to share information, provide and receive support, celebrate family moments, and reinforce feelings of closeness and connection with their family and friends. These apps were especially vital during the COVID-19 pandemic when physical interaction was limited. In support, the literature has identified that one of the key motivations for elderly persons to use ICTs is the possibility to connect and socialise with friends and family, allowing them to feel close to them (Sayago and Blat 2011; Schwaninger et al., 2020). However, one downside of ICT use is the social pressure experienced by some older adults (Bieg et al., 2022).

Competence refers to feeling capable of managing tasks and navigating one's environment effectively (Ryan and Deci 2017). In the home context, privacy and control are important aspects that relate to individuals' ability to regulate personal boundaries and maintain oversight of their environment (Moore, 2000; Zuboff, 2019; Zheng et al., 2018; Choi et al., 2021). Our findings indicate insecurities in terms of privacy concerns and potential loss of control. Literature confirms that many elderly experience discomfort, anxiety, or even fear using ICTs (Vassli and Farshchian 2018, 13; Sayago and Blat 2011; Wu et al. 2015; Shin et al, 2020). For example, one of the most cited reasons why the elderly feel discomfort with home surveillance systems is that they feel too invasive. Most older adult users would grant the rights to their healthcare providers, but they want to be in control of the data they share (Vassli and Farshchian 2018, 11; Jaschinski and Allouch 2015, Choi et al. 2021). Only trust in their service providers and the value of security can sometimes supersede concerns about privacy issues for older adults (Vassli and Farshchian 2018; Jaschinski and Allouch 2015; Zheng et al. 2018). While privacy concerns were frequently observed in Western contexts in the literature (Vassli and Farshchian 2018, 19; Jaschinski and Allouch 2015; Price et al. 2013), we found similar notions in the urban Korean context.

Practical and design implications

Although ICTs were perceived as beneficial in the sense that they supported relatedness and autonomy, constant notifications of different applications were also perceived overwhelming at times. Older adults expressed that the use of several tools on one platform the challenge of differentiating between important and less important information. In the context of platform ecosystems like KakaoTalk, a range of digital tools/apps are used in a larger digital ecosystem. In super-app and smartphone ecosystems, sensitive (health) data sharing practices could be mixed with other (less) sensitive data sharing practices, where attention boundaries were often challenging to draw. The overloading of notifications challenge of differentiating between more and less important, sensitive, comfortable ones versus unimportant, less sensitive, and annoying ones. This could be addressed with attention management and notification systems. Here, managing others' expectations versus one's own distractions, and protecting privacy versus asserting the justifiability of communication restrictions are among the aspects that need to be balanced (Chou et al., 2022). Tailored notification systems designed for older adults' contexts of use could help to focus attention and distinguish between spam calls, medication reminders, and other notifications.

As potential intrusiveness and privacy have been a great concern among older adults, transparency and privacy need to be given high priority in the design of ICTs (Schwaninger et al., 2021). Although there are privacy regulations in place, digitally active older adults often do not fully understand their rights and apply strategies to protect personal data (Ellefsen & Chen, 2022). Therefore, building on previous work in usable privacy and security, it is important to tailor usable privacy and security design to older adults' preferences. This could be complemented by inclusive digital privacy education, providing confidence in interacting with ICT (Aly et al., 2025; Prochaska et al., 2024), especially in the context of platform ecosystems where different levels of privacy need to be navigated.

Finally, while engagement with ICT promoted autonomy and relatedness, older adults raised concerns about the balance between over-consumption and finding the right dosage. Although KakaoTalk supported older adults in maintaining social connections, there was also a perceived loss of control due to a perceived pressure of being online, which caused a dilemma of enhanced

wellbeing through interpersonal connection and diminished wellbeing through over-consumption. Furthermore, despite a gain in autonomy for managing physical health, for example, findings also showed a loss of control over the level of overall digital consumption. Promoting the right dosage of digital consumption therefore poses a significant design challenge for ICT in platform ecosystems such as KakaoTalk. The growing attention on technology overuse has also defined the research area of "digital wellbeing" (Roffarello & De Russis, 2023), which clearly needs to be tackled in the context of older adults using ICT, for example, in combination with community interventions (Duncan et al., 2021, Haan et al., 2021). Boundaries need to be set for reaching a responsible and appropriate level of digital consumption. In the physical home, rooms were dedicated to specific activities in our study, where such physical boundaries could also provide a strategy for navigating boundaries around digital habits. As a recent literature review shows that HCI research tends to address digital wellbeing on an individual and short-term level, more theory and system-level design approaches are needed (Roffarello & De Russis, 2023).

Conclusion

In the present study, everyday digital practices were described in relation to the six home aspects (privacy, security, family, intimacy, comfort, and control). We have interpreted the findings as contributing positively to older adults' autonomy and relatedness in their homes. ICT use was frequently experienced as supporting aspects of self-determined living, particularly by facilitating family connections, personal safety, and everyday comfort. At the same time, participants' accounts highlight the importance of addressing concerns related to data privacy, self-regulation, and control in order to support well-being in later life.

Limitations and future directions

Despite these new insights on SDT and home experiences, our sample is not representative of Korean older adults, who are the most affected by poverty within the OECD countries (OECD, 2023). The Welfare Center in Seocho serves as a best-practice model for digital engagement among older adults in Korea. Facilities such as the Smart Senior IT Experience Zone (featuring VR and robotic interactions) and the Smart Learning Room are exceptional examples of advanced digital programs. The focus group participants interviewed for this study were relatively homogeneous regarding age (60s-70s), socio-economic status (middle-class living in urban areas), and digital engagement (digitally active users). Future gerontechnology research should include varying ages, educational backgrounds, and socio-economic backgrounds, residential contexts (urban and rural), and diverse levels of technological adoption and digital competence. Accordingly, the findings of this study should be interpreted with caution and are not intended to be generalisable but rather aim to provide in-depth insights into specific contexts and user experiences. By situating digital practices within the lived context of the home, this study highlights the importance of understanding technology use in later life as an experiential and relational process rather than a purely functional one.

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