

Multidimensional digital vulnerability among older adults

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ABSTRACT

Access to digital devices and knowledge of how to use them is crucial today. This study is about older adults (aged 65+) who lack experience with digital devices yet still feel compelled to use them in their everyday lives. They face various challenges when using their devices and often do not know how to address them, making them digitally vulnerable. In this study, I address the tension in the ongoing interaction between an increasingly digitalised society and individuals hindered rather than helped by digital technology. Using qualitative interviews and participatory observations with 25 Norwegians over 65 years old provides valuable insights into the everyday experience of struggling to keep up with societal digital advancements. This study highlights the real-life experiences of older adults and identifies their digital vulnerability across various dimensions: material, spatial, social, and privacy-related. Moreover, the research expands on existing literature by including analogue circumstances and agency.

KEYWORDS: older adults, media use in everyday life, digitalisation, digital exclusion, digital devices, vulnerability

Introduction

How do older adults experience using digital devices and services, and how do everyday circumstances make them digitally vulnerable?

In this study, I analyse the multidimensional digital vulnerability among older adults by examining their use of digital devices in everyday contexts. I investigate

the circumstances where digital technology hinders rather than supports them and consider how they use traditional (analogue) methods to cope with digital challenges. While it is well-established that older adults are at risk of digital exclusion (Hargittai et al., 2019; Pirhonen et al., 2020), we still have a limited understanding of their daily experiences with digital engagement in today's society. The concept of digital vulnerability allows us to move beyond the binary idea of being either included or excluded; instead, it focuses on the everyday experiences of those who are on the brink of exclusion, sometimes excluded, and often unaware of what they are missing out on.

Today's information society is undergoing a digital transformation, with the Internet and technology influencing nearly every aspect of life (Hasebrink & Hepp, 2017; Méndez-Domínguez et al., 2021). Our daily activities increasingly rely on digital media, making devices essential for accessing services primarily organised through search engines and chatbots. As a result, digital skills are now necessary for full participation in society (Pihlainen et al., 2021).

Older adults are particularly vulnerable to digital exclusion (Mubarak & Suomi, 2022; Pirhonen et al., 2020). While this group has a diverse use of digital devices and the Internet (Hargittai & Dobransky, 2017; Hänninen et al., 2023), they tend to have more limited use of online activities and engage less in digital society than younger people (Friemel, 2016; Hargittai & Dobransky, 2017; Olsson et al., 2019; Petrovčič et al., 2022; Quan-Haase et al., 2018; van Deursen & Helsper, 2015). Digital technology can aid independent living (Wang et al., 2019; Seifert et al., 2021), but still, many older adults remain hesitant to adopt it (Hänninen et al., 2023; Lehtinen, 2023; Mubarak & Suomi, 2022), highlighting the tension between society's reliance on technology and their resistance to it.

In response to calls for further research on the everyday experiences of media-related social change (Jansson et al., 2021), I employed qualitative ethnographic methods in this study, including in-depth interviews and participatory observations in domestic settings. This allows the examination of the use of digital devices in everyday life, a concept central to cultural studies, media phenomenology, and media ethnography (Ytre-Arne, 2023). I combine participants' (emic) and researchers' (etic) perspectives (Pike, 1967) to analyse and discuss rich and new qualitative data. Using digital vulnerability as an analytical concept, the analysis focuses on the experiences of older adults regarding their ownership and use of digital devices rather than their on-screen activities.

Digital exclusion and the grey divide

Digital exclusion is a significant concern with online services, often reflecting broader inequalities (Helsper, 2021). As our everyday lives become more reliant on digital technologies and self-service solutions, users – including the already disadvantaged – face new challenges. The digital divide correlates with sociodemographic factors like gender (Arroyo, 2020), income, and education (Anrijs et al., 2023). This raises worries that essential services like welfare and

healthcare may not be accessible to everyone, leaving certain groups, such as older adults, vulnerable to exclusion (Helsper, 2011). In contrast to research highlighting socioeconomic differences as a key factor, other studies indicate that prior experiences and levels of cyber anxiety significantly influence older adults' perceptions of the Internet (Bergström, 2023; König et al., 2018).

In general, older adults are a disadvantaged group that is more likely to be excluded from the digital world (Lu et al., 2022) since they are likely to have non-digital media habits (Givskov & Deuze, 2018; Hargittai et al., 2019; Ivan et al., 2020) and a preference for analogue media and offline solutions (Hakkarainen, 2012). The “grey divide” refers to the significant imbalance in Internet use that excludes older adults, a phenomenon documented by multiple studies (for an overview, see Friemel, 2016). Generally, the research literature points to three levels of the digital divide: access, literacy, and capacity to transform Internet use into favourable offline outcomes (van Deursen & Helsper, 2015; Scheerder et al., 2017). It is found that even when older adults manage to cross the first-order digital divide and go online, they often have more limited experiences (Hargittai, 2019) and tend to benefit less from the positive outcomes that the Internet can offer (Van Deursen & Helsper, 2015).

While the grey divide often describes the difference between older and younger people in general, research has shown that there is also a significant gap between younger and older seniors, with older seniors facing greater disadvantages (Bergström, 2017). Additionally, studies on older adults have been criticised for overlooking such age-related variability (Stone et al., 2017), and that rather than existing across a digital divide, users of all ages are more accurately positioned along a digital spectrum (Loos, 2012).

These strands of research all indicate that older adults are often at risk of digital exclusion due to their age, established habits, or limited experience with digital technology. I propose to further investigate this issue by exploring the concept of vulnerability in the everyday experiences of those older adults who find online services and digital devices challenging to navigate.

Older adults' digital experiences in everyday life

Digital media experiences are woven into everyday life (Ytre-Arne, 2023). Understanding how analogue circumstances blend with online activities is crucial when studying older adults' digital media use. In everyday situations, the use and non-use of digital technology is a dynamic and evolving process, as our interactions with technology change as we age (van Deursen & Helsper, 2015).

Even though digital technologies are widely available, many older adults still feel disconnected and uninterested in using them (Seifert et al., 2021; Sourbati, 2009). Additionally, having access to digital services does not guarantee that they feel assisted or supported (Hänninen et al., 2023; Lehtinen, 2023). Lack of interest can be attributed to older adults not considering online services as relevant to their daily lives, making them less likely to use these technologies

(Nikou et al., 2020). Additionally, their use of digital devices and services tends to be limited to specific practical tasks connected to their offline activities (König et al., 2018). As a result, older adults generally engage in fewer online activities and show less participation in the digital society (Petrovčič et al., 2022).

The reasons for older adults' resistance to adopting new technology are diverse, and research has also shown that older adults experience varied digital challenges. One challenge that older adults face is problems related to technology features or design (Bhattacharjee et al., 2020). Some older adults may experience feelings of disorientation or confusion while navigating hyperlink-based web systems (Castilla et al., 2018). Additionally, the ability to accomplish the same online task using various combinations of inputs can also be perplexing (Fletcher-Watson et al., 2016). The difference in the look and feel of various devices can also cause substantial difficulties; for instance, older adults participating in a training programme found it challenging to adjust to the operating system and interface of a classroom device that differed from the one they typically used at home (Gatti et al., 2017). The concept of the Internet can also be hard to grasp, as older adults are found to expect online spaces and interactions to resemble offline situations and one-on-one communication with a person who is there to provide help (Sakariassen & Ytre-Arne, 2024).

Society and existing research often suggest that becoming “more digital” is a solution to the everyday challenges faced by older adults, implying that limited or non-digital media use is a problem. However, this study takes a different approach by examining personal experiences that link the use of digital devices and online services to real-world situations. The analysis explores various aspects of digital vulnerability, offering valuable insights into the challenges older adults encounter and how they may be hindered rather than helped by digital technology and the societal organisation of digitalisation. This understanding is particularly important, as misconceptions and myths often shape our views on older adults' use of digital media (Loos et al., 2022).

Digital vulnerability as an analytical concept

This study employs the analytical concept of digital vulnerability. Although the participants in this study all use digital devices and are not entirely excluded from the digital world, they face challenges in utilising these devices for practical purposes, which renders them digitally vulnerable. Digital vulnerability can refer to risks encountered whilst engaging in online activities (Carcelén-García, 2023). In this study, however, the concept is specifically used to discuss the difficulties individuals face when trying to use digital devices in their everyday lives, which can lead to complications and a risk of digital exclusion.

Vulnerability is a term associated with harm or unfortunate events that a person might experience, and in today's society, this includes the use of digital technology (Mackenzie et al., 2014). According to Butler (2004), precariousness

– our inherent vulnerability to the actions of others – is a fundamental aspect of human existence, though its impact varies among individuals and populations. Certain groups are disproportionately precarious.

Mackenzie and colleagues (2014) proposed a taxonomy to address vulnerability, identifying different sources (inherent and situational) and states (dispositional and occurrent) of vulnerability. This taxonomy recognises the inherent ontological vulnerability that is part of the human condition while allowing for the identification of context-specific vulnerabilities. The distinction between dispositional and occurrent vulnerability refers to the difference between potential and actual vulnerability.

Additionally, being labelled as vulnerable can create feelings of powerlessness and loss of control or agency (Mackenzie et al., 2014), which impact how individuals perceive themselves (Luna, 2009). Such notions align with research on older adults that have suggested that perceptions of low self-efficacy, negative societal attitudes (Bhattacharjee et al., 2020), or an atmosphere of self-doubt created by the rhetoric surrounding older adults use of digital technology (Bjønness et al., 2021; Mitzner et al., 2016) discourage older adults' use of the Internet.

The context of Norway

Official offices in Norway are adopting a “digital first choice” policy, assuming users can access services online, and many services are now primarily digital, with analogue options being phased out. However, a report shows that 11 per cent of the population are weak or non-digital users, particularly among seniors, where nearly 50 per cent of those over 60 falls into this category (Bjønness et al., 2021). This percentage rises with age, making Norway a compelling case to study, as Norway is seeing an increasing number of older adults (Aalandslid, 2024), and inexperienced digital users face potential exclusion from a wide range of services.

Method and data

This study focuses on older adults in Norway who are inexperienced users of digital devices, operationalised through self-conceptions of facing challenges or needing more knowledge to use digital devices in everyday situations. As such, the participants have not been selected based on their digital literacy or skills but on their perception of their ability to use digital technology and services. This group was selected for their distinct position: They are active users of digital technology, yet their lack of experience makes them potentially digitally vulnerable and unable to use such technology safely or effectively.

When recruiting participants for this study, I presented the project to potential candidates at public libraries and organisations that provide seniors with meeting points. I asked older adults who recognised themselves as struggling with digital technology in their daily lives to participate. The recruitment method yielded 25

participants after a particular effort to include women and those above 80. The participants are gender-balanced and aged between 65 and 98, with varied work and educational backgrounds (see Appendix 1 for an overview of participants). This variation indicates diverse experiences and introductions to digital devices and online tools. Some were new to digital technology and trying to understand the concept of the Internet. In contrast, others were familiar with a specific use of digital technology but struggled to incorporate it in different settings in their daily lives.

In 2022, I gathered data using qualitative ethnographic methods. The study involved in-depth interviews and participatory observation sessions with participants in their homes. The interviews and observations lasted between one and two hours each. Both were recorded, and copious notes were made, particularly during the observation. In total, this yielded approximately 1,500 pages of transcribed data and notes.

The interviews focused on the participants' everyday experiences and interactions with digital devices and services that they typically used or attempted to use. Although the participants were selected based on their self-identification of facing challenges, these issues emerged naturally during their everyday experiences rather than being directly asked about. I discovered that participants often struggled to articulate their digital experiences due to a lack of appropriate vocabulary. To address this challenge, we needed to establish a shared language tailored to each interview, even if it was prone to misinterpretation. Therefore, having the observation session in the second meeting was advantageous, as it allowed me to reflect on insights from the interview and adjust for any misunderstandings. After the first interview, the participants became more attuned to the discussion topics and frequently shared real-life examples during the observation. This approach enabled me to explore the emic experience with minimal interference within the frames of the project design.

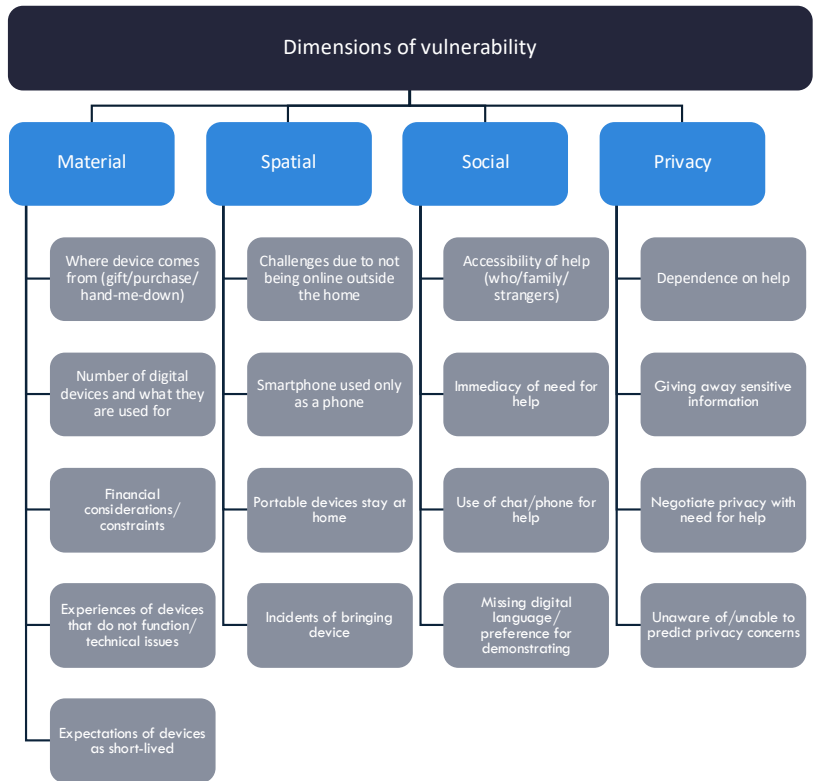
Likewise, during the development of the interview guide, it was essential to consider the vocabulary used in the interviews. The interviews began with a "day-in-life" segment (del Rio Carral, 2014) to understand the role of digital devices and online services in the participants' everyday routines. Following this, I asked about using digital devices and how they considered the role of digital technology in society (see Appendix 2 for the full interview guide). These follow-up questions were tailored to the participants' everyday use of digital devices, such as purchasing tickets or using online banking services. About a week later, I conducted participatory observations and additional interviews. During the observation, I employed the think-aloud method (Wirth et al., 2004), which encouraged the participants to vocalise their thoughts as they performed activities on their devices. The data collection resulted in detailed descriptions of the experiences these older adults have of using digital devices and online services and how they imagine the online world operates (Sakariassen & Ytre-Arne, 2024).

During the interviews and observations, the participants were more interested in discussing their experiences related to the screen rather than the content on the screen itself. The open-ended questions allowed for detailed and flexible engagement with the topic, and the participants tended to steer the conversation toward their experiences of trying to make digital devices function in everyday life. These narratives provided an in-depth understanding of the irritation and challenges that these older adults experienced, including the issue of missing vocabulary and the non-digital agency they demonstrated in the various ways they would try to solve an issue. The narratives of what happened with, or around, the screen were less restricted than those about the on-screen activity, revealing the vulnerabilities of digitally inexperienced older adults and forming the basis for this study.

Jansson and colleagues (2021) advocated examining media-related social change in daily life. According to them, it is in these settings that media becomes an ordinary and taken-for-granted aspect of everyday life, and they call for qualitative research to contribute to a better understanding from an emic perspective. This study employed qualitative ethnographic methods with an in-depth interview and participatory observation in domestic settings to capture everyday experiences and motivations, allowing me as a researcher to engage with real-life situations from the participants' (emic) viewpoint.

The analysis focuses on reports of challenges with owning or using digital devices for practical purposes. It emphasises the context surrounding the device rather than focusing on the on-screen activities. The analysis involves several steps. First, I identified all accounts of difficulties encountered with digital devices. These reports were then analysed manually from an emic perspective (Pike, 1967) to uncover common themes in the participants' real-life experiences (see Figure 1). Emerging themes were formulated and refined to clearly differentiate them from one another. The identified themes included material, spatial, social, and privacy-related aspects. Following this, these experiences were explored from an etic perspective (Pike, 1967), using vulnerability as an analytical lens. This approach highlights the everyday experiences of digitally inexperienced older adults and contributes to the discussion on digital vulnerability.

Figure 1 Concept indicator model



Analysis

This study focuses on older adults who are digitally inexperienced but have a digital device and attempt to use it in their daily lives.

How is this supposed to have a function in my life? How can it be of use to me? Computers are so important to people but are not important to me. [...]

This quote from Geir (72) illustrates the typical “what now attitude” expressed in the interviews, when the participants have a digital device but struggle to integrate it into everyday use. The analysis focuses on these lived experiences and, by doing so, uncovers different dimensions of vulnerability carried through to the discussion. From the emic perspective of these older adults, incorporating digital devices into everyday life is a nuisance. Dimensions such as materiality, spatiality, social aspects, and privacy structure the analysis. From the etic perspective, this study highlights different dimensions of vulnerability and being on the verge of digital exclusion, which is the topic of discussion.

Vulnerability from a material perspective

Access to a digital device is the first requirement for going online. The participants have various digital devices and different approaches towards them, which appear to be influenced by financial considerations.

Per (73) has a particular setup of devices: an iPad for news, a Macbook Pro for online shopping and banking, a stationary Mac for Skype with family, and a new iPhone for phone calls only. This elaborate setup means that he almost has one device for each thing he does online, which enables him to perform the tasks he needs. He explained why he needs all these digital devices:

Per: I am not allowed to do anything else [other than answer incoming Skype calls] on this one [the stationary Mac].

Interviewer: Says who?

Per: My sons. You see, I was housebound during the flu... pandemic, and I had to get a computer to buy groceries... And my sons, they all live in Oslo, you see [...] Anyway, one [of the sons] drove over and got me a computer. But it was not easy for me to use it... and my phone was new also... I am not even sure if it [the phone] was working [...]. So, we got another one [computer] that we could use when I needed help with the first one.

Interviewer: So... to understand this. The stationary Mac is only used to get help with the other computer [MacBook] that you use for buying groceries online?

Per: It has worked great. We talk, and I show them the problem [holds up the MacBook to the web camera on the stationary Mac], and they say what to do. I have smart boys... But once I tried to do something else on this [the stationary Mac], and the Skype stopped working, and my son had to return to fix it [a seven-hour drive]. So now I am not allowed to use it for other things [laughs].

Per's setup is costly and consists of several devices he has a limited understanding of and can hardly use. A dispositional vulnerability (Mackenzie et al., 2014) is evident, as Per relies on several devices and other people to use digital services in everyday life and avoid exclusion. However, his account demonstrates that having the means to afford technology and the support of family members to assist in setting it up can help alleviate the digital challenges experienced by older adults. In this example, social and material dimensions are intertwined.

Per's account of his digital experience is significantly different from Eva's. Eva (65) struggles financially and does not have anyone to assist her with her digital issues. She has an old laptop that was a hand-me-down from a friend. While using it during the participatory observation, she encountered numerous pop-ups with suggested updates and about expired virus protection. Additionally, it frequently went to sleep mode due to battery or power-cord issues. Eva said it was time to purchase a new computer, but was concerned about the cost. This conversation followed:

Interviewer: What stops you from getting a new computer?

Eva: It is the cost and the cost of making mistakes... after three or four years, you have to buy a new [computer], and then it needs updates because it is too old, there is always something new... you have to buy, buy, buy to keep updated.

Interviewer: So, you are saying that it is an investment that you... that snowballs?

Eva: Yes, because when I manage to learn how to do a specific thing... when I finally manage, because I am quite slow... it is outdated. [...] If I spend money on a computer, it will become outdated almost instantly. I live on a minimum retirement income, where every penny must be turned, and this will be a huge investment for me. And what then if something does not work or I get hacked... anyway, soon I am left with an outdated computer and nobody to help me. What do I do? I have zero chance.

These examples illustrate the contrasts in the interviews, with most participants falling somewhere in between. Individuals with hand-me-downs or inexpensive laptops lacking security emphasised that their choice is based on financial constraints rather than personal preference. The observation highlights the added challenges of using outdated devices, where the vulnerability moves from dispositional to occurrent, as these participants cannot perform the tasks they want when they need to. The participants expressed concern about the perceived short life expectancy of digital devices and the difficulties they might encounter in getting help when their device is not up to date. For example, they described issues such as “I had the wrong type of phone” or “I needed to fix my computer before I got help... but I do not know how to do that”.

The participants’ emic experience involves irritation while trying to get their digital devices to function in their everyday lives. They also anticipate that their devices will stop working suddenly, and they expect they will need to replace them soon. Thus, personal economy plays a central role in this perspective. Previous research has established a connection between economic resources and Internet use (Anrijs et al., 2023; König et al., 2018). This finding highlights the economic aspect of owning a digital device. From the etic perspective, a limited economy makes digitally inexperienced individuals more situationally vulnerable to digital exclusion, as they must be able to afford a digital device and keep it up-to-date. Having an old or outdated digital device makes using it as part of everyday life more complex than it needs to be.

Vulnerability from a spatial perspective

Today, online access restricted to the home has limited use, as online services are often needed – and used – “on the go”. However, a common feature in this study is that participants who own portable devices, such as laptops and tablets, do not bring them outside their homes. For instance, one participant said she “bubble-

wrapped and put the laptop in a box and then got a taxi” when she needed to bring it to get help. This mindset illustrates that computers are not perceived as portable devices that are easily carried around. On a similar note, most owners of smartphones stated that they only “use it as a phone”, which includes phone calls and text messages but not the use of the Internet or apps. Such a preference is linked to a desire to use the phone primarily as a phone. These are two distinct conceptions of different types of digital devices; however, combined, they indicate that even if the participants have online access and bring their smartphones “on the go”, Internet access is still mostly restricted to their homes.

Marie (65) owns a MacBook that she uses when at home. She also owns a smartphone but only knows how to make phone calls and write text messages. As a result, she can only go online at home. She talked about her difficulties with taking the bus during the Covid-19 pandemic, when paying the bus fare in cash was not a possibility:

I have travelled for free on the bus from home, and by free, I mean that I do not have a ticket, and I sit there with my heart pounding the entire way. Imagine how embarrassing it is to get caught, a grown woman my age! But when I got to the city centre, I could buy a ticket at the vending machine.

Mia (70) had a similar issue. She described how she finds it increasingly difficult to travel without a digital device: “Find a hotel – on the computer. Buying plane tickets – online. [...] Everything ends up on the smartphone and is scanned”. The only travel company she knows about is also online. As a result, she no longer feels able to go on holiday or travel by herself and needs to team up with her more digitally savvy friends.

It is more than transport that requires mobile online access. Margrethe (69) enjoys going to concerts and the theatre, but digital tickets have become an issue for her. She has a laptop but not a smartphone:

They don’t send the tickets by post any more, they stopped doing that. And then I get tickets digitally [...]. But how does that help me? When I am going to a play or a concert... or whatever it is, I have to show the ticket! They ask you to show the ticket! My friend uses her phone. I think she is terribly brave. But I do not have that kind of phone, and I don’t really want it either. I think they are petty, running their business like that.

While we often talk about the issue of access, these narratives show that it is not just about *having* access, but also a need to carry a device around for *constant* access. However, even with a portable device and constant access, the participants do not always consider online access “on the go” as an option. Many of us take the ubiquitous online access that our society is structured around for granted. For the participants in this study, such access is not available, which makes them *occurent* vulnerable (Mackenzie et al., 2014) to exclusion from a spatial perspective. While this may be partly by choice, it is, however, often a habitual and uninformed choice that limits their options and excludes them from services needed “on the go”.

Vulnerability from a social perspective

From the interviews and participatory observation, it becomes clear that the participants frequently need help with various problems when using their digital devices. Face-to-face settings are preferred when these older adults require assistance. Leif (71) described his experience of seeking help online:

My neighbour told me I could click on the speech bubble [chat icon], and someone would help me. But he [customer service person on chat] kept asking questions that were so random...something about a pin-up [laughs]. ...I am joking, but something similar [maybe a pop-up window?] ...I have no idea... and what was I supposed to say? It wasn't much help!

The participants in the study rarely use chat or phone lines to seek help with technical issues. They generally find it difficult to describe the problem using “digital or Internet language” and prefer to show or demonstrate it. As a result, they sometimes rely on practical strangers, trusting them to help due to their role or accessibility; these include neighbours, librarians, volunteers, and employees at certain technical stores. Some participants also asked random people nearby when they did not know where to turn. Limited face-to-face options when needing help cause a situational, occurrent vulnerability to digital exclusion.

In line with earlier research, these participants experience that their family advocates the benefit of online access but do not always recognise the need for support and training (Harley et al., 2014). Theresa (98) described getting stuck when using her iPad and needing help often:

Theresa: My daughter is the worst! If I have an issue with this [points to iPad], I won't bother telling her. She makes such a fuss and treats me like I am an idiot. She keeps explaining what I already know in this tone that irritates me and [does] not [answer] what I am asking about. [...] Sometimes, she can't even help me, so it is not like she is the expert! I rather ask someone else for help.

Interviewer: Like whom?

Theresa: The cook at the senior centre has helped me a lot. He does not speak Norwegian very well, but I point [to the screen], and he understands.

Previous studies indicate that while family interactions can support learning (Jin et al., 2019), they may also diminish motivation if family members view older adults as incapable of mastering new technologies (Arthanat et al., 2019) or lack empathy, hindering their ability to provide helpful guidance (Xiong & Zuo, 2019). Similarly, family and friends can influence learning desires, but their support is often lacking in time, patience, and expertise (Geerts et al., 2023). In the current study, some participants seemed hesitant about seeking support from family members; they preferred other alternatives when they required assistance since family members were considered unavailable, had little patience, and sometimes lived far away.

The need for immediate support has also been identified as an issue that makes older adults dependent on others (Hunsaker et al., 2019), which can be considered a situational vulnerability. Narratives of needing help immediately were common in the interviews, as these older adults' use of digital devices is related to practical tasks and not entertainment. Liv (86) described an issue she needed to find a solution for quickly:

Like now, I have this issue with this white square [pop-up window] that is in the way [wants to find an address for her new dentist], and it doesn't go away. I have to get this sorted before my appointment tomorrow.

Similarly, Ragnhild (80) described a "there and then situation" where she needed – and received – help with her smartphone from a total stranger:

I was already on the bus when I realised something was wrong with my app... it is a way to buy a bus ticket by phone, and I did not have a ticket. I panicked and got off. [...] But then a man was walking by, and I asked if he could help me. I had to do something to the app – or not me... he, the man, did it for me. I just gave everything [the smartphone] to him, and before the next bus came along, it was sorted.

This example illustrates the immediate need for help at times; issues must be resolved right away, and assistance is sought from whoever happens to be nearby.

Some older adults seek assistance from stores when they encounter issues with their devices. Surprisingly, Clas Ohlson¹ – a store from which they did not originally purchase their device – has become a popular choice for technical support. The employees at Clas Ohlson are known for their helpfulness and for using language that is easy for digitally inexperienced older adults to understand. They even provide a place to sit while resolving issues. Elsa (69) shared her experience: "They sit you down and try to understand the problem. Even when the staff couldn't help me, it was nice to be taken seriously by someone". In contrast, participants who use Apple products often avoid contacting the Apple Store because they perceive the staff as unfriendly towards older adults, and the lack of seating in these stores makes it difficult for older adults to spend time there.

The older adults in this study do not have a standard way of requiring help and, in line with earlier research (Schreurs et al., 2017), express annoyance with coming up with solutions each time they encounter an issue. It comes across that when they need help, there is an immediacy and a need for face-to-face interactions. At times, it involves strangers and not being able to get help. From an etic perspective, these older adults become situationally vulnerable by being dependent on help and not knowing where to turn. This affects their everyday lives and causes digital exclusion, even if it is temporary.

Vulnerability concerning privacy

As illustrated in the previous section, the older adults in this study often come up with convenient solutions for getting assistance, including people they do not know well. In the material, there are numerous stories about the participants

giving away sensitive or personal information, such as passwords or BankIDs,² when seeking help. When practical strangers assist, it potentially makes sharing sensitive information extra risky. Such stories illustrate how digitally inexperienced older adults must negotiate privacy and data protection with the need for help, as they cannot choose both. However, as we see in the following examples, it is not always clear to these older adults that they are putting themselves in a vulnerable position when seeking help. In fact, they did not mention any experiences with fraud or issues with data protection; instead, they mainly described involving others as a convenient way to solve an irritating problem.

Hans (82) has a stationary Mac and two new iPhones, and he regularly attends drop-in sessions at the local library, where they offer digital help for older adults provided by students (aged 16–19) at a nearby college. From the interview, it is unclear exactly what Hans has received help with. Still, he did mention that they have used his BankID as a log-in, which is only meant to be used by its owner, as it gives the user access to various personal information. However, Hans expressed no worry about privacy or data protection, only admiration for how clever these teenagers are in the following exchange:

Hans: They are so nice, these youngsters, and quick! They just take your phone and do this and this and that [illustrated with rapid tapping on the phone]... and it is fixed!

Interviewer: Do they show you what they do?

Hans: [laughs] No! They are way too quick for me. I really have no idea what they do. They do not find it difficult to log on using this [points to BankID log-on device]. Most of the time, I am unable to use it myself. I just let them sort it out. I feign added ignorance because then I do not have to fix it myself. [...] They speak a different language, and I can't keep up with what they are saying anyway.

Interviewer: Do you trust them to handle it correctly... do the right thing?

Hans: Yes, yes, yes. They are so good!

This exchange shows that Hans is quite happy to hand over his BankID and smartphone to a practical stranger, albeit one who is there to help, if this means that he does not have to struggle with online services himself. He is seemingly unaware of the dispositional vulnerable position he puts himself in when sharing log-in information or his BankID, which he also described sharing in numerous other settings. However, even if he was aware of the potential danger, it is unclear what he can do about it, as he claimed to be “100% dependent on help” and has no one close to him who can provide such help. Hans's story is not unique; several participants described handing over devices, BankIDs, or credit cards, hoping someone could fix an online issue.

Another participant, Maya (84), had a startling realisation one time she received help. The following is her description of an experience of having to log on to her building association (OBOS) using her BankID:

I had to sign something for the building association... [...] And it was so scary... He [the person from the board] was only trying to help me, but I had to give him all kinds of details, and we had to have the bank on speakerphone. I needed a new code from the bank [BankID was not activated, as she had not used it before], and everything just appeared on his screen! [...] My [bank] account, my balance, he could see it all on the screen, and it was so uncomfortable... humiliating. I have a limited economy since I am on benefits, but I keep that to myself. I needed help with this [signing], but I ended up showing all kinds of private information that I did not know would appear on his screen. [...] After, I felt that the whole thing had turned out wrong, I had to expose myself to someone I hardly knew to get the help I needed... I felt sick. I still feel sick! The worst part was that I did not know that he would see all this information about my private life, I did not want to give him that information...

Maya kept returning to this story, and she got teary when talking about it, so it has impacted her and made her highly cautious about asking for help. Like Hans, Maya has limited digital experience and cannot predict in which situations personal information might appear and in what way; this makes them dispositionally vulnerable to losing control over personal data and fraud. The lines become even more blurred as these older adults are rarely able to distinguish between technical issues with a digital device and issues with online services.

Discussion and conclusion

The primary objective of this study is to deepen our understanding of how digitally inexperienced older adults engage with digital devices and services, as well as to explore the everyday circumstances that contribute to their digital vulnerability. Digital exclusion transcends a simple dichotomy of inclusion versus exclusion; it is a multifaceted challenge that demands closer scrutiny. Framing the analysis through the lens of vulnerability fosters a more nuanced conversation about the experiences of those at risk of digital marginalisation. This approach also broadens our perspective by incorporating the complexities of offline circumstances and the significance of analogue agency.

The participants' emic perspective reveals tension in using digital devices in everyday situations despite not considering them helpful or beneficial. Instead, they add complexity to their daily routine and create numerous frustrating issues that these older adults must solve. Their way of using digital technologies can lead to vulnerability, often without them being aware of it or having alternative options. Their experience does not align with "living in the media" (Deuze, 2011), where digital technology is integrated or taken for granted. Therefore, these participants' everyday experiences offer grounded insights into the impact of mediatisation (Jensen, 2013) on individuals who feel excluded by the digitalisation of society.

These older adults are vulnerable across various dimensions when using digital devices in everyday life. They do not experience having easy access to multiple

services using a single device, as they frequently only use a device for one specific task. From a material perspective, the participants find digital devices to have short lifespans, and they dislike or cannot afford to invest in such short-lived products. From a spatial perspective, participants have devices that potentially offer versatility in terms of usage yet restrict their use to the confines of their homes, which makes them unable to utilise online services that are “on the go”. From a social perspective, the participants find online interactions challenging to manage and useful offline interactions hard to locate, which is a problem, particularly when they need technical assistance. They generally struggle to differentiate between devices and services, which makes it difficult to understand and formulate the issues they are experiencing and the type of assistance they require. Finally, individuals make themselves vulnerable by balancing privacy and convenience by granting others access to their services and passwords. Considering the complexity and many dimensions where digital devices are now relevant, this study offers an emic perspective on everyday life as a lens to tease out how digitalisation is a meta-process of varied social change (Krotz, 2014) that also makes vulnerability multi-dimensional. These findings indicate that digital vulnerability may be hard to detect, yet it can be substantial and manifest at multiple levels in various situations.

By having limited digital experience and using digital devices and online services less, these older adults miss out on opportunities that the Internet provides, such as civic engagement or social networking (Helsper, 2011). In that sense, they are digitally excluded without knowing it. However, digital vulnerability can be considered from a more practical perspective of everyday life: This study has suggested how older adults become vulnerable in everyday actions they attempt to do as part of ordinary life, such as travelling, paying bills, or attending cultural events. The analysis reveals multi-layered issues when attempting to use digital devices, which also implies that there is a range of ways in which these older adults become digitally excluded, which is troubling in two ways. First, as society increasingly demands the use of digital devices, older adults without official training or a support system are at a disadvantage. Without official training or a support system, personal resources, such as finance or networks, become central in solving an issue and will likely reinforce inequality. Second, these older adults have minimal knowledge of what a vulnerable situation might look like or the implications of sharing sensitive information and involving strangers. Even when they have some knowledge about what could happen, they may not have alternative secure options available.

The analysis mostly reveals an occurrent vulnerability (Mackenzie et al., 2014) for these digitally inexperienced older adults. However, it simultaneously suggests a dispositional vulnerability for these participants because their current experiences do not demonstrate the full potential impact of their vulnerability. For example, they experience irritation that everyday actions have become more complex and time-consuming when using digital devices, but not that they are entirely excluded or have been the victims of fraud.

This study has investigated the vulnerability of older adults at risk of being excluded from the digital world. It highlights the need for further research on the daily experiences of non-digital individuals. Moreover, given the ageing global population and the ongoing evolution of the digital landscape, it would be beneficial to take a long-term approach to understanding how people gradually become vulnerable as they age. For policy development, the results of this study are a reminder that choosing digital solutions to cut costs requires a strategy to include everyone. Differentiating between situational and inherent vulnerabilities highlights ways to prevent digital exclusion; for example, better physical support structures for digital assistance should be established for older adults inexperienced with technology

Limitations

This study focuses on a specific subgroup of older adults who are retired and have been recruited due to the challenges they experience with digital devices in everyday life. Although the participants range in age from 65 and above, their experiences reveal commonalities. Therefore, this study does little to address age-related variability (Stone et al., 2017) or the misconceptions we have about older adults' media use (Loos et al., 2022). However, the findings are in line with research indicating that digital vulnerability is connected to prior experiences and levels of cyber anxiety (Bergström, 2023).

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Endnotes

1 Clas Ohlson is a Swedish chain similar to Argos or Walmart in that they sell various products. They sell some mobile phones (simple models marketed towards older adults), but not computers.

2 BankID is a two-factor log-in that is used for banking in Norway, but also for most other online services, including public services (health, tax, welfare), online shopping, and other financial transactions. Using another person’s BankID is considered illegal, unless authorisation has been applied for and is given by the bank.

Appendix 1

Overview of the participants, interview data, and research ethics

Table A1 Overview of participants

Pseudonym	Gender	Age	Work background before retirement
Anna	female	79	Executive within travel/hospitality, degree from business school
Ada	female	91	Midwife
Theresa	female	98	Had an aroma therapy studio. Freelance, worked alone.
Hans	male	82	Owned a bar and imported cognac. Still imports cognac as a hobby.
Eirik	male	74	Auto mechanic and later vocational teacher (mechanics)
Brit	female	69	Painter/fine art, part time stay-at-home
Leif	male	71	Taxi driver but used to be a metal worker/welder for most of his work life
Lisbeth	female	85	Sales secretary, office work
Ragnhild	female	80	Jeweller, family-owned store
Gry	female	79	Secretary at a school
Per	male	73	Shipping broker, partner in an international firm
Bengt	male	88	Archivist, historical archives
Elsa	female	69	Administrator at a church
Mia	female	70	Cafeteria and re-schooled to become a landscape gardener, early retirement
Liv	female	86	Worked at grocery store, in the deli-counter
Maya	female	84	Cafeteria and hospitality
Hanna	female	71	Stayed home with kids and later accounting part time
Marie	female	65	School librarian, lost her job and ended up with early retirement
Geir	male	72	Freelance writer and part time musician
Eva	female	65	Hairdresser, and re-schooled to become a bus driver, early retirement
Margrethe	female	69	Veterinarian
Arne	male	73	Caretaker (technical position, responsible for several buildings)
Trygve	male	71	Long-haul driver
Arvid	male	82	Typographer at a newspaper
Jan	male	80	Social worker (substance abuse care)

The study followed the research ethics guidelines of the National Committee for Social Sciences and Humanities (NESH) in Norway and institutional systems for privacy and data protection in research projects. The study was assessed by the Norwegian Centre for Research Data (notification number 980638). All the participants in the study provided written informed consent. They were given the option to choose the location of the study, and they all chose to be visited at their homes. I did not ask for personal information such as passwords or bank details during observation sessions. If the participants shared any personal information during interviews, it was removed from the transcripts. To ensure anonymity and protect the participants' identities, pseudonyms are used to refer to them. Moreover, the sessions were not recorded on video or through screen capture.

Appendix 2

Interview guide and participatory observation

Interview

(information about the study and the participants' rights, signing of consent)

Can you tell me about yourself?

(Family and living arrangements, work before retirement (did it include the use of a computer), hobbies, participation in activities, and social life)

Can you tell me what a normal day is like for you? For example, yesterday.

(Spend time on this question, follow up and take plenty of notes)

If not already mentioned, find out what kind of digital device(s) the participant has. All follow-up questions must be related to that/those devices to avoid confusion by using more general terms such as "device" or "the Internet".

During a normal day, like the one you just told me about, when do you use your [smartphone/iPad/computer]?

(Used for what kind of things, how often, does it take much time (experience of time spent), follow up each type of use – see below)

Follow up on the previous question (only include topics that are relevant and focus on the participants' experience):

- Used an online welfare service (tax, social security, pension, type of log-in)
- E-mail account (type of use)
- Online banking (type of log-in)
- Online shopping (type of shopping, payment solution)
- Transport (trips/bus tickets/timetables/holiday booking)
- Read or watch the news (what news outlets, in addition to newspaper/TV, or just online)

- Social use (social media, online dating, keeping in touch with family and friends)
- Functions on the computer that is not on the Internet (for example, picture album, word processing, or budgeting).
- Use of health services (contact a doctor, renew a prescription, get information from a healthcare provider, use health apps)
- Search for information (where)

When you use your [smartphone/iPad/computer], do you sometimes look around at different things or do something other than what you originally intended? (What kind of things/situations?)

Now that we have talked a little about the different things you use your smartphone/iPad/computer for, can you tell me what is particularly useful for you?

- Do you have any positive experiences you would like to highlight?
- Can you tell me about a negative experience you've had or something you're not so happy with?
- Would you say that you have more positive or negative experiences with using a smartphone/iPad/computer in everyday life?

How long have you used a [smartphone/ iPad/computer]?

When you first started using your [smartphone/ iPad/computer], how did you get started?

- Took classes (what kind/what did you learn)?
- Who do you ask for help if needed (then and now)?
- How would you describe yourself as a user of a [smartphone/ iPad/computer]?

Is there something you don't use your [smartphone/iPad/computer] for but think would be useful to try?

- What stops you from trying?

What kind of concerns do you have about your use of [smartphone/iPad/computer]?

(For example, fraud or the device not working)

When Norway closed during the Covid-19 pandemic, how was your everyday life affected?

During the pandemic, did anything about your use of your [smartphone/iPad/computer] change?

- New habits (continued with it or stopped when the pandemic was over)
- New things that had to be learned
- How did you get updated information?

- Vaccination pass/infection app
- How did you experience this use?

What are your thoughts about society becoming more digital or that more services must be accessed by using a [smartphone/ iPad/computer]?

Is there anything you feel I haven't asked about, or you want to add?

(Finish the conversation and agree on a time for the participatory observation)

Participatory observation

(give a quick reminder of the consent that was signed in connection with the interview and of the audio recording, answer any questions)

Have you thought about anything about your use of [smartphone/ iPad/computer] since the last time we spoke / have you noticed anything new in your own use / is there anything you would like to add to what we talked about last time?

Last time we talked about using a [smartphone/iPad/computer]. ...and today I want to ask you to turn on the [smartphone/iPad/computer] and that you do something on the screen while I'm here. I would like to watch the screen together with you, and that you tell me about what you are doing / what is happening on the screen. Is that OK with you? I am interested in what you think, what you experience and what is important to you, so please take your time and do not rush.

1: Ask the participant to do some things the he/she has said they usually do (based on the previous interview). Example: checking news, finding bus times or other information (avoid things that have passwords/BankIDs/etc.).

2: Ask the participant to do something that he/she does not normally do (based on the previous interview) Example: Check a specific news story on NRK.no (the public broadcaster in Norway) or to search for something on Google

(Spend time on this, ask follow-up questions and make observation notes of what is happening on the screen and in the room)

Did anything come up during today's observation that you want to comment on or anything you would like to add?