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Older service users' experiences of learning to use eHealth applications in sparsely populated healthcare settings in Northern Sweden and Finland

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ABSTRACT

This research seeks to better understand how older people living in sparsely populated areas learn and then use eHealth applications in their everyday lives. The study was conducted in northern Sweden and Lapland in northern Finland, the most sparsely populated areas in these countries. The study focused on the use of following eHealth services: a medication-dispensing service, a virtual health room and a self-monitoring system. Research data were collected through semi-structured interviews and observations. The study included 19 participants, aged from 63 to 89 years. The following research questions guided the study: In what ways was the respondents' learning and use of the eHealth service a social practice? How are such practices affected by cultural identities? The results show that digital self-care technologies can be very user friendly, easy to use, and sometimes, require very little learning effort from older users. However, the results also show that engaging in eHealth and learning how to use digital self-help services requires constant learning of different competences, not just digital but also competences that are medical and administrative. In addition, the use of eHealth required support from the respondents' children, grandchildren, neighbors, and friends. Therefore, the digital self-care technologies contributed to a broader redistribution of responsibility from individual users and health and social care to informal support networks surrounding the respondents. Finally, the results indicated that respondents' motives for learning and using the digital services often expressed cultural identities that affected such conceptions.

Introduction

The aim of this research is to better understand how older people living in sparsely populated areas learn and then use eHealth applications in their everyday lives. Our goal is to address the lack of research on the impact and consequences of eHealth, especially from the *users' perspective*, considering their learning experiences (Atherton & Ziebland, 2016; Lantela, 2019; Urban, 2017), and in relation to older users in sparsely populated and rural areas. Finally, the goal of this study is to provide relevant information for policy-makers, to develop eHealth projects and practices that consider the social and cultural contexts in which older people learn, as well as use or not use, eHealth technologies and applications (Gilleard & Higgs, 2015; Haythornthwaite, 2001; Helsper & Reisdorf, 2016; Slack & Wise, 2009). eHealth is here understood as an umbrella concept for different technological solutions in healthcare (Black et al., 2011). These solutions include video conferencing systems, self-monitoring apps, blood glucose meters, and nursing robots.

This study was conducted in northern Sweden and Lapland in northern Finland, the most sparsely populated areas in these countries. A sparsely populated area is defined, following the European Commission criterion (Dijkstra & Poelman, 2018), as a geographic area with a population density of fewer than 12.5 inhabitants per square kilometer. According to the Commission's urban-rural typology, the Swedish and Finnish sites are "predominately rural, remote regions" with the share of population living in rural areas higher than 50%. Previous researchers indicated that there is a need to improve service delivery in rural places, where older residents are disadvantaged in the formal provision of care (Kelly & Yarwood, 2018).

In the context of the Internet and eHealth use, in the developed Nordic countries such as Finland and Sweden, a definition of older people referring to people over 65 years of age is common (Begum, 2019). The participants ($n = 19$) in the present study were aged chronologically from 63 to 89 years, and therefore, are described as "older people". However, age is a multi-dimensional phenomenon, and a number of "ages" have been identified in addition to chronological age, such as social age, biological age, psychological age, and functional age (Jyrkämä & Nikander, 2006). Furthermore, a distinction between "third age" and "fourth age" (Laslett, 1991) is commonly made to identify older people's decreasing physical and mental activity. To sum up, people chronologically older than 65 years of age are not a homogenous group, but a diverse and socially differentiated group (Gilleard & Higgs, 2005).

This study was conducted in northern Sweden and Finland. The Swedish study focused on the learning and use of two different technologies – a "virtual health room" located at a healthcare center and a digital self-monitoring system. The Finnish study focused on a medication-dispensing service. These technologies differ in terms of location (home or outside the home), functionalities (what the technology can be used for), and devices the user needs to operate. However, due to shared features (the technologies include interaction between the user and the digital technology but also minimal involvement by professional care personnel), the technologies can be termed *digital self-care technologies*.

Throughout Europe, care policies emphasize de-institutionalization and "ageing in place" (Kröger & Bagnato, 2017). An implicit aim in Finnish and Swedish care policies is to maintain citizens' independence and support living at home for as long as possible (Ministry of Social Affairs and Health and Local and Regional Government Finland, 2015; Statens Offentliga Utredningar., 2019, p. 42). To promote this aim, the development and use of digital services are to provide equal social and healthcare services in sparsely populated areas and for special groups, such as older people. Digital care can be seen as part of a larger trend of *responsibilization* of healthcare today, meaning that there has been a shift from clinical to home care and from professional supervision to patient self-help. Accordingly, older patients and clients are approached as responsible and active agents in managing their own diagnoses and treatment with new digital health technologies (Urban, 2017). Care scholars have also written about a "voluntary" turn in care more generally (Milligan & Conradson, 2006); a shift toward more responsibility and volunteer care work performed by informal networks that have taken place in Western health systems, including in Nordic welfare states.

Previous researchers have shown that older people are heterogenous in terms of their experiences and perceptions of, and skills in using eHealth technologies (Spann & Stewart, 2018). eHealth technologies such as medication-dispensing devices can be easy to use and welcomed by older users as helpful, for example, in managing their medication (Reeder et al., 2013). However, eHealth technologies can also be incompatible with the daily routines of older users and thus, create tensions and unintended negative outcomes in their lives (Lantela, 2019; Urban, 2017). Lantela (2019) studied the views of older adults living in one setting of the present study, Finnish Lapland, and who had tried home care technology in their daily lives. She concluded that designing and implementing digital care services is not a straightforward procedure, as her results lined up with previous research indicating that "the technological solutions did not seem like a plausible answer to the perceived needs and realities of life" (Lantela, 2019, p. 159).

Older people may experience challenges and negative emotions, such as anxiety, uncertainty, insecurity, frustration, fear, or shame, when learning and then using eHealth technologies (Sayago et al., 2013; Spann & Stewart, 2018; Urban, 2017). Some of these challenges may be explained by the ageist design of devices and

applications, which may be difficult for older people to use. For example, displays may be difficult to read or devices difficult to operate with unsteady fingers (Urban, 2017). Furthermore, not all older people are ready to adopt health-related technologies. Therefore, they should be easy to use, and adequate support and training mindful of older people's personal and cultural traits should be provided (Fischer et al., 2014; Heart & Kalderon, 2013; Peek et al., 2014; Spann & Stewart, 2018).

The use of eHealth technologies requires that older people become familiar with digital media and acquire new skills. In Europe, the European Commission's DigComp – Digital Competence Framework for Citizens 2.0 – defines *digital competence* as the confident and critical use of information and communication technology tools in work, employability, education, leisure, inclusion, and participation in society (Vuorikari et al., 2016). One of the key areas of digital competence is "Safety," which includes a competence entitled "Protecting health and well-being." However, the framework may be criticized as individual-centric and decontextualized. In the present study, we understand digital competences as *culturally situated social practices*. Rather than considering digital competences as individual, decontextualized skills in isolation from their social and cultural contexts, we understand digital competences as distributed and situated competences of family members, friends, and formal and informal caregivers in older people's everyday lives (Lipponen, 2010; Olson & Viscovi, 2018; Rasi & Kilpeläinen, 2015; Sentell et al., 2018).

Older people's care networks often consist of family members, as well as formal help from different healthcare providers (Fischer et al., 2014; Hirvonen, 2018). Previous researchers have shown that social support networks are extremely important for older people's learning and use of technologies (Bakardjieva, 2005; Barnard et al., 2013; Friemel, 2016; Jin et al., 2019). In a study on the digital competences of older people living in small rural villages in Finnish Lapland, Rasi and Kilpeläinen (2015) concluded that "digital competence is very much a distributed competence of older dyads, families with three generations and informal networks of villagers and that it should not, therefore, be assessed solely as an individual characteristic." Based on a study of older Swedes (older than 65 years), Olson and Viscovi (2018) argued, following Bakardjieva's (2005) notion of "warm experts," that even in a technologically advanced country like Sweden, the need for continuous assistance from warm experts persists among all users. Bakardjieva's (2005) empirical studies revealed the important role that warm experts, in other words, informal, nonprofessional experts, such as family members, relatives, and friends, play in helping novice users operate their home computers and Internet connections. In Olson and Viscovici's study, warm experts were usually closely related persons, often children or grandchildren, who help inexperienced adults use digital devices.

In this study, we seek to gain a better understanding of older eHealth service *users' perspectives on learning* and using or not using eHealth technologies in specific social and cultural contexts. The following research questions guided the study: In what ways was the respondents' learning and use of the eHealth service a social practice? How are such practices affected by cultural identities?

Methods

The study was conducted at two sites, in northern Sweden and in Lapland, northern Finland, in winter and spring 2019. The authors agreed on common interview themes with accompanying questions. The analysis of the research data drew on shared theoretical viewpoints on learning and digital competence. Participant demographics are presented in Table 1.

Table 1. Participant demographics.

eHealth service	Number and Age of Participants	Participants' Area of Residence
Medication-dispensing service	*n* = 5, age 73–89 years, *M* = 81.4	Lapland, Northern Finland
Virtual health room	*n* = 9, age 63–73 years, *M* = 71.4	Northern Sweden
Self-monitoring system	*n* = 5, age 65–84 years, *M* = 68.4	Northern Sweden

Research sites and participants

In the Finnish research site, a medication-dispensing service is offered by a public home care service. The service includes a medication-dispensing robot at the user's home. The robot assists home care clients with long-term and multiple medications by reminding users when the medicine should be taken and by dispensing pre-loaded medication. The robot communicates with the user with a human-sounding voice, alert voice, light signals, and messages on the touchscreen. If the user does not respond within two hours to the command to take the medication, the robot stores the medication bag and sends an alarm to the security team. The robot has service- and companion-like features, and therefore, can be defined as an assistive robot (Zafrani & Nimrod, 2018).

The Ethical Review Committee of the Lapland University Consortium evaluated and approved the research plan for the project. All Finnish research participants (*n* = 5, age 73–89 years) were home care service users in a municipality in Finnish Lapland. In the beginning of the research process, seven users participated in the study. However, one participant died, and one's condition deteriorated before the interviews were conducted. All participants lived alone near the municipality center, but in a sparsely populated area, and had impaired memory. The third author collected the research data during spring 2019 through semi-structured interviews with the service users (*n* = 5), who were interviewed two times at their homes. The interviews lasted from 14 to 48 minutes. The first interview was the main interview, included more themes and questions compared to the second interview, and lasted from 29 to 64 minutes. The second interview, which focused on themes that had not been covered adequately in the first interview, lasted from 14 to 46 minutes, but only one was longer than 30 minutes. The participants gave informed consent to participate in the study, and the interviews were audio-recorded and transcribed verbatim by a transcription service. The interview themes were specified in advance and included "medical dispensing robot," "remote care," "older people as service users," "learning and use of the robot," and "experiences of using the robot."

The Regional Ethical Review Board at Umeå University evaluated and approved the research plan for the study conducted in Sweden. The Swedish site consisted of two different eHealth technologies that are integral parts of public healthcare but aimed at self-care: a virtual health room and a self-monitoring system. The virtual health room is a physical room housed in one of the region's healthcare centers. The room is equipped with digital devices for measuring blood pressure, glucose, weight, etc. The region's healthcare center is open only during office hours, but the virtual health room has a separate entrance, is open 24/7, and is free to use. The digital self-monitoring system consists of a smart watch that can be connected to an app installed on patients' smart phones. Similar to the room, the self-monitoring system collects health information that can (but does not necessarily have to) be uploaded digitally to nurses at the healthcare center.

All Swedish research participants (*n* = 14, age 63–85 years) were patients in a municipality in northern Sweden. About half of the respondents lived close to the healthcare center in the municipality, and the others lived in more remote areas. Nine respondents were interviewed because they had used the virtual health room at the healthcare center. Five respondents were interviewed because they had used a digital self-monitoring system. Several respondents had used both technologies. The majority of the respondents had started using the technologies because of problems with high blood pressure. In Sweden, the second author collected the research data during winter and spring 2019 through semi-structured interviews with individual users. In two cases, spouses wanted to be interviewed together as a couple. The interviews took place either at the healthcare center where the virtual health room was located or in the respondents' homes. All participants gave informed consent to participate in the study. The interviews were all audio-recorded and transcribed verbatim by a transcription service. The interviews lasted from 61 to 171 minutes. The interview questions were open-ended and explorative, but the interviews were focused on four general themes: "learning to use eHealth," "how it feels to use eHealth," "experiences of using digital healthcare technologies," and "rural life and healthcare."

Data analysis

The first and third authors analyzed the Finnish data from the semi-structured interviews and observations deductively, using a qualitative thematic approach. This meant that we examined the data qualitatively to identify themes connected to our understanding of learning and digital competences as culturally situated social practices in which established identities regarding, for example, aging play significant roles. We used NVivo 12 qualitative data analysis software for the coding. We use and interpret the content of the coding categories "challenges," "cultural context," "usability," "emotions," "social practices," and "support" to answer the research questions.

Similarly, the second author analyzed the data from the Swedish interviews deductively, using a qualitative thematic approach. As in the Finnish case, the analysis was guided by the authors' shared theoretical tenet on learning and digital competence. Together, we chose the content of the interview theme "learning to use eHealth" and interpreted to answer the research questions. In the following section, we answer the research questions by highlighting the different ways in which participants described how they learned to use digital self-care technologies.

Results

Learning to use eHealth as a social practice

In the Finnish and Swedish research settings, learning and using eHealth technologies were individual and social practices. How the technologies were used was often described as an individual practice. All of the respondents ($n = 19$) described their learning process as stress free in the sense that it did not involve any major worries or strong negative emotions. In a related manner, all the Finnish ($n = 5$) and Swedish respondents ($n = 14$) expressed feelings of contentment with learning to use and using the technologies. In particular, the robot was described as user-friendly and so easy to use that it required almost no learning by the respondents; in other words, exactly what previous researchers have called for (Peek et al., 2014; Urban, 2017): "Well, it's just about as easy as can be. If you can't use it, then you can't … You can't so much as blow your nose, then."

However, in the interviews, participants stated that learning and using the services involved *formal and informal support networks*. The support networks included children, grandchildren, spouses, and friends, as well as care personnel and skilled neighbors. In practice, these networks were *often intertwined* and/or used simultaneously. As an example, most Finnish respondents using the medicine-dispensing robot said that they had needed help to learn how to operate it, although they had told us that the robot did not require any learning. Respondents' children were important. One Finnish respondent reported not having needed any help from the service personnel, because she could rely on her son: "My son then said that Mom, you do this, and you do that." More often, however, several different networks were utilized, including children. For another Finnish respondent, a technical problem with the robot activated a network comprised of the respondent's daughter, who called the home care service, which then contacted technical support:

Respondent: Well, I had to call [name of the daughter omitted], my daughter, who lives back in [name of the city omitted]. I called her because I can't sleep while it [the robot] blabbers away. Now, she got down to it, and people do give you support, mind you, well, she went there and said that yeah, an error has occurred. That was the end of it [laughter]. (…)

Interviewer: [name of the daughter omitted] then contacted home care or some sort of support?

Respondent: She called me, like, what this is all about.

Interviewer: Right, and did someone visit you, then?

Respondent: Yes, they did. You know, I can only remember so much, looking out the window. That they walked so fast, thinking that no, they have to get in, the old geezer is into something there.

In the Swedish case, two respondents who were spouses showed how other forms of informal support networks were used; they went together. Another study participant brought her female friend when she first used the virtual health room at the healthcare center:

Respondent: I am going to have to admit that I brought my lady friend.

Interviewer: Had she done it before?

Respondent: No. She has gotten one [a digital pass to enter the room] now though. We read the instructions together there. I wanted someone who could hold my hand. A support.

In the interviews, it was also possible to see how engagement in eHealth is not a singular event, but how everyday use is a *process of ongoing learning*. When talking to respondents, these conditions seemed to stem from the inherent unpredictability of care technologies and how that can affect users' practices (Pols, 2017). Learning the eHealth services initially often involved some form of introductory guidance by professional care workers, but many respondents gave examples of how malfunctions, updates, and other types of changes necessitated their learning how to handle new situations and practices that required digital competences. Users of the self-monitoring system told us how its app needed regular updates, but also how the service brought about other digital matters:

I thought it took too long [to use the app] and she [a nurse] said that I had to update the app. But I had a look at the app and there was nothing, it was updated. There was probably something wrong with our internet connection [at the respondent's home].

Changes in context entailed similar learning needs. One Finnish respondent was insecure about how to change the robot's medicine-dispensing schedule when she visited her son, and thus, needed help from home care service personnel to learn how to do that:

The only thing we haven't gone through here yet, like, if I should take a trip somewhere, to see my son in [name of the city omitted], for instance, then I should tell the nurses, so that at least one of 'em can put the medicine in here, open it and take it out for me, for that shorter visit, bags for those particular days, so, that's what I should do, we haven't practiced that yet, I reckon I can't do it myself and they probably won't teach me that, either. While very different, both of the above cases can help show how everyday use seemed to imply an ongoing process of learning different digital competences.

However, respondents also described *other learning needs* related to digital care. As an example, users of the health room and the self-monitoring system talked about how they had to learn to use the medical equipment for the services:

Respondent: I have trouble knowing how hard I am supposed to tighten it [the blood pressure cuff], but . . .

Interviewer: Does it get hard to use?

Respondent: Not really (. . .) I have not found the right position.

Interviewer: What does that do? Does it make it hard to measure your blood pressure?

Respondent: Yes, sometimes. When it has not worked, I have had to do it again. (. . .) I will learn, though, what fits my arm the best.

Another respondent said he had to learn how to contact the right actors to get administrative support. He described how he called technical support at the company that manufactured the system but also contacted community nurses:

Before I got that [the app for the digital self-monitoring system] to work I called here [the Health center] but they did not answer. Then I thought, is there not a business down in [the capital of Sweden] that they have hired? (. . .) Then I called there and talked to some guy that answered and asked how I get this shit [the app] into the phone again. (. . .) He was supposed to send a link. That was nine days ago and he has not sent that link yet. Then I remembered that I can write to here [the health center]. I do not need to call, I will write them, they have got e-mail addresses! It did not take long for them [the nurses at the health center] to call me up.

Overall, the results coincided with previous research on how older users often need help in learning and operating digital care (Urban, 2017). Additionally, the results show how help and learning could be required not only in digital matters but also in medical and administrative matters. Problem-solving abilities varied among the respondents, and users who were digitally competent, in general, seemed more capable of handling different matters. However, the relative complexity involved in operating the digital services required the respondents to learn continually and get ongoing support from different networks.

Cultural identities at play in learning

Interestingly, specific cultural identities seemed to affect how support networks were formed and used (or not used) in the Finnish and Swedish research settings. Although most of the Finnish respondents had needed help to learn how to use the robot, they expressed an "aging in place" identity that emphasized *being independent*. The users' motivations to learn the technologies seemed to be fueled by the aim of being independent and able to manage by themselves and live in their homes. From respondents' answers, we interpreted a feeling of contentment and pride related to having always managed and continuing to manage by themselves and thus, not having to contact anyone to learn how to operate their digital services:

Respondent 1: I've always managed by myself. [...] Well, I've somehow taken it for granted. I've always been in good health, and able to go for a jog and do as I please.

Respondent 2: Yes, indeed I do go shopping, visit the bank and [...] I've always been sort of independent. And I can't be, as it always has to be like it was in the family when my late husband, he got ripped apart in the car crash, so, I ended up taking care of everything. And since then I've become sort of independent, I had to. And it has remained that I still do, I don't know, you just make sure that if I really start screwing things up, then come and take me away.

This ethos of independent living, overcoming many difficulties in life, self-help, and not wanting to rely on help from others has also been found to characterize other Finnish older people living at home (Sarvimäki, 2013; Ylä-Outinen, 2012). This sentiment echoes strong cultural and ideological ideas of the de-institutionalization of the older population (Kröger & Bagnato, 2017).

Although a similar ethos was prevalent among the Swedish respondents, the rural community they were part of appeared to affect how networks were approached and used (Zwiers et al., 2018). Because of a perceived closeness to neighbors but also the healthcare personnel in their community, many respondents told us how they felt comfortable asking people other than family members and close friends for support in learning. One participant stated that he got help from a neighbor who used to be a nurse; others described how they had asked neighbors who were good with computers. Respondents also described how they could drop by the health center informally to get help from the nurses:

> If I feel that something is not good, I will not need to get an appointment at the doctor's, I can just go to the personnel (...) and measure my blood pressure. I could do that. I will not need an appointment to do that. They are great, the nurses that work there. They are really good.

Although the Swedish respondents thought of the virtual health room and the digital self-monitoring system as "self-care," and they, similar to the Finnish respondents, took pride in being able to learn how to use it, they also felt comfortable using the different support networks they identified in their community as a whole. Although this sentiment was expressed by most of the Swedish respondents, it seemed very important for respondents who did not have family members around to help them, and who without the community would have been more alone in their self-care.

Discussion and conclusions

In line with previous research (Reeder et al., 2013), the present results show how digital self-care technologies can be very user friendly, easy to use, and sometimes, require very little learning effort from older users. However, as indicated by previous researchers (Olson & Viscovi, 2018) and the present results, engaging in eHealth and learning how to use digital self-help services is rarely a singular event. Instead, it seems to be an *ongoing process*. Because of the services' complexity and everchanging nature, eHealth requires *constant learning* of *different competences*, not just digital but also competences that are medical and administrative.

The present results are also in line with the conception of digital competences as *distributed and situated competences* of family members, friends, and formal and informal caregivers in older people's everyday lives (Lipponen, 2010; Olson & Viscovi, 2018; Rasi & Kilpeläinen, 2015; Sentell et al., 2018). Previous researchers have stressed the importance of social support networks for older people's learning and use of technologies (Bakardjieva, 2005; Barnard et al., 2013; Jin et al., 2019). In this study, no matter how mundane or complicated the respondents thought the technologies were, they required different kinds of support. This, in turn, *activated various social support networks* that included children, grandchildren, neighbors, and friends (Olson & Viscovi, 2018; Rasi & Kilpeläinen, 2015).

Critical scholars such as Urban (2017) have claimed that digital self-care technology is imposing an "active ageing" ideology on care and is a part of an emerging *responsibilization* of individual older people. Further, she (Urban, 2017, p. 12) argued that this "activational imperative fails to consider a disparate distribution of physical, economic, social and educational resources." In the present study, digital self-care did not seem to be solely the responsibility of older people as described by Urban. Respondents undoubtedly became more active and involved in their care. However, due to their need for support, the digital self-care technologies contributed to a broader *redistribution of responsibility* from individual users and health and social care to informal support networks surrounding the respondents – a move similar to what Milligan and Conradson (2006) labeled a turn to the "voluntary" in Western care. Interestingly, in the present study this transfer seemed to be most apparent in the Swedish research setting where a strong sense of community seemed to come with living in a sparsely populated area.

In the study, respondents' motives for learning and using the digital services often expressed cultural identities that affected such conceptions. As shown, an "ageing in place" identity that included *being independent* (Sarvimäki, 2013; Ylä-Outinen, 2012) was expressed among Finnish and Swedish respondents. Among the Swedish respondents, the specific cultural and geographic conditions of sparsely populated areas seemed to have been very important for how users understood and used different support networks for learning and use. An interesting finding is that a *shared sense of rural community* among the respondents made it possible for patients to use neighbors and friends, but also healthcare personnel, as support. During the interviews, respondents often described contact with community healthcare as something in between formal and informal care. The registered nurses were described by the respondents almost like friends. Thus, the community healthcare seemed to work as a *"quasi-formal" support network*; formal in the sense that the nurses are professionally skilled, yet informal because respondents told us how they felt that they could just "drop by" and get help. Interestingly, this perceived familiarity was a cultural condition that seemed to help shift some responsibility for self-care from users to the informal and quasi-formal networks of support that we have described.

An intriguing finding was that support networks did not have to be in effect – that respondents did not need to be physically (or digitally) helped – to carry important meaning for the respondents. The networks that users described were often hidden but understood by users as active and *potential* support networks. This seemed to provide a sense of safety; respondents could – or at least *thought* that they could – actualize the networks at any given time. Importantly, however, actualization and use of a network seemed to be possible only if it had a certain robustness to it. Although many of the Finnish respondents described how close family member such as their children would help them, Swedish respondents' sense of community appeared to make them confident about contacting others beyond family.

Although self-operated digital services seem to be able to improve care for older people in sparsely populated areas, such technologies do not eliminate users' need for (actual or perceived) support. Given that most users require help, but also that there are differences in how older users (and their networks) can manage digital self-care technology, there is a need for stakeholders to recognize the importance of formal support networks. For eHealth, including digital self-care services, to be a sustainable and equal solution, there seems to be a need for different networks – *formal, quasi-formal, and informal* – to uphold and nurture support.

This study had several limitations. The number of Finnish participants was low due to recruitment challenges. Had the three authors performed a collaborative data analysis, the credibility and quality of the study could have been increased. Furthermore, because of the differences between the Finnish and Swedish research data, as well as the data collection and analysis methods, we were not able to incorporate questions about possible cultural differences between the study sites (northern Sweden and Finland). Finally, as a large portion of the respondents lived near a municipality center, further research on how older people who live farther away from municipality centers and their social networks (e.g., neighbors) experience learning and using eHealth services is needed.

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