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Exploring potential in participation mediated by digital technology among older adults

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ABSTRACT

Facets of participation have changed with the growing pervasiveness of digital technology in daily life. To enable older adults as active participants in an evolving digital society, it is relevant to examine how they engage in and situate digital technology-mediated occupations in daily life. Narrative inquiry was used to elucidate features in older adults’ engagement in occupations involving digital technology situated in everyday life. Analysis was based on data gathered through concurrent think aloud protocol and observations from 10 older adults in Northern Sweden. In line with narrative analysis, findings were presented as three stories about negotiating needs and values while interacting with the technological and social environments, entitled playing by the rules, being on the same wavelength, and calling the shots. Looking at these stories with an occupational lens resulted in an understanding that older adults’ participation involving digital technology likewise deals with negotiating and refining identities, as well as finding and experiencing meaning in daily life. There is potential for older adults to become active participants through digital technology, and new challenges in research and practice emerge.

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KEYWORDS
computers; Internet; occupation; being; becoming

Participation is an intricate construct, central to occupational science and occupational therapy (Law, 2002). The World Health Organization’s (2001) definition – involvement in life situations – does not capture its complexity (Hemmingsson & Jonsson, 2005), as it has been used in various collocations, such as participation in everyday life (e.g., Häggblom Kronlöf, 2007; Larsson Lund, 2004), participation in occupations (e.g., Law, 2002, 2013), occupational participation (e.g., Kielhofner, 2008), and social participation (e.g., Kennedy & Lynch, 2016; Levasseur, Richard, Gauvin, & Raymond, 2010). Several authors (Hammel et al., 2008; Sakiyama, Josephsson, & Asaba, 2010; Silva, Thorén-Jönsson, Sunnerhagen, & Dahlin-Ivanoff, 2016) view it as a process, or a negotiation of individual, social, and societal needs and values, that can provide opportunities to experience meaning and satisfaction, as well as develop identity and worth. It is impelled by a person’s endeavor to master daily occupations, find meaning in daily life, connect to places and people, belong to groups, and be trusted by others (Silva et al., 2016). Participation is concerned with demonstrating agency, being active, being social, and doing something for others (Borell, Asaba, Rosenberg, Schult, & Townsend, 2006). Themes reported to pertain to participation include...
being treated with respect and dignity; being a part of an activity, context, social scene, or group; having choice and control; having the right to access resources and opportunities; bearing personal and societal responsibilities; having an impact and supporting others; and feeling socially connected and included in society (Hamme1 et al., 2008). In short, participation has to do with doing, being, belonging, and becoming in occupations (Hammell, 2014; Townsend & Wilcock, 2004; Wilcock, 1999; Wilcock & Hocking, 2015).

Facets of participation have changed with the advancement of digital technologies (Agger, 2011; Turkle, 2011). Personal computers, smartphones, and computer tablets— including applications that accompany these devices—combined with the Internet and the World Wide Web are steadily replacing earlier methods (e.g., landline telephone [Mann, Belchior, Tomita, & Kemp, 2005], vinyl records and tapes [Utterback & Acee, 2005], cash payment services [Dahlberg, Mallat, Ondrus, & Zmijewska, 2008]). At the same time, new technologies are augmenting existing methods and expanding possibilities for participation in various life domains (e.g., education [Nguyen, Barton, & Nguyen, 2015], socializing [Kennedy & Lynch, 2016]). Among older adults, digital technology has been found to be useful in managing one’s finances, keeping in contact with others, and procuring services, products, and information online (Aguilar, Boerema, & Harrison, 2010; Gatto & Tak, 2008). Through information on the Internet and telehealth, older adults have more possibilities to become better informed about health issues and empowered in the management of their health (Cresci & Novak, 2012; Leist, 2013). Internet use has the potential to make older adults feel less lonely and more connected to society (e.g., Gatto & Tak, 2008; Larsson, Padyab, Larsson-Lund, & Nilsson, 2016). The Internet can provide seniors opportunities to develop engagement in occupations and to participate in society based on their preferences (Larsson, Larsson-Lund, & Nilsson, 2013a).

In comparison with other age groups, older adults have been viewed as a group that participates to a lesser extent in occupations mediated by digital technology (e.g., Findahl & Davidsson, 2015; Selwyn, 2006). Reasons for this include insufficient access, computer illiteracy, reduced functional capacity, lack of motivation or interest, and decreased financial capability (Kottorp et al., 2016; Leist, 2013; Olphert & Damodaran, 2013). Aside from age-related health and ability, other factors that influence seniors’ adoption of technology in daily life are self-efficacy, social relationships, attitude to life and satisfaction, facilitating conditions, as well as, perceived usefulness and perceived ease of use (Chen & Chan, 2014; Davis, 1989). Moreover, some seniors choose not to perform Internet-based activities because they could not find a reason for it (Larsson et al., 2013a). Nonetheless, intervention programs have been set up to improve older adults’ knowledge and skills in computer and Internet use (e.g., Goodwin, 2013; Larsson, Nilsson, & Larsson-Lund, 2013b). Larsson et al. (2013a) suggest that persons who find meaning in Internet-based activities are more likely to integrate computers in the performance of daily activities. Feeling in control, being an important part of daily life, keeping the brain active, relating to others, and having personal gains exemplify meanings older adults associate with computer use (Aguilar et al., 2010).

The World Health Organization’s (2002) policy framework on active ageing views older adults “as active participants in an age-integrated society and as active contributors as well as beneficiaries of development” (p. 43). Hence, it becomes relevant to support older adults to realize their potential in becoming active participants in an evolving digital society. The growing pervasiveness of digital technologies in daily life also brings about a need to explore the possibilities that exist within and through participation in digital technology-mediated occupations. Investigating how older adults’ engage in occupations involving digital technology in specific life situations and contexts, as well as, how they find meaning in their participation can provide insights into their occupational potential (Asaba & Wicks, 2010; Wilcock, 1998) or their “capacity to do what is required and what they have the opportunity to do, to become [the persons] they have the potential to be” (Asaba & Wicks, 2010, p. 122; Wicks, 2005, p. 137). By examining the how, we can begin to delve in the situatedness of occupation and understand that occupation is enacted inquiry within and because of ever changing situations (Madsen & Josephsson, 2017).
Acknowledging the merging of situations and occupation in understanding engagement could contribute to the exploration of occupation as a process of transformation and becoming. Therefore, the aim of this study is to examine how older adults engage in and situate digital technology-mediated occupations in daily life.

**Method**

This study, as part of a larger research project, was approved by a regional ethical review board in Sweden (Dnr 2013-418-31Ö). Narrative inquiry (Mattingly, 1998; Polkinghorne, 1995) was used in order to frame situations of engagement in digital technology-mediated occupations as unfolding stories charged with a potential for the unexpected. A narrative approach was seen as appropriate because of the storytelling aspects of a think aloud protocol combined with an intention to incorporate participant voices within given contexts. The method allowed for elucidating diverse and distinct features in older adults’ engagement in occupations involving digital technology within the situations and contexts surrounding their engagement. Analysis was based on data gathered through short discussions and filmed observations of performances in self-chosen digital technology-mediated occupations while following a concurrent think aloud protocol. Concurrent think aloud protocol is used in evaluating usability of computer systems (e.g., Jaspers, 2009) and comprehension (e.g., Magliano & Millis, 2003). Talking out loud about what one is simultaneously doing, feeling, or thinking can reveal “covert aspects, such as problem solving” (Hocking, 2009, p. 142). Moreover, thinking aloud can provide insight into a person’s thought processes by making inner speech external (Charters, 2003; Vygotsky, 1962). Because thoughts lose their abstraction as they are transformed into words (Charters, 2003), observations were used as a complement to the think aloud protocol. As Hasselkus (2002) and Josephsson and Alsaker (2015) identify the importance of human action in creating meaning, observation of occupational performance was an essential method in understanding how the participants engaged in and negotiated occupations involving digital technology. Combining observations, think aloud protocol, and narrative analysis permitted a broader understanding of the situatedness of and possible meanings in their participation, consequently providing a ground for exploration of their potential to do, be, belong, and become.

**Participants**

Using purposive sampling, invitation to participate in the study was extended through local community and hobby organizations whose memberships comprise mainly older adults and a paid advertisement in a local bulletin with a free weekly distribution to all residents in a rural municipality in Northern Sweden. The invitation was directed to persons 65 years or older, who were curious what the Internet can offer and interested to participate in a research project to develop Internet-based services for older persons in rural areas. Furthermore, it specified nearby villages in the municipality with Internet infrastructure. Six women and four men, aged 66–79 years, indicated their interest and availability and were selected for the study. Six of ten participants comprised three couples, either married or cohabiting. Of the remaining four participants, two were living alone, and two were married but their spouses were absent during the observations. All ten were living in detached single-family dwellings. They were informed about the study objective and procedures, and assured of confidentiality of personal information gathered during the observation before providing written consent.

**Data gathering**

Prior to the actual data collection, the first author contacted each participant by telephone to book observations and discuss possible occupations to be observed. An ideal observation would include a combination of occupations that the participant performs regularly, must do, or identifies as challenging or novel. Participants were requested to delay occupations that they have planned to do earlier, such as replying to emails, until the scheduled observation to make engagement more relevant.

All observations were done by the first author in the participants’ homes in the spring of 2014.
During the session, the first author initiated a short discussion with the participant to reach an agreement on which occupations would be performed. After choosing occupations, the participant was instructed, “You have chosen to do activity X and Y. While you perform these activities, talk out loud and tell me what you are doing, feeling, or thinking. If you become quiet during the observation, then I will ask you what you are doing, feeling, or thinking, or what is happening.” To make them more accustomed to the procedure, all participants were offered to do a trial think aloud before the actual observations, which all declined.

While performing his/her chosen occupations, the participant verbalized what he/she was doing, feeling, or thinking. When the participant became quiet, the first author gave reminders to continue thinking aloud by asking questions about the current situation. After the chosen occupations were performed, the participant was asked how he/she perceived his/her performance. All performances were recorded using two mounted video cameras. The data gathered included the participant’s verbalizations resulting from the think aloud protocol and video recordings of his/her hands on the input devices and of the screen/monitor. The actual content that participants entered in the digital devices was not the focus of the study, and thus not intended to be part of the analysis. Information that participants keyed in to activate personal code generators used to log in to online services were obscured in the videos, and if the video recordings happen to capture sensitive information, these were neither part of the analysis nor available for others to peruse. These recordings were stored securely.

Participants with a spouse/partner who were also part of the study engaged in their chosen occupations in succession and not in isolation. That is, a spouse/partner could observe and interact with the participant while he/she is performing an occupation, and could perform his/her own chosen occupations right after the previous participant.

**Data analysis**

Audio recordings were transcribed. From the videos, observations of participant’s actions, affective expressions, and interactions through the input devices and screen, as well as what was happening on the computer system were noted beside the transcriptions to provide context for the verbalizations. During repeated reviews of the recordings, the first author wrote memos, which consisted of reflections, impressions, and questions related to the observations. The memos also included a rudimentary analysis to clarify whether participants were talking to and performing for themselves, the first author, or their spouse/partner. The transcribed texts, notes, and memos constituted the rich data that were used in the narrative analysis.

Narrative analysis involved an iterative approach to understanding significant events, which resulted in a configuration of stories (Mantingly, 1998; Molineux & Richard, 2003; Polkinghorne, 1995). The first step was focusing the analysis on engagement in occupations made unique through involvement of digital technology. The second step involved temporal ordering; thus, the sequence of occupations, actions, or events, and other references to time were considered. Third, establishing plots and elements that contribute to plots resulted in identifying significant events. Several significant events emerged around which vignettes were written in order to provide context for and understanding of the stories, and in some cases, were omitted where events and emerging plots lacked sufficient grounding in data from the interviews and observations. Vignettes based on emergent plots and participant experiences were re-explored by checking the stories against the original data, in order to ensure both authenticity and relevance in relation to the aim of the study.

In this way, analyzing the data and developing plots entailed mining the ten sets of data for significant events in relation to the outcome, and distinguishing what is distinct as well as common or trivial. Common features and characteristics, such as occupations performed, contexts surrounding the engagement, immediate social environments, and participants’ experiences with digital technology were noted. In line with Josephsson and Alsaker’s (2015) “finding the commonalities in the stories while preserving the integrity of individual narrative” (p. 79), data elements from five participants were then chosen to represent distinct features.
of engagement in digital technology-mediated occupations. The five participants are presented in Table 1.

The final step was producing stories that illustrate key findings in a context and according to Josephsson and Alsaker (2015), in dialog with theory. Stories resulted from an iterative interpretative process, which allowed access to meanings related to the study aim (Josephsson & Alsaker, 2015). Aspects such as values and experiences were carefully considered in order to understand the content of enacted narratives (Mattingly, 1998). Vignettes that most richly illustrated distinct experiences set the scene and open the stories presented below. The processes of constructing and reconstructing the stories were recursively performed by all authors. Particular quotes from the participants that were included in the stories underwent translation and back-translation between Swedish and English by all authors.

### Findings

The following vignettes – playing by the rules, being on the same wavelength, and calling the shots – were used to narratively explore how older adults engage in and situate digital technology-mediated occupations in daily life.

#### Playing by the rules

After driving 10 kilometers from the main road, I arrived at a small bungalow in a clearing. Aside from a farmhouse on an adjacent lot, the neighborhood consisted of snow-covered fields and forests. The scent of coffee and cinnamon rolls welcomed me as Julia opened the door. On her kitchen table lay her laptop computer, phone, and several opened envelopes including a change of address postcard. While we waited for the coffee to finish brewing, she planned to pay an invoice on her computer and to change an acquaintance’s address on her smartphone. Right after paying her bills, she opened Facebook® and read through her contacts’ posts. I was curious about what she does on this social networking site, and she explained, “I usually like a post or write a comment like, ‘That’s nice to hear’ or something like that. I don’t give into some lengthy discussions, and I usually don’t post what I’m doing, when I get up, or what I’m eating, and things like that. I think it’s a bit silly because one doesn’t have to do those on the Net ... I get many invitations to games and things, but I never play.” After checking her newsfeed, she then opened another website. “I usually log in to Hotmail®,” she continued, “I don’t usually log in here so often because I have it on the phone, and I check the most important messages there.” She then turned on her smartphone. The first thing that opened on the screen was a quiz app. “I play this game and stuff like this with my grandchildren and a few friends. This is quite educational...” and then she began to show me the apps on her phone.

My first thought while observing her was, Did Julia get distracted or forget her plan? She engaged in more tasks than on those we had agreed. After she paid her bills, Julia said, “I log out from there now that I’m done, and then I usually log in to Facebook® and check what

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Age</th>
<th>Work before retirement</th>
<th>Civil status</th>
<th>Digital technology accessed from and used at home</th>
<th>How often digital technology was used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia</td>
<td>female</td>
<td>68</td>
<td>coordinator for sign language interpreters</td>
<td>single</td>
<td>laptop computer, smart phone, Internet</td>
<td>daily</td>
</tr>
<tr>
<td>Lillian</td>
<td>female</td>
<td>66</td>
<td>financial administrator</td>
<td>married</td>
<td>stationary computer, mobile phone, Internet</td>
<td>daily</td>
</tr>
<tr>
<td>Nils</td>
<td>male</td>
<td>68</td>
<td>chimney sweep</td>
<td>married</td>
<td>stationary computer, mobile phone, Internet</td>
<td>sometimes</td>
</tr>
<tr>
<td>Ava</td>
<td>female</td>
<td>70</td>
<td>building custodian</td>
<td>cohabiting</td>
<td>mobile phone; no computer laptop computer, mobile phone, Internet</td>
<td>never used a computer</td>
</tr>
<tr>
<td>Kenneth</td>
<td>male</td>
<td>79</td>
<td>employment officer</td>
<td>cohabiting</td>
<td>laptop computer, mobile phone, Internet</td>
<td>daily</td>
</tr>
</tbody>
</table>
my friends are doing.” Her use of the word “usually” negated my question and instead indicated an established activity pattern. For Julia, using online banking services and keeping in contact through Facebook® were two occupations clustered together and often performed sequentially. A multitude of applications on her computer and smartphone afforded Julia to perform various, albeit not necessarily related, tasks and to discontinue or resume use anytime. On her smartphone, she had some apps clustered together (e.g., Camera and Photos in one folder; TV and radio apps in one screen), which made it easy for Julia to shift between occupations that were meaningful to her.

Cues (e.g., knowing which fields to fill in, scrolling down a saved list of payees on her bank page, disclosing that she had approximately 100 friends on Facebook®) indicated that she had done these occupations numerous times. Routines enable a person to “focus less on the action and more on its elaboration” (Clark, 2000, p. 129S). Julia’s repeated performances had facilitated reflections to improve on her engagement. While she paid her bills online, she remarked a few times that a numerical keyboard would have made it easier for her to enter codes with long number combinations.

Furthermore, Julia’s reflections on her routines resulted into a refinement of personal preferences, thus contributing to the shaping of her sense of self. For instance, she had implied rules in using devices and conducting herself in Internet-based social interactions. My first impression was that there was an inconsistency in how she applies her own rules as she declined invitations to games on the social networking site, yet she played games regularly on the applications on her phone. Could it be that her perception of what technology can require or provide had influenced how and to which degree she engages in occupations involving those particular technologies? When considering the digital technologies, her rules started to make sense to me. From a practical standpoint, games on her laptop computer would take a longer time to access and activate, compared to games on a smartphone, if the device were turned on from sleep mode. Her laptop also required a larger and more stable surface like a table, compared to her smartphone, which needed only one supporting hand. Moreover, the level of privacy or anonymity that the apps appear to provide could also have been a factor. Julia mentioned that she found posting personal activities and information as silly. Choosing not to play on the social networking site could increase the probability of keeping her online identity clean, respectable, and less silly. In this way, she could avoid automatic posts about herself and her personal activities sent out to her contacts and others in her network, as well as, unwanted personalized streams of content on her newsfeed generated by opening games and websites.

Opportunities to refine her preferences went beyond regulating her online identity. “It was the grandchildren who found these for me,” said Julia, while referring to apps on her phone. "But it just involves going into the App Store® to check what apps are available and I can download them then.” This indicated that though her grandchildren had introduced her to various applications, Julia could make choices regarding digital technology. A sense of security afforded by the environment can enable a person to take risks and consequently experience choice and control (Hammel et al., 2008). Moreover, the wireless Internet connection in Julia’s home afforded her additional alternatives. She admitted, “I can sit anywhere, and one can use multiple computers at the same time, like when the grandchildren are here with their computers. And then they can use it too.” Julia sums up her engagement in computer and smartphone-supported occupations, “It is of course fun to do things and convenient to pay bills this way. I am actually satisfied.”

**Being on the same wavelength**

I observed Lillian use the computer in a 16-sq.m. room in her home. Nils had begun preparing coffee in the kitchen. When Lillian started to search for music from the World Wide Web, the sounds in the kitchen stopped, and soon Nils stood by the door and suggested to turn the auxiliary speakers’ volume up. She teased him about his hearing, and as I watched, their banter quickly moved from listening to music to watching films. Lillian asked him to show the programs they follow on online Swedish
Lillian and Nils were engaged in what each other was doing, taking turns preparing fika (Swedish coffee break) and engaging in computer-mediated occupations. Though they were in separate rooms, they were aware of their roles and what was happening to each other in the spaces they occupied. The reciprocity in their actions was suggestive of engagement in co-occupations. In co-occupations, two or more persons interactively shape each other through reciprocal motor and emotional responses and shared intentions (Pierce, 2009; Pickens & Pizur-Barnekow, 2009). Digital technology has provided Lillian and Nils other opportunities to share experiences in co-occupations. From their intermittent conversations, they mentioned other computer-related co-occupations in which they engaged. Together, they reminisced about the past through old photographs online, watched online TV programs, and conversed about various topics brought about by computer use.

Co-occupations can result in shared meanings experienced in a personalized way (van Nes, Jons-son, Hirschler, Abma, & Deeg, 2012). Nils referred to browsing through the buy-and-sell website as his and other men’s “special thing on the computer”. With this statement, he implied a sense of community with other men who also engaged in that occupation. Lillian referred to the website as an “older men’s day center”, and by doing so, implied that it was a virtual place where women can leave their husbands or partners while they engage in other occupations.

They even shared experiences surrounding difficulties encountered in computer use. It was sufficient for Lillian to hear the frustration in Nils’ voice to identify the problem and immediately offer a solution. Their most frustrating challenge – pop-up advertisements – occurred seemingly often. Advertisements are identified as a barrier to usability that affects older adults (Curran, Walters, & Robinson, 2007). Nils explained, “I get irritated. It just pops up, then it…” and Lillian finished, “goes on and on and on and on again. It is just frustrating how they... and we’re out here so seldom.” Nils admitted he just turns the computer program off and on when unsolicited advertisements appear on the screen. When I commented on how frustrating the situation can be, Nils said, “Nowadays we are not ‘out’ so much,” referring to being online, “so for us, it doesn’t matter.” Selwyn (2006) suggests that the extent to which people use technology depends on how much it can enhance their ability to be part of a community, and Nils and Lillian, who already were experiencing being part of one another, might not have the inclination to frequently engage in online occupations.

**Calling the shots – Part 1**

Ava observed curiously while Kenneth read his evening news on his recently purchased laptop computer. At 70 years old, Ava admitted that she had never used a computer before and would like to try it this time. Kenneth willingly exchanged seats with Ava, and I moved a few steps backwards to make room for them. Ava seemed unsure whether she should hold
the mouse or touch the trackpad. She admitted that she never sat in front of the computer, but it seemed she had ideas on what she wanted to do. She carefully moved her index finger on the trackpad, and a new window showing the website of a bank opened on the screen. “I’m not interested in that bank,” she pointed out. She continued with a hesitant tap on the trackpad and moved the pointer, unintentionally opening a textbox providing other links. She asked what was happening on the screen and what she should do, but she really didn’t seem to wait for an answer from us. Kenneth moved the pointer over the close button with the mouse, without Ava asking him, and let her figure out to click on the X, which she did. When the window with the bank website was closed, she asked if she could play music on the computer. She managed to open a website for free downloadable music by herself. The webpage was filled with texts and advertisements, and the links to the various music genres were at the bottom of the screen and partially hidden on the full-sized window. She couldn’t find what she wanted. She mentioned that her son-in-law uses an iPad® to play music and asked if she could borrow mine. I lent it to her, and she gracefully moved back and forth between screens until she found the application she wanted. She opened it, scrolled up and down looking for albums and songs. She didn’t like my music selection, but she managed to play a song. After the song ended, she said, “Look what I can do! Can you do this?” to which Kenneth replied, “No.” Ava answered with a gleam in her voice, “I can.”

Ava was interested to try digital technologies and explicitly stated what she wanted and did not want to do. Despite difficulties, she could draw on her previous experiences to work around the challenges and instead play music on a tablet. The conditions that enabled Ava to successfully negotiate a novel occupation mediated by digital technology were present – she had choices in what to do and which device to use, and found encouragement through Kenneth and participation in this study. It is in the doing that a person’s potential to engage in occupations becomes actualized (Asaba & Wicks, 2010). For Ava, the experience that she “can” resulted in her awareness of occupational possibilities with digital technology and her continued interest to engage in other digital technology-mediated occupations.

**Calling the shots – Part 2**

After her initial success in playing music, Ava now wanted to open an email account on Kenneth’s computer. She could enter her preferred email address in the field, but when filling in the password fields became problematic, she asked for Kenneth’s help. While changing places, she said, “Now we shall see if he is good at this.” The system required that the preferred password should be entered twice and should consist of at least 8 characters, with at least 2 small letters, 2 capital letters, 2 numerals, and 2 symbols. Kenneth first typed in a password, which was not accepted, with an automated message indicating that it was almost identical to the email address. He then chose another password following the conditions and wrote it down in a notebook before typing it. Ava left the upstairs room to answer a knock at the front door, while Kenneth continued with the password. A second automated message indicated that the passwords he entered in the two fields did not match. For almost ten minutes, he attempted to enter the same password in two fields but failed, cursing each time the passwords were rejected. Voices from downstairs were getting louder, and we could hear that the guest was almost leaving. In his last attempt before Ava came back into the room, he realized that the passwords he entered did not match but expressed that he didn’t understand why. Asked whether he wanted to continue, he said, “This I will do over and over in peace and quiet,” and proceeded to close the program.

Ava was decisive about setting up an email account. After experiencing difficulties to
which she could not find a solution on her own, she decided to recruit Kenneth’s help. Kenneth had more computer experience than Ava, but this task proved to be difficult for them both. Receiving and sending emails requires an email account, but providing precise information such as an email address and password can be more difficult than writing free text (Fischl & Fisher, 2007; Fischl, Hammar, Johansson, & Törnqvist, 2010). Kenneth could not identify where the problem lay in his attempts to enter the password, yet he was aware that some programs require precision entries. During an earlier observation of his use of online banking services, Kenneth described the webpages of the bank as “pedantically designed. [The doing] must be perfect.” Because of the obligatory fields that required specific entries, the technology afforded Kenneth no room for error and a very limited option to continue with the task. Nevertheless, Kenneth did not allow the technology to decide the outcome for him. By deciding to discontinue the task and choosing when to do it, Kenneth gained control over the situation.

Both Ava and Kenneth exerted choice and control in their own occupations, as well as, choice to take part in their partners’ doing. While taking part in each other’s occupations, they negotiated their own needs to take control and their desire for their partner to engage in the tasks by themselves. This was manifested when Kenneth moved the pointer to the Close Window button while Ava used the computer, and then again when Ava commented, “Now we shall see if he is good at this.” The latter also revealed an apparent effort to entrust control to someone else. Despite these negotiations, they managed to encourage each other to try out new activities. Ava’s remark could be seen as her way of challenging Kenneth to engage in those occupations that started to interest her, together with her. Kenneth’s decision to discontinue the task and set up the email account alone could be his way of not discouraging Ava by not letting her see him frustrated and of encouraging her to engage in new occupations with his support.

Discussion
To enable people to participate and realize their potential, it is relevant to understand occupation in terms of “all the things people do, the relationship of what they do with who they are as humans, and that through occupation they are in a constant state of becoming different” (Wilcock, 1999, p. 2). In light of this, the stories above are appraised through an occupational lens as three facets of participation – being alone, belonging together, and becoming alone together.

Playing by the rules may be viewed as a facet about being alone. Aloneness is the objective state of having no one around (Galanaki, 2004). It is not synonymous to loneliness, which is a subjective experience that may or may not result from aloneness. By being, a person can discover oneself, think, reflect and simply exist (Wilcock, 1999). In being alone, a person can experience solitude, or “a state of voluntary aloneness, during which personality development and creative activity may take place” (Galanaki, 2004, p. 436). In her aloneness, Julia made constructive use of her time, by doing and reflecting on her doing. Participation has been earlier discussed in terms of doing something physical or social and of agency, characterized as “being able to make choices and intentionally effect one’s engagement in daily occupations” (Borell et al., 2006, p. 78). The critical element connecting doing to agency is being. That is, in order to intentionally impact on one’s engagement, reflection on the doing is essential. This concurs with the findings from Bergström, Eriksson, Asaba, Erikson, and Tham (2015) that enacting agency involves complex negotiations in daily life that require, among others, reflecting on the performance of occupations. Wilcock and Hocking (2015) described being as a “time when the meaning of what people do can be thought through and when ideas are formed, plans are formulated and the sense is made of how to go about doing what needs to be done” (p. 135). In being alone, Julia established rules for herself through her routines and online conduct, defined what she valued and found satisfying, and at the same time, refined her sense of worth and identity.

Being on the same wavelength is about belonging together. Belonging involves a sense of being acceptable and thus feeling secure in what you are doing (Wilcock & Hocking, 2015). Togetherness is “being part of something in which the
persons involved were contributing to each other in various ways” (Nyman, Josephsson, & Isaksson, 2014, p. 371). Taking inspiration from McMillan and Chavis’ (1986) definition of sense of community, togetherness is a state of having feelings of belonging to a group, mattering to others in the group, and trust that one’s needs will be met by the group. Lillian and Nils were a part of each other, mattered to each other, and complemented one another. Belonging together means being part of a group and context while creating shared but personalized meanings through doing together (Nyman et al., 2014; van Nes et al., 2012). Through co-occupations, Lillian and Nils provided each other a sense of coherence by maintaining the nexus of meanings that they have co-created and shared. Their engagement in co-occupations made it possible for Lillian and Nils to cultivate a unique insight into each other’s identities and values, and at the same time, develop aspects of their own identities that relate to and support the other.

Calling the shots could be about becoming alone together. The contemporary notion of alone together originates from sitting alone in a room while being together with others through online networks (Locke, 1998; Turkle, 2011). Participation is also concerned with doing something for others and making an impact on others (Borell et al., 2006; Hammel et al., 2008). In order for this to happen, a person has to become. Fidler and Fidler (1978, 1983) discussed three elements of becoming – becoming I, becoming competent, and becoming a social being. The story shows a movement from Ava and Kenneth doing things by themselves towards sharing access to resources with others and supporting each other. This story reflects a negotiation of the need to be alone (becoming I) and to exert choice and control in their attempt to master novel occupations (becoming competent) and the need to be together with others to create shared meanings (becoming social beings).

The ideas in the stories about being alone, belonging together, and becoming alone together are congruent with themes pertaining to participation presented in other studies (Borell et al., 2006; Hammel et al., 2008; Silva et al., 2016). Though digital technology was a fundamental and distinguishing feature in the initiation of this study, it blended into the contexts in which participation occurred. Participation involving digital technology deals notwithstanding with negotiating and refining identities, in addition to finding and experiencing meaning in daily life. Moreover, participation involving digital technology also means new and more diverse possibilities for engagement in occupations, concurring with findings in earlier studies (Cresci & Novak, 2012; Larsson et al., 2013a; Leist, 2013). Thus, there is potential for older adults to do what they would like to do and become who they want to be through participation in digital technology-mediated occupations. The acknowledgement of this potential will challenge our way of thinking about older adults’ participation in a digital society. Based on the findings above, issues regarding how we understand and measure participation through occupations involving digital technology emerge. These issues include:

- whether there is a need to delineate when engagement in one occupation ends and in another occupation begins, given the idea of Julia’s engagement in activity clusters;
- whether co-occupations can occur in shared virtual spaces, in case Nils and his friends decide to meet online together; and
- whether successful engagement should be based on the process or the achievement of a goal, as seen in Kenneth’s choice to discontinue the task which can be viewed as engagement filled with possibilities to do or not to do.

Becoming is a:

way of communicating what people think they are about by allowing them to demonstrate what they can do, what they can contribute to their growth, and what they can offer the community that is a special gift from them and that, by its provision, their place in societal structure will alter. (Wilcock & Hocking, 2015, p. 242)

Participation in this study has enabled a few older adults, to some degree, to become. However, to enable older adults who have neither access to nor capacity for digital technology to
realize their potential to become remains a challenge. Thus, studies using participatory approaches on improving access to and usability of digital technology can address other aspects of participation, such as being treated with respect and having the right to access resources and opportunities.

**Methodological considerations**

This study is an initial attempt to combine concurrent think aloud protocol and narrative analysis. Considering that various cognitive processes are required at the same time, thinking aloud while performing occupations proved to be difficult for some of the participants. Furthermore, as the verbalizations became more dialogic in nature and less consistent to the think aloud protocol, the first author was drawn in the participants’ performances. These difficulties would have been reduced if all participants were strongly encouraged to do a trial performance of occupations while thinking out loud. In addition, most performances did not follow closely the structure of the chosen tasks based on the short discussion before the observation. Performances likewise deviated from the intended structure for couples, whose spouses/partners joined in the discussion and engaged in the occupations. These instances, however, provided more insight on the situatedness of occupations and everyday life and reflected more authentic engagement in occupations involving digital technologies.

The results from the analyses were not presented to the participants. Though this study might have gained in further elaboration of possible meanings together with participants, the authors weighed the potential benefits with the burden of time that this type of design would impose. From this perspective, the choice to work with a narrative analysis in a usual manner was considered appropriate in this case.

**Conclusion**

This study described diverse and distinct features in older adults’ engagement in digital technology-mediated occupations and framed their participation in situations and the contexts of their attitudes and values, self-efficacy, and social and technological environments. Through narrative inquiry, those occupations were considered as enacted situated inquiry, in which meanings that arise from the merging of situations and occupation were revealed. This permitted an exploration of older adults’ potential and contributed to an appreciation that there is opportunity in digital technology for older adults to be and become active participants in society and their lives.

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