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Digital agency of vulnerable people as experienced by rehabilitation professionals

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ABSTRACT

The continued spread of digital technology and the digitalization of public services influence the human agency of individuals by requiring new ways and forms of action. In this article, we describe the digital inclusion and digital agency of people belonging to vulnerable groups, based on focus group interviews of rehabilitation professionals working with the target groups. The theory-driven content analysis of six focus groups consisting of a total of 26 interviewees is based on (Jyrkämä, 2008) [1] framework of modality-based agency. The results highlight that the digital agency of the clients belonging to the vulnerable groups is constructed in shared actions with the rehabilitation professionals. The rehabilitation setting creates an agentic space that enables the clients to act in the digital world. The study contributes to the discussion of the digital inclusion and exclusion of vulnerable groups. In a digitalizing society, the digital agency of the people belonging to vulnerable groups should be acknowledged and addressed in policy practices, as well as in designing and providing digital services. Particularly, given that agency has been mainly studied from a personal point of view, in this respect the current study adds a new dimension to the studies on agency.

1. Introduction

Digital services, including health and social welfare services have increased greatly in recent years. Through digitalization, many processes can be made more efficient and faster, while at the same time improving the quality and accessibility of services. However, recent studies show that several vulnerable groups, for example people with mental health and substance abuse problems, immigrants and unemployed people, have difficulties in using digitalized services, since they are built on the premise of a skilled self-sufficient user [2–4]. Especially, the demands of applying for welfare services online through self-service solutions risk those groups of citizens already at the fringes of the welfare system being further excluded [5]. Previous studies suggest that poor mental health poses a risk for digital exclusion [6,7], and being older and being male both reinforce this risk [4].

Moreover, studies focused on the digital divide and diverse levels of access and use of Information and Communication Technology (ICT) have failed to examine the importance of individual abilities and the role of personal agency in this process [8]. Despite the rapid and comprehensive digitalization of society, there are various individual and structural barriers to the use of digital services that may continue to lead

to a digital divide. Van Deursen and van Dijk [9] have argued that contrary to common opinion among policy makers, the digital divide problem is not solved when a country's internet connection rate reaches saturation. Studies have concluded that divides in internet skills and the type of use continue to expand even after physical access is universal, and furthermore, studies have highlighted the continued importance of attitude and material dimensions [9]. According to Helsper, the digital divide has been found to be related to access and motivation, digital skills and digital engagement, and the outcomes that people obtain from engaging with ICTs [10]. Consequently, digital inequality can be seen as a complex concept linked to social inequality, which connects these digital divides at different levels [11].

Psychological aspects of the digital divide and the individual sense of control associated with the digital world have been sought to be understood through various concepts. The concept of internet self-efficacy refers to a person's belief about what they can achieve online [12]. The continued spread of the use of digital technology in society influence the human agency of individuals [13], therefore, individuals are required to demonstrate their agency in digitalized situations. Thus, we can also talk about digital agency, which is a multidimensional concept that, according to Passey et al. [14]; relates specifically to digital competence,

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digital confidence, and digital accountability, but also to digital skills, digital literacy, digital responsibility, and digital autonomy.

Agency is often understood as an individual level concept, including beliefs of self-efficacy as a central element, and promoting goal-directed motivation through optimism and self-enhancement [15]. However, according to Bandura [15]; people do not live their lives as isolates, but they work together to produce the outcomes they desire but cannot accomplish on their own. Therefore, the analysis of human agency should be extended to the examination of collective agency. Furthermore, often, people do not have direct control over the social conditions and institutional practices that affect their lives, in which case they seek well-being and security through the exercise of proxy agency instead of direct control [15]. Tetri and Juujärvi [16] show that internet self-efficacy and proxy efficacy are important factors for the intention of using digital health and social care services, and proxy agents may serve as facilitators to reduce the digital divide and promote the use of digital services. Similarly, of the various components of digital agency, digital accountability in particular can be seen as an institutional relationship or arrangement [14], rather than as a completely individual feature. In this study, digital agency is approached through the model of modalities of agency introduced by Jyrkämä [1] that combines an examination of individual-level agency and social structures and factors.

This paper describes a descriptive case study conducted among Finnish rehabilitation professionals who work in an organization that provides social rehabilitation services for vulnerable people. The clientele of the organization consists of mental health and substance abuse rehabilitees, unemployed people, immigrants, people who need assisted accommodation, and in general of people who have daily coping problems. The aim of the study is to explore how the professionals experience their clients' digital agency and inclusion in a situation in which a great deal of the social and health care services and public services are provided digitally, and in which due to the COVID-19 pandemic the number of online social rehabilitation services has increased. The reason for using descriptive case study research is that it positions the study of the phenomenon within a bounded, meaning-specific context when exploring the digital agency of the clients of a particular rehabilitation organization [17].

2. Theoretical framework

2.1. Digital exclusion and inclusion of vulnerable people

With the digitalization of society and services, the risk of digital inequality and digital exclusion has been exacerbated. It has also been found that digital inclusion follows some clear economic and social contours, and people with lower levels of income, employment and education are significantly less digitally included [18]. Previous studies have also pointed out that many vulnerable groups of people, such as those with mental health problems [4,6,19] and incarcerated people [20,21], are at risk of digital exclusion.

According to the corresponding fields models by Helsper [11]; social and digital exclusion are interlinked. A person's economic, social, cultural and personal resources create a digital engagement, which in turn reinforces their social inclusion [10]. Digital divide factors outside socioeconomic factors have also been identified in previous research [22]. Personality traits, motivation and digital skills are particularly important in this respect [22]. According to Helsper [10,11] access, skills and attitudes can be considered to be key mediators between social inclusion and digital engagement, and accordingly, shortcomings in these factors can be seen as sources of digital exclusion [11,23]. As such, socio-digital inequality is a multi-level phenomenon that requires individual-level solutions related to a person's motivation and agency, as well as structural solutions [10].

Digital inequality is built through different levels of factors. The first level of digital inequality is related to who has access to computers and the internet. At this level, the sources of inequality are related to

material factors and infrastructure. The second-level divides are based on digital skills and digital engagement. Skills are a broad entity that includes content-related internet skills, in addition to operational and formal internet skills [24]. The concept of digital literacy, on the other hand, also refers to a person's ability to critically evaluate the trustworthiness of the content and the various interests of the content producer [10]. The third level is outcome inequalities, which is related to what a person obtains from engaging with ICTs [10]. Here, the idea is that some people know how to use online functions more appropriately or usefully than others.

According to van Deursen and van Dijk [9]; the first-level digital divide still remains a problem in some rich western countries because device opportunity, device and peripheral diversity, and maintenance expenses differ among segments of the population. In the case of vulnerable groups, personal circumstances and financial barriers can be factors in their digital exclusion [6], and a lack of electronic IDs can act as a barrier to access to many digital services [21]. From the beginning of the 21st century, various studies have especially highlighted the second-level digital divide related to digital skills and digital engagement [25,26].

Mental health service users are willing to use digital services, in cases where they do not replace other mental services and can be used in conjunction with other support [16,19]. The use of digital services is however limited by mental health issues and a lack of skills [6], lack of support [19], and fears concerning confidentiality and safety issues [4, 19]. According to Hustad et al. [22]; in previous studies, measures for crossing the digital divide are organized in three key intervention domains related to policy, training and design. It is further noted that one's own motivation and personal or tailored support are central to overcoming digital exclusion [6,19], and consequently, useable services and education that strengthens digital skills and literacy are needed.

2.2. Agency and the theory of the modalities of agency

The concept of agency has its roots in the social sciences, but it has been used widely in other disciplines, for example, in the humanities. There is no particular clarity or unity about the concept, but notions of agency have usually been associated with active striving, taking initiative, or having an influence on one's own life [27,28]. In addition, agency entails a conception that socio-economic structures both constrain and resource individual actors [27,28]. According to Burkitt [29]; agency should not be reduced to a duality of individual action and collective structures, but should be rather understood as being relational in which people have an effect on each other and the world through their relational connections and joint actions. When exploring people in vulnerable position in society, for example the clients of social services, it is important to understand their agency constructs as relational since the clients' agency is a combination of shared actions with the staff world, and negotiated through interaction within a particular context and social world [30–34].

Overall, the importance of a person's own motivation and agency, as well as the support they receive, can be considered relevant in terms of preventing socio-digital exclusion. The concept of digital agency refers to the individual's ability to control and adapt to a digital world [14]. Digital agency encompasses the elements of digital competence, digital confidence and digital accountability, and is also closely related to learner agency [14]. Therefore, the role of agency should be emphasized in preventing the digital exclusion of vulnerable people.

In this paper, the aim is to illustrate through Jyrkämä's [1] model of modality-based agency how professionals experience their clients' digital inclusion, and thus their digital agency. Jyrki Jyrkämä's [1] model of modality-based agency is based on sociological and aging theories of agency, especially on Anthony Giddens' structuration theory, and on Algirdas Greimas' and the associated Paris School's considerations of social semiotics and semiotic traditions [1,35]. In Giddens' structuration theory, agency is constructed in a two-way relationship between agency

and structure, where structures both influence individual autonomy and are recreated in an individuals' use of agency [27]. Whereas the Giddensian conception of agency stresses a person's capability to change structures with action, Jyrkämä's model of modality-based agency states that agency is strongly context-bounded, and it is precisely the context that both enables and limits action [1]. In Jyrkämä's model, the Giddensian concept of agency manifests itself in the interplay between societal structures and the individual. In the model, agency is seen as a combination of six modalities that bind structural factors and the individual actor in a situationally forming dynamic that constructs as agency [1,35]. The modalities of *Know-how*, *Be Able To*, *Want*, and *Feel* are actor-related modalities, and *Must* and *Can* are structure related modalities [1]. Jyrkämä's [1] theoretical framework's functionality is context-bound, and without the context, the framework remains at an abstract level [1]. Ultimately, Jyrkämä's conceptual understanding of agency stresses the importance of life course in which historical, socio-economic and societal factors play an important role in the choices that a person makes and is able to make in certain times, places and situations [1]. In this study, context means exploring the digital inclusion and agency of vulnerable people during a time when public services are transforming to be digital by default, and in a certain rehabilitation setting which represents a place where professionals help and support clients with digital affairs in a certain situation.

3. Methodology

3.1. Research context and research question

The context of this study is a private social sector organization from southern Finland, and the study focuses specifically on digital inclusion and digital agency, which are assumed to be linked to inclusion and agency (see Ref. [11]).

The clientele of the rehabilitation organization under study is heterogenous, consisting of people with mental health and substance abuse problems, unemployed people, immigrants, people in need of assisted living, and in general of clientele who have different kinds of coping problems in relation to their everyday living. The duration that clients are involved with the organization's different kinds of rehabilitation activities varies. Some might take part in short courses, and others may stay as clients for years. The clients are mainly directed to the organization's rehabilitation activities through the municipalities' social services. Another common route to the organization's rehabilitation activities, especially dealing with job coaching, is through employment agencies. At the end of February 2021, the number of personnel at the rehabilitation organization was 81 persons, of which 26% were men. The number of clients on a monthly basis varied between 525 and 650.

The organization's work orientation is based on coaching and recovery-orientated approaches. In the coaching approach, the aim is to empower and support the client to make independent choices and decisions that are based on the client's own motivation [36]. The coaching approach is used in job coaching activities which aim at finding a personal path that leads to employment either directly or via education for the client. The job coaching takes place in the form of workshop and course activities by employing methods of rehabilitative work and social rehabilitation. The recovery-orientated approach focuses on the client's capabilities, on sustaining hope, on inclusiveness in society, and on positive mental health [37,38]. The recovery-orientated approach is employed especially in supported housing where clients are based long-term. The aim of supported housing is to prevent homelessness by renting accommodation, and by providing home-help services for clients in mental health rehabilitation. During the COVID-19 pandemic, the home-help service was partly carried out online. In addition, accommodation services (renting accommodation) are temporary for those clients that are homeless or who are in danger of becoming homeless (for example, persons released from prison, persons suffering from mental health and substance abuse problems, and persons who have difficulties

in finding accommodation).

The aim of the study is to illustrate how the professionals experience their clients' digital agency and inclusion in a situation in which a great deal of the social and health care services and public services are provided digitally, as well as when part of the social rehabilitation and job coaching has been conducted digitally due to the COVID-19 pandemic. The research question asked in this study is as follows: How is the digital agency and inclusion of vulnerable people constructed in the focus group interviews of rehabilitation professionals?

3.2. Participants and data collection

The research data was collected using focus group interviews between February 2021 and May 2021. There were a total of six focus group interviews, each with three to six participants. The composition of the focus groups was created according to the existing units of the organization, thereby following the lines of purposive sampling in which the sampling of the study enhanced the appropriateness and adequacy of the sample in relation to the research topic [39]. The organization under study has six units: administration, two job coaching services units, accommodation services unit, home services unit, and unit managers. The reason for organizing focus group interviews is based on the idea that interviewing people in the same position captures their shared understanding of the topic (see Ref. [40]). Also, for practical reasons it was easier to arrange the interviews within each unit than to construct the focus groups so that each group would have participants from each unit. The aim was to get at least four interviewees per focus group interview, but one focus group interview had only three participants since the unit was not able to provide more participants. However, the thematic saturation was achieved with rather a small amount of focus group interviews because of the homogenic nature of the sample (see Refs. [41,42]). The total number of study participants was 26, of which 5 were men and 21 women. Their mean age was 50.1 years (SD = 10.7) and they had worked in the field for 18.0 years on average (SD = 11.6). In addition, only one participant had less than two years of work experience in the field, and the majority of the respondents had over six years of work experience in the field, and ten participants had over 20 years of work experience in the field. Of those interviewed, 16 participants had health care education (practical nurse or nurse), five participants had social welfare education (Bachelor of Social Services), and four participants had other academic professions. One participant's education was not available. The duration of the focus group interviews varied approximately between 60 and 90 min. The focus group interviews were conducted online (via Microsoft TEAMS) due to COVID-19 restrictions. All of the participants were familiar with online meetings, and were ensured of the confidential nature of the interviews. The focus group interviews were conducted in Finnish, and then transcribed verbatim into Finnish and translated into English by professional translators. The focus group interviews were conducted in the form of proxy interviews in which the interviewed professional was in a position of a proxy respondent, and a person well known to the clients and their circumstances [43]. Proxy interviews are usually used with respondents who cannot be interviewed for various reasons, for example due to illness or different kinds of impairments and functional capabilities [44]. Therefore, it is important to acknowledge and bear in mind the mediated nature of proxy interviews, and any influence this may have on the results and their subsequent interpretation.

The focus group interview themes of the study were as follows: the clientele and their capability to use digital services and devices; client work in the context of job coaching and social rehabilitation, and the experiences of the employees conducting client work digitally. The themes were created by the researchers with the aim of exploring the topic of the digital inclusion and exclusion of vulnerable people. The focus group interviews were conducted by two researchers who acted as moderators of the interviews and guaranteed that all of the themes were discussed. The focus group interviews were analyzed only by the first

author, and this should be acknowledged when estimating reliability of the results (see Ref. [45]).

In this study, a stimulus text was used as a starting point for the focus group interviews. As Törrönen [46,47] points out, stimulus objects can be used as devices for encouraging interviewees to speak about a research topic in an interview. The aim of the stimulus text was to convey a sufficiently solid description of the topic under examination [46,47]. The stimulus text of the study was constructed as two separate personas that portrayed the organization's two young clients and their experiences of their use of digital social and health care services and e-services.

The personas were created by three Service Design Master's degree students who employed service design methods in creating the personas as part of their studies. In the first phase they gathered information from the clients using the probe method. In the probe method, participants are asked to capture and record their everyday life experiences either through verbal or visual means [48]. The aim of the probes was to gain insight and understanding of the client's experiences and needs in using digital social and health care services as well as map the clients' usage of social media, internet, e-services and digital devices. The personas also functioned as portrayals of the clients' digital inclusion. In the second phase, two personas were created that were portrayed in the form of video and a written description of the ideal types of the organization's young clients. As Wärnestål, Svedberg, Lindberg and Nygren [49] point out, personas provide a life-like and concrete representation of the people in question, for example the organization's clients. Even though personas are fictitious, they are constructed from research data and they provide a compound portrayal of the needs, goals, and expectations of the target group in relation to the service that is explored [49].

The interview started by exploring how well the personas portrayed the clients, and what possibilities were lacking from the personas. The stimulus text encouraged the interviewees to compare their own conceptions and experiences to the portrayal constructed in the stimulus text [46,47]. In addition, it allowed both the researchers and the interviewees to identify and interpret whether the stimulus text as a form of microcosm represented the phenomenon truthfully and credibly [46, 47].

The stimulus text turned out to be provocative in the focus group interviews, since the interviewees stated that the personas did not ideally represent the clients of the organization. Rather, the interviewees experienced the personas as partial portrayals of the clients, because of the personas' somewhat good life-management skills and capability. In the focus group interviews, the professionals brought to the fore what was missing in the personas, as well as describing their clients in a detailed and vivid manner in relation to the researched phenomenon. As Törrönen [46,47] points out, it is the interviewees who decide how the stimulus text functions in the interview, and how they should be interpreted as portrayals of a microcosm or as a provoker. So, although the stimulus text was originally planned to function as a microcosm, it was ultimately experienced as a provoker in the interview by the interviewees in this study.

3.3. Data analysis

In the process of the preliminary analysis of the data the core concept of agency emerged as a central theme, and therefore the framework of modalities of agency [1] was applied. The analysis is based on identifying six modalities of agency [1] from the conducted focus group interviews: *Know-how*, *Be Able To*, *Want*, *Feel*, *Must*, *Can*. Appendix A shows the original outlines of the six modalities of the agency-based model, and their operative explanations in this research context.

The focus group interviews were analyzed using theory-driven content analysis, in which the modalities acted as a framework of analysis [50]. In the first phase of the analysis, the interview extracts that described the modalities were mapped out. In the first phase of mapping there were many interview extracts that were categorized within more

than one modality. In a second phase of mapping, the content within each modality was analyzed according to the operative definition of the modality in question.

In this study the aim was to gain an understanding of the digital inclusion and thus the agency of the marginalized people in question through focus group interviews of the professionals whose clients they were. Therefore, the research was not meant to detect the agency of the clients on an individual level. As Kosonen et al. [35] point out, a structuralist and theory-driven approach in qualitative research aims to find answers according to pre-determined criteria (in this case the six modalities), and not to map out individual experiences as such.

3.4. Ethics

All of the study participants were informed of the anonymity of the interview, and that they were able to withdraw from the interview at any point of the research process. All participants signed an informed consent form before the interview. The study was conducted according to the guidelines of the Finnish National Board on Research Integrity (2019). An ethical review for the performance and publication of the research was obtained from The Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences (Decision June 2020; September 25, 2020), and research approvals were granted by the organization under study.

4. Findings

The research results are described in a way that first describes the results of the actor-bearing modalities of *Know-how* (knowledge and skills), *Be Able To* (functional capabilities), *Want* (desires, motivation and goals), and *Feel* (emotions, situational assessments). Following this, the structure-bearing modalities of *Must* (limiting social structures and factors) and *Can* (enabling social structures and factors) are described in a way that summarizes the results by highlighting how the dynamics between the structure and the individual construct agency in the situation in question (see Ref. [35]).

4.1. Know-how

The results indicate that the majority of the clients do not have sufficient digital skills nor know-how of digital technology. For example, most clients do not know how to use computers, how to navigate different eGovernment service sites, or how to take care of electronic transactions. The clients need constant help with various digital affairs, and the professionals teach and help the clients for example by showing and guiding them on how to fill forms digitally, how to carry out electronic transactions (i.e. bank transactions), and how to deal with the authorities via information networks. The aim of the professional in rehabilitation is to encourage the client to do things independently, by guiding, supporting, and repeating the task at hand as many times as needed.

In one of our customer spaces, we have a social counselor who has a computer with a display on both sides of the table. And they do it together so that the client fills in the forms and the counselor follows it on the screen and intervenes when the client needs support and help. It's an awfully concrete and good way to do it, but it requires time and wisdom from the social counselor. Focusgroup #4, Speaker #3

And they also need quite a lot of help with certain things that they should do on the computer. They don't have very good [digital] skills either, at least not all of them. Some may have, but some have quite weak skills, and they need a lot of help with these and with managing basic things. Focusgroup #1, Speaker #4

Therefore, it is sufficient to say that clients' digital know-how (skills

and knowledge) is embedded and stems from collaborative, situated learning. It is learning in certain social situations in which the professional teaches and supports the client to use digital services and devices.

By using their work orientations and methods, the professionals get the clients familiar with the digital world. Therefore, it can be also described as targeted learning, and thus skills and know-how. Teaching and supporting the clients with digital affairs aims at improving the digital skills of the clients, and thus their life management.

The professionals provide the long-term support structures in the form of rehabilitation activities in which the clients practice their skills. In this kind of approach to learning and skills and gaining knowledge, a trusting relationship between clients and the professionals is essential. Ultimately, the approach aims to allow clients to learn basic digital skills so that they can function independently with digital affairs.

However, the gradation of digital skills among the clients is worth acknowledgement. The professionals argue that the immigrant clients (which are one of the biggest client groups) in most cases have a very poor command of the Finnish language, with the consequence that the first task is to get them to learn Finnish as part of their rehabilitation. In addition, they might have very limited understanding of Finnish society and its social services, and are forced to rely on their children or husbands (immigrant women) to help them complete different kinds of electronic transactions.

At the moment, it's really difficult to help anyone at any level because they [immigrants] cannot write or read in their own language. So how would they then learn to speak Finnish very easily, let alone to use these digital services. Focusgroup #1, Speaker #4

In addition, there is a small group of clients who have specific digital skills, for example they know how to mend computers. So, these clients' rehabilitation activities consist of repairing computers. One of the gradations of skills among the clients is highlighted in their use of social media, and especially, younger clients tend to use social media more than older clients.

Well, here young people have smartphones, so they use them actively. They have conversations on WhatsApp, Messenger, they have Instagram, TikTok, almost everyone watches YouTube. Focusgroup #5, Speaker #3

However, the clients have limited knowledge about netiquette (referring to the correct or acceptable way of using the internet), and are not aware of the dangers of social media and may put themselves in danger, for example with postings that are too revealing.

For example, the client does not have a filter, so there's social media all over the place and then there are nude photos all across the internet. Then there are also clients who do not have the filter, so their whole life story will be there. So, then it's against that kind of client. Focusgroup #2, Speaker #3

The results indicate that many clients' digital skills (meaning their ability to use digital devices, communication applications and networks to access and manage information) are insufficient. However, it is precisely in their rehabilitation environment where the clients have the possibility to learn the digital skills they need in present society.

4.2. Being able to

The clients' social, cognitive, psychological, and physical functional capabilities are such that they need help in various tasks in maintaining their everyday life. The aim of the rehabilitation is to support the life management skills of the clients. Deficits in life management is one of the reasons why the clients are in rehabilitation. The professionals describe that the functional capabilities of the clients are such that they need constant help and support from the professionals in their everyday life, and especially with digital affairs.

And so that we could find a network for the client, the right services. Many come from a kind of chaos, and do not really have any services. Our job is then to seek the right services with the client. But it can simply be everyday things like cleaning or support for cleaning, or practicing shopping or cooking and paying bills. Just learning very basic everyday skills with many of them. And with many clients, although it's a different matter, providing support for mental well-being, so that there is someone who comes to see you, and talks to you and reflects on your everyday life and matters. Focusgroup #2, Speaker #1

There are these situations, for example, where we help an unemployed person with looking for work, and advise them on how to draw up a CV. And one thing that is probably also challenging is how to cope with using all of the services of the authorities: how you go to KELA's [the Social Insurance Institution] website, how you find out different options, how you look for the right advice. Things like that, just really managing everyday matters that are necessary for them, and how to further matters. Focusgroup #4, Speaker #5

For example, many clients' social functional capabilities and thus their social networks are very weak, and the professionals may be the only person the clients are in contact with.

But I would say that they are quite often rather lonely. They would so much like to have company and would like the counselor or the coach to spend time with them by talking to them and engaging in social interaction. And of course it's rather difficult to spend so much time on this individual person alongside other work. I would say it's a bit problematic here because they would like so much attention. So you have to reflect on how much attention you can give them. Probably not as much as they would need. But it's probably often what they hope for because they don't have those social contacts. This may be the only place where they go to and meet other ordinary people in addition to their housing unit. Focusgroup #1, Speaker #4

This is the case especially with those clients who are in rehabilitation on a long-term basis. The professionals describe that the clients' ability to use digital services and devices depends greatly on the support they get from the professionals in rehabilitation. It is precisely the rehabilitation that enhances their ability to be part of a digital society, since the client can always rely on the professional when dealing with digital affairs.

Also, some of the clients have diagnosed mental health illnesses (for example schizophrenia) and are in a guardianship. With these clients, it is important to support their everyday functionality. There are also clients whose digital skills are at the advanced/expert level, but who may suffer from burn out or unemployment, and are therefore unable to use their skills appropriately in working life.

Yes, and I also have people in my group who have worked, for example, in specialist jobs in working life, and have then [experienced] burnout. So they do have excellent [digital] skills. There are really many quite normal working people who can no longer work for one reason or another. So they have normal, good digital skills. Focusgroup #6, Speaker #1

In rehabilitation they are able to activate their capabilities and skills in a surrounding that is empowering, when they either mend digital devices and/or help fellow rehabilitees with digital issues, for example how to use a computer's mouse.

Since the start of the COVID-19 pandemic, the need for digital support on the part of clients has increased. In addition, during the COVID-19 pandemic, some rehabilitation activities were provided virtually to some client groups, for example for those who were in job coaching. The communication with those clients happened via emails in which the professionals sent daily rehabilitation assignments to the clients, and through group meetings via Microsoft TEAMS. The professionals pointed out that virtual meetings were possible only with those clients who

could communicate virtually. This applied especially to the job coaching clients, and also to some of those clients with whom the rehabilitation normally took place at the clients' homes.

Well, it may simply depend on the client. It [remote coaching] is natural for some, perhaps specifically for young people who may do video calls and other [forms of digital communication] with their friends a lot anyway. Then with some people you notice that they find it somehow really difficult and awkward, or unnatural. Focusgroup #2, Speaker #1

All in all, the rehabilitation professionals' work ideologies and methods are aimed to provide a supportive surrounding in which rehabilitees could enhance their capabilities and skills, and progress on the path of rehabilitation according to their own capabilities. The professionals describe that helping and supporting clients with different kinds of e-services is an essential part of their work orientation.

4.3. Want

The results indicate that the clients' motivations to use digital services and devices are related in their functional capability. A poor functional capability represents itself in a low ability to be initiative, in a deficit of digital skills, in shortsightedness, and in other motivational problems. A lack of initiative and motivation to do things is turned into supported initiative when the client aims towards self-defined goals with the help of the professionals. The professionals state that the lack of initiative is seen in the fact that the clients expect and hope that the professionals would do things (for example electronic transactions) on their behalf.

But clients would be really prepared to even give me their online bank user identifiers to take with me – like that they say: take them, and if you could get me some [money] next week. Focusgroup #2, Speaker #5

On the other hand, the minority of clients with better functional capabilities, and especially younger clients have a better motivation and initiative for improving their life management with rehabilitation activities, and are thus better at embedding digital services and devices as part of their everyday life. The professionals describe that motivating the clients in everyday tasks is a central part of their work. However, they also state that motivating the clients is demanding, especially towards using digital services and devices.

In service housing we also have people with very different levels of functional capacity at the moment. Of course it varies, but some do not get motivated [with digital service use, learning digital skills], and there is this kind of short-sightedness with such matters. And then there are a few who can be motivated quite easily, and you can motivate them when you talk through their life path and objectives with them, and explain to them why they need to manage things. Focusgroup #3, Speaker #1

We try different ways and methods. Quite simply, we say that look, your goal is more independent living and you are young, and you want to study. You will never get these things if you just lie in your bed 24/7. This is an awfully bad motivator, it doesn't work. I don't know, I think with every resident, it's really challenging to find ways to motivate them. Focusgroup #5, Speaker #3

But we do hear in the team that, at times, this counselling work is rather frustrating because the counselor may feel that however much they motivate, things don't work. So every now and then, we go through what could be done in our teams. But whatever kind of motivation it is, the counselor's work is sometimes very hard work. I really respect them, as I don't work in the field myself. Focusgroup #3, Speaker #4

It is essential to employ appreciative interaction with the clients, in

order to get them motivated and to improve their initiative. The central part of the rehabilitation process is the client-orientated rehabilitation plan, according to which the client advances towards self-planned goals. This happens in cooperation and with the support of professionals, and does not entail doing things on behalf of the client. The professionals describe that the best way to motivate the clients to take initiative in managing their lives is to gradually advance towards the goals that are set. Importantly, the goals need to be practical and related to their everyday life, e.g. how to take care of electronic banking transactions.

For example, I've begun to compile this thing for a client of mine who is an immigrant. So, I take screenshots in the mobile bank of what you have to do and in which order you have to do each thing, because that person simply does not have the courage to pay any bills on their own. So, I will compile paper instructions on what button to press and where to enter what information. It will take time, but I am going to do it now that I had the idea. Focusgroup #2, Speaker #5

Yes, and although it is individual, we definitely have quite a lot of challenges with functional capability, so some kind of pauses, clarity, and if you think about the residents, because this is fairly challenging, short [sessions] so that it's possible to take a little break so that they can concentrate. And the language should be clear. Easy language, like [X] said. I think the challenge our target group has is that they have a slightly short attention span, and that they cannot concentrate very well. Focusgroup #3, Speaker #1

The professionals state that for their clients the demands of digitalized society are extremely challenging, and they do not possess (in most cases) the needed motivation and initiative towards engaging effectively with digitalized services.

4.4. Feel

The results show that according to the professionals, the most common feelings that the clients experience are feelings of failure and insecurity when dealing with digital affairs. Feelings of failure and insecurity were especially experienced when dealing with KELA's [the Social Insurance Institution] digital services. In general, KELA's digital services were experienced as difficult to comprehend and use. The negative feelings were especially related to application procedures, since an incomplete application is returned to the sender. The failure to be successful with KELA's digital services causes the clients feelings of failure, anxiousness and dread.

But perhaps we see precisely that in clients, that they don't know what they should explain, for example, in an application – so that they need support, someone to say write this now, that you have this and that problem although you would otherwise have these skills. And somehow many are nervous about dealing with KELA, especially because KELA has a reputation that their application will come back like a boomerang if they fill it in themselves. Focusgroup #2, Speaker #5

Yes, and clients probably fear that if they make some kind of mistake they will mess things up completely, the application will not get there, or some notification is not visible somewhere, and so on. Focusgroup #2, Speaker #2

According to findings, the COVID-19 pandemic has increased the clients' feelings of loneliness, and in general the clients have insufficient social networks (friends and relatives). So, when supporting the client with their digital affairs, the professionals try to convey feelings of hope to the clients.

4.5. Must

In our study context, the structure-bearing modality *Must* describes the necessity of using e-services (e.g. e-banking and eGovernment

services), digital social and health care services, and the use of digital devices and applications, reflecting the needs of a digital-by-default society.

What is worth acknowledging is the fact that professionals state that there are situations in which they are forced to do something on the behalf of the clients, even though it is against their work orientation. Especially, the procedures embedded in digital services might be such that the aim of ‘working together’ turns into working on the client’s behalf.

Well, our job is to make ourselves not needed, and the objective is that we do not do things on behalf of the client. But then you have a person with an immigration background who doesn’t speak English or anything, you can’t very easily make them fill out any Finnish pages or KELA’s pages. So then you have to act on their behalf. But usually we are next to the clients, guiding them so that the client would be able to manage those things independently as soon as possible. Focusgroup #2, Speaker #3

[...] when we have the frameworks for doing this, the aim is that we don’t do so much on behalf of the customer, but guide them and are by their side and advise them. Focusgroup #3, Speaker #4

According to the professionals, the clients experience the use of digitalized services as difficult. The results show that the majority of the clients are incapable of dealing with various e-services independently. Most of the clients do not possess adequate digital skills, needed capabilities, the motivation for usage, or the resources required by a digital-by-default society.

4.6. *Can*

In our study context, the rehabilitation services constitute an enabling social structure for the clients when dealing with a digital-by-default society. The results show that the rehabilitation services and activities employing either a coaching or recovery-orientated approach enable the clients to be part of the digitalized society according to their skills, capabilities and motivation. In relation to the four actor-bearing modalities, it is precisely the aspect of rehabilitation that enables the clients to learn (know-how) to use digital services in collaboration with the professionals. The different kinds of rehabilitation activities enhance the functional capability of the clients (be able to), and thus support the clients’ motivation (want) for using digitalized services. Also, the rehabilitation conveys feelings (feel) of hope and coping with a digitalized world.

We have a coaching approach to work in the job coaching services, while the housing services and the course activities in [X] are recovery-oriented, meaning that we accompany the customer, which has the basic principle that you don’t do things on behalf of the client, but rather listen to their wishes about their life, and move towards that goal together with the client. Focusgroup #4, Speaker #4

5. Discussion

5.1. *Main findings and reflection on results*

The results indicate that the digital agency of clients belonging to vulnerable groups is constructed in shared actions with the professionals. In addition, the digital agency is accomplished and negotiated through interactions within a particular context and social world (see also [32–34]). The actor-bearing modalities of *knowing*, *being able to*, *wanting*, and *feeling* reveal that these modalities are intertwined with each other. In addition, their conversion into action and agency by the clients requires interaction with the professionals. The clients do not possess the sufficient skill repertoire (*know-how*) to act independently in

a digitalized world. The clients’ different kinds of functional capability deficits (*being-able-to*) are such that they need support from the professionals in the management of their everyday life, including support in using different kinds of digitalized services. Also, their motivation to use digitalized services is interlinked with skills and functional capability, and a poor functional capability represents itself as a low ability to take initiative. In addition, feelings (*feel*) of fear and failure in completing electronic transactions does not increase the motivation (*want*) to use digital services.

The structure-bearing modalities contain structural factors that both enable and hinder the digital agency of clients belonging to vulnerable groups. In relation to the action-bearing four modalities, it is precisely the rehabilitation approach that enables the clients (in collaboration with the professionals) to be part of a digital-by-default society. The structure-bearing modality of *must* represents itself in this research context as an obligation to use digitalized services due a digitalized-by-default society.

As Kosonen et al. [35] point out, the interplay between actor-bearing and structure-bearing modalities reveals how agency gets constructed in situations between structure and individual action. In addition, it is noteworthy that peoples’ agency in the same situation may differ, since the person’s situational agency is always influenced by socio-demographic factors such as age, gender, cohort, social class, and cultural background, to mention but a few [1,35]. However, as Helsper [10; 49] argues, the characteristics linked to traditional inequalities in wealth and health correlate with confidence in using ICTs. Therefore, it is sufficient to say that people in a disadvantaged position in society are more likely to be marginalized in relation to digitalization.

Instead of speaking about traditional agency, we could speak about *agentic spaces* [51]. It is the rehabilitation setting that creates the agentic space for the clients to act according to their capabilities in a digital world. The rehabilitation also acts as an opportunity to take part in a digitalized world, and therefore increases the digital inclusion of the clients. In this research, the rehabilitation is turned into action in the form of agency by using the professionals’ assistance to accomplish tasks at hand, for example when undertaking mobile transactions. In some cases the clients wanted the professionals to act on their behalf with their digital affairs, and this can be interpreted as an agentic act. In general, studies stress the importance of proxy internet use and thus proxy agency in alleviating the digital exclusion of people belonging to vulnerable groups [16,52–54].

As the research results show, the agency of the clients is in some ways hidden, and represents itself more as being. According to Pirhonen [51]; in the case of people with a low level of functional ability, agency consists of being as well as doing, and is a space that is created when a person’s competence and motivation meet the right affordance of the surrounding. These findings are consistent with other studies of the role of rehabilitation in promoting the agency of the rehabilitees [30,31]. In her study of 49 Finnish young people suffering from depression, Rikala [33] points out that correctly targeted institutional support enhances the agency of young people with mental health problems. Therefore, the relational nature of the agency of vulnerable people should be acknowledged [32,34]. Another interpretation about agency in fragile situations in which people have limited possibilities is that it can be defined as “small”, because it is about enduring the constraints of life instead of an active striving towards settled goal or aims [33,55,56].

When reflecting on the results in relation to the concept of digital agency [14] and its three components (digital competence, digital confidence and digital accountability), the results reveal that the majority of the clients are not capable of navigating safely and effectively in a digitalized world, and thus do not possess an adequate level of digital competence. In relation to digital confidence, the clients need support so that they might feel confident in using their skills and knowledge in digital domains. Furthermore, in relation to digital accountability, the clients are not always aware of the responsibilities a digital world imposes on them, for example in the form of how to ensure the security and

privacy of one’s digital actions, and in understanding the ethical issues of a digital world.

The findings of the present study are consistent with previous research on digital exclusion [6,10,11,23] and digital agency [14]. The study demonstrates the importance of digital skills, know-how and motivation, as well as the necessity of the resources (devices, finances) required to access the internet and digital services. Similarly, the study highlights the multilevel nature of digital agency. The rehabilitation setting and the agentic space it creates provide the basis for a digital agency that enables responsible activities to be undertaken in a digital world. In this case, digital agency appears as a collective activity in which employees support a vulnerable person.

This study focuses on a single unit of social rehabilitation, and thus the results of this study highlight solutions related to agency, collaboration, support, and training. As such, the importance of the policy level, for example, is not emphasized in its findings. However, any comprehensive solution to strengthen the digital inclusion of socially marginalized groups requires a multi-level approach, and Hustad et al. [22] have pointed out that measures for crossing the digital divide are related to policy, education and design.

In practice, the range of means to prevent digital exclusion is wide, and covers measures related to, inter-alia, regional development, the prevention of drop-out from education, digital literacy programs for vulnerable groups, etc. In social and healthcare vocational education and higher education, attention must be paid to the fact that graduating professionals know how to support their clients in the use of digital services. So, while there is still a need for user-centered design and co-design where people in a vulnerable position participate in the development of public services, it is important to emphasize ICT usefulness and performance, rather than simply ease of use [22]. Specifically, it is not enough that vulnerable groups know how to use digital services, but also that the services must support their agency and social inclusion.

5.2. Limitations

The study has certain limitations. Firstly, the study concentrated on studying the agency of people belonging to vulnerable groups by interviewing the professionals of a particular rehabilitation organization. However, this mediated conception of the clients’ digital agency might be more accurate, since as the results of a series of studies carried out in Switzerland, Germany, Austria, Finland and Denmark show that adults display high levels of over-confidence in their digital abilities, frequently rating them highly compared to reality [14]. Also, a recent study of student skills assessments reveals a disparity of assessment between students and teachers [57]. In the presented study, the professionals had long periods of experience in the field, and thus can reasonably be assumed to have a profound understanding of their clients. However, since we did not interview the clients, we did not gain an understanding of how institutional practices (namely rehabilitation) might constrain the agency of the clients (see for example [33]). As a second area of limitation, the study is a descriptive case study based on a certain Finnish context. Therefore, the results are not generalizable as

Appendices.

Appendix A. Jyrkämä’s [1] six modalities of agency

Modalities of agency	Description by Jyrkämä [1]; 195.	Operative definition
Know-how	Refers to the knowledge and skills which a person has acquired throughout his/her life course or will be acquiring.	Professionals’ conception of their clients’ digital skills and knowledge
Be able to	About physical and psychological abilities, and functional capabilities (e.g. social, psychological and physiological) which vary from situation to situation.	The effects of clients’ functional capabilities in using e-services and digital devices and applications

(continued on next page)

such. However, as Taylor and Thomas-Gregory [17] argue, rather than being generalizable, the case study allows the transferability of findings to contexts, and the research user may make a decision about the accuracy of the findings when seen in other contexts. Lastly, as a qualitative study, the aim was to give a rich description of the research topic. As Malterud, Siersma and Guassora [58] argue, in qualitative research the sample size itself is not relevant, but more important is the information power it holds. Information power is related to the specificity of experiences, knowledge and properties among the participants included in the sample. In that respect, the interviewees of the study represented characteristics that are highly specific for the study, providing a thorough description of the topic.

5.3. Conclusion

This study contributes to the discussion about digital inclusion and exclusion, and thus the digital agency of people belonging to vulnerable groups. The findings of the study highlight the importance of institutional practices, namely a rehabilitation process that promotes the agency of vulnerable people to act according to their capabilities in a digital world. In addition, the findings highlight that the digitalization of public services puts people belonging to vulnerable groups in a disadvantaged position by the creation of a digital-by-default society. Therefore, it is of uttermost importance to maintain in-person-services.

Credit author statement

Piia Silvennoinen: Conceptualization, Methodology, Formal analysis, Investigation, Writing – original draft, Writing – review & editing, Teemu Rantanen: Conceptualization, Writing – original draft, Writing – review & editing

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Declaration of competing interest

No potential conflict of interest was reported by the authors.

Data availability

The data that has been used is confidential.

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(continued)

Modalities of agency	Description by Jyrkämä [1]; 195.	Operative definition
<i>Want</i>	Motivation, wanting, goals and objectives.	The motivation of the clients to use digital services Wanting to use
<i>Feel</i>	Is connected to the tendency to consider, evaluate, experience and connect one's feelings to situations and things encountered, situational assessments, reports of emotions, and value-judgements.	Feelings that digitalization causes
<i>Must</i>	Addresses physical as well as social, normative and moral hindrances, musts and limitations, internal and external musts.	Structural factors that hinder participation in a digitalized society
<i>Can</i>	Refers to the opportunities which each situation and the various structures and factors produce and enable.	Structural factors that enable participation in a digitalized society

References

- [1] J. Jyrkämä, Toimijuus, ikääntyminen ja arkielämä – hahmottelua teoreettis-metodologiseksi viitekehysteeksi. [Agency, ageing and everyday life – outlining a theoretic-methodological framework], *Gerontologia* 22 (4) (2008) 190–203. <https://urn.fi/URN:NBN:fi:ELE-1405542>.
- [2] A.J.A.M. van Deursen, E.J. Helsper, The third-level digital divide: who benefits most from being online?, in: *Communication and Information Technologies Annual (Studies in Media and Communications)* Emerald Group Publishing Limited, Bingley, United Kingdom, 2015, pp. 29–52, <https://doi.org/10.1108/S2050-206020150000010002>.
- [3] T. Heponiemi, V. Jormanainen, L. Leemann, K. Manderbacka, A. Aalto, H. Hyppönen, Digital divide in perceived benefits of online health care and social welfare services: national cross-sectional survey study, *J. Med. Internet Res.* 22 (7) (2020), e17616, <https://doi.org/10.2196/17616>.
- [4] Rantanen T, Gluschkoff K, Silvennoinen P, Heponiemi T The Associations Between Mental Health Problems and Attitudes Toward Web-Based Health and Social Care Services: Evidence From a Finnish Population-Based Study *J Med Internet Res* 2021;23(9):e28066doi: 10.2196/28066.
- [5] J. Schou, A. Pors, Digital by default? A qualitative study of exclusion in digitalized welfare, *Soc. Pol. Adm.* 53 (3) (2019) 464–477, <https://doi.org/10.1111/spol.12470>.
- [6] B. Greer, D. Robotham, S. Simblett, H. Curtis, H. Griffiths, T. Wykes, Digital exclusion among mental health service users: qualitative investigation, *J. Med. Internet Res.* 21 (1) (2019), e11696, <https://doi.org/10.1177/2F1461444818797082>.
- [7] D. Robotham, S. Satkunanathan, L. Doughty, T. Wykes, Do we still have a digital divide in mental health? A five-year survey follow-up, *J. Med. Internet Res.* 18 (11) (2016) e309, <https://doi.org/10.2196/jmir.6511>.
- [8] N. Safarov, Personal experiences of digital public services access and use: older migrants' digital choices, *Technol. Soc.* 66 (2021), 101627, <https://doi.org/10.1016/j.techsoc.2021.101627>.
- [9] A.J.A.M. van Deursen, J.A.G.M. van Dijk, The first-level digital divide shifts from inequalities in physical access to inequalities in material access, *New Media Soc.* 21 (2) (2019) 354–375, <https://doi.org/10.1177/2F1461444818797082>.
- [10] E.J. Helsper, *The Digital Disconnect: The Social Causes and Consequences of Digital Inequalities*, SAGE Publications, 2021.
- [11] E.J. Helsper, A corresponding fields model for the links between social and digital exclusion, *Commun. Theor.* 22 (4) (2012) 403–426, <https://doi.org/10.1111/j.1468-2885.2012.01416.x>.
- [12] M.S. Eastin, R. LaRose, Internet self-efficacy and the psychology of the digital divide, *J. Computer-Mediated Commun.* 6 (1) (2000), <https://doi.org/10.1111/j.1083-6101.2000.tb00110.x>. JCMC611.
- [13] L. Pangrazio, Reconceptualising critical digital literacy, *Discourse: Studies in the cultural politics of education* 37 (2) (2014) 163–174, <https://doi.org/10.1080/01596306.2014.942836>.
- [14] D. Passey, M. Shonfeld, L. Appleby, M. Judge, T. Saito, A. Smits, Digital agency: empowering equity in and through education, *Technol. Knowl. Learn.* 23 (2018) 425–439, <https://doi.org/10.1007/s10758-018-9384-x>.
- [15] A. Bandura, Social cognitive theory: an agentic perspective, *Annu. Rev. Psychol.* 52 (2001) 1–26, <https://doi.org/10.1146/annurev.psych.52.1.1>.
- [16] B.H. Tetri, S. Juujärvi, Self-efficacy, internet self-efficacy, and proxy efficacy as predictors of the use of digital social and health care services among mental health service users in Finland: a cross-sectional study, *Psychol. Res. Behav. Manag.* 15 (2022) 291–303, <https://doi.org/10.2147/PRBM.S340867>.
- [17] R. Taylor, A. Thomas-Gregory, Case study research, *Nurs. Stand.* 29 (41) (2014) 36–40, <https://doi.org/10.7748/ns.29.41.36.e8856>.
- [18] J. Thomas, J. Barraket, C.K. Wilson, I. Holcombe-James, J. Kennedy, E. Rennie, S. Ewing, T. MacDonald, Measuring Australia's Digital Divide: the Australian Digital Inclusion Index 2020, RMIT and Swinburne University of Technology, Melbourne, for Telstra, 2020, <https://doi.org/10.25916/5f6eb9949c832>.
- [19] N. Berry, F. Lobban, S. Bucci, A qualitative exploration of service user views about using digital health interventions for self-management in severe mental health problems, *BMC Psychiatr.* 19 (2019) 35, <https://doi.org/10.1186/s12888-018-1979-1>.
- [20] B.C. Reisdorf, R.V. Rikard, Digital rehabilitation: a model of reentry into the digital age, *Am. Behav. Sci.* 62 (9) (2018) 1273–1290, <https://doi.org/10.1177/0002764218773817>.
- [21] T. Rantanen, E. Järveläinen, T. Leppälähti, Prisoners as users of digital health care and social welfare services: A Finnish attitude survey, *Int. J. Environ. Res. Public Health* 18 (11) (2021) 5528, <https://doi.org/10.3390/ijerph18115528>.
- [22] E. Hustad, J.L. Hansen, A. Skaiaa, P. Vassilakopoulou, Digital inequalities: a review of contributing factors and measures for crossing the divide, in: I.O. Pappas, P. Mikalef, Y.K. Dwivedi, L. Jaccheri, J. Krogstie, M. Mäntymäki (Eds.), *Digital Transformation For a Sustainable Society In the 21st Century*. 18th IFIP WG 6.11 Conference on E-Business, E-Services, and E-Society, I3E 2019 Trondheim, Norway, September 18–20, 2019 Proceedings. LNCS 11701, Springer, Cham, Switzerland, 2019, pp. 505–519, https://doi.org/10.1007/978-3-030-29374-1_41.
- [23] E.J. Helsper, Digital Inclusion: an Analysis of Social Disadvantage and the Information Society, Department for Communities and Local Government, 2008. <http://eprints.lse.ac.uk/id/eprint/26938>.
- [24] A.J.A.M. van Deursen, C. Courtois, J.A.G.M. van Dijk, Internet skills, sources of support and benefiting from internet use, *Int. J. Hum. Comput. Interact.* 30 (4) (2014) 278–290, <https://doi.org/10.1080/10447318.2013.858458>.
- [25] E. Hargittai, Second-level digital divide: differences in people's online skills, *Clin. Hemorheol. Microcirc.* 7 (4) (2002), <https://doi.org/10.5210/fm.v7i4.942>.
- [26] J.A.G.M. van Dijk, Digital divide research, achievements and shortcomings, *Poetics* 34 (4–5) (2006) 221–235, <https://doi.org/10.1016/j.poetic.2006.05.004>.
- [27] A. Giddens, *The Constitution of Society: Outline of the Theory of Structuration*, University of California Press, Berkeley and Los Angeles, 1984.
- [28] A. Eteläpelto, K. Vähäsantanen, P. Hökkä, S. Paloniemi, What is agency? Conceptualizing professional agency at work, *Educ. Res. Rev.* 10 (2013) 45–65, <https://doi.org/10.1016/j.edurev.2013.05.001>.
- [29] I. Burkitt, Relational agency: relational sociology, agency and interaction, *Eur. J. Soc. Theor.* 19 (3) (2016) 322–339, <https://doi.org/10.1177/2F1368431015591426>.
- [30] M. Lindström, Promoting agency among people with severe psychiatric disability. Occupation-oriented interventions in home and community settings, in: *Department of Community Medicine and Rehabilitation, Occupational Therapy, Umeå University, Umeå, Sweden*, 2011.
- [31] M. Lindström, S. Sjöström, M. Lindberg, Stories of rediscovering agency: home-based occupational therapy for people with severe psychiatric disability, *Qual. Health Res.* 23 (6) (2013) 728–740, <https://doi.org/10.1177/1049732313482047>.
- [32] N. Mik-Meyer, D. Silverman, Agency and clientship in public encounters: Co-constructing 'neediness' and 'worthiness' in shelter placement meetings, *Br. J. Sociol.* 70 (5) (2019) 1640–1660, <https://doi.org/10.1111/1468-4446.12633>.
- [33] S. Rikala, Agency among young people in marginalized positions. Towards a better understanding of mental health problems, *J. Youth Stud.* 23 (8) (2019) 1022–1038, <https://doi.org/10.1080/13676261.2019.1651929>.
- [34] S. Wright, Welfare-to-work, agency and personal responsibility, *J. Soc. Pol.* 41 (2) (2012) 309–328, <https://doi.org/10.1017/S0047279411001000>.
- [35] H. Kosonen, K. Keskinen, P. Nikander, K. Lumme-Sandt, Employment exits near retirement age. An agency analysis, *Nordic Journal of Working Life Studies* 11 (1) (2021) 63–83, <https://doi.org/10.18291/njwls.122227>.
- [36] V. Hart, J. Blattner, S. Leipsic, Coaching versus therapy, *Consult. Psychol. J. Pract. Res.* 53 (4) (2001) 229–237, <https://doi.org/10.1037/1061-4087.53.4.229>.
- [37] M. Borg, K. Kristiansen, Recovery-orientated professionals: helping relationships in mental health services, *J. Ment. Health* 13 (5) (2004) 493–505, <https://doi.org/10.1080/09638230400006809>.
- [38] G. Andersson, What makes supportive relationships supportive? The social climate in supported housing for people with psychiatric disabilities, *Soc. Work. Ment. Health* 14 (5) (2016) 509–529, <https://doi.org/10.1080/15332985.2016.1148094>.
- [39] D.F. Polit, C.T. Beck, Generalization in quantitative and qualitative research: myths and strategies, *Int. J. Nurs. Stud.* 47 (11) (2010) 1451–1458, <https://doi.org/10.1016/j.ijnurstu.2010.06.004>.
- [40] A. Hyde, E. Howlett, D. Brady, J. Drennan, The focus group method: insights from focus group interviews on sexual health with adolescents, *Soc. Sci. Med.* 61 (12) (2005) 2588–2599, <https://doi.org/10.1016/j.socscimed.2005.04.040>.
- [41] M.M. Hennink, B.N. Kaiser, M.B. Weber, What influences saturation? Estimating sample sizes in focus group research, *Qual. Health Res.* 29 (10) (2019) 1483–1496, <https://doi.org/10.1177/1049732318821692>.

- [42] G. Guest, E. Namey, K. McKenna, How many focus groups are enough? Building an evidence base for nonprobability sample sizes, *Field Methods* 29 (1) (2017) 3–22, <https://doi.org/10.1177/1525822X16639015>.
- [43] M. Ward, P. May, A. Nolan, Comparing underlying and contributory cause of death in registry data with end-of-life proxy interviews: findings from the Irish longitudinal study of ageing (TILDA), *J. Appl. Gerontol.* 40 (10) (2021) 1189–1196, <https://doi.org/10.1177/0733464820935295>.
- [44] H.-P. Hutter, L. Ehrenhöfer, E. Freuis, P. Hartl, M. Kundi, Poor-to-moderate agreement between self and proxy interviews of mobile phone use, *Bioelectromagnetics* 33 (7) (2012) 561–567. <http://doi:10.1002/bem.21723>.
- [45] N. McDonald, S. Schoenebeck, A. Forte, Reliability and inter-rated reliability in qualitative research: norms and guidelines for CSCW and HCI practice, in: *Proceedings of ACM on Human-Computer Interaction*, No. CSCW, 2019, <https://doi.org/10.1145/3359174>. Article 72.
- [46] J. Törrönen, Haastattelemine virikkeillä. Virike johtolankana, pienoismaailma ja/tai provosoijana. [Interviewing with stimuli. A stimulus as a clue, microcosm and/or provoker], *Sosiologia* 38 (3) (2001) 205–217. <https://www.julkari.fi/handle/10024/91187?show=full>.
- [47] J. Törrönen, Virikehaastattelu. [Stimulus interview], in: M. Hyvärinen, P. Nikander, J. Ruusuvoori (Eds.), *Tutkimushaastattelun Käsikirja. [Manual for Research Interviews]*, Tampere, Vastapaino, 2017.
- [48] R.D. Debrah, R. de la Harpe, M.K. M'Rithaa, Design probes and toolkits for healthcare: identifying information needs in African communities through service design, *Des. J.* 20 (1) (2017) 2120–S2134, <https://doi.org/10.1080/14606925.2017.1352730>.
- [49] P. Wärnestrål, P. Svedberg, S. Lindberg, J.M. Nygren, Effects of using child personas in the development of a digital peer support service for childhood cancer survivors, *J. Int. Med. Res.* 19 (5) (2017) e161, <https://doi.org/10.2196/jmir.7175>.
- [50] J. Tuomi, A. Sarajärvi, *Laadullinen Tutkimus Ja Sisällönanalyysi. [Qualitative Research and Content Analysis]*, Tammi, Helsinki, 2006.
- [51] J. Pirhonen, *Good Human Life in Assisted Living for Older People. What the Residents Are Able to Do and Be.* Academica Dissertation, University of Tampere. Tampere, 2017.
- [52] N. Selwyn, N. Johnson, S. Nemorin, E. Knight, in: N. Clark (Ed.), *Going Online on Behalf of Others: an Investigation of 'proxy' Internet Consumers*, Australian Communications Consumer Action Network, Sydney, Australia, 2016, ISBN 9781921974434.
- [53] A. Petrovčić, B.C. Reisdorf, K. Prevodnik, D. Grošelj, The role of proxy internet use in sequential pathways of digital exclusion: an empirical test of a conceptual model, *Comput. Hum. Behav.* 128 (2022), 107083, <https://doi.org/10.1016/j.chb.2021.107083>.
- [54] D. Grošelj, B.C. Reisdorf, A. Petrovčić, Obtaining indirect internet access: an examination how reasons for internet non-use relate to proxy internet use, *Telecommun. Pol.* 43 (3) (2019) 213–224, <https://doi.org/10.1016/j.telpol.2018.07.004>.
- [55] M.-L. Honkasalo, Grips and ties: agency, uncertainty, and the problem of suffering in north karelia, *Med. Anthropol. Q.* 23 (1) (2009) 51–69, <https://doi.org/10.1111/j.1548-1387.2009.01037.x>.
- [56] M. Romakkaniemi, Toimijuus masennuksen sosiaalisuutta jäsentämässä. [Agency structuring the social dimension of depression], *Janus* 18 (2) (2010) 137–152. <https://journal.fi/janus/article/view/50558>.
- [57] J. Yu, P. Kreijkes, K. Salmela-Aro, Students' growth mindset: relation to teacher beliefs, teaching practices, and school climate, *Learn. InStruct.* 80 (2022), 101616, <https://doi.org/10.1016/j.learninstruc.2022.101616>.
- [58] K. Malterud, V.D. Siersma, A.D. Guassora, Sample size in qualitative interview studies: guided by information power, *Qual. Health Res.* 26 (13) (2016) 1753–1760, <https://doi.org/10.1177/1049732315617444>.