

Developing welfare technology to increase children's participation in child welfare assessments: an empirical case in Sweden

Att utveckla välfärdsteknologi som kan stimulera barns delaktighet i barnutredningar: professionsnära forskning från sverige

Gunnel Östlund^a, Philip Rautell Lindstedt^b, Baran Cürüklü^b and Helena Blomberg^a

^aDepartment of Social Work, School of Health, Care and Social Welfare, Mälardalen University, Eskilstuna, Sweden;

^bSchool of Innovation, Design and Engineering, Mälardalens University, Västerås, Sweden

ABSTRACT

The purpose of the article is to describe and problematise the practice-initiated idea of developing a digital tool for children in child welfare investigations and whether and how this welfare technology is useful for social workers. The results include interview data and descriptions of the research process. The social workers are of the opinion that the digital application increases the possibilities for children's participation in child investigations, even though their main focus is to create an alliance with the parents. During the research process the digital tool has developed from an empirical idea to a conversation tool and been tested with different user groups. However, the law on procurement limits the possibilities for data storage if the digital tool is to be used in the future.

In sum, in order to develop child protection work further, more practice-based research needs to be conducted so that researchers can develop the practice's ideas and identify the obstacles, opportunities, organisational conditions and development needs. The social workers in this study believe that the digital tool is useful for accessing children's perspectives and experiences, even though relational work with children is not their main task in child welfare investigations.

SAMMANFATTNING

Det övergripande syftet med innevarande forskningsprojekt är att undersöka om ett digitalt verktyg kan öka barns delaktighet i barnavårdsutredningar. Digitala medier är för barn och ungdom en naturlig del av livet till skillnad från tidigare generationer dessutom är barns delaktighet i situationer som berör dem är en lagstadgad rättighet. Socialtjänstens barnutredningar är en viktig garant för att barns rättigheter värnas och att deras situation uppmärksammas samt tas på allvar inte minst för att säkra barns skydd och möjlighet till en trygg uppväxt.

KEYWORDS

Child welfare assessments; digital tools; human-computer interaction; social work; children's participation

NYCKELORD

barnutredningar; digitala verktyg; människa-datorkommunikation; praktisknära forskning; barns delaktighet

CONTACT Gunnel Östlund  gunnel.ostlund@mdu.se  Department of Social Work, School of Health, Care and Social Welfare, Mälardalen University, Box 325, SE-631 05 Eskilstuna, Sweden

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

© 2023 Mälardalen university. Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Den praktisknära forskningen innehåller upprepade intervjuer med barnutredare som använt respektive deltagit i utvecklingen av det digitala verktyget. De 22 intervjuerna utgör den huvudsakliga empirin till denna artikel där utredarna har berättat hur det är att använda appen. Barnutredargruppens innovationsidé från 2016 har med hjälp av forskningsprojektet utvecklats från en enkel applikation till ett fungerande samtalsverktyg. Upprepade tester har gjorts av skolelever och socionomstudenter.

Barnutredarna berättar att det digitala verktyget är användbart för att nå barns erfarenheter men menar att relationsarbete med barnen inte är utredarens huvuduppgift men samarbete med föräldrarna är inte minst för att säkra barns trygghet på längre sikt. Lagen om upphandling begränsar dock kommunens möjlighet att kunna använda det digitala verktyget på egen hand.

Det sociala arbetet med barns skydd och trygghet har med hjälp av den praktikbaserade forskningen iscensatt sin innovationsidé om ett digitalt verktyg som kan öka barns delaktighet i utredningarna. Dessutom har forskningsprocessen bidragit till att identifiera barnutredarnas hinder och möjligheter att använda det digitala verktyget. De menar att det digitala verktyget är användbart för att nå barns perspektiv och erfarenheter. Dock är relationsarbete med barnen inte barnutredarens huvuduppgift i barnavårdsutredningarna snarare är deras uppgift att skapa ett gott samarbete med föräldrarna för att säkra barns skydd och en fortsatt trygghet uppväxt.

Introduction

Child protection is by far the most challenging part of social work (Munro, 2020). Finding ways that enable children to voice and share their perspectives in the welfare investigation are important in child protection work. A main problem in child welfare investigations is that the parents' abilities are at the forefront, rather than the children's needs (Heimer et al., 2018). One way of engaging children in their own welfare is to use digital technology to access their views and perspectives, e.g. by giving them a voice in matters that concern them. This would also contribute to social research and develop the social services (Mitchell et al., 2016). The possibilities to engage children are numerous in that they are digital natives who are used to interacting with digital media.

As digitalisation is developing at a rapid pace, including experience as part of the service design is a topic of major interest in social and public service development (Trischler & Westman Trischler, 2022). However, several pitfalls need to be addressed when using digital communication with users in the social services. For example, digitalised information and data can be used to assert power and control over people, rather than transform and empower them. It is therefore important that digitalised information, including images, are dealt with openly, visibly and in a trustworthy way between users and social workers (Kvakic & Wærdahl, 2022). Another difficulty is the lack of transparency of the digital versions when documenting the service user's situations due to the complexity of the user's experiences, which may not always be possible to include (Devlieghere & Roose, 2019). Critical voices have also been raised concerning the digitalisation of social work, with the argument that digitalisation extends the knowledge gaps among groups (Taylor, 2017). The digitalisation of social work has also been said to contribute to a failing youth care system that could miss children who have been neglected and mistreated by their parents due to failures in the communication systems (Keymolen & Broeders, 2013).

Research has found that the implementation of information systems adds to social workers' administrative work tasks (Gillingham, 2018; Matscheck & Berg Eklundh, 2015) and that data storage needs to be further developed in social work organisations to be safe (Devlieghere &

Roose, 2019; Svensson & Larsson, 2017). There are therefore major concerns about how the digitalisation era will affect client-social worker relationships and that it could make relational-based social work less used and more difficult to conduct (Nordesjö et al., 2022). The opposite may also be true, since making use of the advantages of digital technology could contribute to children's welfare and participation in social work, as has been suggested by researchers for at least a century (Collins-Camargo et al., 2019; Tregeagle & Darcy, 2008). The research project outlined in this article was based on a practice-initiated idea of developing a digital tool to increase children's participation in child welfare investigations. The child welfare team participated in a national innovation guide in 2016, where they were supported by the service design model (see, Trischler & Westman Trischler, 2022). to develop child welfare practices. In the empirical case, the digital application is classified under the term welfare technology, which includes digital technology that aims to maintain or increase health and welfare, of which the participation of the user, i.e. the person in need of health and social care, is a quality aspect that needs to be protected by professionals (The National Board of Health and Welfare, 2021). During the development of the digital application the researchers collaborated with social workers, social work students and schoolchildren aged between 6 and 12 years in order to develop and test the content and affordances of the digital tool and suggest improvements (see Dubé & McEwans, 2017; Gibbson, 1977). In the project, the concept of affordance was used to describe the innate properties of the tool as part of a technical dimension. Affordances are features or digital suggestions of what can be done in the human-computer interaction (Dubé & McEwans, 2017).

Background

The article is based on empirical evidence from an ongoing cross-disciplinary research project in which social workers and researchers in the fields of social work and computer science together created the digital application in order to strengthen children's participation in child welfare investigations. The idea for this digital application can be traced back to a national innovation course in 2016 in which the child welfare investigative group took part. In this practice-based research, the first step was an identified need to increase children's participation in child welfare investigations. In Sweden, the working method that is usually applied in these investigations is called 'Barnens behov i centrum' (BBIC) [In English, 'Children's needs in the centre']. BBIC has been criticised for not considering children's perspectives well enough, although it does underline the need to keep the focus on the child throughout the investigation (Matscheck & Berg Eklundh, 2015).

BBIC has been adapted into Swedish from an English/Welsh version using an illustrative model in the shape of a triangle. The child is placed at the centre of the triangle and its three sides are enclosed by the keywords: 'Child's needs', 'Parents' capacity' and 'Family and environment'. The various aspects to be considered are based on developmental-ecological systems theory (Bronfenbrenner, 1979), which considers how the child's situation should be understood at the (i) micro-, (ii) meso-, (iii) macro – and (iv) chrono levels (Matscheck & Berg Eklundh, 2015). The digital application is based on BBIC but does *not* separate children's needs into different parts like the triangle in terms of social relations, emotions and behaviour, education and health. In the digital application's graphical user interface, children can navigate their way by means of people, places, feelings and situations/networks. In addition to BBIC values and theory (Matscheck & Berg Eklundh, 2015), the digital application is based on an interactionist perspective; an analytical framework that is of major importance for understanding social situations, i.e. how we communicate and define them (Goffman, 1961; 1963). What is new with this digital tool is that it gives children an opportunity to increase their participation by expressing themselves in what is for them an appealing technical medium. It is therefore a way of meeting children on their own terms, given that digital technologies are part of their everyday lives as digital natives. In the process of developing the digital application, social workers contributed by discussing the prototype, alpha testing and evaluating its feasibility in child welfare investigations.

Aim and research questions

The aim of the article is to describe and problematise the practice-initiated idea of developing a digital tool for children in welfare investigations and determine whether and how this welfare technology is useful for social workers. The research questions are:

- How do the social workers evaluate the development and testing of the digital application?
- What challenges and opportunities are identified in relation to the feasibility of the digital application during the research process and in relation to future use?

Methods and process

Within the framework of the research project, several methods were used in the qualitative approach, although in this article we only present the interviews with the participating social workers.

The empirical practice-based research process

The software application was developed using incremental prototyping methodology (Graham, 1992). This approach both improves and adds new functionalities in an incremental manner based on the evaluation results of each version and ensures that the system that is implemented can be tested early in the design and implementation process. In practice, the application was co-created with schoolchildren and the child welfare investigative group in a small municipality in southern Sweden. The first version of the digital tool was developed by a research engineer based on workgroup discussions with the social workers and the research group. Our basic standpoint was that we should make sure that the BBIC concepts, i.e. health, education, emotions, behaviour and social relationships (Matscheck & Berg Eklundh, 2015) reflected the children's language and realities (Blomberg et al., 2022). Furthermore, as the digital tool was based on service design (Trischler & Westman Trischler, 2022), where the idea was developed by the social workers themselves, it was also important for the users' perspectives to be reflected in their initiatives (Kvacic & Wærdahl, 2022). The technical developments and research process can be seen in Table 1. The different functionalities of the digital tool were corrected as a result of the social workers' individual input during the research process and new functionalities were added to increase its capabilities.

The interview data

A total of 22 interviews were conducted in steps two and four of the project. In spring 2020 (step 2), 16 open-ended interviews (Silverman, 2000) were conducted with social workers to generate data about how they experienced the tool. The first interview included testing a first version of the digital tool, getting to know each person professionally and discussing how they preferred to conduct their child welfare investigations. In step two it was also possible to receive technical support in how to use the digital tool, for example when printing out the images for the social service archives where paper was still in use. As the spring of 2020 was also the start of the COVID-19 pandemic, these technical support interviews were digital and recorded. In step four (2022), six semi-structured interviews were conducted in which the social workers evaluated the feasibility of the digital tool in their child investigative work. In the feasibility follow-up interview, a NASA questionnaire concept concerning mental demands, physical demands, temporal demands, performance, effort and frustration (National Aeronautics and Space Administration, 2020) was used. The concepts were used as start-up questions in the follow-up interviews to

Table 1. The technical and empirical steps of the practice-based research process making the digital application feasible in child welfare investigations in a small municipality in southern Sweden.

Research activities and technical developments	2019		2020		2021		2022	
	Spring	Autumn	Spring	Autumn	Spring	Autumn	Spring	Autumn
Step 1 – a prototype is developed	Group meetings social workers every month							
Step 2 – Alfa testing		School children's testing <i>N</i> = 75	Initial interviews with social workers + technical support <i>n</i> = 16					
Step 3 – Beta testing				Social work students' digital tests <i>n</i> = 8		Social work students' IRL tests <i>n</i> = 54		Social work students' IRL tests <i>n</i> = 24
Step 4 – Feasibility testing					Team meetings every second week, researchers, and social workers	Consents from parents (2020–2022) to child users in real welfare investigations (<i>N</i> = 13)	Team meetings every second week, researchers, and social workers	Follow-up interviews with social workers <i>n</i> = 6

discuss the feasibility of the co-created digital tool. All the interviews were audio recorded and transcribed verbatim.

Data analysis

Thematic analysis (Braun & Clarke, 2006) was used as a methodology. Here, the transcribed text was read several times in the search for utterances in which the interviewees described how they experienced and evaluated the digital tool in relation to feasibility. The main themes were identified by naming and categorising the relevant content of the interviews in relation to the aim. Special attention was directed towards identifying new possibilities and the difficulties that the social workers experienced in the investigative work when either using or considering using the digital tool.

Ethical considerations

All the social workers gave their consent to participate in the research. If any of the quotations used in this article contain or refer to utterances from children, the details have been changed to guarantee their anonymity. The collected data was dealt with in accordance with the European General Data Protection Directive. The collection of digital data will be stored at the university for 10 years and after that will be deleted. The project received ethical approval from the Swedish Ethical Authority (2019-00466).

Theoretical approach

The interactionist perspective (Goffman, 1961; 1963) has influenced the development of the application. Communication is a working tool in social work that helps to create trust and confidence with the clients in order to come to a mutual understanding of their needs and expectations and what the social worker can provide through the social service system (Hofstede et al., 2001). In their encounters, the social workers and their clients negotiate and express how they would like the other party to perceive and understand them in the encounter (Goffman, 1961; Juhlia & Abrams, 2011).

As interactions are fragile, trust in a client-social worker relationship can easily be damaged by using the wrong words or by a lack of responsiveness (see Blomberg & Stier, 2016; Križ & Skivenes, 2010). The idea with the digital tool studied here is to facilitate social workers' interactions with children in order to build trust and increase their participation. In the interactional setting, when the social worker takes the child's relationships into account during the planning of the investigation, the tool can support the child's perspective and broaden their contributions through small talk conversations with the social workers about their everyday life and situation. Small talk can be understood as the kind of language we use to get to know one another (Drew & Heritage, 1992). As children are regarded as digital natives it can contribute to a sense of equality when interacting with the social worker (see Bolin & Sorbring, 2017). Against this background, we use an interactionist perspective to understand how the social workers evaluate the development and testing of the digital application in their encounters with their clients.

Findings

The findings are based on the interviews with the social workers in steps two and four of the research process (see Table 1) and their negotiations concerning the function, content and how the developing/testing of the tool is evaluated. Three main themes were identified in the analysis of the interview data: the Potential, Accessibility and Usefulness of the created digital tool.

The digital tool was designed to fit with the formation of the child welfare assessment plan. This plan indicates the mutual agreement between the social workers, parents and children of the main

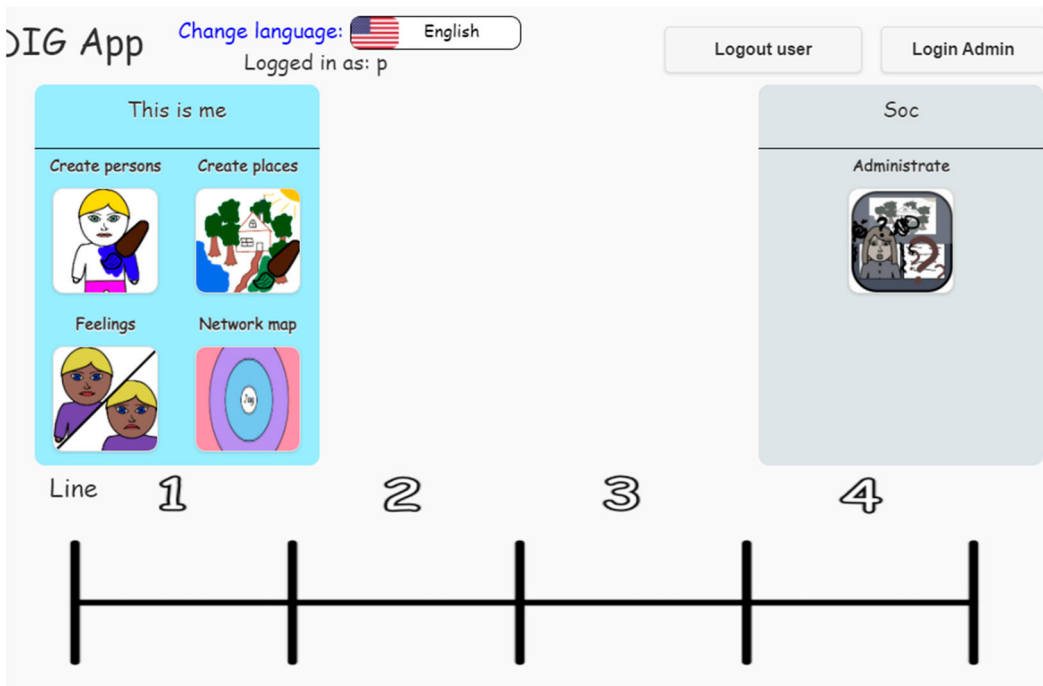


Figure 1. The first page of the digital tool, Sweden 2020.

purpose of the welfare investigation. The social workers pointed to the importance of having a separate block for notes, which would also facilitate more confidentiality in the use of the digital tool in their investigative work. The graphical user interface of the application thus consists of two blocks and a line illustrating the four months of the time window for the investigation (see Figure 1).

One block in the digital tool is where the children themselves are active and illustrate their perspectives, while another block is locked and used by the investigators to make notes and print out the created images. Moreover, the welfare investigative process is limited to four months, during which all the documentation work must be completed. This is why the application has a predefined timeline for including the person the child wants you to meet as part of the investigation. The intention with the affordances in the application is for the children to ‘create themselves’, ‘create others’ and ‘create places’ and, in this way, enable the social workers to get closer to the children’s own perspectives.

Recognising the digital application’s potential

The social workers were asked to test the tool in real investigations in order to experience its full potential. In investigations with children the idea is to explore their reported worries and investigate their family situation, e.g. whether the parents are caring enough and able to provide a safe and secure upbringing. One social worker described the general child investigation work as follows:

I[...]because it’s when you talk to a child or when we draw up an investigation plan there are always a few questions (...) what kind of questions are important (...) what do we need to know? (...) to find out “who shall we talk to?” but then there’s another step, “what shall we talk to them about?” “Shall we talk about them having size 42 in shoes, or shall we talk about them knowing something that is good so that you will feel alright?” (Social worker, interview 5)

What shall we talk about? What do we need to know? Using the digital tool changes the child’s position from being asked to showing and telling about situations. The digital tool has four affordances

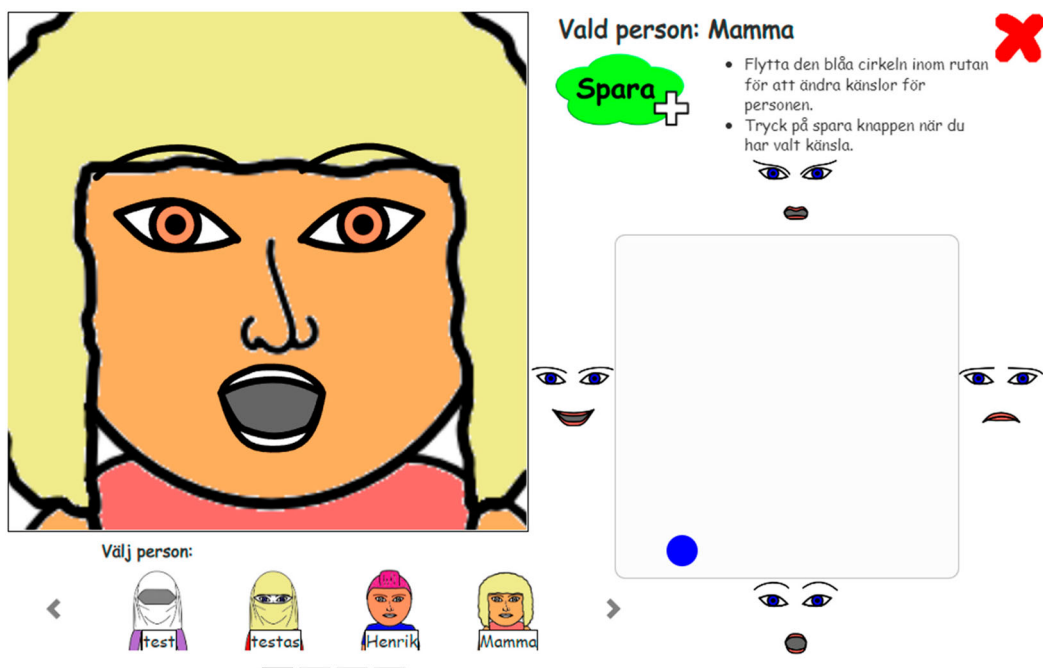


Figure 2. Expressing emotions without using words.

one of which is to show emotions, that has proved to be useful in interactions in that it enables children to illustrate their own feelings without using words, or their parents' expressions in a certain situation. All they have to do is to move the blue dot and the expression of the person changes (see Figure 2).

One of the social workers explained how the digital tool could be beneficial and said that they especially liked how the emotional affordance was self-educative for the child in that it focused on their own perspective rather than that of adults:

Il. I: But what do you think? Does it have any advantages compared to if you, if you had not had a tablet?

S: Yes, absolutely, I see the advantage in being able to describe feelings (...) how you describe the feelings but describing the situation without feeling stressed (...), I mean that it comes from within, I don't need to give examples about how you should feel in these situations. Here can you see for yourself how you felt (...) I also think the same about when we drew houses and so on. Yes, we talk about why, and which colours, and why have they chosen them. I mean, it's more about learning, the child and I learn to get to know each other and that we also have something else to talk about, that we can switch from being serious to pausing the conversation in a natural way. (Social worker follow-up interview, 1)

The social worker quoted above regarded the emotional affordance as one of the advantages with the digital tool, in that it gave children an opportunity to illustrate their own feelings from their own perspective in an easy way. One of the children in the welfare investigation practice talked about having experienced violence in the family after using the digital tool at the beginning of the meeting, which seemed to have helped as a warming up exercise. Children, and especially digital natives, seemed to find it easy to look down at the laptop and feel a lot safer than having eye contact with an unfamiliar adult. For some of the children the digital tool seemed to be a safe place from which to start the conversation. However, some of the children also criticised and disapproved of the proposed digital tool. When one child tested the tool, he regarded it as too simplified. On the other hand, then he had an opportunity to show off his digital knowledge and talk more about his own life world. One social worker suggested that welfare professionals in social services

and in schools might use similar digital tools, which could also make things easier for a child using the digital tool in the school environment.

The usefulness of the digital tool in relation to child welfare assessments

The main idea in step 1 of the research process (Table 1) is in line with the inventors' idea (the child welfare investigators group in 2016) of using the digital tool when formulating the investigation plan that the parents, children and social worker are expected to decide on together. One of the current social workers described her experience of the development and use of the digital tool like this:

III. I understood earlier that the tool was supposed to be used when making the investigation plan, but in that context, I don't really see how I can introduce and use it. However, in the conversations I have with the children I usually ask them to draw, write, make use of dolls and other practical things, at least with the younger children, so I think that this could certainly replace some parts of it, and I think that is good. (Social worker, interview 4)

In their interaction with the children the social worker found it challenging to make use of the digital tool in the way in which it was designed. During the research process, we had to jettison the original idea because the social workers' work process did not always include the making of a mutual investigation plan in the presence of the children. Child welfare investigations are mostly about investigating parental ability in relation to neglect, violence and lack of socioeconomic resources in the family's everyday life or the school situation.

IV. I experience that an awful lot of children, I mean it is not the child that is the biggest problem but the families and their home situations. And in the cases where we already know from the start that we probably cannot help the child because the mother will never be drug-free but will continue to receive treatment and we can't get the parents to agree. (Social worker, technical support, 11)

This social worker experienced that it was often a matter of dealing with parents' shortcomings, such as violence, conflicting partnerships and a lack of network support. The meetings with the children often came later in the process and included approximately two meetings with each child, depending on the child's age and type of situation. The social worker quoted above was positive about the tool and identified possible ways of using it. However, it was a balancing act between identifying what was needed in the investigation and how many times they should interact with the children:

V. Then we collect references. That which is deemed necessary depending on the particular case and what it is all about. Yes, then you also want to meet the child a few times. Sometimes two or three times is enough, because you shouldn't investigate more than is necessary. (Social worker, interview 6)

Moreover, if the parents agreed to further social service support, other social workers were responsible for continuing the service. That aspect also made the social workers focus on creating a working alliance with the parents rather than the child per se. However, this was not always possible, especially if the parents did not agree to further support by the social services. The child was not the social worker's first focus, though. Instead, their focus was on identifying the parents' and social network's protective factors to ensure that the child had a safe upbringing.

Evaluating the accessibility of the digital tool

Less experienced social workers tended to see obstacles before even trying it out, although some tested it anyway because they were confident about not imagining in advance how a meeting with a child might continue. Trying out the digital tool was also a learning experience for the social workers. In order to use the digital tool some of the social workers had to learn a lot about digital media and become more comfortable with digitalisation per se. Here, the challenges related to the digitalisation of welfare technology became tangible. One social worker said that:

VI. We now know when we should use Teams and so on at work. Many people think that everything that is new is a pain in the neck, that it's more about being comfortable with new ways and if you are comfortable then you dare to use them and that feels more natural. (Social worker, interview 7)

There was some resistance when it came to working together because usually the social workers worked on their own during most of the investigative process and that documentation was their major task. They were also expected to learn and adapt to new technologies and models. The social workers in this study were both digital natives and digital immigrants. However, being part of the practice-based process of developing a digital tool was challenging in terms of their digital knowledge and experience of working with child welfare investigations. One of the challenges for the researchers was to encourage and empower the social workers with technical knowledge about how to use the digital tool. Another difficulty was that a digital tool under development can be difficult to use or have shortcomings. The quote below illustrates a social worker's experience of meeting a child of four years of age at the first home visit when trying out the digital tool:

VII. I felt that the child was a borderline case at four years of age, and it wasn't easy to dig out all the material for it. I anyway want to, when I do an investigation, I anyway want to move forward on it. I would like to find a way to, to help children to communicate by telling their stories as well. Very young children's language is not very well developed. I think that they often have more imaginary worlds that they find difficult to communicate. And so I think that it would be good to try to work with this [the digital tool] and learn how to do it. (Social worker follow-up interview, 2)

During the home visit, the child found the digital tool interesting, even though the social worker was unable to use it to its full extent and needed digital help. Working on your own with no-one to turn to made it extra difficult for a digital immigrant. In addition, working in pairs was asked for both in relation to the digital tool and for feeling more confident in the decision-making process. According to the team leader, the discussions in the investigative team about the digital tool and the investigative work during the research process seem to have contributed to social workers now working in pairs rather than alone. This has helped to improve the quality of the work and enabled the social workers to learn from each other and receive feedback from colleagues.

During the research process, it became clear that the main challenge to continue working with the digital tool was the limitation due to the political agreement about procurement. During the research project, the data was stored at the university, which in the long-term proved impossible as the social services were not allowed to relinquish their responsibility for safe storage. Storage at the university was thus only possible during the research process. This has meant that the state regulations of welfare organisations limit the forthcoming use of the application.

Discussion

The article indicates and problematises the potential, usefulness and accessibility of the digital tool that was developed in order to increase children's participation in child protection work. The social workers' and researchers' willingness to increase the possibilities with the digital tool was based on a common desire to further develop the investigative social work to secure the children's safety, rather than the digital tool per se. The social workers recognised the potential of the digital tool in their conversations with the children even though such conversations are not the main focus in their investigative work.

There is a lot of potential in using an emotional affordance, since it enables children who are digital natives to express their feelings or other people's reactions from their own perspectives without having to formulate them in words, which in turn facilitates the interaction with the social worker. Another advantage with the digital tool is that the conversations (see Drew & Heritage, 1992) about the child's own created images ranged from seriousness in the conversations to small talk. Talking about the digital images of themselves, others and places also helped to build trust in the client-social worker relationship. The images were helpful for starting up conversations and returning to the subject matter as and when necessary. Thus, the study shows that digitalisation in terms of developing creative tools – and especially this digital tool – can help to improve relation-based social work by providing children with a space in which to develop conversations.

There are also ethical aspects to consider, in that children may not always understand the consequences of disclosing family secrets. It is therefore important for the child to have a parent or another grown-up in attendance in order to feel safe about what is revealed during the conversation. Nordesjö et al. (2022) criticise how users seldom have a say about what they think about digitalised social work, especially as children are not recognised in the articles identified by the configurative literature review. Our digital tool is a different type of digital social work, in that we have created and developed a practice-initiated tool that does not limit the client-worker relationship but rather expands it. In our case, the tool was invented to increase the participation and empowerment of the children.

Another identified theme is the accessibility of the digital tool and the resistance of some of the social workers to testing it in real-life welfare investigations. There are several reasons for this. One is insecurity about using the technology in difficult situations when they are forced to create an alliance with parents to achieve social change for their children. Another reason is that some of the social workers are digital immigrants who do not feel secure about or confident with digitalised media and who need continuous technical support from the researcher in order to use it.

The interviewees talked about the digital tool in relation to its general usefulness in their investigative work. Although conversations with children are important, the main task of the social workers is to investigate the parents' abilities to provide a safe upbringing. Another possible reason for resistance to the tool could be its lack of usefulness in relation to how social workers conduct their investigations in practice, where a lot of time is spent in front of the computer on administrative work rather than relational social work. This assumes that further development of the digital tool is needed. How much time the social workers have at their disposal for conversations also plays an important role in the use of the digital tool. Another difficulty when it comes to dividing time between tasks is that most children have a limited interest in lengthy conversations with adults.

Even though the social workers have identified the advantages with the digital tool in interactions with children, they are prevented from using the tool to its full extent due to the focus being on the parents' abilities in child investigations, the time aspect of each case and the administrative burden involved in the investigations (cf. Gillingham, 2018; Matscheck & Berg Eklundh, 2015). Child welfare can also be divided, which means that if an intervention is offered it will probably be delivered by another social service team, and in that sense could lose the focus on the identified problem (Heimer et al., 2018).

Based on the study's findings, it is fair to say that the organisation's requirements and social workers' working conditions are major obstacles, in that much of the work is done solo and there is a lack of mutual commonality about how investigative work is to be conducted. Effective child protection must focus on teamwork if it is to be further developed (Munro, 2020). Child protective work is very challenging to do on your own, because one person's resources are seldom enough to do this kind of work properly. Digital initiatives and relying on a digital system for child protection are also insufficient (Keymolen & Broeders, 2013).

Children's participation in welfare investigations is important because they are the main actors in the concerns that are raised. Children can mediate their situations if given the chance to speak about or draw family and school situations, internet activities, and so on. Children are asked to contribute to the welfare investigations and our digital tool gives them the possibility to share and develop their narratives about their everyday lives.

However, in terms of developing the digital tool, when receiving questions about the possibility of continuing to use the tool when the research project ended, we experienced a willingness on the part of the social workers to learn more. Major improvements that are in line with the digitalisation development require changes to the law of procurement that limits Swedish municipalities in the storage of their own data. The need for the development of sustainable digital systems and data storage in a secure way in the social services has also been identified in previous research (Devlieghere & Roose, 2019; Svensson & Larsson, 2017).

Limitations and strengths

One of the challenges in practice-based research is that it involves engagement in everyday practice, albeit with some element of distance. Engagement involves talking with and getting to know the people who want to contribute to the research, as well as with those who resent a research-based presence. Against this background, the interactionist perspective (Goffman, 1961; 1963) was useful in the research process, especially as our practice-based research is about communicating, developing, testing and evaluating a digital tool with the concerned parties. It is important to underline that the tool was practice-initiated and developed together with researchers in several planned steps. The researchers had to adapt to both practice and the situation in society; a process that is not always linear (see Table 1).

Our research did not directly include a co-creation of the digital tool in every stage of the process, although the social workers, pupils and social work students did help us to identify the limitations of the created tool. Practice-based research also includes getting to know each other's working methods, sharing a horizon of understanding and creating knowledge together. The social workers contributed time and engagement, their ideas about what kinds of affordances the digital tool needed, the learning aspects and how to make use of the tool. This was done by engaging in conversations and discussions about the development and feasibility of the digital tool with the researchers.

Conclusion

Finally, we suggest that welfare technology can help to develop social work by using digital tools that enable social workers to improve their conversations with children. Developing well adapted digital resources in social work also involves establishing a close connection and regular meetings with social work and computer science researchers. However, the overall question of safe data storage for the social services still needs to be solved in order to fully meet the digital age, which is already here to stay.

This study includes the duality of the empirical idea and practical testing and contributes a theoretical abstraction that can be transferred to the existing knowledge about digitalisation processes in social work. In order to develop child protection work further, more practice-based research will need to be conducted, where researchers are given the opportunity to develop the practice's ideas and identify its obstacles and opportunities, as well as the organisational conditions and development needs.

The social workers in this study were of the opinion that the invented digital tool was useful for accessing children's perspectives and experiences, even though relational work with children was not their main task in child welfare investigations.

Acknowledgements

We are grateful to our coproducing municipality Kungsör, in particular, the social work department and the child investigators team that have participated in the research project and have made our work possible. Thanks to all that have tested out the digital application and special thanks to the children and parents that agreed to participate in research.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The study received funding from FORTE, (dnr 2018-01319) the Swedish Research Council for Health, Working life and Welfare.

Notes on contributors

Gunnel Östlund is associated professor in social work and teacher in the social work educational program at Mälardalen university. She has published research and contributed to scientific knowledge in practice-based areas relevant for social work such as children and young people's wellbeing in educational settings, social care and aging, disability and rehabilitation related to work life and everyday life.

Philip Rautell Lindstedt is a research engineer and has apart from present research developed different interactive digital applications in both Swedish and European research projects. The DIG Child application has been developed by Philip and is now also used in primary school giving children the possibility to leave 'exit tickets' from learning experiences in classroom and school situations without words.

Baran Cürüklü is senior researcher in computer science. He has contributed with digitalization expertise in present project. He has been part of a number of European research projects focusing on developing pedagogical ICT-tools for children and young people in the fields of computer science and robotics; as well as other project in which humans and robotic systems interact to solve complex problems, for example in environmental monitoring and precision agricultural.

Helena Blomberg is an associate professor in sociology at the social work department, and the head of doctoral education in the school of health and social welfare research, Mälardalen university. Blomberg's research interests include identity constructions, interactions, social media and media. She has published internationally in the fields of discourse and narrative analysis.

References

- Blomberg, H., Östlund, G., Lindstedt, P. R., & Cürüklü, B. (2022). Children helping to co-construct a digital tool that is designed to increase children's participation in child welfare investigations in Sweden. *Qualitative Social Work*, 21(2), 367–392. <https://doi.org/10.1177/1473325021990864>
- Blomberg, H., & Stier, J. (2016). Att vara kommunikativt låst – Professionellas berättande om (vanskliga) vårdrelationer [Trapped in communication – Professionals' testimonies about communicative breakdowns in healthcare worker–patient interactions]. *Socialvetenskaplig tidskrift*, 23(1), s. 59–76. <https://doi.org/10.3384/SVT.2016.23.1.2335>
- Bolin, A., & Sorbring, E. (2017). The self-referral affordances of school-based social work support: A case study. *European Journal of Social Work*, 20(6), 869–881. <https://doi.org/10.1080/13691457.2016.1278521>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bronfenbrenner, U. (1979). *The ecology of human development. Experiments by nature and design*. Harvard University Press.
- Collins-Camargo, C., Strolin, J., & Akin, B. (2019). Use of technology to facilitate practice improvement in trauma-informed child welfare systems. *Child Welfare*, 97(3), 85–108. <https://www.proquest.com/scholarlyjournals/use-technology-facilitate-practiceimprovement/docview/2308151657/se-2?accountid=12249>
- Devlieghere, J., & Roose, R. (2019). Documenting practices in human service organisations through information systems: When the quest for visibility ends in darkness. *Social Inclusion*, 7(1), 207. <https://doi.org/10.17645/si.v7i1.1833>
- Drew, P., & Heritage, J. (1992). *Talk at work. Interaction in institutional settings*. Cambridge University Press.
- Dubé, A. K., & McEwans, R. N. (2017). Abilities and affordances: Factors influencing successful child-tablet communication. *Educational Technology Research and Development*, 65(4), 889–908. <https://doi.org/10.1007/s11423-016-9493-y>
- Gibbson, J. J. (1977). *The theory of affordances*. Hilldale.
- Gillingham, P. (2018). Decision-making about the adoption of information technology in social welfare agencies: Some key considerations. *European Journal of Social Work*, 21(4), 521–529. <https://doi.org/10.1080/13691457.2017.1297773>
- Goffman, E. (1961). *Encounters. Two studies in the sociology of interactions by Erving Goffman*. Bobbs-Merrill.
- Goffman, E. (1963). *Behavior in public places. Notes in the social organizations of gatherings*. The Free Press.
- Graham, D. R. (1992). Incremental development and delivery for large software systems. In *IEE colloquium on software prototyping and evolutionary development*. IET. November: 2-1.
- Heimer, M., Näsman, E., & Palme, J. (2018). Vulnerable children's rights to participation, protection, and provision: The process of defining the problem in Swedish child and family welfare. *Child & Family Social Work*, 23(2), 316–323. <https://doi.org/10.1111/cfs.12424>
- Hofstede, G., van Nijmegen, C., & Suurmond, J. (2001). Communication strategies of family supervisors and clients in organizing participation. *European Journal of Social Work*, 4(2), 131–142. <https://doi.org/10.1080/14052863>
- Juhlia, K., & Abrams, L. S. (2011). Special issue editorial: Constructing identities in social work settings. *Qualitative Social Work*, 10(3), 277–292. <https://doi.org/10.1177/1473325011409480>
- Keymolen, E., & Broeders, D. (2013). Innocence lost: Care and control in Dutch Digital Youth Care. *British Journal of Social Work*, 43(1), 41–63. <https://doi.org/10.1093/bjsw/bcr169>

- Klemsdal, L., & Clegg, S. (2022). Defining the work situation in organization theory: bringing Goffman back in. *Culture and Organization*, 28(6), 471–484. <https://doi.org/10.1080/14759551.2022.2090563>
- Križ, K., & Skivenes, M. (2010). We have very different positions on some issues': how child welfare workers in Norway and England bridge cultural differences when communicating with ethnic minority families. *European Journal of Social Work*, 13(1), 3–18. <https://doi.org/10.1080/13691450903135626>
- Kvakic, M., & Wærdahl, R. (2022). Trust and power in the space between visibility and invisibility. Exploring digital and social media practices in Norwegian Child Welfare Services. *European Journal of Social Work*, <https://doi.org/10.1080/13691457.2022.2099350>
- Matscheck, D., & Berg Eklundh, L. (2015). Does BBIC make a difference? Structured assessment of child protection and support. *Nordic Social Work Research*, 5(3), 193–211. <https://doi.org/10.1080/2156857X.2014.986749>
- Mitchell, C., Chege, F., Maina, L., & Rothman, M. (2016). Beyond engagement in working with children in eight Nairobi slums to address safety, security, and housing: Digital tools for policy and community dialogue. *Global Public Health*, 11(5-6), 651–665. <https://doi.org/10.1080/17441692.2016.1165720>
- Munro, E. (2020). *Effective child protection* (3rd ed.). Los Angeles.
- National Aeronautics and Space Administration. (2020). *NASA TLX Task load index*. <https://humansystems.arc.nasa.gov/groups/TLX/>
- National Board of Health and welfare, (NBW) report 2021-5-7384. (2021). *E-hälsa och välfärdsteknik i kommunerna 2021. Uppföljning av den digitala utvecklingen i socialtjänsten och den kommunala hälso- och sjukvården* [E-health and welfare technology in the municipalities 2021. Following up the development of digital development in social care and the municipal health care]. Published: www.socialstyrelsen.se, May 2021.
- Nordesjö, K., Scaramuzzino, G., & Ulmestig, R. (2022). The social worker-client relationship in the digital era: A configurative literature review. *European Journal of Social Work*, 25(2), 303–315. <https://doi.org/10.1080/13691457.2021.1964445>
- Silverman, D. (2000). *Interpreting qualitative data, methods for analysing talk, text and interaction*. Sage Publications Ltd.
- Svensson, L., & Larsson, S. (2017). *Digitalisering och socialt arbete - en kunskapsöversikt* [Digitalisation and social work – a literature review] (5th ed.). LUii reports 3(5). Lunds universitets internetinstitut (LUii).
- Taylor, A. (2017). Social work and digitalisation: Bridging the knowledge gaps. *Social Work Education*, 36(8), 869–879. <https://doi.org/10.1080/02615479.2017.1361924>
- Thomas, W. I. (1951). *Social behavior and personality*. Russell Sage Foundation.
- Tregeagle, S., & Darcy, M. (2007). Child Welfare and Information and Communication Technology: Today's challenge. *British Journal of Social Work*, 38(8), 1481–1498. <https://doi.org/10.1093/bjsw/bcm048>
- Trischler, J., & Westman Trischler, J. (2022). Design for experience - A public service design approach in the age of digitalization. *Public Management Review*, 24(8), 1251–1270. <https://doi.org/10.1080/14719037.2021.1899272>
- Verschuere, B., Brandsen, T., & Pestoff, V. (2012). Co-production: The state of the art in research and the future agenda. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 23(4), 1083–1101. <https://doi.org/10.1007/s11266-012-9307-8>