"I DON'T KNOW IF I CAN SHARE THIS." AGENCY AND SOCIOMATERIALITY IN DIGITAL TEXT SHARING OF BUSINESS COMMUNICATION

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ABSTRACT

In modern business organizations, digital practices are enacted daily, often when sharing texts, which is crucial for knowledge management. How professionals experience digital text sharing is an issue that is often overlooked. In this paper, we focus on a relatively new aspect of business digital literacy: the literacy practice of digital text sharing in workplaces. Our analysis was conducted on ethnographic data from business organizations. The results show that sociomaterial aspects are enacted by professionals by discussing 1) the protection of borders of their own and other organizations, and 2) the status and digital location of texts. The analysis highlights two means of expressing agency that indicate conflicting norms: joking and showing strong emotions. The study places the hitherto backgrounded literacy practice of digital text sharing in workplaces in the foreground, proposes methods for studying this phenomenon, and highlights issues concerning digital text sharing that should be addressed by organizations.

Keywords: professional communication; digital literacy; agency.

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1   INTRODUCTION

Modern business organizations rely heavily on knowledge management in digital media (Anders, 2016), as well as on information exchange through digital tools (Sharples, 2012; Uysal, 2016). On a daily basis, employees use numerous digital tools to share texts in an effort to keep processes running smoothly, to facilitate knowledge management, to maintain social relations (Karlsson, 2009; Cardon et al., 2019) and as part of their writing processes (Leijten et al., 2014). Different problems with digital text sharing may occur when changing digital tools, such as IT security flaws and obstacles. The implementation of and changes to IT systems can also challenge social roles and norms within and between organizations, for instance, when staff members have varying levels of digital literacy, or they have different degrees of motivation for adjusting to changes (Farrell, 2009; Amare, 2017). Conflicts between designers of digital systems and users can be observed in, for instance, divergent goals and norms (McCarthy et al., 2011).

Changes and conflicts in relation to these is a recurrent theme in *organizational studies* (e.g. Alas, 2007; Alvesson & Sveningsson, 2016), where conflicts and power relations have occasionally been conceptualized in terms of *resistance* (Corley & Gioia, 2004; Lamm & Gordon, 2010; Thomas & Hardy, 2011) to models and systems imposed by management (see also Ogbonna & Wilkinson, 2003). In recent years, power relations and organizational changes have been covered by theories on *sociomateriality* (Orlikowski, 2010; Moura & Bispo, 2020; Våland & Georg, 2014), some of the sociomaterial processes studied being technological or digital (all work processes in modern society can be seen as digital to some degree, as Orlikowski & Scott [2016] state). Although this is a growing field of interest, the research gaps concerning digital transformation of organizations include digital competencies, organizational changes, new digital business models and inter-organizational perspectives, as Jedynak et al. (2021:642) observe in a recent literature review of organizational studies.

Within the area of *communication and linguistic research*, where this study is positioned, issues of information exchange and other uses of digital tools have been studied with regard to IT professions (Eklund et al., 2010) with a specific tool (McCarthy et al., 2011) and/or within one distinct organization (Turnage & Goodboy, 2016). However, modern work life often has a much greater complexity than such scenarios account for, and it is relevant to ask how digital text sharing functions for users who perform core activities, handle several different digital tools in changing organizations, or cross organizational boundaries. Digital text sharing (defined further below) – including everyday practices such as putting texts into IT systems or sharing documents in Skype meetings – has often been disregarded as something "in between" the important practices of writing

a text collaboratively or building shared knowledge, when it is has been regarded at all. In the literature, the ways in which texts are shared have often been in the background, with writing and contextual issues occupying the foreground (e.g. Bremner, 2006; Smith & Turner, 2014; see also Jakobs & Perrin, 2014). Alternatively, the actual digital tools used in text sharing have been foregrounded (McCarthy et al., 2011; Amare, 2017). In this study we wish to bring the activities of digital text sharing itself into the foreground.

Digital text sharing in workplace settings is related to literacy, which in turn is related to social issues such as management, control and agency, e.g., who has the right to work with which category of documents, who is entitled to sign certain documents, and who has the right to read and share various bits of information (cf. Braun et al., 2019). In other words, literacy is related to social practices, things people do in somewhat typified manners within more or less delimited roles (Barton et al., 2000). When writing and text are involved in a social practice, it can be referred to as a *literacy practice* (Barton et al., 2000). Until now, studies have typically focused on literacy practices such as reading, writing and speaking about texts (Heath, 1983; Lillis, 2001), and literacy practices for everyday tasks such as documentation and planning (Karlsson, 2009). However, in the digital era, literacy practices such as searching for and sharing texts are also highly frequent practices and call for further research. Moreover, conceptualization of literacies has developed significantly from their being regarded as discrete and transferable skills to being viewed as intertwined with social issues such as norms, agency and roles, as well as material aspects such as place (Overmeyer & Carlson, 2019) and digital design (Lankshear & Knobel, 2006).

Digital literacy is often described as the ability to use digital media in everyday, goal-directed, activities in work, school, or leisure real-life situations (Martin, 2006; Jones & Hafner, 2012; Barton & Lee, 2016). Such situations often entail a high degree of complexity when it comes to social roles and agencies, as well as different material artefacts, and different places, i.e., *sociomaterial* aspects (Wilber, 2008; Kress, 2010; Björkvall & Karlsson, 2011; Bhatt & de Roock, 2013; Jonsson & Blåsjö, 2020). This line of research is often in agreement that human actions and artefacts (e.g. digital tools and physical environment) are intimately intertwined with each other and, thus, need to be studied together, in the human practices of using and inhabiting materiality. Related to this, the open question of how *agency* is balanced between humans and artefacts (Hamilton, 2001; Latour, 2005) is highly relevant, as well as the authority and agency of individuals and groups in relation to digital tools (Amare, 2017; Cardon et al., 2019). The concepts of digital literacy, sociomateriality and agency will be developed in the following section.

This study focuses on digital text sharing, which is defined as acts of exchanging, submitting, searching or showing written information, which can be verbal or numeral, by means of a digital tool; the concept focuses on the actions and strategies of sharing as such, in a more narrow sense than the broader concept of digital communication. The study is based on ethnographic data constructed from business organizations in Sweden in the research project Professional Communication and Digital Media: Complexity, Mobility and Multilingualism in the Global Workplace. During the course of this project, we observed digital text sharing as a highly relevant concern for participants such as project managers and executives in their daily work. They often spoke of where to find the latest version of a document, with whom they should share a text, and to what extent they were allowed to share information. Generally, these concerns were related to material aspects, such as the uses of various digital tools, and to social aspects, such as who had access to certain documents. Based on these tentative observations, we focused on the issue of digital text sharing in one of several sub-studies from the project (see also Blåsjö & Jonsson 2021).

The aim of this study is to contribute to knowledge about digital literacy in modern business communication by analyzing and discussing aspects of agency (Lillis, 2013; Scollon, 2005; Sharp, 2019) and socio-materiality (Scollon & Scollon, 2003; Orlikowski, 2010; Hamilton, 2016). To this end, we explore the following research questions:

1. How and to what extent do professionals speak about digital text sharing?
2. How are sociomaterial aspects in modern business settings enacted in everyday literacy practices of digital text sharing?
3. How do professionals express experienced degrees of agency in relation to digital text sharing?

In a recent discussion on business knowledge sharing, Widén (2019) points to three dimensions: cultural, social, and tacit. For future research, she claims: "An understanding of the context is crucial: how the organizational information culture and social interactions support knowledge processes through values, attitudes, and norms" (132). Similarly, McCarthy et al. (2011, 392) point to the effects of tensions between norms and assumptions of a workplace, on one hand, and the nature of a CMS (Computer Mediated System) on the other hand. Although not mentioning digital media explicitly, Rogers et al. (2020) direct attention to the role of text genres that direct and report work activities in knowledge processes and their social agendas. Rogers et al. (2020, 147) conclude by pointing to the need for future

research to study how an organization's tools, including common values, influence knowledge work. Dimensions such as values, norms and assumptions are, however, quite abstract, and difficult to study. In this article, we study knowledge sharing as concrete practices observed through everyday interaction in business settings (cf. Tusting, 2015, Alvesson & Sveningsson, 2015). Thus, one contribution is to highlight methods of studying business communication 'on the floor.' More importantly, we bring literacy practices of digital text sharing itself into the foreground, exploring issues expressed as critical by business professionals themselves.

2 LITERATURE

In this section, we summarize literature on, firstly, the concept of digital literacy, which is the focus of the study, and secondly, research and theoretical concepts related to the research questions, respectively. Theoretical concepts are drawn from two interrelated fields that take sociomateriality into account: New Literacy Studies (Barton et al., 2005; Lankshear & Knobel, 2006) and Mediated Discourse Analysis (Scollon & Scollon, 2003; Scollon & Scollon, 2004; Norris & Jones, 2005).

2.1 Digital literacy

The notion that literacy entails more than reading and writing has been acknowledged in the sense that literacy is connected to wider social contexts and activities (Barton, 2007; Brandt, 2005). Today, these activities are integrated with different digital devices and functions, as for instance smartphones, document sharing systems such as Box and Sharepoint, and the option of sharing a document on a screen e.g., in a virtual meeting.

In problematizing and developing the concept of *digital literacy*, researchers are more or less in agreement that digital literacy 1) is more than just being able to use a computer (Jones & Hafner, 2012); 2) consists of several litera*cies* (rather than just one literacy) connected to different social activities (Knutsson et al., 2012); 3) is intertwined or layered with other literacies such as reading, writing, information literacy and visual literacy (cf. Nell et al., 2018); and 4) often comprises several levels, including one of self-reflection and agency to change digital practices (Martin, 2006; Knutsson et al., 2012; Jones & Hafner, 2012; Hsieh & Friederici, 2013).

The type of conceptualization having several levels mentioned above has been disseminated through the EU project DigEuLit (Martin, 2006) in order to reach employers, among others. The DigEuLit model includes a layer described as *digital transformation*, which includes self-reflection and creativity, and is aimed to "stimulate significant change within the professional or knowledge domain" (Martin, 2006:156). Such change can

take place at the individual, group or organizational level. Building partly on Martin (2006), Knutsson et al. (2012) has suggested an equivalent concept for this type of digital literacy: a *reflexive digital literacy* that entails the competencies and roles required to challenge given digital practices (cf. Jones & Hafner, 2012:13). The transformational or reflexive layer of digital literacy is also highlighted within New Literacy Studies (Lankshear & Knobel, 2006; Barton & Lee, 2013). Reflexive digital literacy includes users' resistance towards roles and assumptions related to digital practices.[1]

2.2 RQ 1: How and to what extent do professionals speak about digital text sharing?

As mentioned above, previous research has not highlighted digital text sharing per se, but has instead dealt with digital text sharing as something in between other practices such as reading and writing. From the field of information literacy, however, there are few studies that focus on how professionals speak about digital text sharing, and in the relevant studies employees report on searching for information as being strongly related to social issues and technology (Hepworth & Smith, 2008; Lloyd, 2010; Tuominen et al., 2005). Moreover, research points to the risk for employers to assume a general information literacy to be transferred from education to work life (Abram, 2013; Lloyd, 2010). Viewing information literacy as "a constellation of social, physical and textual practices" rather than skills (p. 90), Lloyd (2010) observes "an emphasis on reflexivity (reflection on action in practice)" (p. 103) among staff members.

To address the first research question, we need theoretical concepts to capture phenomena such as writing, reading and text sharing. These types of action are here regarded as recurrent *literacy practices*, i.e., things people do with texts and writing in more or less typified manners. Literacy practices are defined by New Literacy Studies as "the general cultural ways of utilizing written language which people draw upon in their lives" (Barton et al., 2000:7). This indicates that literacy practices have cultural and social aspects, related to agency, power and control (Tusting, 2005). Examples of literacy practices are writing emails (Dawley & Anthony, 2003; Braun et al., 2019), conducting meetings based on written agendas (Svennevig, 2012), and negotiating contracts (Blåsjö, 2013) in somehow typified manners. Literacy practices are enacted by people within their social networks (Lillis, 2013) by using material tools such as digital text

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[1] The different layers of digital literacies are not necessarily developmental stages, but rather parallel domains that actors can show signs of in different situations (Martin, 2006; Knutsson et al., 2012).

sharing systems, whiteboards and meeting rooms (Björkvall & Karlsson, 2011), which leads us to our next research question.

2.3 RQ 2: How are sociomaterial aspects in modern business settings enacted in everyday literacy practices of digital text sharing?

Social issues of workplace communication have been thoroughly investigated; in relation to literacy, research has shown, for instance, the role of individuals as being shaped partly by their writing, how workplace writing is related to 'business culture' and type of industry, and how management can be practiced through new writing demands (Bremner, 2006; Gunnarsson, 2009, Tusting, 2015). Results from research on material issues, often integrated with social ones, show how employees make use of different materialities in processes (Björkvall & Karlsson, 2011) and how digital tools designed for enhancing social relationships can also bring negative effects (Verheyden & Cardon, 2018). In a commentary on material-oriented research, Andrews (2017) points to several important aspects of place and space in business communication, but does not cover digital places or areas, only physical. None of these studies highlights digital text sharing as such, but in some cases digital text sharing can be seen as something 'in between' other activities, pointing to the connections between social and material/technological aspects (Smart, 2006; McCarthy et al, 2011; Nikolaidou & Karlsson, 2012; Smith & Turner, 2014).

For analyzing the issues discussed above and focused on in the second research question, we need concepts that describe social and material aspects. A sociomaterial view (Latour, 2005, Orlikowski, 2010; cf. Clarke, 2002) on literacy and digital literacy implies that discursive practices such as reading and writing are inseparably intertwined with social issues such as people's identity in groups.[2] In such negotiations, material aspects are also relevant, such as technical access to digital media (Farrell, 2009). The types of materiality previously studied and relevant to our study are physical and digital places (Björkvall & Karlsson, 2011; Farrell, 2009; Andrews, 2017), artefacts such as digital devices and software (Smart, 2006; Orlikowski, 2010) and linguistic means such as written text (Scollon & Scollon, 2003; Björkvall & Karlsson, 2011).

Social relations can be described as *interaction orders* (Goffman, 1983), i.e., "social arrangements by which we form relationships in social interactions" (Scollon & Scollon, 2004:13). Interaction orders can be relatively stable, such as a manager-employee relation, but the concept is mostly used for temporary aspects; in a meeting, for instance, the interaction order can

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[2] As Moura and Bispo (2020) state, sociomateriality is not *one* theory.

switch when a person shows more knowledge than others, thus taking on a superior role. Concerning digital literacy practices, interaction orders can influence, for instance, which person in a work group is responsible for digital areas and thereby controls who has access to documents. Each member of a work group can be said to have a different *historical body* (Scollon & Scollon, 2004), i.e., individual knowledge, competencies, habits, literacy practices, etc. that people carry with them. A person's historical body can be transformed, for instance, by getting an account in a specific digital sharing system of the workplace (Blåsjö et al., 2019). The digital system in itself, and other artefacts, can be conceptualized as *discourses in place* (Scollon & Scollon, 2004), i.e., material and linguistic entities used or made relevant in certain situations. These three concepts – interaction order, historical body and discourses in place – form a coherent theoretical framework for studying how social, individual and material aspects are always intertwined, according to Mediated Discourse Analysis, from where these concepts originated.

More specifically, sociomaterial networks of activity concerning writing have been covered in a framework developed by Lillis and Curry (2010; see also Lillis, 2013). The framework includes the roles of gatekeepers, suppliers, mediators and pivots of text, among others. *Pivot* here refers to "Key people and resources in any specific writing activity" (Lillis, 2013:112). Pivotal nodes are especially central in a given network, be it a specific person with great influence or material resources particularly important to an activity. As such, the concept of pivot can capture both social and material aspects. Resources of different types are also most important for the range of agency that each individual has in a workplace setting. A person who does not have access to specific digital resources is restricted in her/his array of possible actions. This leads us to the third research question.

2.4 RQ 3: How do professionals express experienced degrees of agency in relation to digital text sharing?

Agency generally refers to the possibilities people have of "acting independently and making one's own choices" (Irwin, 2011:100). Personal agency is often seen in relation to overarching social structures and hegemonic control (cf. Giddens, 1984; Deumert, 2014; Sharp, 2019). Concerning literacy, individuals may experience a sense of agency when they have possibilities to know about texts, understand texts, produce texts and get their texts taken up by others, combined with a sense of individual choice (cf. Lillis, 2001). In a situation of low agency, people may feel excluded from reading and writing certain text genres, or enforced to read and write, and respond with an attitude of non-compliance, opposition or

resistance towards the controlling part (Croucher et al., 2019; Thelander & Åkerström, 2019; cf. Thomas & Hardy, 2011; Corely & Gioia 2004). Compliance or non-compliance is always performed in relation to norms; in a workplace, this may concern issues such as who is supposed to invite whom to meetings (Blåsjö et al., 2019) or whether it is acceptable to write instant messages to a colleague who is marked as unavailable at the moment (Darics, 2014). The relation between management and staff, and hence the scope of agency, is influenced by texts that employees are obliged to use (Nikolaidou & Karlsson, 2012; Ledin & Machin, 2016) and by digital tools making it more or less possible for employees to make their voices heard at management level (Cardon et al., 2019).

To address the third research question, we need concepts for capturing issues related to agency. The notion that employees express alternative voices in relation to their management we refer to as *resistance* (Wertsch, 1998; Scollon, 2001:106). Concerning digital text sharing, professionals can enact resisting attitudes and strategies that do not comply to certain norms for what is acceptable behavior in their work setting. Norms can be described as a dialogue between *centripetal* and *centrifugal* forces (Bakhtin, 1981; Lillis, 2013:133-134). Centripetal forces pull persons' utterings and actions towards a common norm, while centrifugal forces pull them in differing, or non-compliant, directions. Bakhtin (1981:272) stresses that all utterings are performed in relation to centripetal and centrifugal forces simultaneously. If all utterings and actions were made exactly according to the norm, no development could occur. Specific actions are always performed in this field of competing forces, and thus they influence the individual sense of agency.[3]

Much of the literature mentioned above focuses on how people use reading and writing to fulfil their goals and solve problems. In our study, we focus on how professionals, in trying to fulfil goals and solve problems, speak about and act in relation to digital text sharing.

3   DATA AND METHODOLOGY

The data stem from a three-year research project, Professional Communi-cation and Digital Media: Complexity, Mobility and Multilingualism in the Global Workplace, where we collaborated with three private-sector organizations located in Sweden. The methods from linguistic ethnography that were used in the project include observations of meetings and work-related activities, shadowing of key participants, interviews with

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[3] Bakhtin (1981) wrote about language and literature; however, as stated by Morson and Emerson (1990:130–171) and Holquist (2002), his work on dialogue is often interpreted as also being a philosophy or epistemology on general human circumstances.

professionals and collection of texts. The organizations and the data included in this study are more specifically described below.

During the project, our research interest in digital media guided us to a recurring impression that the participants often dealt with sharing and accessing texts through digital tools. We therefore decided to examine this issue more closely. First, we wished to investigate if it was possible to confirm this impression as being a frequently occurring theme and, if so, to locate interesting parts of data to analyze more in detail. To this end, we searched for instances of such words as *share*, *access*, *document* and *area*, in both English and Swedish, in all of the transcribed data (for a full list of search strings, see Appendix 1). If identified as related to digital practices, the instances were coded as *digital text sharing* using the analysis tool NVivo. Figure 1 displays an example of the coding procedure.

Search string	First match	Coded / not coded
"Find"	`so there are two prices that is possible to find on the web`	Coded (related to digital practices)
	`then we can find ways to collaborate`	Not coded (not related to digital practices)

Figure 1. Example of coding procedure

The list of search strings was gradually developed through close reading of the data. After the search, done by one of the authors (Johansson), the coding was checked by another author (Blåsjö). Figure 2 shows the types and amounts of coded data.

A rough quantification was performed in NVivo to answer the research question about the extent to which digital text sharing was made relevant by the participants. Instances of data with a locally higher density of coding were examined more closely, and two instances out of these were chosen for detailed analysis regarding the other research questions; for this analysis, we applied the theoretical concepts described in the Literature section. The two instances were chosen based on 1) density of coding, 2) situations of changing organization or crossing organizational boundaries (which were identified as being part of a research gap in the Introduction). The instances stem from two different organizations and consist of meetings, one video recorded and transcribed, and the other documented by field notes and controlled by participant feedback.

Type of data	Amount of data items
Shadowing	10
Transcriptions	5
Fieldnotes	5
Meetings	19
Recorded	12
Fieldnotes	7
Interviews	24
Recorded	24
Fieldnotes	-
Texts	17
Total data items	70

Figure 2. Data searched for digital text sharing

The project was performed in close collaboration with the organizations, and the project was approved by the regional ethics committee (ID 2017/954-31/5). All organizational and personal names were replaced. The interpretations and results were communicated with the organizations. Moreover, to increase confidentiality, we have excluded information about the lines of business.

3.1 Research sites

Both organizations, here called VBF and H&H, are part of the private sector and have offices in the Stockholm area. The details of the analyzed data are described in the Results section, but here we provide some general information about the organizations.

VBF is a Swedish trade association for a certain branch of business. The association has member organizations that are active in Sweden. It works with general national as well as international issues related to that specific area of business and deals with government actors, both in terms of commercial interests and the interests of customers. The local administrator is Harald, who holds a PhD in natural sciences and is employed part time by one of the member organizations. The representatives of the member organizations have positions mostly in support functions, such as Public Affairs or Communication and Regulatory Affairs, of their organizations.

H&H is a Swedish company with many international contacts and collaborative projects with other organizations. It is a knowledge-dependent business, where project applications and reports on finished projects are central texts. At the time of our data construction, the firm was in the midst of a major reorganization, the second reorganization in four years.

The participants in our data construction generally held positions such as project managers and other managers.

4   RESULTS

The results are presented, first, according to the quantitative findings answering the research question regarding the extent of digital text sharing in the total project data. Thereafter, the other research questions are covered in a section with qualitative findings from the two empirical cases of meeting observations.

4.1   Quantitative findings

Digital text sharing was used as a thematic code throughout the project data, and we can claim confidently that this was quite a frequent issue for the participants: 50 out of 70 data items described in Figure 2 include this coding. Moreover, 9% of the coding for the data on average was for digital text sharing. This volume, i.e., *the density of coding*, ranged from under 1% to over 30%. The data with over 30% density included a virtual meeting, a meeting on how to update lists on a website, and an observation of work at the computer, including an email. The data with 20-29% density included more computer work and emails, and observations of two days of work in a specific work unit, as well as a meeting at VBF (analyzed below in section "We can take a shot"). The data with 10-19% density included, e.g., more observations of computer work, a virtual meeting on writing an agreement, and a virtual meeting on internal information at H&H (analyzed below in the section "What am I supposed to do when I've written an application"). These results also indicate that digital text sharing is integrated with many everyday activities in modern organizations.

4.2   Qualitative findings

Here we first analyze the observed meeting at VBF, and then part of a meeting at H&H. Each empirical case is first described in the order of which it unfolds and is then analyzed using theoretical concepts.

4.2.1   *"We can take a shot"*

The first empirical case stems from a meeting of the trade association called VBF, when representatives from different companies met. The meeting took place on a cold winter afternoon in central Stockholm and lasted for three hours. Nine persons participated on-site: Harald (responsible for the organization office), three other men and five women, of whom Ruth and Linnea are active in the description below. Three other persons participated via

WebEx, a virtual meeting system: two men – Ragnar, chair of the board, and another person who got disconnected during the meeting – and one woman, Ursula. The on-site participants were seated around a rectangular table in a rather small room with a big screen on one of the walls, which was connected to Harald's computer. The remote participants were not visible on the screen; only texts and images were shown there. All participants were speakers of Swedish; the meeting was performed in Swedish, and most of the documents that were handled were written in English. The researcher (Blåsjö) sat against a wall, taking field notes. Below, field notes have been transformed into running, indented descriptive text.

Field notes 1

> Starting the meeting, Harald, who acts as a chairperson, clicks on a WebEx link in an Outlook meeting invitation to contact the remote participants. He tells the participants that he has not distributed the documents for the meeting by WebEX, but that these are available at a password-protected section of the web site VBF.se.

> About an hour into the meeting, Harald places a page of this protected area of VBF.se onto the screen. There, he opens an Excel document. One of the remote participants, Ragnar, asks 'For us who don't see this, is it the Excel spreadsheet you are showing now?' Harald confirms that it is and starts speaking about the information that is shown. (Edited field notes)

This first specific situation reveals that the remote participants cannot see which documents Harald is showing outside of WebEx. There seems to be no "share screen" function, so Ragnar finds it necessary to ask which document to search for. Thus, the degree of access the participants have is influenced by the location of the documents. After a short break, the meeting continues:

Field notes 2

> Harald shows a Word document on the screen, saying 'I don't know if I can share this so I haven't put it on our community area' (referring to the password-protected area of VBF.se, according to participant feedback). The document comes from a Nordic umbrella organization, and the file name ends with "corrected." The issue of the document involves Swedish state authorities. It is quite clear from the document and from Harald's actions that it is not an official, published document. It is also clear that the participants show great interest in the document, which seems to concern the future of their enterprise. Linnea says, laughing slightly, 'We can take a shot' and picks up her phone. Harald says 'But before you take

a shot …' At least four persons take photos of the screen, and as Harald scrolls to show more of the text they take new photos each time. Linnea asks 'Is this a suggestion?' After about twenty minutes, the following interaction and actions take place:

Harald: Actually, it is damn good you take photos. But it's harder for you, Ragnar and Ursula.

Ragnar: I've already hacked the net. (everybody laughs)

Harald: (switches to Outlook, shown on the screen, writes an email asking if he can share the document, and sends it) If I get a reply from Eskil I can share it with you. (switches to the file system in his computer) I hate it when you see my super rotten document management. (opens a document) This one I can surely send out because they are all in the documentation I've put in the group room. (Edited field notes)

The photographing taking place can be interpreted as being a delicate matter for the participants. Firstly, it is likely that it would not have been mentioned at all if it had been unproblematic, but now it is verbally initiated by Linnea and valued by Harald. Moreover, the jokes are signs that the action is regarded as questionable. After this, Harald writes to ask a colleague if it is appropriate to share the document and also shares another document that he knows he is allowed to share. The excerpt also includes the mention of remote participants not being able to access the document, as well as the status of the document ('Is this a suggestion?'). Here, about twenty minutes of the meeting remain:

Field notes 3

Harald shows parts of the VBF.se, and Ruth says 'Sometimes I find it hard to find my way there.' Harald jokingly points to the screen and says, 'You can look now!' Ruth explains that another reason for difficulties is that she tends to forget her password. When Harald continues to guide the participants through the structure of the area, Ruth says in a sarcastic tone: 'So *there* I can search instead of sending you an email?!' (Edited field notes)

The actual digital area is in focus here, and problems with access to the information within it, are raised in an informal and humorous way. Passwords are mentioned as a concrete tool of digital text sharing, and Harald is identified as a person whom to ask for documents.

To discuss this empirical case in its entirety using the analytical concepts, we can see literacy practices such as showing documents from digital areas, speaking about which texts are relevant and sharable, and

speaking about the location and status of texts. Moreover, photographing a document is a literacy practice that can lead to more people seeing it than just the meeting participants. It is possible that bringing the photos back to their companies is the main reason for taking the photos. Accordingly, what we see in this empirical case may be actions of future text sharing with several persons in different organizations through an action with a digital tool, the smartphone. Digital text sharing is also mentioned in the joke about hacking, and Harald's explicit embarrassment when the others see his file system ('I hate it when you see my super rotten document management,' an experience of unwillingly sharing his documents, expressed quite emotionally and with humor).

The members of the industry organization all have technical access to the web resources; they have passwords and knowledge about the VBF.se. But they do not seem to use the digital area sufficiently often to always remember their password or to know the area's structure very well. Thus, there are several obstacles to digital text sharing. Different persons may use the system more or less often, thus taking up the *discourse in place* of the digital area to a greater extent into their *historical body*, their individually collected knowledge and competencies.

The data also show sociomaterial aspects of the literacy practices in very practical aspects of digital text sharing: the remote participants cannot see everything shown on the screen. What the remote participants can see or not is partly governed by the software, where certain documents can be "screen shared" and others cannot. Thus, materiality influences digital text sharing with the remote participants (see also McNair & Paretti, 2010).

At the end of the description above, the participants make relevant the digital location of documents. To find a certain text is not always easy. They bring up two specific problems – finding the right area and remembering passwords – and one solution – asking the responsible person to send the document. This solution can be interpreted as this person acting as an alternative location of the text, a representative for the actual location, or as almost *being* the location of the text. This observation – that individual human beings can serve as keys or search engines for texts – can be captured by the concept of *pivot* (Lillis, 2013) in combination with the concepts of interaction order, discourses in place and historical body (Scollon & Scollon, 2004): Certain persons request someone else, who has knowledge about and access to the text in their historical body, to share the text. Thus, the 'text sharer' is constructed as a pivot in the interaction order. For the requested action of sharing the text to be performed, the interaction order or social norms must allow for this action. One can compare this with pre-digital ages, when there were more secretaries and office clerks, whose official duties were to perform such tasks. In the digital age, everyone is supposed to handle the lion's share of text management on their own (Tusting &

Barton, 2016), and it could possibly be face-threatening to make such a request of another professional at one's own level, let alone a superior. The example above can be seen as a case of social relations being changed by digital practices (cf. Uysal, 2016), where the potential face-threat can be assumed by the action of joking about asking Harald for texts.

In this scenario, several business organizations meet, and thus somewhat different "cultural ways" (Barton et al., 2000:7) come together. This may be one possible explanation for the literacy practice of taking shots being considered quite delicate. The most predominant factors, though, are probably the status of the text shown (verbally expressed as *suggestion* and *corrected*), and the competitive relation between the companies involved. In some issues, they cooperate, but in others they protect their trade secrets. In the matters discussed in the situation, they interact with Swedish state authorities and a Nordic umbrella organization. A document from the latter is shown in draft version, which means that it is considered sensitive material. The everyday literacy practice of taking shots of texts on a screen is frequently used within specific organizations but can constitute a breach of a norm when used between organizations and/or on texts that have not already been published.

Resistance (Wertsch, 1998; Corely & Gioia 2004) to these circumstances, as well as the breaching of challenging norms, is enacted by the participants in actions such as taking shots, joking about, for instance, "hacking the net," airing problems of not begin able to access digital areas and perhaps regretting others to see one's own file system (a contested border between private and public, cf. Blåsjö et al., 2019).

4.2.2   *"What am I supposed to do when I've written an application"*

In the second empirical case, from H&H, the communication manager Berte chaired a meeting where she informed others how the company under reorganization was working with information issues such as intranet and other digital community tools. In addition to Berte and the researcher, there were five people present at the meeting: Per, head of the unit and subject specialist; Ellida and Johan, senior project managers; Rebecka, financial officer; and Gina, assistant. They were seated at a rectangular table in a room with a big screen on one wall. This was also a virtual meeting with several remote participants. Only Berte's PowerPoint presentation was shown at the screen. Transcripts translated into English are provided below.

At the end of the meeting, Berte asks the participants for comments or questions. A discussion longer than 15 minutes then takes place, with the focus being on the workplace switching digital tools several times recently, that several digital tools are in use parallel to each other, and that employees

find it difficult to know about all the systems, routines and passwords for all these different tools. Digital text sharing is first brought up by Ellida, a senior project manager who often works with reports and project applications ("(.)" stands for a minimal pause):

Transcript 2

```
Ellida    it concerns every every matter what I'm supposed to
          do when I've written an application (.) it changes
          every six months
          […]
          but simply exhausted to keep track of where I'm
          supposed to when I've finished a report (.) who
          should I submit to (.) it to (.) it's not the same
          as last time I wrote a report which was maybe just
          two months ago [hands firmly placed apart on the
          table]
```

Ellida's concern is related to texts that she is supposed to submit to and share with colleagues. The problem is strongly related to time, as she points to the problems induced by the digital tools being repeatedly replaced, and she seems to mark time periods with her hands. Related to this, Ellida expresses a negative feeling, 'exhausted,' regarding the digital practices in her workplace.

After this, one of the remote participants, Johannes, speaks for several minutes about the same issue, supporting Ellida's position. He states the opinion that the core activities of the organization should be in focus and should be supported by the digital tools, not obstructed by them. Within this statement, he uses the Swedish expletive 'fasen' ('damn').

Later, digital text sharing is made relevant by the participants more indirectly when they talk about the difficulty they have in finding information:

Transcript 3

```
Berte     … it's very fragmented (.) where to find the
          information today
Rebecka   … it's hard to find anything …
```

Rebecka and Berte use negative words such as 'fragmented' and 'hard'. Then, the participants also bring up that when new routines of where to share information are introduced, there is not always explicit information about this:

Transcript 4

```
Ellida    but but it's been like this since I started that you
          have routines (.) and they (.) you you (.) launch
          them (.) then when you (.) don't use them any longer
          there is nobody that tells you that
Berte     no
Ellida    but you just have to (.) notice that if I stop doing
          this there is no one who knows (.) I mean if I stop
          reporting my work time then I will bloody well be
          told so [hands outwards, one hand pointing]
Berte     [laughter]
Ellida    that this is the running routine
Berte     [laughter] yes
Ellida    right
Berte     yeah
Rebecka   yeah
```

The negative wordings increase until Ellida's expletive 'bloody well'. Simultaneously, she acts out a small scene of someone blaming a person, while pointing towards a fictitious employee. Continuing this evaluation, several people agree that when it is important for the management that the staff comply to a certain new digital routine, information about them are more clear and strict, such as when a new time report system is introduced:

Transcript 5

```
Ellida    [...] I can keep at it for years after that
Berte     yeah
Ellida    that this routine ceased
Berte     yeah it's because there is no follow-up
Ellida    no
Berte     no
Ellida    exactly
Berte     mm
Ellida    and this concerns everything
```

```
Berte      mm
Johan      except time reports [laughter from several people]
Ellida     except time reports
Berte      yeah
```

Berte and Ellida are both sharing in experiences of performing obsolete tasks for years, due to a lack of information. After that, Johan takes up Ellida's earlier observation about time report systems. They both seem to mean that certain activities, such as time reporting, are more important to management, and thus it puts more effort into getting information on these activities and digital systems through to employees. Other activities involving digital text sharing do not seem to be as relevant to the business management, in the view of Ellida and Johan.

An issue mentioned by Ellida more than once concerns people involved in digital text sharing. This can be seen above when she says she does not know to whom a new report should be sent, as well as later in the meeting:

Transcript 6

```
Ellida   [looks around at everyone in the room] did you see
         that now we're supposed to log in our reports (.) the
         ones we used to send to [name] (.) now we're supposed
         to do it (.) that's the latest [thing] (.) it's like
         [rolls her eyes, head bends forward]
```

The professionals at H&H have recently been instructed to submit texts themselves into a certain system, while earlier this was done by an administrator; the person responsible for the digital text sharing has been changed. Speaking on this matter, Ellida makes individual contact with each of the on-site participants by looking at them one by one, and eventually uses body language to express the fatigue she associates with new digital routines. The actions of rolling her eyes and letting her body fall forward towards the table evoke the image of a person giving up.

After the meeting is formally ended, and the remote participants are logged out, the discussion on site continues for about five minutes. Then, problems with passwords are broached and become the topic of intense discussion. Several of the participants report on how each system requires new passwords after a certain time, that different systems have different rules for the passwords (length, type of tokens) and how they have different strategies for coping (e.g., using the same password in different systems or adding different digits to existing passwords). Eventually, as the

participants start to get up from the table, Rebecka even questions the rationale for passwords, as follows:

Transcript 7

```
Rebecka    … we can keep the computer at the reception (and I
           like) (.) yeah let's leave the rece- computer at the
           reception (xxx) it's just anyone can walk in and (.)
           get into our network [gets up from her chair]
Berte      yeah
Rebecka    (like) what's this load of (x) (.) you have passwords
           and then you can like keep the computers (.) like open
           […] anyone can get in (.) so it's so (.) it's so
           clumsy
           [walks around the table]
           anyone can come in and do whatever in our networks
           [stands at the short side of the table waving her arms
           repeatedly]
```

From our ethnographic data from this workplace, we know that the entrance to the office is locked, so it is not clear what Rebecka means here. In an email conversation after this observation, she explained that behind the reception desk there was a password-protected computer that was sometimes left unattended, and that there were often seminars with external people mingling in the reception area. During these instances, it would have been possible for unauthorized persons to access the computer and, thus, the company network. Regardless of how likely or unlikely this might have been, the relevant aspect for the analysis is the expression of distrust in the security system of the business in relation to demands on staff to be orderly with their own password practices.

Applying the theoretical concepts to this empirical case, at first, we can see the participants speaking about *literacy practices* such as submitting reports and project applications, searching for information and reports, reporting work time, and writing passwords. All of these are performed through digital tools in this workplace (confirmed by participant feedback). In this knowledge-dependent business, sharing project applications and reports on finished projects is a critical action in the core activity.

Furthermore, we can identify *resistance*, as the interaction is focused on questioning the handling of digital systems in the company. Generally, this may indicate the amount of time and energy that the participants put into the literacy practices of digital text sharing. These literacy practices must be quite predominant to motivate their agitated discussions; this is

confirmed by other ethnographic data from the company (see Quantitative findings above) and participant feedback to our analysis. Moreover, it is interesting to see how this resistance is enacted. As Hamilton (2016:8) points out, artefacts shape "specific social interactions in ways which tangle people in the very processes they also resist." The employees at H&H seem quite entangled with the imposed artefacts of digital systems and the processes of changed systems to share and access required texts. Their experience of entanglement is strongly expressed, both verbally and physically.

To resist and question the digital practices of one's workplace may be regarded as signs of a *reflexive level of digital literacy* (Knutsson et al., 2012). The imposed digital practices are challenged in the case from H&H, where the participants also show awareness of the relationship between digital practices and issues of other types of communication and of management. Generally, digital tools are applied to facilitate work processes, to get things done and sometimes to implement new structures – that is, business management. When new tools or routines are introduced, there is a need for information surrounding the introduction. An experienced lack of such supporting information is one of the problems that the participants in the studied meeting present. A related issue of management is the mentioned tendency that when something is more important for the management, such as the time report system, information seems to be more forthcoming.

In this empirical case, *sociomaterial* aspects related to digital practices are visible in several ways. Social issues are those of management and agency, and the experiences and emotions (cf. Stein et al., 2015; Evans & Steptoe-Warren, 2018) of the participants in relation to this. Material aspects are the ones of the actual digital location of different texts and of the physical place of the computer in the entrance. The password-protected access to different systems shows a clear intersection between social and material aspects: one's role in the organization gives rights of access to certain digital text sharing systems, materially formed in a password.

This characteristic of passwords can be described with the concepts from Mediated Discourse Analysis. The interaction order gives a person a specific role in relation to the discourses in place of digital systems, and the actual password is a discourse in place supposed to be 'ingrained' in the individual historical body, here the memory. Also the issue of the rationale of passwords has a clear sociomaterial aspect. A computer is located at the entrance of the company (material discourses in place), normally used by a receptionist who enables physical access to the premises (the action of one person assigning someone a specific role in the interaction order). In situations where the receptionist must leave the entrance, there is a risk that unauthorized persons could procure access. Here, the protection of the company at the material border of the premises and the digital border of

the IT systems can be said to overlap, and simultaneously be a social issue of different roles of insider/outsider. Even if this would not happen, Rebecka's concern is relevant to the observation of a type of resistance against routines for digital text sharing.

An interpretation of this empirical case is that the participants in the meeting experience that their professional *agency* is challenged by how digital systems are used and changed at their workplace. Reports and project applications are important material tools in Ellida's work, and if she does not know where to share them in the digital systems of the business, her professional role and status may be threatened. It may be as if she is putting them into a 'black hole' and consequently no one in the company reads them or takes them up (cf. Lillis, 2001). Additionally, if clarity indicates importance, and management is clear about where to report work times, then the lack of clear information on where to share other texts may indicate to the employees that those specific literacy practices are insignificant.

To sum up, the interaction order distributes different agencies of digital text sharing to managers and staff, respectively. Discourses in place, such as verbally and physically expressing frustration about threatened borders and difficulties with digital text sharing, are shown in this empirical case. There are also issues of time as the discussion concerns work processes and the fact that the business has gone through several reorganizations during a short period of time. A scope of different levels of digital literacy is exposed in speaking about both small, everyday practices such as writing passwords and big, general practices such as IT security.

5   DISCUSSION

In modern organizations, digital practices consist not only of discrete tools and routines for getting things done in-between activities such as production and support functions, but they are also activities in their own right. Digital practices are intimately intertwined with other practices of the organizations and are integrated with and constructing social roles. Consequently, digital literacy does not only include being able to perform different tasks at the computer, but also to relate to sociomaterial issues such as knowing which digital practice of text sharing is approved in which situation. As such, digital literacy has to do with norms. Below, we discuss social roles and norms as overarching issues for business communication and digital practices identified by previous research (Farrell, 2009; McCarthy et al., 2011; Cardon et al., 2019).

As to social roles, persons in workplaces are related to text and text sharing not only as writers and readers; they can also serve as gatekeepers, suppliers, mediators or patch-workers of texts (cf. Schryer, 2000; Lillis, 2001;

Jones, 2005; Lankshear & Knobel, 2006). The concept of *pivot*, presented by Lillis (2013) for key people or resources in a writing activity, was fruitful for the research question of sociomaterial aspects, highlighting key persons of digital text sharing. Additionally, such persons or pivots can function as substitutes for places for accessing texts, thus acting as artefactual places (cf. Latour, 2005; Crawford & Irving, 2009).

Concerning norms, the interplay of potential problems with, and engagement in, digital text sharing could be viewed with the Bakhtinian concepts of centrifugal-centripetal forces (Bakhtin, 1981; Lillis, 2013). Some norms are more or less shared, for instance, the ones that can be summarized as 'texts which are not published should not be shared without care,' and 'staff should comply with managements demands.' These norms reflect the centripetal forces, to which the participants orient in actions such as checking the status of texts and speaking about compliance of submitting certain texts. The centrifugal forces challenging these norms are shown in actions such as taking photos of texts with uncertain status and criticizing the management for lack of information about new IT systems. The concepts of centrifugal-centripetal can enable viewing these actions as general human practices of relating to norms, in order for people to be able to eventually move something forward in a new direction. This line of reasoning and these concepts entail avoiding singling out specific employers or employees as problematic. As Bakhtin (1981) points out, a tension between centripetal and centrifugal forces is always present in communication, and 'conflicts' such as the ones we have described occur every day and are necessary for the continual development of organizations (cf. Ogbonna and Wilkinson, 2003; Thomas & Hardy, 2011).

In the qualitative analyses, we can see issues in regard to the protection of borders of one organization in relation to others: the somewhat delicate situation of taking shots of documents from an organization that had not clearly stated that the document held the status of sharing, as well as the concern that outsiders could access the IT system of the company. In both cases, the issue of borders was related to a type of reflexive digital literacy (Knutsson et al., 2012): finding a way of sharing texts 'outside' of the regulated information sharing techniques and questioning the relevance of password protection. In the case of a computer in the entrance of the building, the issue of the border of the company is physical and material, and simultaneously social.

The study has several practical implications. Firstly, management cannot expect staff to have a general digital literacy from their education and apply it smoothly and compliantly (Abram, 2013; Lloyd, 2010). There is no general digital literacy, but individual literacies sometimes comprise a level of reflexive digital literacy (Knutsson et al., 2012). This reflexive digital literacy in turn includes a critical attitude, which is both natural and

eligible to ensure the development of business and the engagement of staff. Secondly, organizations constantly change, and in processes involving digital text sharing different groups need to be involved, not just IT specialists (cf. Våland & Georg 2014). In such processes, organizations can discuss more general questions such as: In design and implementation processes, how is agency distributed? How can we involve more groups and co-workers, strengthening their agency and thus compliance? Thirdly, knowledge management is crucial for modern business and is dependent on digital text sharing. Thus, business is dependent on creating the best conditions for co-workers to swiftly exchange and access information both internally and externally. An important issue related to this is how staff handle protection of knowledge in relation to digital tools and borders, as shown in this study.

The limitations of this study concern its character as a case study. With an ethnographic approach with initially open research questions, we subsequently and inductively noticed the phenomenon of digital text sharing as relevant for the study's participants. Inspired by our study, future research could be designed to focus on this specific issue.

6   CONCLUSIONS

Where to find documents and how to share digital texts are critical and growing concerns of modern businesses. Our study confirms that digital text sharing takes up a considerable amount of the time and engagement of professionals, and that it is integrated with many of their tasks, such as writing reports, and of social practices, such as inter-business collaboration and internal communication (cf. Orlikowski & Scott, 2016; Våland & Georg, 2014).

Professionals in the study speak about digital text sharing in the sense of *status of texts* (draft, versions, 'suggestion' etc.) and of *location* (shared digital areas). They also speak a good deal about *obstacles and hindrances* (e.g., difficulties finding documents and remembering passwords) and how to overcome these (asking other persons for a document, tricks for passwords).

Sociomaterial aspects are enacted by the participants in our study in two ways: they relate to – and challenge – the protection of borders of their own and other organizations, and they speak about locations and status of texts. The borders are both material in the sense of physical (as the entrance to H&H) and digital (as the issue of passwords to get access). The locations are digital areas to which the participants have a varying degree of access; moreover, they have varying knowledge about where to share their own texts.

Expressions of degree of agency occur in mainly two ways, both of which articulate threatened agency and may seem to break the formality of business meetings: these consist of jokes and humor (cf. Holmes & Marra, 2002; Evans & Steptoe-Warren, 2018), as well as expressed emotions of frustration and anger (Stein et al., 2015). We have interpreted these interactional strategies as a sign of conflicting norms (centrifugal forces, Bakhtin, 1981; Lillis, 2013) and issues of delicacy concerning the protection of borders and individual agency. In their daily work life, professionals seem to handle these issues by using strategies such as treating certain persons as pivots (Lillis, 2013) of digital text sharing, and tricks to remember and change passwords. Overall, the ways in which issues of agency are handled in the empirical cases can be interpreted as a confirmation that digital text sharing is an issue with high importance and relevance for professionals in modern business organizations. Thus, digital text sharing is highly relevant for business communication studies. This study has brought forth the hitherto quite invisible digital literacy practice of digital text sharing in workplaces. Theoretically, the article contributes by suggesting analytic concepts for analyzing digital text sharing, and practically by suggesting issues to discuss within organizations.

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Appendix 1: Search strings for coding of data

Swedish	English
kom(ma) åt	access
kom(ma) in	gain, acquire, obtain
hitta	find/found
skicka	send/sent, submit
lösenord	password
dela	share
Box	Box
kopia	copy
cc	cc
bc	bc
var finns, var är	where is/are
logga in	log in, sign in
inloggning	login
leta, söka	search
hämta	retrieve
lägga	put
ladda	download, upload
version	version
dokument	document
yta, utrymme	area, space, place

"WITHIN THE HOUR" AND "WHEREVER YOU ARE": EXPLORING THE PROMISES OF DIGITAL HEALTHCARE APPS

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ABSTRACT

The use of healthcare apps for medical advice is becoming increasingly common. This paper explores apps that offer interaction with medical experts. Working from the supposition that digital technologies are intimately entangled in their cultural context, we argue that the apps do more than just neutrally mediate contacts and offer medical and psychological advice. The article addresses the cultural dimensions of healthcare apps and answers questions about the ways in which such apps contribute to forming changing notions of what "healthcare" and being a "patient" entail. Three popular Swedish apps and their marketing material is studied using a discursive interface analysis of the apps' affordances. The results show that the apps significantly contribute to producing a marketable narrative about app health care that includes accessibility, security/safety and personalisation, and which is partly produced as an alternative to what is offered by Swedish public health care. The results further show that this narrative primarily represents and addresses users who are young, busy, urban consumers of care – partly contrasting policy expectations and hopes.

Keywords: healthcare apps; discursive interface analysis; affordances; e-health; digital health care; critical digital health studies; patient positions

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1   INTRODUCTION

The use of digital technology in health care has increased dramatically over the past decade. In Sweden, the government's goal is to become the "world's best" e-health provider by 2025 (Regeringskansliet and SKL 2016). Digital technologies are depicted as solutions to a range of problems: from long waiting times to the challenges of the geographically uneven distribution of health care. The transition to digital health care is happening quickly, partly because the Swedish welfare system supports private sector e-health businesses via public funding. Several private sector e-health agencies were established as startups only a few years ago and have quickly become dominant actors in the new market of digital health care in Sweden, as well as in several countries in Europe.

Via applications (apps) in smartphones and computers, patients can interact with physicians, nurses, psychologists and chatbots instead of visiting physical hospitals and healthcare centres. The apps have been described as important complements to public health care by various Swedish stakeholders: representatives of the app companies, as well as politicians and public officials (e.g. Skr. 2005/06:139; Nyhlén and Kangro 2017). Even though e-health solutions are not new, these digital and commercial platforms are significantly changing the ways in which people practice and experience health care, contesting what health care means and also what it means to be a patient.

In the first issue of the *Journal of Digital Social Research*, Christian Fuchs (2019, p. 13) argues in favour of "critical digital methods that are more qualitative than quantitative", which are "critical theory-based" and that engage with societal power structures. This paper explores three Swedish apps that offer interaction with medical experts and asks questions about their ideological embeddedness. Working from the supposition that digital technologies are intimately entangled in their cultural context, we argue that the apps do more than just neutrally mediate contacts and offer medical and psychological advice, and that there is much to learn about what is at stake in contemporary constructions of health care and patients from a qualitative scrutiny of the affordances of new digital technologies, acknowledging that as well as their stated purpose, the apps also work as techno-commercial constructs. Hence, the aim is to explore the ways in which healthcare apps are promoted through self-descriptions, imageries, functions and design within the apps themselves, as well as through websites and marketing. In order to explore the apps' own stories about what they provide and to whom we apply the concept of *fantasmatic app narrative*. The first research question concerns the ways in which such narratives produce notions of "patients" and "health care". In Durham Peter's (2015, p.1) words, and in line with the theoretical starting point of

this study, technologies are not only devices of information but also "agencies of order"; they are engaged in the struggle over meaning. Hence, the second research question concerns how the fantasmatic app narrative was defended from potential criticism. This second focus highlights what is identified as antagonisms that might threaten the fantasmatic app narrative.

We start by reviewing the research area and describe our theoretical points of departure, data selection and methods of analysis before delving into the analysis of the material.

2   LITERATURE REVIEW

In recent decades, there has been an increased interest in digital health apps and their effectiveness as a healthcare technology (Black et al. 2011). Many studies are evaluative and techno-positive in nature, aimed at describing uses, suggesting improvements and mapping patient perceptions (e.g. Vo, Auroy and Sarradon-Eck 2019). However, there is also a more critical strand of research that is sometimes referred to as *critical digital health studies* (Lupton 2014b). Building on the notions of patient healthcare practices as inherently cultural and affected by contemporary lifestyles, images and tastes (Bunton and Burrows 1995), it explores the wider "social, cultural and political roles" that app technologies play in contemporary healthcare practice (Lupton 2014a, p. 607; see also van Dijck and Poell 2016). A starting point for most research in this strand is that apps constitute sociocultural artefacts that are underpinned by "tacit assumptions, norms, meanings and values" (Lupton 2017a), and that what digital health apps promise to deliver is not only a response to medical needs. Rather, by responding to more general types of needs, the apps *create* medical needs through their stylized content (cf. Frank 2000). In this sense, it is a field that takes the relationships between digital technologies and societal processes seriously, viewing them as relations of power in much the same way as Fuchs (2017) has argued in his appeal for critical digital media studies.

This critical perspective implies a perspective of power in the Foucauldian sense (e.g. Foucault 1979) as it has been developed to appreciate the impelling powers of new technologies entering into assemblages of humans and non-humans of significance for the ways in which people think and act, and for what they can become (e.g. Lupton 2016; Fox 2017). It specifically acknowledges the significance of discourse in interlinking contexts, such as the policy context and the contexts in which apps are used. It further suggests that digital devices and the personal data they collect and display are becoming integrated parts of our identities, bodies and daily lives (Lupton 2017b), not least since devices are increasingly being designed as wearables, such as wrist bands and

smartwatches. The capacities of these "everywears" (Gilmore 2015) also include haptic surveillance, in which wearable technologies communicate with the user without the user even having to remove the device in order to look at it (Rich and Miah 2014; Millington 2015).

Thus, much research has been devoted to various sorts of self-tracking devices and apps that generate detailed personal information (e.g. Pink and Fors 2017). The opportunities offered by wearables and apps for self-surveillance have been recognised as having biopolitical implications. As Sanders (2017, p. 42) suggests, digital self-tracking devices are instruments of normalisation; they facilitate the biopolitical aims of public health discourses that portray all bodies as being at risk of poor health and promote an "ethic of personal responsibility for health". The emphasis on the significance of prevention, Sanders argues, helps to rationalise monitoring and regulate technologies "in the name of early detection and prudent action" (see also Lupton 2012). In this sense, self-tracking has been seen as one important way of tackling the crisis of public healthcare systems (Norris 2012).

While self-tracking apps are undoubtedly related to public health systems by enabling public health discourses to get a firmer grip on citizens in their private lives, there are also technologies that are more clearly deployed by and integrated into the healthcare system. Such technologies include devices and apps that work as self-care regimens for chronic illnesses, as well as technologies for monitoring older adults in their homes. While the assumptions that underly much of these technologies position users as empowered consumers who are able and willing to "take up the ideal of the engaged patient" (Lupton 2018, p. 281; 2012), there has been less focus on their limitations (Mol and Law 2004). For example, empirical studies have often problematised the balance between the capacity for self-knowledge and the surveillance and self-disciplinary effects of apps (Lupton and Jutel 2015; Sanders 2017). In their study on hypoglycaemia, Mol and Law (2004) highlight how the technical possibilities to self-measure blood sugar levels are sometimes difficult to handle in practice due to the equipment design, often aimed at a younger user, with good eyesight and whose hands do not tremble, and who the industry does not want to offend with an unfashionable design. This suggests that healthcare technologies not only partake in the constitution of medical needs as suggested by Frank (2000), but also affect the constitution of key nodes and understandings within health care, such as notions of the patient and medical expertise. As the designs are always ideologically invested, and technologies are often produced with distinct imagined user groups in mind (Woolgar 1990), an important aspect is the study of how user subjects are positioned in and by new digital healthcare technologies: Who is depicted as the ideal patient? Who is encouraged to use the technologies?

Recognising the cultural dimension of digital healthcare technologies working as "agencies of order" (Durham Peter 2015, p. 1), privileging some user subjects while discouraging others, Lupton (2014b) calls for further research to explore the affordances and sociocultural aspects of health and medical apps; how specific apps affect the understandings, positionings and practices of health and health care among patients and app users. In this paper, we answer this call by focusing on types of apps that have hitherto not been sufficiently studied. While much research has focused on apps that work as a complement to outpatient health care by encouraging people to take personal responsibility for their health, diets and physical exercise, less is known about apps whose principal function is to provide health care via digital interaction with physicians. Because of this research gap, and because of the increasing presence of these apps in public commercial space and their potential impact on people's everyday understanding of health care and patient positions and practices, there is reason to explore how the apps' services are presented and how their users are approached.

3   METHODOLOGICAL APPROACH

In order to select apps, we searched the App Store and looked at the ratings for free Swedish applications in the Medicine category. The three most popular healthcare apps that offered digital medical advice from physicians were chosen for our study: Kry, Min Doktor and Doktor.se. All the apps provide what is sometimes referred to as online doctor services (Bergwall 2021); they aim to provide general medical treatment and are openly available. They are also all persistently advertised in the apps themselves, as well as online, on television and in public spaces in Sweden. The three apps were studied from January 2018 to February 2020 (pre COVID-19).

We refer to the selected apps as "healthcare apps" in order to distinguish them from the wider category of health apps that also include lifestyle apps (e.g. Rich and Miah 2017), fitness apps (e.g. Hardey 2019) and apps used to feature users' sexual and reproductive practices (e.g. Lupton 2015). In doing so, we emphasise how these apps constitute a specific category that resembles telemedicine (Lupton 2018) and which is becoming increasingly embedded in mainstream health care. The selected apps provide (online) medical treatment by trained and licensed professionals employed by the app companies behind the apps. They are funded by venture capitalists and public taxes. Overall, this makes Kry, Min Doktor and Doktor.se good empirical examples for an investigation of the ongoing transformation of health care and patient subjectivities in an era of healthcare digitalisation. As the focus of the analysis is on the production of meaning, we have chosen not to distinguish between messages based on

the sender, but to view the apps as actors involved in the ongoing construction of the social. Hence, when we talk about the "apps", the focus is on the meaning created within/by the app, and it is of no concern whether it was the company providing health care or a software consultant who came up with a particular feature. In a few cases it was clear that the healthcare companies behind the respective apps were the primary agents, and these are then referred to as "app companies" (Kry, Min Doktor and Doktor.se) that should not be confused with the companies that may have been technically involved in creating the apps.

In order to understand the constitution of meaning around the apps and the ways in which they presented themselves and their users more fully, we also included marketing practices that took place outside of the apps themselves. This meant that the analysis comprised the apps' respective websites and the commercials that became instantly visible to us. After downloading the chosen apps, they started promoting their services through notifications and through the e-mail addresses we used when registering accounts in the apps. We also analysed the online marketing carried out through collaborations. By searching for "collaboration with [name of app]" on YouTube and the name of the apps as hashtags on Instagram, we found 30 influencers (with between 10,000 to one million subscribers/followers) who were ranked "most popular" by Instagram's algorithms and who, as part of their own self-branding practices (Khamis, Ang and Welling 2017), had published sponsored posts in which they promoted the apps. This method of selection meant that a few posts from before 2018 were also included. Although the influencers apparently chose their own ways of promoting the apps, they sometimes clearly followed scripted statements and we analysed their films and posts as part of the more general marketing of the apps. Also, comments on posts were included in order to see how this specific affordance contributed to the creation of meaning around the apps. All Swedish texts have been translated into English by the authors.

The theoretical framework that informs the paper includes a view of digital healthcare technologies as sociocultural artefacts underpinned by "tacit assumptions, norms, meanings and values" (Lupton 2017a). The chosen method of analysis is discursive interface analysis, inspired by Stanfill's (2015, p. 1062) suggestion on how to approach interfaces for the structures at work within them; their "embedded assumptions about their own purpose and appropriate use". The method is based on a view of apps as "communicative agents" (Lupton and Jutel 2015, p. 130) that employ "carefully chosen images and discourses to represent their use and function". It recognises the constraining and enabling materiality of the apps (Hutchby 2001) and the ways in which they encourage user positions via certain forms of address. Affordance is a key concept. Originally

introduced by Gibson (1977), the concept of affordance has been developed and defined differently across various disciplinary boundaries. In this paper it is conceptualised as something which mediates but does not determine the relationship "between a technology's features and its outcomes" (Davis 2020, p. 17; see also Hutchby 2003). This implies acknowledging how technologies *encourage* certain uses and identities, but also, as pointed out by Bucher and Helmond (2017) in their thorough review of the concept, recognising the relational aspect of affordances, which includes the context in which technologies are used.

Suggesting a methodology for the analysis of the underlying assumptions of interfaces, Stanfill (2015), building on Hartson (2003), differentiates between functional, sensory and cognitive affordances. This differentiation structured our analysis and helped us focus not only on *what* the studied objects might afford, but *how* they afford – the mechanisms and conditions of affordance (Davis 2020). According to Stanfill, *functional* affordances are about what it is possible to do with the apps. We approached the studied apps through descriptions of what they could do and what they offered the user; what functions were built into the apps. This analysis included noting whether there were any alternative options, how many stages the user had to complete before receiving an appointment with a physician, and whether the triage questions encouraged or discouraged the user from making appointments.

Sensory affordances are about the aesthetic appearance, such as choice of fonts, colours and whether or not the apps include many ads. Sensory affordances were registered and interpreted for how the apps might make the user sense and feel. This included reflections of what was used to create credibility, as well as who and what the app was for.

Stanfill describes *cognitive* affordances as being related to meaning making and entailing the intelligibility of technologies and interfaces, including textual and audio-visual content. As cognitive affordances comprise explicit statements about the app, they received a lot of focus. We approached the cognitive affordances by studying features such as button labels, instructions, self-descriptions, commentaries, and images. These features were then analysed as a way of highlighting what was perceived to be important selling points by the healthcare companies behind the apps, such as the constant focus on the short waiting times.

In practice, we used a methodology of "walkthroughs" (Light, Burgess and Duduay 2018), which involved downloading, registering, logging on and using the apps like any user, the only difference being that while surveying the apps, we took notes of the information, addresses, prompts and illustrations, and of how users were supposed to ideally navigate through the apps. We also went through the initial triage, either via a chatbot or predetermined questionnaires, in order to make an

appointment. Because of ethical considerations, we did not actually make any appointments as these would have been paid for by public funding. The direct engagement with the apps' interfaces facilitated an understanding of how user experiences are shaped and affordances perceived, and also enabled ethnographic observations of embedded cultural references (Light, Burgess and Duguay 2018; MacLean and Hatcher 2019). Thus, it is important to emphasise that our analysis is based on our perceptions of the apps' technological affordances, which reveal our roles as being simultaneously positioned as both ethnographers and users. However, a decisive difference between these positions, and one which perhaps partly disqualifies us as proper patient users, is that we used the apps for analytical, not personal reasons, such as needing medical advice. This difference may be of importance for how users feel about the apps.

Importantly, and as pointed out by Hutchby (2001, p. 448), the affordances of digital apps may be "interrelated or compounded on any given occasion" with other types of affordances. Hence, when analysing the marketing material, particularly the collaborations with influencers, we also considered the affordances of the platforms used by the influencers, primarily Instagram and YouTube. This meant, for example, that we included functional affordances such as the possibility to comment or like, and thereby interact with the messages produced via such platforms.

Throughout the analysis, our focal point was on how the functional, sensory, and cognitive affordances collectively contributed to promoting and characterising the apps. Thus, the selected apps were analysed in terms of the ways in which they reflected or challenged tendencies in the broader landscape of health care in which they operated, and for their efforts to encourage or discourage, facilitate, or impede, certain patient behaviours and identifications (Davis 2020).

The interface analysis did not distinguish between the different stages of usage but was applied throughout. For practical reasons, the different affordances of each app were first noted separately. We then grouped the recurring features together thematically. All three apps exhibited very similar affordances, which contributed to the constitution of a quite uniform image of the apps that centred around three particularly pervasive themes: the promises of accessibility, safety, and personalisation – themes that also structure the first section below.

In order to capture this uniformity, an important concept – paraphrasing Howarth, Glynos and Griggs' (2016) notion of a "fantasmatic policy narrative" – is what have called the "fantasmatic app narrative". We define this as a normative narrative about what healthcare apps are, and what they promise and provide in terms of ideologically desirable notions of health care and patient identities. Its fantasmatic character lies in its ability to provide users with a story that both evokes and promises to fulfil

specific desires and needs (Bardini 2014). By extension, it encourages specific patient positions and practices, and legitimises the move towards specific interpretations of digital app health care. The notion of a fantasmatic app narrative closely resembles the concept of "digital imaginary", which is sometimes applied in studies of technological assemblages, and theorised as the expectations of users and uses that form part of the apps' affordances (Lupton 2019). Just like the concept of digital imaginary, fantasmatic app narratives engage with the ways in which an app "tells or presumes a story" (Markham 2021, p. 385), and emphasises the significance of the structured meaning provided by the apps. Our choice of the notion of fantasmatic app narrative is motivated by the way it supports the analysis of issues of power and ideology and by its ability to theorise the multiple sides of fantasmatic narratives; that they construct and offer desired practices and identifications, work to conceal the contingencies of these very constructions, and offer explanations of the way things are – why we do not seem to achieve the desired goals (Glynos 2008).

One problem that occurred, and which has been identified in analyses of similar platforms, is that their content is dynamic and thus slightly changes over time. For example, information was regularly updated and some information was removed during the period of analysis. Because of this, we noted the dates when the material was collected. The dynamism of the material also included the fact that the apps that we had installed on our own smartphones were also sensitive to our personal Bank IDs (Swedish citizen identification document to authenticate agreements online), which was mandatory for logging in. This meant that the apps were already adapted to our personal demographics, such as gender and age. Thus, there is reason to emphasise that the same app may offer partly different interfaces to different users.[1]

Below, we first describe three recurring themes in the apps' self-descriptions, which we argue constitute the promises that lay at the core of the fantasmatic app narrative. We then go on to discuss the efforts to control the narrative's relationship to Swedish public health care. Finally, we discuss the patient positions afforded by the apps and marketing material and consider how this relates to the way in which app care is promoted on a policy level.

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[1] To ensure that our analysis was not solely based on the authors' age (between 40 and 48), colleagues and friends of different ages also logged in. Visits to websites did not require logging in.

4 THREE CENTRAL THEMES IN THE FANTASMATIC APP NARRATIVE

In this section we describe what the apps promise to deliver and what is highlighted in order to attract users. Focusing on the cognitive, sensory, and functional affordances that stood out when reviewing the material, we noted three recurring themes: accessibility, safety, and personalisation. In the material, these themes were overlapping and intertwined, but for the sake of clarity, we present them below as separate empirical themes.

4.1 Accessibility: time, money, space

All apps specifically presented their health care as being highly accessible – available around the clock, often free of charge, and reachable from any location.

Cognitive affordances described this option in short statements highlighted in terms of size and placement. "Access care instantly", "already today", "directly", "within the hour" or "within a few minutes" were recurring phrases. Users were frequently told that by using the apps they would not have to wait ages for an appointment, nor would they have to spend valuable time in waiting rooms in public healthcare centres. Sensory affordances emphasised the advantages of saving time by depicting users staying comfortably at home or working.

Embedding the theme into personal experiences and opinions, the sponsored influencers provided more elaborated and personalised reasons about why saving time is important. In a YouTube video sponsored by Kry, influencer Therese Lindgren (983,000 subscribers on YouTube as of September 2019) recollects how she once had to wait seven weeks to contact a psychologist. "It's *not good* that it takes so long!", she claims and stresses the importance of an app option that promises help within 24 hours (Lindgren 2018).

Throughout the apps, time is constructed as important, precious, and scarce, and is transformed into a commodity that is being used as one of the main selling points: the apps sell time and patients are encouraged to buy it. However, the purchase is made invisible as it is mainly paid for via the tax bill. Some apps even promote themselves by highlighting that using the app is free of charge: "Your digital healthcare visit has a patient fee of SEK 0.00" (doktor.se, 26 Feb 2020). Being accessible also through low costs distinguishes them from visits to public healthcare facilities where patients usually pay a small fee. Thus, a pivotal point of reference in the endeavour to depict app care as an easy and rational choice is the unarticulated comparison with the largely tax-funded public healthcare organised by the Swedish regions.

Accessibility was also sold in relation to space. The portability of smartphones and the taken-for-granted internet access made it an "everywear" technology (Gilbert 2015), making health care possible regardless of the users' physical location (cf. Lupton and Jutel 2015).

> Get help wherever you are. It doesn't matter whether you're on the bus or abroad. With chat, voice and video calls you can easily and quickly get help from us (doktor.se, 20 Sept 2019).

On sponsored content by tonyh, categorised on Instagram as an athlete with around 30000 followers, he claims that he no longer calls a healthcare centre when he has problems with his allergies, but uses the app instead:

> I meet the physician via video and don't have to visit them. This is perfect because I travel a lot. Try it! Convenient and very practical! (tonyh, 23 April 2018)

One of the suggested perks of using the apps is that users can use the waiting time to attend to other things. Sensory affordances comprise the recurring motif of a casually dressed patient situated in their home, often symbolised by a sofa or a bed. This was found in two of the apps and is common in the images used by influencers on Instagram. However, there are also plenty of suggestions that the apps allow people to work while they are ill. A fashion blogger and lifestyle youtuber with 102,000 followers on Instagram puts it like this:

> #MinDoktor asked if I wanted to try its online service and be consulted at home instead of spending the day in the waiting room…
>
> -
>
> quite handy to be working on my cooking skills👌 such as these polenta fries dipped in David's garlic sauce 🌶️
>
> -
>
> what's your game plan when you're ill and you want to chat with a doctor? Time to step up your game? 😌😊🤗
>
> -
>
> #MinDoktor #sponsored #realtable (jennymustard, 23 June 2016)

Thus, the constructions of the healthcare apps as being a more accessible choice for health care are embedded in the digital flows of popular role models with desirable lives. The descriptions of the apps not only constitute them as a streamlined and neutral choice, but as the choice of a rational (and rather privileged) person. Who wouldn't rather drink coffee and finish the

next task at home than spend the day in a waiting room at a public healthcare facility? The user is addressed as a rational but also a busy and highly mobile person, who has important and exciting things to do, and, frankly, who is not that ill.

4.2 Enabling security, safety, and credibility

> Now during the holidays when we're travelling a lot it's so reassuring to have a healthcare app that gives us, as a family, the possibility to make an appointment with a physician directly in the mobile completely free of charge ❤️ (saracelinaa, 103 000 followers on Instagram, 9 July 2018)

The second theme that recurred as a selling point included efforts to ensure users that the apps are safe and secure. While issues regarding data security were mostly resolved by formally informing the user how personal data are handled, strategies to ensure the users' sense of safety were consistently present throughout the apps. The cognitive affordances of taglines offered promises such as: "Safe care when you need it" (Min Doktor, 21 Oct 2019) or "Safe care in the mobile" (kry.se, 21 Oct 2019). Sensory affordances comprised the lending of symbolic attributes that constituted familiar aesthetics for the user: white coats, stethoscopes, serious faces together with a direct form of address and a clean design resembling public healthcare facilities. Two out of three apps, Kry and Doktor.se, use white and bright green colours, aesthetic considerations that borrow from the white and green coloured Swedish state-owned pharmacy *Apoteket*, thus lending the apps some of its credibility. These two apps also have crosses as their logos. Min Doktor has a red heart-shaped form with a white smiley face as its logo which – despite the colour association with the red cross – partly contrasts with the soberness of the other two apps. The sense of professionalism and credibility indicated by the sober aesthetics (cf. Nakamura 2008) was strengthened by the lack of banners competing for attention. Users are left with the feeling that this is not a commercial site. Instead, on occasion, advertising is made implicitly, i.e. when the symbol for Doktor.se's service "Pharmacy" is the logo of the pharmacy owned by the app company.

Another aspect aimed at establishing a sense of safety was how the services were described. Users were repeatedly assured that members of the medical staff were "experienced" and worked at "Swedish health centres or hospitals" when not working for the app. There were also many assurances that physicians "collect all the information needed to make a correct diagnosis" and that they "follow the applicable guidelines for all prescriptions" (Min Doktor, 28 Nov 2019).

What is not explicitly communicated within the apps, but can be seen on the websites, is that the apps also work with conversational agents, or

"emphatic chatbots" (kry.se, 24 Sept 2019), specifically on matters regarding mental health and in initial triage. Min Doktor offers the opportunity to chat with a chatbot; it is humanised and called "Elsa, your digital assistant". Although studies claim that engaging in conversations with AI chatbots works well (e.g. Ly, Ly and Andersson 2017), the under communication in the apps suggests a fear that patients would find the idea of relating to a chatbot rather than a person unreliable or impersonal.

4.3   Personalisation and creating relationships

"Good morning Anna Sofia, how may we help you?" (Kry, 23 Oct 2019). When logging on to the Kry app at 08.48 in the morning, the user is appropriately greeted with a "good morning" and called by their first name. The time sensitivity and the use of the first name creates a feeling of having a personal relationship with the app and contributes to the informalisation of relationships between citizens and representatives of Swedish state agencies and experts that goes back to the 1980s (Löfgren 1988). This is a type of personalisation that must be understood as a discourse (West 2013) in which users are positioned not only as patients but as respected acquaintances or even friends. In a similar vein, cognitive affordances assure users that the app staff "are here for you and your family" (Kry, 23 Oct 2019).

All apps further facilitated the organisation of appointments and administration of the health care of family members. Such functional affordances materialise the history of the relationship between the app, the user (and sometimes their children) and healthcare providers over time, and work as a digital memory that contains information that personalises the app and makes it part of the user's (family) healthcare history. This personalising feature was also present in the affordances to customise the apps by including personal information that would serve to improve the service and user experience. In Kry, this involves height, weight, blood pressure, allergies, nicotine habits and a specific health profile that is created based on the user's answers to questions about their health (for credibility, the survey is said to be based on "one of the world's most used health surveys, RAND-36", 23 May 2019). It is presented as being in the interest of the user to offer personal information. This is conducted beforehand and is not related to the issue for which the user requires medical advice.

During the studied period, the apps' implicit claims to a holistic approach also involved connecting the user to other commercial actors within more or less related areas. For example, tapping the Kry app's button "Apotek" (*Pharmacy*) leads to two options: "Renew your prescription" and "Order medicines" (23 Oct 2019). By clicking on the latter option, the user

is directed to Kry's partner Lloyds Apotek (*Lloyds Pharmacy*), from which they could also order non-prescription products that the pharmacy sold and that were not necessarily connected to the care visit in the app (this was not an option in all apps). However, in 2019, the Swedish Medical Products Agency suggested that caregivers be included as one of the actors who cannot be granted permission to operate outpatient pharmacies (Läkemedelsverket 2019). Since this time, the links to pharmacies' general websites have been replaced by links to the user's prescriptions only.

The apps also integrate with their users in a more aggressive manner, demanding their attention through emails and push notifications, alerting users to messages within the app or sending news and product information to users. For example, after registering an account, Doktor.se sent us e-mails twice a month. The product information was quite general and related to the season so that during spring, for example, we received information about hay fever and in the autumn information about the autumn colds. Through these functional affordances – reinterpreted as services – the apps are given mandate to interact with the user also when the user is not using the app. In a sense, the user becomes a follower that is positioned as a valued friend with whom the app builds a lasting relationship and to whom the app sends its best offers.

The creation of relationships also lies at the core of the influencers' sponsored content. The association with particular influencers and their online personae with whom their followers and subscribers have formed relationships (Dhanesh and Duthler 2019) adds layers of authenticity and potential affective value to the apps. Influencers often marketed the apps by showing their vulnerability and cultivating relatability. They also explicitly emphasised how easy it was to talk to physicians over the phone, partly because they all are "very easy going" and "friendly", thus convincing their followers to lower their threshold for seeking medical care (e.g. Ingrosso 2018).

Also, the functional affordances of the platforms used by influencers – such as YouTube and Instagram – play a part as they allow the influencers' subscribers and followers to leave comments. The apps are thereby included in the communities of the influencers and their fans, and comments on the apps are drowned in, but perhaps also associated with, the mainly positive and sometimes almost worship-like comments about the respective influencers. However, the commentary sections also render the use of influencer marketing somewhat unreliable. Not only is it difficult for the app companies to control the articulations of meaning made on the influencers' posts, it is also difficult to control the reactions of the subscribers and followers who may very well argue against the use of healthcare apps. Thus, the fantasmatic app narrative and its highlighted promises of accessibility, safety and personalisation were open to

contestation, which could certainly undermine efforts to promote the apps. To prevent this from happening, representatives of the app companies sometimes took the opportunity to answer critical commentators. [2] However, as shown below, criticism is also countered even when it is not explicitly levered.

5   RELATING TO PUBLIC HEALTH CARE

Many of the affordances that aimed to encourage users and direct them to using the apps highlight characteristics in ways that seem to compete with public health care. Certainly, the presentation and marketing of healthcare apps in Sweden have to be understood in light of the heated debate about private digital care that the deregulation in the welfare state has engendered (Carlsson 2020). In this respect, one strategic way to legitimise change and market app care is also to take control of the meaning production around the apps' relationship to public health care by countering the expected criticism (cf. Lindberg and Lundgren 2019). In this section we discuss how the apps and their marketing material relate to public health care.

The pre-empting of criticism took place through various cognitive affordances, some of which have already been mentioned, such as the emphasis on the benefits of the digital regarding accessibility in space and time. However, it was also carried out more explicitly. On its YouTube channel, Kry published eight films called "Myths and facts about physician visits via video". The films are just a couple of minutes long and in all of them the viewer sees a young white male wearing a white polo shirt. A sign in the lower left corner informs the viewer that he is a physician at Kry. The myths countered in the films are: 1) You cannot make a diagnosis without touching the patient, 2) Medical visits via video require more public funding than visits to health centres, 3) Doctors who work via video are not proper physicians, 4) Medical visits in a mobile app result in over-consumption of health care, 5) Digital health care drains the county councils of public funds, 6) KRY is only for young urban people, 7) Only hypochondriacs seek digital health care, and 8) Seeing a physician via a video call in a mobile app results in shorter queuing time and increased accessibility (kry.se, 23 Oct 2019). The chosen myths seem to be formulated with the public healthcare system and notions of a more traditional kind of health care in mind, and it is clear that the films are not only used to kill the myths, but to convey a message: app health care is just as good as traditional health care and even works to improve the situation for public health care.

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[2] For example, on Bianca Ingrosso's blog, 'Samuel', presenting himself as 'working at KRY', answers a commentator's critical question about the costs for the county councils and the critical suggestion that taxpayers will lose on the app service in the long term (Ingrosso 2019).

Hence, out of the eight myths, all but one of them are firmly countered. It is only the last myth – apparently a myth created or at least frequently repeated by the app company itself – that the physician seems unable to contradict. Expressing satisfaction, he states that seeing a physician via a video call really does result in shorter queueing time and increased accessibility for all.

Labelling the criticism "myths" effectively works to delegitimise them. It may also be understood as part of a strategy in which practices of capitalism are reinterpreted as being helpful for the public healthcare system and for Swedish healthcare-seeking citizens in general. The strategy may be viewed as a countermeasure taken by the companies to pre-empt the potential contestation and criticism of the neoliberal choice reforms that have enabled these digital services (cf. Glynos, Speed and West 2015). As the criticism has sometimes been harsh, countering it is crucial in order to establish the apps as legitimate. It reinforces digital health care as the logical way forward. Thus, a central aspect is to undermine public health care as the better option, although – and importantly – any notion that there would be an antagonistic relationship between the apps and the public healthcare system is repeatedly rejected.

In this sense, the practice of pre-empting criticism ensures the continued enjoyment of the accessibility, safety and personalisation that the apps offer, and which are further associated with positively charged notions, such as patient choice, empowerment, individuality and freedom (cf. Lindberg and Lundgren 2019). By taking control of the expected criticism that threatens to disrupt the fantasmatic app narrative and the promises it gives, users can continue to enjoy the perks of accessibility, safety and personalisation in the way they are depicted in the apps' own self-descriptions, without having to reflect on the wider societal effects of the healthcare practices that the apps give rise to, such as the costs for the various regions. The latter constitutes a common problem regarding public health care, which has experienced difficulty in achieving waiting time goals (Björk 2016; SOU 2019:42). An unquestioned link between app health care and the undermining of public health care would certainly discourage at least some citizens from using the apps – which was clear from the commentaries on Instagram and YouTube. Thus, the effort put into retaining the fantasmatic app narrative may be regarded as an important answer as to why the narrative proves to be so persistent (cf. Glynos 2008). Such an effort is needed because of the ethical dilemma that some users obviously identified between the notion of the free choice of care on which app health care is based, and the principle that those who are most in need of care should receive care first, which guides the public healthcare system (cf. Bergwall 2021). Another answer concerns the patient positions provided

by the fantasmatic app narrative's focus on accessibility, safety, and personalisation.

6   POSITIONING THE PATIENT SUBJECT

The empirical themes not only promoted app health care through promises of accessible, safe, and personalised care. They also addressed the user in specific ways, encouraging particular forms of patient subjectivity. In this section we discuss the two interrelated aspects of patient subjectivity that emerged: the patient as a consumer and the patient as young, busy, and urban.

6.1   Consumers

Following the changes resulting from the choice reforms in recent decades, patients are increasingly being addressed in their role as *consumers* of health care (Szebehely 2000; Henderson and Petersen 2002; SOU 2008:15; Lindberg and Lundgren 2019; Carlsson 2020). This was also an overarching theme in the studied material; the apps were aggressively marketed, firmly establishing app health care as a consumer product. Encouraging patients to identify as consumers was achieved using a plethora of functional and cognitive affordances within the apps, including the design and content of interfaces. For example, as part of the affordance of accessibility, all apps have a start view after logging in where illness categories are listed and the user chooses an illness from this list. The Kry app even highlights illnesses that are "Currently common" (27 March 2019), just like many online stores do with their products. As part of the affordance of safety, the apps also publish app store ratings, patient satisfaction scores and user reviews, which would serve to reassure that the services are proven and popular. The latter were clearly selected by the companies and only showed overwhelmingly positive reviews (cf. Adams 2012; Lupton 2014c) that were in line with the fantasmatic app narrative. In influencer films and posts, app health care is marketed as a commodity and the app as being the best way to access this commodity. This becomes strikingly obvious as influencers sometimes provide vouchers that can be used at the sponsoring app company's pharmacy. It is made even more clear when scrolling through the contents of an influencer's profile, in which posts on app health care are published alongside other sponsored contents.

The apps' services are described in the apps and the marketing material in such a way that users are compelled to adopt a consumerist mindset based on a discourse of "choice", in which the subject is expected to weigh the pros and cons of different healthcare providers in order to make a decision, and ultimately identify with such decisions. Hence, the

subject "is defined, first and foremost, as *homo eligens*" (man choosing), as Bauman (2007, p. 61) puts it. Such notions of choice have been described as effective tools for the reorganisation of healthcare systems along neoliberal lines (e.g. Irvine 2002) and have been at the core of Western culture from late modernity onwards, in which choice ideologies and consumption technologies have offered lifestyle pedagogies, as it were, for "living a life that is both pleasurable and respectable" (Rose 2004, p. 86). In a sense, the promise of accessibility, safety and personalisation that was included in the fantasmatic app narrative addressed a rational user who would choose the app because it is the quickest, easiest, least expensive, and most modern way to receive care.

However, at the same time, and as highlighted by Rose (2004), the appeal targets the emotional aspects of consumption and addresses the users' insecurities and fears. In this latter sense, the apps not only contributed to the establishment of new needs, but also to new notions of rights. Inscribed in a rights discourse, the accessible, safe and personalised health care promised by the apps was legitimated as being *more* than just a possibility. The rights discourse was, however, tempered, and users were encouraged to identify themselves not only as rightfully consuming what is in their personal interest, but as moral consumers, as it was stated that using the apps would ease the burden on the public healthcare system by saving "space and resources for both individuals and society at large" (Doktor.se, 26 Nov 2019). Thus, the individualism that is at the core of the discourses of "choice" and "rights" that permeate modern health care is partly articulated as a way of achieving moral solidarity. By positioning users as consumers, the apps therefore confirm and speed up the processes of consumerism taking place in health care (Irvine 2002). This positioning not only marks a boundary between digital app care and public health care. Users are told that as consumers of app care they would, paradoxically, both escape and help the public healthcare system, an argument that complements observations made by others (e.g. Norris 2012).

6.2   Young, busy, and urban

The apps' visual representations of patients and employees tended to portray relatively young persons in their 20s, 30s or early 40s – or their children. Also, the influencers who had been sponsored to promote the apps were all quite young and predominately white adults. In quotes from former patients who were used to promote the apps on their websites, the theme of saving precious time is also closely associated with having busy lives and important careers, as in the following patient quote:

> 04.00 Monday morning and I have to constantly pee. I have all the signs
> of a urinary infection and know that I need medicine to make it stop. My

first meeting is at 08.45 – an important meeting that I cannot cancel or postpone. That's when I remember mindoktor.se. At 06.00 I log on to their website and, to my surprise, I get an answer right away. At 07.00 everything is ready and I'm at the pharmacy at the central station taking my first pill. Thanks to this quick treatment I can attend my meeting and work as normal for the rest of the week (Min Doktor, 26 Nov 2019).

The cognitive affordances of this quote demonstrate how the app encourages identification with a self-motivated, ideal neoliberal employee who can get ill, be treated and attend a meeting at work at the same time (cf. Lordon 2014). Through articulating the app and its services with freedom from queues at public healthcare facilities, and indeed from the very condition of being ill, the demands of neoliberal ideology are effectively concealed. Instead the apps are presented as valued attributes of the ideal neoliberal employee. In that sense, the way in which the affordances of the apps are symbolised also works to sustain the grip of the neoliberal work ideology (Glynos 2008).

The focus on youth, busyness, and urbanity (the latter implied in the quote by the proximity to a pharmacy and referring to the central station) corresponds with results that suggest that young adults tend to appreciate accessibility more than continuity, and that younger cohorts are increasingly turning to alternatives to physical health care, such as digital care (SOU 2019:42). However, the strong focus on youth, busyness and urbanity is particularly interesting since it contradicts how public policy and commercial actors have presented digital health care. As the restructuring of public health care and the geographically uneven distribution of health care have gone hand in hand with a focus on citizen influence (Enlund 2020), digital technologies emerged as promising solutions. By "being independent of geography and enabling asynchronous contacts" (SOU 2019:42, p. 38), it has been ascribed the promise of solving the problems of demographic ageing, the long distances to physical healthcare facilities in Sweden's rural areas due to the withdrawal of health care, and the difficulties faced by older people in transporting themselves in order to receive the quality of health care to which they are entitled (e.g. Skr. 2005/06:139; Lindberg and Carlsson 2018).

However, these categories were neither represented nor addressed in the material. Although Kry made efforts to counter the supposed myth that the apps were primarily being used by younger people from urban areas, none of the studied apps' visual depictions portrayed older people as a patient category or highlighted the significance of the app for people living

in sparsely populated areas where distances to healthcare centres are long.[3] In Kry's own *Quality report* for 2019, it reports that as many as 41% of users were aged 21–39 years and 32% were parents/guardians of children aged 0–15 years. Only 3% of users were over the age of 60.

The differences in this regard between policy documents and the apps are indicative of their different goals. While policy reports – whether these are Swedish government official reports or policy documents written by stakeholder organizations – are often written from within a discourse in which responsibility is taken for providing equal care throughout Sweden and the goal of the app companies is profit. It is therefore not in their interest to describe and address people in sparsely populated areas as consumers of app services, possibly because there are less of them. From the perspective of public policy makers, commercial apps of the type described here might be seen as a potential solution to a problem, but that problem should not be confused with the app companies' problems. It is possible that the representations of users are also describing what Carpentier (2011) called a "digital divide" created by the digitalisation of public services.

Technologies have been described as being produced with distinct user groups in mind (Woolgar 1990). By foregrounding patients as aware consumers, and as young, busy and urban, the healthcare apps showed a close affiliation with other types of lifestyle, health and self-tracking apps (e.g. Lupton 2018, 2012).

7   CONCLUDING DISCUSSION

Care has been described as a selective mode of attention, focusing or even cherishing some aspects (certain lives, illnesses, bodies, etc.), while excluding others (Martin, Myers and Viseu 2015:627). Employing Stanfill's (2015) discursive interface analysis and exploring healthcare apps for "the structures at work within them", we identified what we called a fantasmatic app narrative to which all three apps and their marketing material contributed, and that worked to sell, as it were, the healthcare apps. Through functions, taglines, descriptions, and marketing material, the fantasmatic app narrative foregrounded the apps' ability to deliver accessible (in time and space, as well as financially), safe and personalised health care, characteristics that are typically highlighted as important in today's Swedish landscape of care (SOU 2019:42). On the one hand, the apps afforded users the opportunity to take the "path of least resistance" (Stanfill

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[3] With the advent of the COVID-19 pandemic, and outside of the scope of this article, this partly seemed to change, at least in the televised commercials, and older patients became more commonplace.

2015, p. 1066), urging them to ignore criticism of the apps, and guiding them from downloading the app to making an appointment with a physician. On the other hand, healthcare apps and their commercials also articulated ideal patient subjects by addressing and representing users in specific ways (Hutchby 2001, 2003).

The apps undoubtedly contributed to creating notions of both patients and health care. Through various mechanisms of affordance, including functional, sensory, cognitive affordances, the app narrative encouraged a personal everyday relationship with health care via the apps. In this sense, the studied apps both resembled and differed from other types of health apps such as the much-studied self-tracking apps (e.g. Pink and Fors 2017). There were some resemblances as they foregrounded young and seemingly healthy users who took personal responsibility for their health and well-being, and for whom illness seemed to be something transient and easily remedied. Like many health apps and self-tracking devices (cf. Lupton 2012; Sanders 2017), the studied healthcare apps also tended to facilitate the biopolitical aims of public health discourses by repeatedly suggesting the importance of accessibility and by suggesting that users also use the app for mild symptoms.

But while self-tracking apps seem to gain momentum from relocating health care to the individual, thereby facilitating the public health care, the apps studied seemed to encourage individuals to use healthcare appointments instead. Because the studied apps did not work as a *replacement* for healthcare appointments, but *provided* them, the focus on accessibility, safety and personalisation primarily worked to encourage the patients' close contact with the apps – and thus with using tax-funded health care.

There was a tendency to primarily represent patient users as relatively young, urban and noticeably busy and mobile, both within the apps and on the websites, and through the uses of influencers, who acted as trusted users with whom potential users could identify. Apart from a lack of representations of patients who were visibly ill or had visible disabilities, there was also a noticeable lack of representations of older and rural patients. Existing studies suggest there is a digital divide in which older rural adults tend to use the internet less (Berner et al. 2015). The studied apps' conditions of affordance tended to discourage both rural and older users from using the apps. Paradoxically, these groups are described as beneficiaries of, and empowered by, digital health care in policy and politics (Skr. 2005/06:139), which calls for further research into how digital healthcare technologies relate to ageing and rural patients (e.g. Katz and Marshall 2018).

As a growing number of studies in the field have acknowledged, digital health care and the patient positions it encourages can be viewed as

part of neoliberal consumerist ideology (e.g. Thomas and Lupton 2016; MacLean and Hatcher 2019). The studied apps were no exception, and they were clearly influenced by the design discourse of other commercial health, lifestyle, and self-tracking apps. An important finding of the study was the way in which digital healthcare apps were part of a wider digital landscape in which paid collaborations with influencers not only helped create goodwill, but also presented the information in new, clearly consumerist, highly youth-centric, and less controllable ways. By showing personal vulnerability and cultivating relatability, influencers partly took the edge off this consumerism. Overall, however, the collaborations suggested a specific form of market orientation that represented a clear departure from how health care has traditionally been presented, reinforcing a consumerist healthcare logic, transforming it – and the highlighted health, time, and safety – into commodities and selling arguments, and positioning patients as consumers. In this sense, the apps work as communicative agents (Lupton and Jutel 2015) that reinforce a view of illness and disease as (admittedly common) exceptions rather than intrinsic parts of life (Wainwright 2008). But while the increased accessibility of medical care through marketisation, digitalisation and personalisation clearly has its benefits, it may also lead to increased medical "needs" – articulated in the realm of a rights discourse (Frank 2000) that sits well with the Swedish free choice of care reform which, since 2010, has transformed the Swedish health system into a quasi-market (Bergwall 2021). Increased accessibility also implies greater surveillance opportunities, which is a central theme in the field of critical digital health studies (Lupton 2014b). Encouraging users to contact public healthcare facilities via apps means encouraging patients' conditions to be registered in their medical records.

Regarding the second research question about how the fantasmatic app narrative was defended against potential criticism, a point of contention was the apps' relationship to the public health care organised by the Swedish regions. On the one hand it was implicitly criticised for being slow, inefficient and out of date, and the apps therefore provided a much needed modern alternative. At the same time, the apps used the goodwill and credibility of public health care by borrowing from its aesthetics, emphasising that app physicians also worked in public health care, and that the apps would not compete with it but would relieve it.

Healthcare apps are good examples of the need to explore the affordances of digital healthcare devices. In a public healthcare system that is becoming increasingly digitalised, questions about the normative dimensions built into seemingly neutral digital technologies are important, as they may support but also counteract policy objectives. The present analysis could work as an example of how apps that are becoming increasingly enmeshed in mainstream health care certainly reach out and

affect relationships and identities outside of the digital realm; they encourage transformations of patient subjectivities and healthcare use. However, the analysis does not cover the experiences of users, for example, physicians and patients. It would be of great interest to further explore how the fantasmatic app narrative described in this paper is manifested, challenged, and negotiated in app users' narratives about their experiences.

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