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The affective atmosphere of rural life and digital healthcare: Understanding older persons' engagement in eHealth services

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ABSTRACT

The implementation of digital healthcare technologies—eHealth—is presented as a solution to increasing costs, demographic changes, and quality issues in rural healthcare. Employing the concept of affective atmospheres, this article uses interviews to explore the emotional aspects of digital healthcare among rural persons of advanced age. Our results suggest that participants were clearly influenced by an affective atmosphere that was deeply embedded in spatial imageries as well as in notions of old age. Strong feelings of resignation, necessity, low entitlement, and defiance tended to encourage participants' wishes for local face-to-face healthcare to translate into viewing eHealth solutions as positive. This also meant that participants came to enact neoliberal identities of “active ageing”. In conclusion, the concept of affective atmospheres highlights how human subjects and digital materialities interact in the production of human emotional responses to digital healthcare technologies, and emphasises how the conditions and shared imageries of geographic space and age are active components in that process.

Credit Author Statement

Jens Lindberg: Conceptualization, Methodology, Formal analysis, Investigation, Writing – original draft, Project administration, Funding acquisition. Anna Sofia Lundgren: Methodology, Formal analysis, Investigation, Writing – original draft, Project administration, Funding acquisition.

1. Introduction

During the last decades, sparsely populated areas in the north of Sweden have seen considerable cutbacks in healthcare and other welfare services. In a few well-known cases, cutbacks and closures have been met by committed protests by rural populations (e.g., [Lundgren and Nilsson 2018](#); [Berglund-Lake 2020](#); [Enlund 2020](#); [Nordin 2020](#)). However, the challenges of austerity politics and suggested retrenchments are not always met by protests; sometimes they are met with alternative

proactive measures and innovations, as has been the case in rural healthcare.

One solution suggested to revolutionise rural healthcare in times of demographic ageing, urban normativity and austerity politics is digital healthcare technology—also referred to as eHealth.¹ Often presented as a way of increasing the quality and equality of healthcare in general, it is also seen as the answer to a variety of issues that are perceived to be particularly challenging to Swedish inland regions: demographic processes such as out-migration, ageing, and decreasing populations; and the economic costs associated with these processes, as they entail a reduction in regional tax revenue. Highlighting increased accessibility and individual autonomy, and partly ignoring the unevenness in digital healthcare technology delivery, policy texts celebrate digital healthcare technologies as important solutions—especially for sparsely populated areas and for older persons (e.g., [SOU 2019:42](#); [SOU 2020:14](#)).

Although often described as success stories heavily relying on a techno-solutionist approach ([Black et al., 2011](#); [Frennert 2021](#)), the

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¹ As a concept, eHealth is infamous for its lack of a clear definition ([Oh et al., 2005](#); [Showell and Nøhr 2012](#); [Boogerd et al., 2015](#)). We use the term here to point at specific practices of health care in which healthcare encounters between patients and providers, that would previously have been set as physical meetings, are instead carried out with the help of digital technologies. We use eHealth interchangeably with the expression “digital healthcare technology”. The latter is taken to imply more specific technologies used by the interviewees.

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implementation of digital healthcare technologies to replace local physical healthcare centres and hospitals is far from being an emotion-free and logical endeavour. The use of digital devices may give rise to feelings of empowerment (Kania-Lundholm and Torres 2018) as well as fear and anxiety (Urban 2017) among older persons. We argue that there is more explanatory value to emotion than simply being an obstacle to overcome with proper help and guidance. Furthermore, we argue that policy narratives that promise a new digital healthcare landscape are intimately entangled with strong cultural and emotionally-charged geographic imageries as well as with imageries of old age. Using the concept of affective atmosphere as a mindset which builds on intersections of space and age, this paper explores how affective notions of space and age are co-constructive in older rural-living persons' responses to digital healthcare technologies, thus also contributing to the understanding of the complex and situated reasons for engaging in new technologies. Given the conditions that Western-peripheralised rural areas share, we believe that our results have broad implications.

2. Digital healthcare and rural eHealth

The ongoing digitalisation of healthcare—with less physical contact with medical professionals and the increased use of digital devices for producing, surveilling, and tracking data—changes traditional modes of healthcare practice. It also influences understandings of what patienthood is and implies (Pols 2012). Nevertheless, much research has focused on the taken-for-granted benefits of digital healthcare in coping with the challenges faced by contemporary Western societies, and studies on digital healthcare tend to focus on matters such as access, inclusion, and efficacy (Lupton and Maslen 2017). This is specifically true in studies of older users, where digitalisation is described as both necessary and inevitable, and where reluctance to engage with digital healthcare technologies is presented primarily as an obstacle to the development of rural healthcare and, ultimately, to the older rural population's access to equal healthcare (e.g., Fischer et al., 2020).² Still, there is a dearth of studies that involve older patients themselves and explore the uses of digital healthcare technologies from an emic perspective (Airola 2021), and digital health researchers increasingly emphasise the significance of context, situatedness, and the complexities of everyday healthcare (e.g., Rasi and Kilpeläinen 2015; Lupton 2017b; Levin-Zamir and Bertschi 2018; Thompson 2021). For example, Roberts et al. (2017b) stress the need for more in-depth approaches that examine culturally- and spatially-situated motivations, attitudes, and barriers, and question how rural users react to changes in technological provision.

There have also been calls for fresh conceptual tools for understanding the emerging digital modes of patienthood, participation, and healthcare consumption, as well as their consequences for eHealth distribution, patient engagement, and identity formation (Erikainen et al., 2019; Thompson 2021). The role of affective responses in patients' engagements in, and adoption of, eHealth technologies has been specifically recognised as a necessary line of inquiry (e.g., Graffigna et al., 2015). Focusing on older persons living in rural areas, Lindberg et al.

² For example, access and connectivity to the Internet (e.g., Hicken et al., 2017; Pavic et al. 2020), difficulties in use (e.g., Näverlo et al., 2016; Williams et al., 2016; Pigni et al., 2017) and lack of support (e.g., Heart and Calderon 2013; Yusif et al., 2016) are repeatedly identified as barriers to older persons' engagement in eHealth. Correspondingly, support in learning how to use digital services is emphasized as an enabler (e.g., Williams et al., 2016; Rasi et al., 2021). Matters such as personalisation and flexibility (e.g., Luptak et al., 2010; Barrera et al., 2017) and design (e.g., Blusi et al., 2013) are also stressed. On a general level, increasing the usability of digital services seems to function as the primary way of enhancing engagement in rural eHealth services (Spann and Stewart 2018).

(2021) describe a sense of “rural community” in relation to using eHealth technologies that includes positive feelings of belonging and social connection. Blusi et al. (2013) similarly describe how digital services directed at older persons may reduce feelings of loneliness and provide a sense of safety. It has also been indicated that digital healthcare makes older and rural-living persons feel uncomfortable (Hicken et al., 2017; Urban 2017). However, the feelings at play in encounters with digital healthcare solutions are rarely thoroughly addressed, and are therefore not highlighted as significant motivators or conditions for using or resisting eHealth technologies in specific geographic spaces. Hence, as argued by Lupton (2017b, p. 8), an affective approach to digital healthcare is needed to provide a critical perspective to the understanding and use of eHealth services: “Rather than positioning patients or lay people as disaffected, rational and autonomous consumers of digital health technologies (who may need to be persuaded or nudged to recognise the potential and benefits these technologies may offer them), this focus on affect acknowledges the often barely conscious feelings that underpin motivations to engage in the use of these technologies—or alternatively, how people improvise or resist using them—and the collective and relational nature of these feelings.”

This paper explores the role of affect in older persons' engagement in rural eHealth. Building on interviews with older persons living in Northern Sweden's sparsely populated inland, this paper focuses specifically on the emotions enacted as experiences of, and reflections on, using digital healthcare technologies, and how these feelings and reflections were intertwined with notions of geographic space, old age, and digital healthcare technologies. To meet this aim, we employ the concept of affective atmospheres to analyse the emotional embeddedness of digital healthcare technologies and the enactment of specific place-based power relations and identities that follow.

3. Theoretical framework: affective atmospheres and ideological fantasies

The tendency within Western traditions to disregard emotions has been strong into the 1990s, prompting calls for an increased focus on the formation and effects of emotions as part of the “historical, cultural, and political contexts in which they are practiced to reproduce, and potentially to resist, hegemonic relations” (Harding and Pribram 2004, p. 865). Since then, a lot of efforts have been devoted to defining affective or emotional turns within various areas and disciplines, such as in geography (Bondi et al., 2005) and in the humanities and social sciences more broadly (Lemmings and Brooks 2014). Most ‘turns’ have been about identifying the significance of emotion as a cultural construct, and acknowledging its relationships to power and identity.

In their chapter on atmospheric methods, Anderson and Ash (2015, p. 34) suggest an increased focus on the “collectively lived and shaped condition” that works as a backdrop for the way people comprehend and act in the world. In line with Adey (2013), they suggest the concept of “affective atmospheres” to comprise what they call the “collective nature of affective life”. In this paper, the concept of affective atmospheres provides a fitting tool for theorizing the ambiguous emotional accounts given in the interviews—which were both individual and collective at the same time—and their obvious relationships to notions of space and place which were active in participants' descriptions and explanations of their healthcare practices.

Affective atmospheres are generally defined as assemblages of shared feelings emerging from the interaction between people and their cultural and material surroundings and conditions. This implies that feelings do not reside merely in the individual, but are in some ways collective; produced by specific assemblages of human and non-human bodies (Anderson 2009) and are always socio-spatially mediated and articulated (Davidson and Bondi 2004; Bondi et al., 2005). It also acknowledges how materialities such as technological devices (Ash 2013) and healthcare environments (Lupton 2017b) may contribute to the co-construction of affective atmospheres. Inspired by Milligan and Wiles

(2010) and Shaw (2014), we take this definition to also include specific geographic conditions and imageries. This entails acknowledging how local space—constituted by ever-changing power relations between people and places (Massey, 2004)—is an important driver behind people's ways of comprehending and acting in the world.

Being simultaneously *conditioned* and *conditioning*, the bodily intensities that affective assemblages give rise to support the sometimes unreflective convictions and ways of thinking and acting of people who are part of the same setting (Ash 2013; Brennan 2015). In this sense, the concept of affective atmospheres works to direct explanations away from individual actors and towards movements of shared ideological desires and “moods” (Reckwitz 2012; De Matteis et al., 2019). Glynos (2021) approaches this dimension of affect through the concept of “ideological fantasy”, arguing that the senses of collective desires may “grip” subjects emotionally and can thus propel groups and individuals into specific lines of feeling, thinking, and acting. Ideological fantasies may comprise the ideal and desired consequences of healthcare technologies as they appear to policymakers. But they may also comprise the perceived risks of poorer healthcare, as those risks may appear to people who have just had their local physician replaced by digital healthcare technology.

Without getting caught up in the logic of causal explanation, it is important to recognise how affective atmospheres have specific affordances; how they tend to—but do not determinately have to—affect subjects in their concrete actions (Anderson and Ash 2015). They encourage particular lines of action for particular subjects or groups, but also discourage or even hinder alternative lines of action (Davis 2020). Consequently, through their affordances, affective atmospheres can work in complex ways to actualise specific practices in particular settings, thus contributing to the ways in which people feel and react to political decisions with considerable effects on their lives; for example, by urging them to either protest or silently accept decisions (cf. Woods et al., 2012; Lundgren and Sjöstedt 2020).

This theoretical stance implies that affective atmospheres are not unambiguously ‘positive’ or ‘negative’ but influence subjects in unforeseeable ways; they can be agents of multiple trajectories with various effects. Accordingly, the ways in which spatially connected affective atmospheres are active in people's meetings with digital healthcare technologies can have significant consequences in terms of their engagement or non-engagement in digital healthcare.

It should be clear from the above that neither emotion nor affective atmospheres are neutral but function ideologically as a basis for defining social groups along the lines of being and acting rationally or irrationally, thus also forming the basis for decisions as to whether a groups' demands should be taken seriously (Harding and Pribram 2004). Just as has been proven true throughout history for groups such as women and people of colour, expressions of emotionality have also been identified as central in descriptions of rural populations. This has often been the case when these populations protest what they perceive to be unfair conditions (Woods et al., 2012), and expressions of emotionality are therefore sometimes consciously negotiated throughout such processes (Lundgren and Nilsson 2018). For our purposes, affective atmospheres are theorised as being continuously co-constructed with notions of, for example, geographic space, age, digital healthcare technology and healthcare, and are thus ‘charged’ with various values depending on how intersections are performed. This entangledness implies that affective atmospheres are inherently ambiguous and changing, and that there is a risk that efforts to describe them would reify them. However, as suggested by Anderson (2009, p. 80), the advantage of proceeding with descriptive and analytic endeavours is that the effort “enables us to think further about the intensive spatialities of atmospheres” and how they partake in people's comprehensions of cultural phenomena such as rural eHealth. This is one of our primary foci in this paper, as we identify spatial conditions and identities as core ingredients in the affective atmosphere at work in older people's engagement in digital healthcare technologies.

4. Material and methods

The main empirical material for this study consists of semi-structured interviews with 19 persons aged 61–85, twelve women and seven men, carried out in 2019, before COVID-19, in face-to face encounters. Participants were recruited with the help of healthcare professionals and selected because they all had used digital healthcare technologies.

Nurses working at two community healthcare centres described the research study in brief to patients 60 years or older and asked for permission to forward contact information (name, telephone number, and age) to First Author. First Author then called select patients that had given approval to be contacted to provide more detailed information about the study and what participation in the study would entail. At that point, preliminary consent to partake in the study was obtained from participants and a date, place, and time for an interview was decided. In selecting participants for the study, we aimed for a distribution in terms of age: youngest-old, middle-old, and oldest-old (Lee et al., 2018).

The older persons that participated in the study lived in two different communities in a sparsely-populated inland region in Northern Sweden, all of whom had used one or a combination of different digital healthcare technologies in their participation in everyday health care. Many participants were already using digital technologies such as smart phones, tablets, and similar devices as part of their everyday health care (e.g., buying medicine, getting prescriptions, etc). The interviews, however, primarily focused on their engagement in three digital services that were introduced as part of public healthcare at community healthcare centres: a self-monitoring system, a virtual health room, and a virtual acute cart.

The self-monitoring system consisted of a smart watch. This looked like a wrist watch, and was to be used around the clock. The smart watch could be connected to an application installed on patients' smart phones, in which the health information gathered by the watch could (but did not have to) be uploaded. The self-monitoring system collected information about blood pressure and blood sugar, but also movement (pedometer), sleep, etc. Additionally, patients could rate their emotional well-being by using emojis that were supposed to mirror their current emotional state. The uploaded information was available to registered nurses at the local healthcare centre. This information was analysed, and comments were given through automated chatbot messages, such as “good work!”. Most participants had been introduced to the system because of identified health problems that were believed to be resolved by a change of lifestyle to ‘healthy behaviour’ (usually interpreted as increased physical activity, healthier dietary habits, more sleep, etc.).

The virtual health room was a physical room located in one of the region's healthcare centres and was designed to enable patients' self-care. It was equipped with digital devices for measuring blood pressure, blood sugar, weight, etc., that patients managed on their own. Just like the self-monitoring system, users could (but did not have to) upload their results and send them to the registered nurses at their local healthcare centre. The room also had a video conferencing system that allowed patients (and personnel) to meet with a physician online. While the healthcare centre was open on weekdays and during office hours, the virtual health room was free to use at any time. All patients had to do was to apply for a digital key card.

While the self-monitoring system and the virtual health room were both managed from the same healthcare centre close to the ‘hub’ of the region, the acute cart was stationed at a healthcare centre further away—about 100 km—from the region's main city. The virtual acute cart was a technology that was integrated into one of the examination rooms in the healthcare centre. It was different from the other services in that it was not intended to promote and uphold the self-care of patients. Instead, it was a technology that patients engaged in *together* with healthcare professionals; local nurses helped conduct examinations using the cart. Just like in regular video conferencing, the cart's basic function was to overcome the need for geographical movement for either patients or personnel. The cart thus allowed patients with more

acute problems to be examined by a physician, although there was no longer a physician stationed in the area. To make such examinations possible, the cart's functions extended beyond basic face-to-face communication through the help of advanced cameras for inspecting wounds, throats, ears, and other body parts and functions.

Some of these digital healthcare technologies were used by participants on a daily or weekly basis (the self-monitoring system and the virtual health room), while others were used more sporadically (the virtual acute cart). To gain a contextual understanding of older persons' (digital) care, we conducted semi-structured interviews, short observations (written fieldnotes), and visual documentation (photos) of participants' uses of these services. Additionally, we also held three interviews with local healthcare personnel. These interviews included matters ranging from the practice of actually using the devices to organizational, administrative, and ideological matters concerning the services in question.

Interviews with older persons revolved around their experiences of using local digital healthcare services. We asked open questions about participants' experiences and use of particular healthcare technologies, their thoughts about healthcare in general, and rural eHealth in particular as embodied experiences and practices, including sensory and affective dimensions (Lupton, 2017a–b). The semi-structured character of the interviews allowed participants to delve into personal anecdotes and to go on tangents that they felt were significant in understanding their experiences. Interviews lasted between one and 3 h, and the majority of interviews were around 2 h long. All interviews, including interviews with local healthcare personnel, were recorded digitally and transcribed verbatim.

The study was guided by principles for ethical research as defined by The Swedish Research Council (2017). Nevertheless, our ethical stance has been heavily affected by important contextual conditions. The study touches upon potentially sensitive topics such as health and well-being. It was also conducted in settings that were small and characterised by close social connections. It was therefore important to take extra measures in order to obtain high confidentiality, in both the collection and presentation of the research material. For this reason, we provide only limited information about research participants and the names of specific locations in order to prevent possible identification. The study was approved by The Regional Ethics Committee at Umeå.

Our analysis was four-fold. In the first step, a thematic analysis was conducted to identify and characterise recurring affective components of the affective atmosphere in which experiences of rural eHealth occurred (cf. Anderson and Ash 2015). To describe a shared affective atmosphere, we noted specific understandings in participants' narratives. We also noted descriptions of experiences that were emotional in character (e.g., characterised by raised voices, sadness, or smiles) and explicit descriptions of feelings (e.g., exclamations like "this makes me angry!"). From the narrated accounts, we identified four recurring, interconnected, and negatively-charged emotions. These were central components of what we refer to as the "affective atmosphere of rural eHealth". However, we also identified positively-charged emotions that seemed to arise out of the negative ones.

As pointed out by Ellis et al. (2013), affective atmospheres are sometimes open to conscious identification, while operating at other times without reflection. This calls for methodological sensitivities. In the thematization of the research material we tried to be open to alternative or conflicting observations. For example, as a solution to the cutbacks in rural healthcare services, eHealth was often described as both good *and* bad, and sometimes participants had problems describing what they felt about certain features. This resulted in an analytical process where we read through the material several times and often had to re-interpret interviews or specific sections of interviews. Through this ongoing and integrated process of identification and interpretation, recurring feelings among participants caught our attention and the four emotions that seemed to be central to the shared affective atmosphere slowly emerged.

A second step in the analysis was to explore what modulated the atmosphere of rural eHealth. Following Michels (2015), this step included studying how the central affective components of the atmosphere emerged in participant interviews, and how they were associated with cultural and ideological notions of geographical space, old age, digital healthcare technology, and healthcare.

A third and related step included describing how the affective atmosphere incited participants into engaging with (or disengaging from) eHealth services—the atmospheres' affordances or 'powers' (Davis 2020). How did the described affective atmosphere—or different components of it—afford specific approaches to digital healthcare? This third analytical step was related to the previous step, and helped illustrate how notions about the specific conditions of rural healthcare, together with notions of old age, were made significant and seemed to affect participants' notions of, and engagement in, local eHealth services.

An important last step in the analysis was to name the four intersecting affective components that together constituted the affective atmosphere of rural eHealth. Although there are some valid objections against the difficult practice of naming (and thus freezing) the ambiguous character of atmospheres, naming is an important methodological practice in pinpointing and communicating central characteristics (Anderson and Ash 2015). In what follows, we present and elaborate on the negatively-charged components that were identified throughout the analysis, which we named in relation to their most salient emotions: resignation, necessity, low entitlement, and defiance.

5. Results

Previous research has reported several positively-charged aspects of eHealth implementations, such as increased access to care (cf. Philip et al., 2015), perceived safety (cf. Blusi et al., 2013), and appreciated flexibility of digital services (cf. Barrera et al., 2017; Luptak et al., 2010). These aspects of rural eHealth are also highlighted as advantages in national policy and stand as political goals (SOU 2019:42; SOU 2020:14). Even though participants sometimes recognised similar aspects, their general understandings of rural eHealth were often articulated with strong and quite negatively-charged feelings produced at the intersections of cultural notions about geographical space, old age, and digital healthcare technology.

5.1. Resignation—sensing rural decline

Permeating the interviews were expressions of resignation; participants seemed to quietly accept a situation that they found vastly undesirable but also inevitable. Expressions of resignation were explicitly associated with a shared narrative about the decline of rural communities, including retrenchment policies, out-migration by younger people, and cutbacks in welfare services. As part of this narrative, the participants specifically described their conviction that it was only a matter of time before their local healthcare centres would disappear.

The situation was described in a melancholic manner and included nostalgic memories of how it 'used to be'. Two participants in their mid-eighties both remarked on how there used to be banks, post offices, cafés, petrol stations, and supermarkets in the nearby vicinity. These were all gone now. The dental clinic in their community had recently closed down, and for years there had been talk about closing down the local school, forcing children to commute to another village on school days. Other participants recalled how healthcare centres used to have full-time physicians, but now these positions had been replaced with part-time positions. With a shrug of resignation, one participant said (regarding one of the part-time physicians): "Well it's hard, he's of retirement age, so when he retires, I guess there'll be no one here".

While the general decline of their local rural communities obviously evoked emotional responses, it was also explained as inevitable. None of the participants suggested protesting the situation, but rather evoked an

economising discourse from within in which the implementation of eHealth technologies to replace the popular local healthcare centres came forth as reasonable:

I assume [with eHealth it] is just to lock the door over there [the healthcare centre]. I can imagine ... What does this [local] healthcare apparatus cost? If we are only 5000 in the whole county (...) It [the healthcare centre] costs money. It doesn't generate anything!

Their feelings of resignation did, however, seem to help participants to also connect recent digital implementations with feelings of hope. On the subject of digital self-care, the same participant continued:

And I mean, if we can then get people to manage some of their general wellbeing with a digital device at home (...), that would be perfect. I mean, that's why I have this [pedometer].

Similarly, when describing the cutbacks in rural welfare as worrying but inevitable, participants further expressed hope that digital healthcare would prevent people from having to out-migrate to community centres to get the care they need: "It could be of great help to enable people to remain living here", one participant suggested. Another hoped that eHealth could even out quality injustices between urban and rural healthcare:

I think it might be a way to maybe not *catch up with*, but *get access to* resources from everywhere (...) I've thought that maybe rural areas can take part of the same things [as urban areas].

Evoking the well-known situation of rural decline in their narratives, and positioning themselves as resigned to this situation, the implementation of digital healthcare could also instil feelings of hope among participants.

5.2. Necessity—sensing a lack of choice

Closely related to expressions of resignation were expressions of perceived necessity. While digital healthcare is often part of a political discourse of "choice" (Burr and Morley 2020), participants rather expressed feelings related to a lack of alternatives to the eHealth services: "If I don't have a doctor to go to and there is just this one alternative [the virtual acute care], then I have no choice!", one participant exclaimed. Their feelings of being forced to engage in eHealth solutions due to a lack of options were expressed in relation to various but interconnected notions about cutbacks in rural healthcare, and the more general notion of the inevitability of digitalisation processes:

I think that in the long run, we can't count on more service in a place like this (...) So it'll be these ... maybe you *need* to use these [digital healthcare] devices.

It was obvious that feelings related to digital healthcare were fuelled by the conviction that rural populations had to "keep up with the future", as expressed by one of the participants. During interviews, participants would also express how rural communities were indeed "up-to-date" and ready to move into the digital age. Importantly though, such feelings would also be connected to notions of old age.

There was a general tendency to connect use of digital devices with youth: "It's of course something that you say that younger people are better at", as one of the participants said. Against this background, it was not without a sense of pride that many participants expressed their own willingness and capability to accept and manage digital healthcare services. Hence, while being critical on an overall level, participants would happily describe the multiple devices they used to manage their everyday healthcare. One participant that was critical of local healthcare services also proudly explained how he alternated between his smartphone and tablet to operate the self-monitoring system, and how he used several other services and apps. Others described initial doubts that they had overcome. One participant proudly told us about her initial hesitation before using the virtual health room, but how she had

now managed to go there by herself, without anyone supporting her: "I go there by myself now, so that's good!".

In a sense, having overcome eventual initial fears and insecurities, the age-related stereotypes that suggested that digital devices were for younger people in part tended to make participants feel proud about using digital healthcare technologies. Altogether, both spatial and age-related imageries seemed to furnish participants with a sense of necessity and the idea that there was no choice but to accept rural eHealth, while at the same time providing a means to feel proud about using it.

5.3. Low entitlement—sensing reduced citizenship

A recurring theme concerned participants' feelings of low entitlement. This seemed to include a sense of reduced citizenship in relation to urban populations. Participants claimed that there was more to be desired when it came to local healthcare, and there was a general agreement that the quality was significantly lower than it was in urban areas.

However, most participants emphasized that they could understand the reasons behind cutbacks, closures, and the corresponding digitalisation of rural healthcare. They did not want to come forth as ignorant of regional budgets and considerations, and expressed feelings of not really being entitled to complaints or demands. This led to expressions that rural areas and populations as 'less deserving' of physical healthcare than urban populations. These ideas seemed to make participants feel like rural-living persons should settle for less than urban-living persons, giving them a sense of reduced citizenship. One participant who stated that she would "live here until I die", still claimed that if one chooses to live in a sparsely-populated area one *should not* be entitled to equal healthcare (or other welfare services). Because of this perceived low entitlement, implementation of eHealth service could even induce feelings of gratefulness and encourage participants to accept and engage in the implementations of digital services.

Feelings of gratitude seemed to spring from internalised ideological notions on age and rurality, and participants' modest requirements made them legitimatise cutbacks even when they would affect them negatively. The prevailing sense that rural communities were not entitled to the same level of care as urban communities consequently meant that rural populations should be grateful for whatever services they got: "You can't get everything", one participant said and continued: "I think people [in rural areas] are used to that". Such convictions also made participants tone down individual feelings of insecurity in relation to their digital devices. For example, one of the older participants described her worries about losing control of private information when using the self-monitoring system, but immediately diminished the importance of her emotions:

Deep inside maybe I'm scared that they will update back and forth and that everyone knows everything about everyone, and no, I don't want that. I know, I'm being silly!

Overall, older participants consequently demanded less healthcare and legitimised lower entitlement relative urban areas. This came, however, with a sense of reduced citizenship that would influence participants to the point where they expressed gratitude for digital services and toned down any feelings of not being satisfied with or comfortable using them.

5.4. Defiance—sensing disobedience

While the affective atmosphere surrounding rural eHealth would give rise to feelings of resignation, necessity, and low entitlements, it also evoked feelings of defiance.

Some participants framed their acceptance of digital healthcare as part of a defiant struggle against the general trend towards closures of local welfare services: "maybe it's a matter of survival for rural communities to make more things digital", one participant suggested.

Embracing eHealth services could help local healthcare and their rural community to survive.

The implementation of digital services also fostered defiance directed at rural healthcare digitalisation. Such expressions were vehemently present in some interviews, and were directed at the widely-held perception of being *forced* into using digital services due to political decisions and geographical circumstances that were beyond their control. Digital services then became symbols of retrenchment politics. These feelings were often expressed in cheeky ways among participants, and seemed to involve feelings of disobedience. After first acknowledging that there were no possibilities of refraining from digital services when living in a rural area, one participant then made her renunciative stance explicit and mischievously added “but I don’t have to learn *everything*”. Another participant thoroughly underlined that she would “use persons [local healthcare staff] as long as they’re around”. But there were also more explicit articulations of defiant feelings. One participant said that she “hated that mess”, referring to digital healthcare services in general, and she refused to use the self-monitoring system. Still, she had started to use the virtual health room at the local healthcare centre.

No matter what the expressions of defiance were directed toward—general processes of perceived rural decline or the specific implementation of digital healthcare—they created distance between participants and the situation in which they perceived themselves to be, allowing them to simultaneously position themselves as victims of rural politics and as agents with possibilities to reflect, criticise, and act. Although one-sided criticism was unusual, expressions of defiance hinted at criticism embedded within the affective atmosphere. However, because most of the participants were anxious at the prospect of having rural healthcare fully digitalised, they seemed to feel as though they could not afford to distance themselves from the digital services being offered to them. Hence, feelings of defiance never meant refraining from using digital healthcare technologies entirely, but was more often expressed as defiant, disobedient, or ironic approaches to engaging with them. Like the other negatively-charged feelings that were identified—resignation, necessity, and low entitlement—feelings of defiance could paradoxically contribute to directing participants towards engaging in rural eHealth, even when participants were sceptical and preferred local and physical healthcare.

6. Discussion

Defined as socio-material assemblages of shared feelings, affective atmospheres have affordances or ‘powers’ that encourage specific interpretations and practices (Ash 2013). The affective atmosphere that permeated the participants’ narratives, which is thematically described above, certainly seemed to favour and encourage specific responses to digital healthcare. It helped to rearticulate participants’ concerns about, and objections to, rural healthcare, and framed shared worries such that eHealth services felt like an opportunity, or even a necessity, for the participants themselves as well as for their rural communities.

Apart from the users and the digital healthcare technologies themselves, two interconnected contexts of meaning were central to the participants’ responses—rural space and old age—both of which are central to discussions about inequalities in care (Lawson 2007) and digital divides (Townsend et al., 2013; Friemel 2016; Olsson and Viscovi 2016). The emotions that conjured up the affective atmosphere all seemed to relate in one way or another to those two belongings, simultaneously reproducing their significance *and* encouraging specific responses to digital healthcare.

6.1. Territorial inequalities

The affective atmosphere that seemed to unite participants was closely bound up with geographic space and well-established spatial imageries depicting life in Swedish sparsely-populated rural areas as

difficult and severely affected by cuts in welfare budgets (cf. Eriksson 2010). It comprised feelings of resignation to the situation, of the necessity to accept all offers, and of being disempowered to make demands, but also kindled feelings of defiance. Even though all participants claimed that their main wish was to keep their local healthcare centres, this shared affective atmosphere made the implementation of digital healthcare technologies seem reasonable and encouraged participants to engage with them.

This was partly accomplished through internalised notions of what was rational and sensible. Even when critical of healthcare digitalisation, low population density in the areas where they lived was repeatedly given as a legitimising explanation that made the decisions to cut back on local healthcare services comprehensible. It was important for participants to demonstrate an understanding of the economic reasoning behind decisions on cutbacks, which was also the case when such reasoning and decisions were criticised. The result was that their local rural areas were accepted as differing from urban areas not only in kilometres but in importance (cf. Massey 2004), and a common understanding among them was that public resources, including healthcare, should be distributed accordingly; there was an agreement on the importance of not spending too much public funding on healthcare in sparsely-populated areas. This general reasoning materialised in participant interviews, and they suggested that equal healthcare would make rural communities a burden on the national economy (cf. Eriksson 2020). This was possibly the reason why discussions about welfare distribution were seldom animated within the interviews (although there were exceptions). Instead of pursuing explicit political requirements for equal availability to welfare services, as has been the case in many areas in rural Swedish inland areas (e.g., Lundgren and Nilsson 2018; Enlund 2020; Nordin 2020), participants were generally reluctant to seem ungrateful about their situation. Rather, they persisted in expressing feelings of gratitude for the possibilities that were offered to them through digitalisation, and they even expressed feelings of hope when talking about further implementations of digital services.

The affective atmosphere—the assemblage of shared feelings emerging from the interaction between participants and their cultural and material surroundings and conditions (Anderson 2009)—seemed to furnish the narratives about eHealth with emotionally charged ideological fantasies (Glynos 2021) about the local situation. These fantasies stretched back in time and included melancholic reminiscences of ‘how it used to be’ when most welfare services were available in the local area. But they also stretched forward in time. The future scenarios comprised a relentless movement toward losing local services and depicted rural-living persons as having to completely self-administer local healthcare through digital healthcare technologies, or, as was suggested as the alternative, forcing them to move away from the local area.

This type of “horrific fantasies” (Glynos 2021), provided people with stressful imageries of what would happen if measures were not taken. They instilled a sense of temporality that suggested that local life was on a sloping plane, and urged people to engage in digital healthcare solutions to avoid the coming disasters. Hence, eHealth was framed as an *opportunity* to escape expected future disasters, rather than as an *appalling alternative* to the appreciated local face-to-face healthcare services that were increasingly seen as benefits of the past. To perceive digital healthcare as an opportunity meant downplaying and rearticulating participants’ concerns about rural life and healthcare, as well as their defiant criticisms. This rearticulation also seemed to come with a sense of urgency and obduracy that did not offer much time to negotiate whether digital healthcare was really the best solution. In some cases, feelings of defiance were even interpreted along the lines of defiant resistance against reductions in rural welfare services. Embracing innovations such as digital healthcare services was thus framed as a demonstration of resilient rural subjects and communities (cf. Lundgren 2020), similar to how Nilsson and Lundgren have described the elevation of entrepreneurialism in local rural initiatives to take over and run

closed services.

Hence, and interestingly, emotions were evoked and subdued as an effect of “entanglements of affect, space and place with human bodies and digital technologies” as has been brilliantly exemplified in the work of Lupton (2017a, p. 3). What was novel was the significance of geographic space and spatial imageries.

Furthermore, the negatively-charged feelings that were articulated in the narratives and that seemed to resonate with shared spatial experiences (e.g., anxiety, worries, discouragement, disorientation) also evoked feelings that were more positively-charged (e.g., pride, gratefulness, hope, defiance). Together, they conjured up an atmosphere that gripped individuals emotionally and offered them a more positive take on their local future, and, in the end, also worked as a strong catalyst for eHealth engagement. In light of this, participants’ engagement in available services should rather be understood in terms of an acceptance and internalisation of an affective atmosphere built around a spatialised power relation, rather than one of individual preference.

6.2. Enacting identities of active ageing

Anderson and Ash (2015) contend that while it may be tempting to describe the affective atmosphere of a certain place as uniform and consistent, it is more likely to be constituted by coexisting layers of atmospheres that may compete but also strengthen each other. In the interviews, the affective atmosphere that was invested in rural spatial experiences and imageries interacted with atmospheric layers of densified meanings of old age and ageing. The layers were interlinked in several ways. They were connected, since rural areas in Northern Sweden are affected by demographic ageing and are therefore associated with a negatively-charged high average age. The layers were also connected by the ways they included similar stereotypes for both rural and old age subjects (Lundgren 2017) —negatively-charged stereotypes of being conservative and un-modern, and thus somehow ‘the Other’ of Swedish modernity (Eriksson 2010). Adding to the atmospheric layers was also the way digital technology and devices as such are generally closely associated with both future and urbanity—and with youth, ability, and independence (Rasi 2020).

Being positioned in the middle of these affective atmospheric layers, participants seemed highly encouraged to escape the negatively-charged stereotypes by countering them; to *not* come forth as techno-negative and ‘backwards’, but to express a welcoming approach to digital healthcare technologies (cf. Kania-Lundholm and Torres 2018). They appeared to feel proud to be able to manage eHealth services, as well as other digital services. Pride was communicated through expressions of being interested in, and capable of, handling different digital devices *despite* being old. Fears of being seen as stereotypically ‘old’ or ‘outdated’ seemed to result in participants downplaying their feelings of insecurity or problems that they had encountered in their everyday use of the technologies. Such insecurities were sometimes described as effects of their age, but (and in line with Urban’s (2017) findings) they were mostly interpreted as individual predicaments. Interestingly, many participants described how they felt that they *had* to like and use the eHealth solutions although they would prefer face-to-face meetings, because they did not expect their local healthcare centre to be there in the long run. Thus, notions about rurality and old age seemed to coincide, and together strengthened participants’ feelings about the necessity of engaging in digital services.

The encouragement of the affective atmospheric layers to assume a positive position in relation to digital healthcare technologies and to ‘cover up’ discontent also had other potential drivers; it coincided, and interacted with the ideological move toward “active ageing” (WHO 2002) in Western welfare societies where older persons are increasingly described as capable and responsible for their own health (Boudiny 2013). Hence, the affective atmosphere tended to reproduce neoliberal subjectivities upholding a normative discourse on active ageing that included the employment of self-care (exercising, dietary changes, etc.),

a more active approach to their own healthcare, and a readiness to use digital healthcare technologies (cf. Rudman 2006).

7. Conclusion

In Swedish and international discussions about the challenges following reductions in healthcare services, rural areas with ageing populations are identified as specifically vulnerable, and in need of digital healthcare solutions (SOU 2019:42; SOU 2020:14; WHO 2018). Given the normative character of previous research (Rasi and Kumpulainen 2015; Airoola 2021), this paper argues the importance of exploring the feelings evoked in rural-living older persons’ personal accounts of digital healthcare technologies to better understand their attitudes toward and reasons for engaging with them. It highlights how strong ideological fantasies of a promising new digital landscape of healthcare are intimately entangled with imageries of rural spaces and old age. We argue that the concept of affective atmospheres provides a means to critically explore older rural-living persons’ reasons for engagement in rural eHealth services.

In interviews, digital healthcare technologies surfaced as signs of rural decline and urbanistic politics, and were generally understood as ‘second-best solutions’ for people who had resigned themselves to the withdrawal of local welfare services. The participants’ rationales gave rise to contradictory and often negatively-charged feelings that paradoxically worked to propel them into engagement with local eHealth initiatives. Hence, digital healthcare technologies came forth both as symbols of an ongoing dismantling of their local communities and as symbols of future possibilities—they were referred to as what would make living and ageing in rural space possible. Hence, eHealth engagement did not seem to be driven primarily by participants’ preferences, but by context-dependent trade-offs that included strong and shared feelings about spatially-embedded and age-related individual and collective conditions and imageries.

In policy and research, digital healthcare is described as a way of empowering older and rural-living individuals by increasing self-efficiency and providing tools for self-management. It is unclear, however, whether engagement in eHealth services actually produces feelings of empowerment (Risling et al., 2017; Roberts et al., 2017a). Highlighting the affordances of affective atmospheres makes visible how they helped to downplay and rearticulate participants’ concerns, and framed shared worries so that eHealth solutions felt enabling and like an opportunity for both individuals and rural communities. Being situated before the COVID-19 pandemic, the study does not account for the changes in affective atmospheres that the pandemic may have brought with it. There is thus a need for future studies to explore how COVID-19 experiences may have been made significant in the always ongoing constructions of rural life and rural needs.

eHealth engagement is often described as a rational choice made by autonomous individuals. In policy texts, older and rural-living persons are described as groups that would benefit from engaging in eHealth services and who would choose to do so if services were tailored according to their preferences and needs (SOU 2019:42; SOU 2020:14). Both geography and eHealth scholars have been critical of such liberal notions of subjects; Gordon (2018) argues that it is important to understand the interactions between demographic and geographical conditions, and how such notions can influence individuals’ beliefs and actions, and Pols (2017) stresses the conditioned nature of digital healthcare and how patients’ choices are situated rather than principal.

In relation to rural eHealth, these are important arguments for more critical engagements with subjects’ feelings and their relation to the contexts in which they live. Such arguments probably have bearing on Western-peripheralized rural areas in general, given their many similarities (see Airoola 2021). By instilling a specific set of shared feelings, the affective atmosphere of rural eHealth induced older rural-living persons to endorse digital solutions, while at the same time under-communicating worries and anxieties about what this would

mean for them in the future. In this way, the concept of affective atmospheres worked to highlight not only how human subjects and digital materialities interact—or indeed intra-act (Barad 2014; Lupton and Maslen 2018)—in the production of human emotional responses, but emphasise how imageries of geographic space and age are active components in that process.

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Data statement

Based on the ethical principles on confidentiality provided by The Swedish Research Council (2017), unauthorised persons are not allowed to access the research data. For further questions, contact Corresponding Author. For secure access privileged to Authors only, all research data are stored in password-protected computers. The study includes original data. Authors confirm that they have full access to all the data in the study. Authors take responsibility for the integrity of the data and the accuracy of the data analysis.

Submission declaration and verification

The Authors assure that the submitted manuscript has not been published previously, that it is not under consideration for publication elsewhere and that the submission is approved by both authors. If accepted, the submitted manuscript will not be published elsewhere in the same form, in English or in any other language.

Declaration of competing interest

None.

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