The social connectedness of digital practices in later life: It's not just about learning, it's all about relationships.

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Abstract:

In the last ten years there has been an increase in access to information and communication technologies among older people, stimulated by widespread adoption of mobile devices (smartphones and tablets). At the same time, digital inclusion policies and training programmes continue to develop to increase the access to the digital society for this social group. In this context, it is pertinent to revisit a long-standing research question about how older adults use and learn to use these technologies in their everyday lives while paying attention to how their subjectivities and their knowledge are situated in the collective shared knowledge of digital practices. Using examples taken from a digital team ethnographic study exploring social media use in later life, the paper delves into how learning digital practices and affective relations assembled and what they do to older people's subjectivities. Their engagements show how these practices are illustrative of the relevance of social connectivity, place, things and affects for learning how to use ICTs. We, then, move to discuss the policy implications of this for the understandings of ageing within a digital society.

Keywords: older people, social connectedness, relationality, affects, digital technologies

Introduction

The access of older people to the internet and other information and communication technologies (ICTs) in Western societies has so far been limited and their engagement has grown slowly compared to younger generations. However, during the last ten years there has been an increase in access to those technologies, promoted by the popularity of mobile devices (smartphones and tablets) and their widespread adoption among older adults (Fernández-Ardèvol and Rosales, 2018; Jones, 2015). Meanwhile, the promise of technology to support wellbeing and social connectedness (Czaja et al., 2018; Neves and Vetere, 2019) has not been fulfilled (Beneito-Montagut et al., 2018) in spite of the studies showing that internet use reduces loneliness and social isolation (Cotten et al., 2013; Seals et al., 2008), improves the psychological wellbeing (Cotten et al., 2014), or promotes a healthy and active life style (Wong et al., 2014), among other benefits. We argue that this is, in part, due to prevailing understandings of older technology users as non-agentic actors in the shaping the digital society (Neven 2011; Peine et al. 2015; Wanka & Gallistl 2018), in addition to design processes and digital inclusion policies that do not consider the rich digital and material lives of older people (Manchester and Jarke, 2022; Katz 2019; Twigg 2013).

Most of the policies to promote digital inclusion entail training courses about quotidian technologies (i.e., smartphones, social media, image and video editing). In this context, it is necessary to revisit a long-standing research question about how older people use and learn to use mainstream technologies in their everyday lives. While doing this, it is also needed to delve into how their subjectivities are negotiated and their knowledge situated in the collective shared knowledge of digital practices as critical aspects for social inclusion.

Studies on internet usage among older people tend to adopt structural (e.g. Friemel, 2016; Quan-Haase et al., 2018) or instrumental positions (e.g. Campbell, 2004; Campbell and Nolfi, 2005; Spears and Zheng, 2020). The structural position assumes that all older people want to or should use technologies, conceptualising the "grey digital divide" as a gap that should be bridged for social justice (Friemel, 2016). This research has described and predicted the determinants, older age being one of them, that affect the individual motivations to use technologies (Zillien and Hargittai, 2009; Quan-Haase et al., 2018) and, then, age becomes the target for policies. At the same time, the idea that the use of the internet and ICTs is essential for the creation of fair and egalitarian societies persists in policy documents (e.g. *Policies for Aging Well with ICT*, 2010; Timmers, 2008). However, these policies have

received criticisms (Lassen and Moreira, 2014) because of the enactment a new ideal of the 'good late life' which necessitates a technologized ageing. The latter takes as the starting point a technoptimistic approach which focuses on the benefits of internet use and technology adoption or the barriers to using it. This body of research has timely addressed how older people learn to use these technologies and the positive effects they can have on their well-being (Kania-Lundholm and Torres, 2015, 2017; Quan-Haase et al., 2019). There are studies that focus on how older people make sense and use the internet in their everyday life which are not celebratory in their approach (Kania-Lundholm and Torres, 2018; Selwyn, 2004; Selwyn et al., 2003) and analyse how older people take on their own views on technology (Mannheim et al., 2019; Waycott et al., 2013). The literature is extensive as well when analysing the impediments, difficulties, and barriers to learn and incorporate technologies in their everyday life (Astell et al., 2020; Lee et al., 2011; Marston et al., 2019) which is important to improve their access to technologies and raise awareness about the need to include older people when designing technologies. Some studies have pointed at the support needed from younger generations, particularly grandchildren, in order to "lighten the burden on children" (Luijkx et al., 2015: 15470). The assumption is not only that older people have problems that hinder their full engagement and learning (Boulton-Lewis, 2010) but they are unable to learn without the help of younger generations, that in turn, seem to own the knowledge. In addition, underpinning these postulations, there is the implicit acceptance that younger generations are the keepers of the "digital" practical knowledge (or digital literacy) and the ones who can teach older cohorts (Schreuers et al., 2017).

When putting these ideas together, it seems easy to reach to the conclusion that older people's lack of engagement or willingness to participate in the digital society negatively affects the achievement of a 'good late life' and should be remedied by older individuals -with policies and younger generations support.

To go beyond these perspectives, this paper is situated within the body of work that recognizes that learning and knowledge are not only individual or cultural matters. Indeed, it aligns with the works that recognise that learning and making sense of the world occur in interaction with others and cannot be detached from the social worlds that older people inhabit, it implies socio-material mediation (in addition to symbolic-mediation) (Orlikowski 2006; Scribner 1986), and situatedness (Lave 1988; Aberton, 2012). Even though ICTs increasingly require thinking across multiple media in different settings, the relevance of materiality and affects for practice has barely been addressed in the study of learning or adoption of these

technologies in the context of later life. To fill this gap, we borrow the vocabulary of 'practice theory' while paying attention to the affects and emotions in digital practices as well. We make visible the micro-dynamics of everyday learning, the negotiations within digital practices and the subjectivities arising. The focus is on social relationships in place[1], technological artifacts and affects, all as entangled elements in the learning and meaning-making processes observed in older people's digital practices. After introducing the theoretical framework and the methodology of the study, in the following sections of this article we show, through vignettes, several learning practices as they unfold.

Socio-materiality in older adults' technological learning

In this paper, the social world is digital, as well as physical, and older people's meaning-making processes, sense of fitting in, being comfortable and their decisions to be in the digital realm and applying themselves to learn are constructed, negotiated and normalised in an ongoing basis through their relationships with others and artifacts. What answer would we get to how older people learn if instead of positioning them as vulnerable individuals, we position them as active agents of their use and learning of technology? Would we get new knowledge to support the reformulation of digital inclusion policies?

To answer these questions and as a backdrop against instrumental and structural theories, we turn to practice theory (Reckwitz, 2002; Schatzki, 2012; Wanka and Gallistl, 2018) to understand the empirical 'facts' presented below and to see where this leads us in the interpretation of the social world. In this investigation practices are collective and situated in a context (or contexts) where "knowing-in-practice" emerges (Gherardi, 2012) -embodied, relational, socially located, mediated and evolving. A practice is "a routinized way in which bodies are moved, objects are handled, subjects are treated, things are described and the world is understood" (Reckwitz, 2002: 250). Moreover, a focus on practices, enables material enactments of subjectivities to emerge in chains of associations (Latour 2005), and might open up another way of understanding older people meaning making of ICTs. A practice-based approach emphasizes relationships and provides an understanding of learning and co-construction of knowledge as something other than a cognitive process. Another of the key proposals of this perspective is to shift the focus of research from the individual subject to the processes, in an attempt to evade the supremacy of representational conceptions to indicate

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[1] Note that the concept "in place" in this paper is used with two meanings: as synonym of situated in a particular socio-physical or digital place and as living in the place of their choice -used in the gerontology literature.

that reality is brought into being: is enacted or done through practices (Thrift, 2000, 2008). For us, the notion of *practice* refers not only to what people actually do online, but also to what they do outside the digital realm, yet in relation to it, which is as important as the outcome produced. By studying practices as digital and material -a unit of analysis that happens online and offline simultaneously- we recognise that these two realms are interwoven (author A, C). Practice is eventually conceptualized as networks that include human actors (such as peers, family, friends, teachers), their activities, uses and social interactions (i.e. the design of Power Points, organisation of a social centre, interpersonal communications), and any kind of resources (such as policies, tools, artefacts, standards or social objectives).

There is a related body of work in educational research (e.g. Aberton, 2012; Sørensen, 2009) which uses practice theory and apply a socio-material view of learning (Fenwick et al., 2015). This instigates an exploration of the various forms in which learning and knowledge are rooted in quotidian practices, including the ongoing action that produces the objects and the subjectivities that constitute our way of seeing and being in the world. This position assumes that humans learn as active agents, because learning emerges through transactions between a learner, objects of the environment and the environment itself. Sørensen's definition (2009) of learning as a growth in knowledge, the ability to connect with other entities and "to be" as a continuous process that occurs through crosses and assemblies of materials-discursive and interactions of people, places, bodies, texts, technologies, artefacts and architectures, is useful too. This approach also resists the conventional assumption that learning is primarily an individual achievement and considers other purposes to learn (non-goal oriented). However, these studies haven't addressed older people learning yet.

The theoretical positioning regarding age and technology is rooted in critical geron-technology (Gilleard, 2017; Joyce and Loe, 2010) and attempts to capture how older people evolve and co-shape the practices of technology use. We follow a recent call to researchers assuming older people as knowledgeable technological users, instead of unskilled dupes of technology and design (Peine et al., 2021). From co-creation studies, we follow the idea that older people should be active agents in co-designing technologies (Manchester and Jarke, 2022). Indeed, in technology-design and human-computer-interaction area, there are studies which move away from the critical assumptions presented before (e.g. Meurer et al., 2018; Wang et al., 2018; Waycott et al., 2013) and engage in new materialism ideas to design technologies for older people (Endter 2021; Jarke 2021; Manchester 2021). Yet, they rarely study mainstream technologies (an exception in Martin and Pilcher, 2017). We cover this gap by

providing new data on how older people use mainstream technologies –such as PowerPoint, WhatsApp, email or Facebook– instead of analysing gerontechnologies, defined as innovations designed for older people (Peine et al., 2015). We operate with the idea of "greying the cyborg" (Joyce and Mamo, 2006), which claims for attention to the complex ways ageism is embedded in technologies, and the understandings of technology and users as mutual constructions (Oudshoorn and Pinch, 2003) in everyday life contexts.

To sum up, we place our work within a growing and diverse set of overlapping approaches referred as 'practice theory', also including socio-material perspectives on learning and critical socio-gerontechnology.

Methodology

This paper is based on data generated for an ethnographic research project that examines the use of social media in the daily lives of older adults. In terms of its methodological orientation, a digital team ethnography was carried out (Beneito-Montagut et al., 2017) reliving the classic team ethnography approach of Erickson and Stull (1998). The study followed a trans-situated and user-centred approach (Beneito-Montagut, 2011; Beneito-Montagut, 2021) focused on everyday life practices and on the micro-dynamics within learning encounters. Between 2014 and 2016, we met, interviewed in-person and interacted online with 20 older adults, half of them living in an urban area of Barcelona (Spain) and the other half living in a semi-rural area close to the city. All the key informants were social media and computer/ICTs users. The sample was diverse in terms of gender (11 men and 9 women), marital status, age (ranging from 65 to 80) and who they live with. On the other hand, it was similar and quite homogeneous in terms of their social class (middle-class), non-migrant background and all of them were living independently in their own homes. Although this sample may not be representative of all older people in Spain -there is an effect of recruiting participants via ICT training courses- it can provide initial evidence referred to older people with similar characteristics to those included in our sample. In the last ten years there has been an increase in access to information and communication technologies among older people (Beneito-Montagut et al. in press; Loos et al., 2018a), stimulated by widespread adoption of mobile devices, which makes the study timely. As such, a profile that was relatively scarce is today much more widespread. For instance, in 2016, 40.6% of men and 29.4 % of women between 65 and 74 years old[2] in Spain had used the internet in the last three months

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[2] Spain National and EU statistics do not collect data about technology use for people 74+.

compared to 74.6% of men and 72% of women in 2021 (INE, 2021). While in 2014, only 10% of people between 65-74 years old in Spain accessed internet from mobile phones in 2019 this had increased to 54% (Eurostat, 2022).

The research used several ethnographic strategies for data generation, which included participant observations in four socio-cultural (community) centres for older people, entry and exit interviews, and online participant observations in several social network sites and internet applications (Roser Beneito-Montagut, 2011). On some occasions, we also visited key informants in their homes, or met with them in public spaces, such as cafes. We collected digital data from them as well and recorded their public interactions on social media. All the data generated and collected were included in NVivo for subsequent coding and analysis by the researchers. The treatment of the data involved three stages of analysis, beginning with the crafting of the fieldnotes, joint emerging coding of all the data and final refined coding. Close attention to the practices assembled has the potential of revealing the dynamics of convergence towards commonly held doings and attitudes and divergence towards alternatives regarding technology use and learning, within the group and beyond. Given the complexity of the digital ethnographic approach used, it has been fully described somewhere else (Beneito-Montagut et al., 2017; Beneito-Montagut, 2011; Beneito-Montagut, 2020).

The research data and results are presented as vignettes (Vinz et al., 2003) as a way of giving voice to the informants. A vignette is a short story about characters in particular circumstances and situations. Each has a narrative structure that is limited to a period of time, one or few key actors and a delimited space. Its epistemological and methodological relevance lies in understanding them as vivid histories of practices (Erickson, 1985). In practical terms, it is a description of a series of events around key actors chosen to be emblematic. The vignettes presented below describe technological learning practices in different moments, situations and spaces and represent lively stories about social relationships and age. They were chosen because they were representative of what we observed. The stories presented here were not unique, we found recurrent instances of them.

Learning social media and ICTs and the doings to age

This section shows how older adults are social actors that creatively negotiate their learning in particular situations and construct digital practices. They take ownership of the practices, define, co-shape and give meaning through them. Analytically, we turn on the meaning making processes in relation to technology usage and age. In doing so, we show what the practices become and what the individuals become or, in other words, what the

practices themselves do to both, the understandings of technology and the humans' subjectivity (Simpson, 2009).

But before, a brief background information about the actors and places may be useful to situate the practices digitally and in place. Among the key informants, the email was the top social media application that older people rely on, followed very closely by WhatsApp, but older people in this group, disproving the general expectation, use a broad array of technologies. They use a variety of devices, such as desktop computers, laptops, tablets and smartphones, and software. For instance, Facebook adoption was quite low at the beginning of the fieldwork, but its take up grew quickly and it became quite popular among the key informants. The fieldwork also started at the same time that older adults were broadly adopting smartphones. Several of the key informants in this research bought or were given smartphones during the research project. This provided dynamic and holistic insights in their digital practices and learning and is reflective of the fact that modern technologies increasingly require working and thinking across multiple media in a variety of settings

We met them through attending community centres, located in Barcelona and a rural town close to Barcelona, that offered social media and ICT training for older people in their activities programme. The lessons took place in a sort of neighbourhood/community socio-cultural centres for older people, called *casals* in Catalonia. *Casal* is a popular entity which is quite specific to Catalonia. Its objectives could be social, cultural, political, communitarian, religious and educative. The centres we spent time in provide a social space to hangout and offer a broad array of activities -more or less organized- such as Tai-Chi, knitting, board games, fitness and so on. They also function as hubs for social connectedness within neighbourhoods. Most of the centres we visited were equipped with an IT room that was opened for everybody to use beyond the classes. Regarding the sort of ICT training, these centres offer training programmes on *Computing for Beginners*, *New Technologies*, *Social Networking Sites*, *Everyday Social Networking Sites*, *Digital I and II* (Word, Excel, Power Point). These courses were offered as part of a policy programme aiming at bridging the so-called digital divide and under the frame of active ageing policies. The meaning making for the informants, thus, is underpinned by an intended set of goals and transaction between the centres and users. Caution is needed, then, when interpreting the findings as the participants in these courses have a willingness to learn ICTs and some may be internalising the policy discourses (Marshall et al., 2022) around digital inclusion and active ageing embedded in these training programmes.

Shaping practice through crafting PowerPoints and social connection

What follows is a vignette that illustrates how older people are active agents in defining their learning practices and social media possibilities as a technology to keep themselves in contact with others, while a technology is "carried over" to this particular context, not to replace previous practices, but to generate new ones (Orlikowski and Gash 1994).

There is a large group of people, around 20, using the IT installations and attending the classes. *Eva is one of them. She* regularly attends the 'Casal la Pedrera' and engages in learning technologies. She is a 72-year-old woman who lives in Barcelona. She is retired -was formerly an administrator- and lives with her husband. Eva spends much of the day in the *casal* and is the coordinator of the IT area. She is very involved in the everyday life of the *casal* and is a relevant member of the community around it. She's got a very active social life, and much of her activity is linked to this centre and to digital technologies. She also participates in many of the courses offered, not only in those related to technologies. As she says, "you know that I am very busy, that I am here in the *casal*, and I have loads of work". When she gets home at night, after dinner, she usually goes online for three hours as well, until bedtime.

She owns two mobile phones. One is not a smartphone and the other one is. She shares the smartphone with her husband as they cannot afford one each. At home, they also have a desktop computer, a laptop and a tablet. She uses email and Facebook, although her Facebook profile is rather quiet and there is not much activity. However, Eva is in charge of updating the Facebook page of the *casal*, and on that Facebook group she is quite active and dynamic. She publishes the news of the centre, the programme of activities, photos and information of interest for the community. She acts as a kind of "community manager" for the *casal* social media presence.

She has tried a large number of different apps, such as *WhatsApp*, *Twitter* and even created her own blog. But after a while she stops using them. She is the kind of person who likes to try everything that falls into their hands, and then drops off what does not end up integrated into her daily routines. Her usual digital practices are articulated mainly around the email and the *Facebook* group page of the *casal*. Eva uses the group page as if it was her personal Facebook page.

Fragments of a conversation with her, helps to understand her relationship with digital technologies with more detail:

Eva: No, you know why I'm telling you that, right? I download many YouTube stuff, huh?
Because I download them in MP3, and then I change them from MP3 to WAV, because

for using them in a PowerPoint it has to be WAV music, because normally if it is MP3, if you send it, depending on how you send it, you cannot hear the music, and with WAV the music always works, and then I transform it.

E: You are, you are … an expert, huh? Really…

Eva: Why?

E: Well, all what you are explaining to me about video formats and music… and …

Eva: Well, we do courses. I enrol in courses all the time. I actually attend all workshops about PowerPoint, and video … and Photoshop as well.

The first point that we want to make here is that she gave a particular meaning to both learning how to make a PowerPoint and the crafting of it. That is, in part, to be shared with others by email. Being able to share their PowerPoints online is very important, as it's implicit in the conversation with Eva. Again, in Eva's words, "we did a PowerPoint, and well, when we finished it, we sent it to everybody [referring to the group of people that attends the course]." The ultimate goal of designing these PowerPoints is to share them by email or social media. They usually share their creations via email chains, although some informants also share them on Facebook or YouTube. This fact, in addition to reinforcing the idea of learning through practice and being tech-savy, also points us towards the relevance of the relational elements. We also observed that there is a fascination for the visual and multimedia elements that acts as a driver for learning how to edit PowerPoints, which are very visual but also appeal to other senses –as we can see in the relevance of the sound for the final artefact.

The technological artefacts that the participants of this research made, became objects of symbolic exchange and of social connectedness and relatedness. Objects are necessary components of these practices, and the medium specificity (visual) plays a role in it, as it is the skilful performance of the bodies. Carrying out the practice means using the Power Point in a certain valued way. Social connectedness emerges as a key element in the practices of learning, by creating the artefact and sharing it. Eva's practices are unique to her, but we observed in other participants the relevance of making and sharing as a way of displaying expertise and knowledge and connecting to others.

The interests and uses of technologies are articulated around a physical space, a community of shared knowledge and a set of personal relationships which are established around the *casal*. The practical knowledge required here is an ongoing accomplishment, materially and socially mediated (Orlikowski, 2002; 2006), and situated (Lave, 1988) but it is also affective and collective. Hence, learning occurs at the intersection of social connectedness, the

social centre as a physical place and a community, the social web as an online space, the technological artefact and the interest around technology as the stuff that glues the elements together.

Defying existing stereotypes and defining the practices

The idea presented in the previous vignette adds to the existing evidence (Brittain et al., 2010; Joyce and Loe, 2010; Östlund and Lindén, 2011) about defying persisting stereotypes of unskilled technology users who are excluded due to problems of access to the technology and digital literacy. They are not passive recipients of ICTs either (Wanka and Gallistl, 2021). Eva, through her technological practices, resists prevalent conceptions around inept users associated with age. Moreover, the empirical evidence shows how they are not always acted upon by mainstream' normativism and standards of use. Developing on this idea, the following vignette introduces Pere's practices.

> Pere, 70 years old, owns two computers: one laptop and one desktop. He is another person who is extremely fascinated by digital technologies and engaged in the making of *Power-Points*. He is usually connected two or three hours per day and is very skilled in *Facebook* and other digital technologies. He assists regularly at computer courses in a socio-cultural centre, *Casal Guell*, in his neighbourhood, where he has become one of the most admired people for his knowledge and skills in digital technologies. Moreover, he shares his expertise with others one day a week, in which the computer room is open for all users, as Pere acts as a volunteer helping other with their use of technologies. One morning in the *casal*, between consultation and consultation, he also creates a *PowerPoint* with photographs of the Football Club Barcelona players. To do this, he carefully searches and downloads photographs from different web pages, edits them with *Photoshop* to change their colour, and includes animations. He searches patiently and tirelessly for web pages to download the Barcelona anthem, that he wants to include in the multimedia creation. Once he has found it, he explains "for this, you will have to do a song format conversion, which I do with a software that I have also downloaded from the Internet." The preparation of the digital artefact is slow and laborious and is done in front of an attentive and enthusiastic audience formed by the other users of the computing room, who also make suggestions to improve it. Once it is finished, he signs and protect it with a password. He is very proud and sends it to his friends by mail and by the private *Facebook* chat.

Again, this vignette is representative of the practice of making a PowerPoint and the meaning of this action is revealed through the careful attention to the tasks and through the ownership signalling. It emphasises that older people take on technologies for their own purposes and control over their learning, focusing on what is important to them and their everyday life. As seen, a common practice of the key informants was to protect the PowerPoint creations against further editions with passwords, to avoid anyone else plagiarising and appropriating them. Some informants signed their creations by writing their initials on the last slide as well. While doing this, they not only resist stablished stereotypes but also became active, owners of their own learning and proud of their digital makings. Moreover, they defined and re-shaped a well-stablished technological use. PowerPoint is a well-known presentation software that has become very widely used in many communication situations, in academia, teaching, business and beyond. But for our key informants, the PowerPoint is not used to create presentations to share in in person communication situations, it is mainly used to create digital artefacts to be shared through email. They are digital artefacts which contain and transmit an idea, story or memento that spreads from person to person within a culture—often with the aim of conveying a particular experience, idea, theme, or meaning (author, 2021). The creations we collected during fieldwork are mostly affective and emotionally charged. Many of them reflect about the meaning of age in a celebratory and bright way, reaffirming themselves as old, and resisting gloomy ideas of frailty, dependency, ugliness and uselessness -among others.

To the idea that practices (the making and sharing) enact what valid knowledges and relevant skills are for people using and learning to use technologies, we need to add their subjectivities highlighted with the signing and protecting ownership and the meaning of age transmitted. They want to make meaning about age and challenge with the practice general perceptions of age. These are enactments of relevant practices and signal significant questions, not only about how the value of learning (specific skills and knowledge) and technologies is determined (Fenwick and Landri, 2012) and who determines it, but as well how old age is defined. While these social media and digital technologies have been taught in an instructional manner -the lessons organised by the Foundation guided by policy goals- the meanings emerging from the practices are linked to connectedness, affects and subjectivities. These practices allow them to hold small acts of resistance to normative knowledge, and these small acts of resistance become a form collective agency.

Staying in touch, learning and feeling socially connected in place

As pointed out before, digital technologies can also be motivated as social connectedness in later life. They become artefacts to enable older people to stay connected with others, take ownership of the practices and co-organize their learning -as we'll see below. The place, where the courses and workshops for people to learn and acquire digital skills occur, acts as a spot for social connection as well. Here, we advance on the idea of the centres as places for social connectedness knitted to the digital social networks.

Eva simultaneously learns and teaches how to use technologies. She attends to the workshops and regularly responds via the Facebook page of the *casal* and via emails to technological questions from other attendants at the centre. This role as supporter of others opens up additional possibilities of relationsships. As Eva explains,

> "... we also attend workshops about ... social networks, 'Everyday Social Networks', and then the people who sign up, all register on Facebook. Immediately, I receive lots of requests for friendship and of course, as they are people from here, I accept all of them." (Eva, interview 2)

This quote illustrates the kind of social connectedness that constantly materialized during fieldwork in the socio-cultural centres which emphasises the idea that they should be understood as places linked to technologies. Following on Eva's arguments:

> " well, the fact is that we are all connected here, most of us are connected to the Internet, eh? ... stuff about ... computing with what's going on **here, here** [our emphasis]. We come [to the *casal*] and most people spend many hours in here."

Thus, there is a strong connection between the social connectedness in place – in the *casal*- and the digital social connectedness – in social media –, and both forms of connectedness are enabled around ICTs. However, against what previous research suggests about the potential of social media to establish (re)newed interpersonal connections, when we paid attention to the link between the use of social media and personal relationships in this research, we couldn't observe a clear association between their use and an increase in social connectedness which could be entirely attributed to the use of social media and the handling of digital technologies. In any case, social media functions as another element or another layer in the complexity of personal relationships. We observed an intensification of the relationships. The

constant engrossments of the communicative acts via social media becomes the personal relationship, that is mostly building up on affects. In other words, a more frequent contact with people who already know each other, and with whom some type of bond has already been developed within in person contexts, leads to materialise the relationship through a channel (social media) that affords constant signalling and flow of affective acts. In this sense, technologies are another element (digital and material) of and for socialization which is impossible to disentangle from the in-person relationships that are developed in place. This supports the conceptualization of digital practices as material doings, as well as reinforces the arguments about learning as a practice interweaved within the *casal* (as a place), the social relations (as affective social connectedness) and subjectivities.

Affective connections

During the fieldwork we identified many relationships among participants in which learning technologies was an affective form of connectedness. The following vignette expands on the entanglement of learning practices, digital technologies (social media) and relationships, but this time the focus is on affective and emotional interactions.

Teresa, another key informant, manages social media very well and has high command of several software and web applications.

Teresa is 69 years old, she is a widow and also lives in Barcelona. She has 3 children and 4 grandchildren. Teresa lives alone. She owns and uses different kind of technological devices: a desktop computer, a laptop, a tablet and a smartphone. When we talk to her about her daily digital practices, she tells us that after being widowed, she went through a harsh period. She describes it as a period of time during which she was trying to find herself. She felt blocked and paralyzed by the feeling of loss. It was on the socio-cultural centre near her home, *casal la Solana*, that she found something that she was keen to engage with and put her interest on it: the computing workshops. Thus, Teresa began 10 years ago to attend the training courses related to digital technology and computing. From the beginning, Teresa's digital practices had strong relational, affective and emotional elements. She explained to us:

"And then, as a result of that, at that time [around 10 years ago], *La Caixa* website had a chat. A chat. But only to write, because at that point it was only writing, we did not use Skype and all these things that we saw in the workshop and

allow video-chats. And in this chat, I made two or three friends, and afterwards we … well, we kept in touch through the chat. They were retired people as well. One was a widow man here [in Barcelona], another one from there, one from there, I do not know…. Then after a while, among us, and nurtured by one of them… "Hey, why don't you install Skype, so we'll see each other, we'll know each other, I do not know what". And we installed Skype and Messenger, which also had videoconferencing. And then look … this man passed me [pirated] software all the time."

It was Teresa's interest in computer technologies that worked as the fixing agent to learn and establish social relationships. In the narration about the online relationships with these men, and specially with one of them, there is a bit of a blush, which suggests that there is some level of affect and intimacy. She joined to the socio-cultural centre because she was emotionally low and interested in technology, and that worked as the amalgam which evolved in the formation of a group (collective) of older people attending different *casals* in Barcelona interested in technology. From this situation, affective and meaningful social relationships emerged for her.

Another evidence of the entanglement of affects, technologies and learning can be observed in Teresa's relationship with Paca. She is a close friend and also takes part of the casal's tech activities. Paca is not as skilful and knowledgeable as Teresa, but Teresa helps her on her handling of technologies. The following vignette recounts on their story. Probably, the linearity in the following narration does not mimetically reflect how the story unfolded but it shows how subjectivities, affects, software and collectivity come together.

One day we observed how Teresa helps a friend with social media in the 'casal'. Teresa brought her own laptop and started posting something on Facebook with her friend. Paca, the friend, got stuck herself and said, "I don't get it, I don't get it", and "I do not know how to do it". She seemed worried and cautious about what to do on Facebook, because she was not certain about what to do and she insisted "I do not think I'll know how to do it", "Please, give me the notes!", making reference to the notes she took during the social media workshop they had in the 'casal'. Teresa, after this scene with the friend told us that Paca, "usually gets blocked a lot, she gets stressed, she takes so many notes that she cannot make sense of them afterwards. Well, sometimes I'm with her on the phone for an hour, with the computer open: 'go, go here, click there'".

This illustrates that is not always easy, that sometimes learning how to use social media and computers is a struggle for some people -but, is this particularly related with age? We challenge that idea. Despite these tensions and struggles, Paca also likes the Internet a lot and enjoys the social relationships she has through the Internet and around the learning of technologies. Teresa and Paca met in the ICT workshops at the casal. Since then, they have become very good friends and have a strong relationship inside and outside the casal. Paca takes the opportunity to talk again about a mutual friend [he is the same man Teresa talked about before] of the two who lives in the Canary Islands who is a *cracker* [in their own words] and passes them unlicensed software. Teresa again explains to us:

"And ... of course, he always talks to me about the problems he has [referring to personal health problems]" And how do you do [referring to a technological process]? How did you find this? You know? We have ... that, that kind of thing. "

Teresa and Paca, with these narratives about their personal relationships, social media and software use, illustrate in an exemplary way how practices open up to affection and intimacy (Beneito-Montagut and Begueria, 2021). What started as a relationship around a mutual interest and belonging to a learning community, turned up into something devoted to more affective aims too. It reveals the circumstances in which practices become a place to materialize the crucial role of emotions and affects in the learning processes.

Connecting to something bigger

During the fieldwork we observed that there is an informally organised group of people around the *casal La Solana* whose practices go further and connect others beyond the spatial limits of the place. They are a very techie group of people. They teach each other. They also teach other people outside of the casal community in a more or less organised way.

This group organises and participates in what they have called "self-training workshops". One day per week, they are the ones who teach and lead on the technological workshops according to the expertise of each person and concurring to the demand. That is, for instance, the person who is good at editing images with Photoshop, teaches others in a session about Photoshop editing. And so, successively with various practices that range from photo and video editing to managing particular social media platforms or smartphones. Teresa learned, and continues to learn, as part of this group of peers who share interests and relate

both in the social centre and through social networks sites, and this has also given her the confidence and experience to teach others.

To close the empirical section of this paper, we present another vignette that describes what emerges from the digital practices of this group of people and how they shifted from being learners to teach others. This group of participants built a vibrant, technology oriented, peer-based community, grounded on the space of the casals, engrossed by digital communication communicative acts and expanded beyond the place and community. Their success in creating a space of belonging and support around technology is remarkable and this collective extended outside of the cultural centres for older people by teaching digital skills to others. What this vignette adds to the previous ones where Teresa, Eva and Pere supported peers, is that the subjectivity built up around technological expertise is restated when the knowledge is placed in another context outside the socio-cultural for older people centres of the different neighbourhoods. Some of the older adults belonging to this group are volunteers and regularly teach ICT skills in a women detention centre and one integration centre. Yet, a distinct form of being socially connected arises that we further develop below.

José is 80 years old and lives with his wife. He owns a desktop computer, a tablet and a smartphone. He is very active on the internet and on various social networks. He is very skilled in the use of visual editing software (such as Photoshop, Power Point and video editing) and volunteers to teach courses on technology and social media both in the socio-cultural centre he usually attends, in a centre for social integration for homeless women and in a prison in Barcelona. In addition, he also helps in a consumer association. As he explains to us:
" I have been learning about internet in short courses and workshops but asking peers and friends too. We teach each other, we share what we know, we teach ourselves, with colleagues who are also volunteers for the Foundation. And we teach ourselves one day a week. And then, it is ... We also teach outside of the social centre. The knowledge I have is what I transmit to other people who come to the workshops. I give them computer and IT classes for beginners [referring to the women of the social integration centre], as they do not know how to open an email or do anything, I've taught them how to open an email, some bits about Power Point, things like that, how to take pictures from the Internet, insert them in the Power Point, and so on".

This not only reveals how technologies can be used, co-defined and co-shaped by older people adding to the evidence on how older people can be collective and individual agents of their learning and practices. As discussed somewhere else (Beneito-Montagut and Begueria,

2021), older people's knowledge of technologies is challenged when confronted with younger generations. Their agency is questioned when their knowledge is translated to another collective (i.e. the young) and is moderated and inhibited by other "generalized other". But its power of action gets repaired by connecting to another collective in need of being "digitally included". When all their knowledge and learning is benchmarked with normative 'standards' about technologies a 'divide' arises that situates older people on the 'unskilled' side of it, detaching them from the digital society. But this mainly occurs outside of the local context where this learning happens and in relation to younger generations as a form of structural ageism (as touched upon here). Hence, if we want older people to make the most of the learning digital technologies, we need policy programmes that allow them to take ownership of their learning.

Conclusions

We argue that the health and wellbeing of older people includes being able to maintain meaningful relationships, intellectual growth and social participation, and much of this is nowadays accomplished with the help of mainstream ICTs as they are part of people's everyday lives. ICTs can have an important role in their wellbeing and social connectedness (e.g. Chan, 2018; Czaja et al., 2018; Neves and Vetere, 2019; Stevic et al., 2021).

To fulfil this potential critical socio-gerontechnology theories recognise the need to engage older people in the co-design of digital technologies (Manchester and Jarke, 2022; Mannheim et al., 2019) and conceptualize this social group as active agents in co-shaping them (Peine and Neven, 2018), chiefly to avoid ageism and prevalent stereotypes that depict them as un-skilled, un-interested and dope while giving them the choice of how to be part (or not) of the digital society.

Adding to this, this paper shows that technologies, digital artefacts, places and social relations assemble together to generate individual and collective agential abilities and affective connections. These agencies and social connections are elements of the lived experience of older people when learning technologies. The structural and instrumental approaches have usefully focused on individual factors that foster or hinder technological use and co-design research has considered their agency, but the collective agential abilities have been overlooked. This translates into digital inclusion policies for older people falling short. Policies should also focus on both, the use of the technology alongside the development of social

networks of affective relationships which not only will sustain social connectedness and inclusion but the long-term use of technologies as well.

The vignettes presented about a of an atypical sample at the moment revealed some important insights into how older people use and learn ICTs, considering that there is limited understanding on how they use and learn to use mainstream technologies -as distinct to gerontechnologies- that doesn't implicitly or explicitly take younger generations practices as the norm. The scarcity of evidence for policy making is also consequence of the "slow" adoption rates among older people that makes that the research lag and consequently the policy making. Hence, there is a partial amount of knowledge accessible to policy makers involved in digital inclusion programs for older people. The peril is that policies can fall into ageism inadvertently. This paper shows that we need to start thinking differently to see how technology might help older people (and others) to remain connected to the inside and outside world. If there is a profound shift in how we understand their technological skills and knowledge, older people reveal as technological experts, who can lead on their learning and the teaching to others. We have consciously reported on what went well, however that does not mean that everything went well. We tried to express through our writing the "handicaps" - they faced -according to younger tech users: the slowness of the whole editing process and use of technologies; Eva inability to integrating most of the technologies that she tries; and Paca struggles to keep up to date. Yet, the emphasis is on showing that this are also "normal" uses rather than problematic or flawed.

To accomplish the vision of making them co-designers of technology and policy as integrated elements, we needed to, first, turn the inquiry towards the unexpected rather than pre-determined outcomes embedded in policy and digital inclusion programs to be able to understand the meaning-making processes emerging from technological practices: as "it is the unexpected and the emergent that undo the best laid plans" (Simpson, 2009: 1340). When we do this, the analysis shows that older adults active use of everyday technologies works well to create expert knowledge and meaningful socially connected lives. Ultimately, the learning that happens in these circumstances has an affective and subjective charge. Learning produced effects to the individual mind. Yet, it also produced "affects". Participants of the research generated collective knowledge, bonded, connected and attached to each other, technologies and place through the practices. It emphasizes how a collective agency comes into play. In this culture, motivation and willingness to engage in digital technologies grows out of a complex web of personal relationships and affects, and that a sense of ownership, expertise, collectivity and belonging directly influences people's commitment to learn. Hence, to

overcome the exclusion that restrict participation in the digital society, older people's subjectivities need to come to matter.

Our interest is directed to reconstruct how age and technology is produced by a nexus of practices as body, knowledge, things, and places complexes, as well to render visible the role of emotions and affects. To sum up, we need to consider the responsibility that policy makers and society in general have to allow older people to be able to keep up with the digital society but doing it on their own way (Loe, 2010). Theoretically, this evidences that practice theories and affect analysis should come together to understand how a social practice works. We need to unveil "the affects which are built into them" (Reckwitz, 2016:116) and more work needs to be done in this direction.

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