

Content Creation in Later Life: Reconsidering Older Adults' Digital Participation and Inclusion

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In increasingly digitalised societies, government initiatives to ensure that public services remain accessible for everyone typically focus on the digital inclusion of older adults. However, by solely viewing older adults as passive recipients or consumers of services, digital inclusion strategies under-emphasise the concept of digital participation. Highlighting the importance of older adults as active contributors in a digital society, we investigated the potential of content creation to increase older adults' digital skills whilst also strengthening their digital participation. Through a workshop and interviews involving three different groups of older content producers, we show that content creation can stimulate older adults' digital participation. We report on challenges faced by the content creators, including time constraints, lack of professional support and the preference to create content collaboratively. We propose that by facilitating collaborative content creation activities, local communities can better support older adults' digital participation and facilitate inclusion across different life domains.

CCS Concepts: • **Human-centered computing** → *Empirical studies in collaborative and social computing*.

Additional Key Words and Phrases: Ageing, content creation, digital participation, digital inclusion

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1 INTRODUCTION

The growing digitalisation of public services and ubiquity of digital technologies in daily life increases the impact of digital divides on older adults. Individuals now require creative digital literacy skills to be able to participate civically and to become active contributors to a community. As civic participation, broadly framed as active citizen participation with the ability to shape one's community [1], shifts towards digital formats, in particular political dimensions of civic participation rely on activists having sufficient digital skills as governments prioritise "online participation" [29]. In the UK, basic digital skills training sessions are provided as part of the Digital Inclusion Strategy to support online participation. Policy aims to increase accessibility of public services by improving internet access and by offering support to people, including many older people, with limited digital literacy [40]. However, viewing older adults simply as passive recipients

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or consumers of digital public services paints a one-sided picture, under-emphasising many older people's increasing involvement with digital media and their participation in online communities [7]. As civic participation becomes increasingly digitalised, growing numbers of older adults are assuming active roles, suggesting that digital participation should be prioritised in digitalisation strategies. The concept of digital participation acknowledges digital inequalities of whether people participate actively or passively in digital society depending on usage, skills, social support and self-perceptions [36]. In supporting the creation of age-friendly communities by making older people's voices public and broadcasting media content of relevance to older people [9], community media have been highlighted as a key route to civic participation in later life [30]. The creation of media also functions as a more creative way to enhance digital skills [13], contrasting with community learning schemes, which typically frame the advantages of being online in terms of "accessing services" [17]. Indeed, UK digital inclusion policy mainly focuses on four factors in relation to interventions: "access (the ability to connect to the internet and go online), skills (the ability to use the internet and online services), confidence (a fear of crime, lack of trust or not knowing where to start online) and motivation (understanding why using the internet is relevant and helpful)" [40]. Such policy approaches contribute to the 'othering' of older people as vulnerable and "digital immigrants", providing a marked contrast to younger "digital natives" who actively use digital technologies as part of their creative expression and civic activism [22, 31]. Recent studies have conceptualised digital competence beyond the basic technical level, highlighting the importance of social, critical and creative skills [21], and also putting content creation at the centre of internet skills frameworks [41]. Such approaches are largely absent from digital inclusion strategies in countries like the UK.

1.1 This project

With this project we aim to engage with the existing discourse on digital inclusion of older people and reach beyond the current access model of digital inclusion strategies, which primarily focus on a simple use / non-use framework of technologies. Using participatory action research and semi-structured interviews, we report on three examples of how older adults make creative use of digital content creation in community media to enhance their digital skills and support their civic goals. We assess participants' efforts to contribute their voice to a diverse media landscape, highlighting three key themes: 1) older adults' motivations for creating content; 2) creating content as a gateway to learn creative digital skills; and 3) becoming aware of challenges to create content in later life. Our findings are embedded in the discourse on digitalisation and digital participation in later life and how (community) media, especially radio, can support content creation, community building and civic participation. We contribute to more nuanced understandings of digital inclusion in later life by providing insights into how different communities of older adults volunteer to create digital content and self-organise their media production. We reflect on how they might become more active in digital inclusion strategies. We highlight the need for government and local communities to provide creative digital opportunities as part of their age-friendly strategies to facilitate involvement of diverse groups of older people in content creation aimed at supporting their civic goals. Our key argument is that genuine digital inclusion only becomes possible when the narrative of older people and technology use changes: from ageist assumptions of older adults as passive recipients or consumers of digitalised public services towards the creation of usable infrastructures that support older adults' capabilities to participate fully as active citizens.

2 BACKGROUND

2.1 Digital Inclusion

The term digital inclusion, as defined by the UK government, is about "having the access, skills and motivation to confidently go online to access the opportunities of the internet" [40]. As part of its digital inclusion strategy, the UK government supports a range of interventions designed to increase both digital literacy and internet access, such as offering digital buddies schemes or training courses in local libraries [16]. As older adults have lower rates of digital inclusion than younger people [18], they represent a key target group for such activities [40]. However, as currently defined with its emphasis on access rather than active involvement, the concept of digital inclusion fails to recognise the importance of digital participation. Creating opportunities for older adults to actively shape civic life as opposed to solely becoming digitally included in order to access services, is largely absent from UK government strategies.

2.2 Digital participation in later life

Similar to government strategies, social computing has a history of predominantly treating age as a factor for accessibility and assistive technologies [42]. However, this perception is changing and a more differentiated view of later life is increasingly supported through movements within the field. This includes research that highlights diversity in later life [25, 28, 33, 42].

The last decade has been marked by regular attempts to re-think the role of technologies in older people's lives. In 2008, Lindley et al. conducted a literature review spanning the fields of gerontology and HCI, highlighting design directions on how technologies can foster connectedness and social relationships in later life [26], whilst still positioning older adults as end-users of a product. In 2011, Essén and Östlund pointed out the need for an attitudinal shift in the design of products and services. Until then, older adults were primarily viewed as laggards in the adoption of technologies and therefore forced into a role as passive consumers of products. By involving older adults in the early-stage design of a local service, they highlighted the value of older adults as active consumers and indeed, designers of their own systems [11]. Since then, the need to move from 'designing for older adults' as a homogenous user group has shifted even further looking not only at benefits of involving older adults in the design of products and public services [15], but also addressing their active citizenship. Assuming a 'situated community' approach and taking into account the "dynamic and mutually-shaping relationship between technologies and their everyday practices" [32], acknowledges the involvement of older adults and their (digital) civic contribution as a valuable part of society. As a term, digital participation "refers to the active involvement in digital society through the use of modern information and communication technology" [36]. According to Seifert and Rössel, access to the internet (or a lack thereof) is merely one element of digital participation, with more skills needed to achieve active involvement [36]. Considering this wider impact of digital participation beyond access issues entails rethinking the role of technologies in older people's lives. Complementing the discourse on ageing in Computing, Kolland et al. note that sociological discourse on age and technology is increasingly based on quantifiable standards and is mainly health-oriented, with the aim to reduce functional decline or enhance self-optimisation in later life. This primarily considers a binary perspective of use vs. non-use of technologies [24]. Viewing technology use in later life as a dynamic process, rather than as binary or static, can support a shift towards acknowledging personal patterns not only of why people choose to engage, but also of how they engage with technologies [24], thus recognising the importance of active digital participation for older citizens.

2.2.1 Exclusion from (Digital) Civic Activities. Increasing digitalisation of civic activities potentially increases older adults' risk of exclusion from civic and digital participation. Drivers of digital

Table 1. Differences between digital inclusion and digital participation

	Goals	Skillset	Result
Digital Inclusion	Motivation (understand why the internet is helpful) Access to the internet Strengthen confidence (fear, lack of trust, not knowing where to start online)	Basic digital skills (e.g. turn on and control a device, connect to the internet, use e-mails and other online communication tools, stay safe and legal online)	Older adults as recipients/ consumers of online services
Digital Participation	Active participation in digital society	Contributing content	Active citizens who shape civic life using digital technologies

exclusion in later life are manifold and include personal factors, such as low confidence in ICT skills, technical factors regarding accessibility [43] or social traits, which can be determinants of an unequal distribution of opportunities for using technologies, also known as the digital divide [37]. Indeed, exclusion from civic activities that arises from a lack of digital participation can have broader impacts on later life. A recent conceptual framework considers the multi-dimensional nature of social exclusion in old age as embracing six domains of life: 1) civic participation; 2) services, amenities and mobility; 3) material and financial resources; 4) social relations; 5) socio-cultural aspects; and 6) neighbourhood and community. The framework emphasises the interconnection between domains [44] and emphasises the potential for combined forms of exclusion to amplify the extent of older individuals' exclusion. The dimension of civic participation is one of the most under-researched areas within the social exclusion framework [39]. Later life civic participation has been conceptualised by type of civic activity, either individual or collective on a social or political level, and associated with different factors such as human and social capital resources or personality traits [38].

2.2.2 Older adults as content creators. While seldom explicitly identified as an independent form of civic participation, digital content creation underpins different types of civic activity, especially in the political domain (e.g. "writing letters/emails/blogs/articles with political content" [38]). With older adults becoming more active in using digital content creation as part of their civic participation, some analyses have considered older adults' content creation on different platforms, such as Instagram [27], YouTube [19, 34] or blogs [5, 8, 25]. However, older people are still not commonly perceived as active producers of content in digital spaces [8]. Waycott et al. suggest that this misperception might result from a difference in engagement compared to younger producers [45]. This is reflected in unique motivations and considerations that apply to older adults as content creators independent of the platform.

Audience. While the audience plays a key role for content creation in general, older adults as content creators seem to be particularly receptive to their audience. Evidence suggests that

older adults place importance on contributing civically by being "useful to others" [5]. Producing content relevant to their audience gives rise to different considerations about where their audience comes from, and how to attract a bigger audience, cultivate a following and maintain an audience [5]. Being able to network with audiences is especially relevant to achieving potential interests of being socially connected in later life and using media technologies as a way to create new relationships [25]. Indeed, the social appropriation of content produced by older people is often the most important goal, followed by heightening their perceived digital inclusion achieved through increased ICT skills [13]. However, due to privacy considerations, many older adults tend to engage in a more selective, controlled and meaningful process of content sharing [13], providing tailored content relevant to smaller audiences.

Content creation in a civic context. Already in 2009, during the early stages of YouTube, Harley and Fitzpatrick conducted a single case study to investigate online digital videos created by an older person, YouTuber 'Geriatric1927' [19]. They highlighted the importance of intergenerational communication and reciprocal learning as outcomes of his content creation activity. Looking mainly at connectedness as an outcome of content creation, the authors also outlined how the co-creation of content (between Geriatric1927 and his large audience) sparked a discourse within the online community. Even though civic activism might not have been the direct goal of this content creation activity, the case demonstrates the potential for older adults to use digital content creation to have a voice within a community. Another example of using content creation to underpin digital civic participation is described in Durocher et al., who explore how mediatised food culture can be a way for older adults to engage with ideals of social justice and equality through blogging [10]. Like Harley and Fitzpatrick, they show that representing opinions through media creates a socialisation space, fostering social connectedness in the digital world. Durocher et al. emphasise that learning is essential to ensure autonomy in the digital space and for staying included in the mediatised culture. They also highlight that digital agency can lead to political agency, thus supporting future civic causes on both individual and collective levels. Focusing on content creation for civic participatory purposes can not only support people in taking the digital turn as citizens [10] and oppose the view of older adults as digital immigrants [5, 42], but also acknowledge ways in which media technologies empower older adults to maintain their independence. Despite many older adults adapting to digitalised societies by taking on active work as content creators [45], some might not see themselves as producers of content [8] or recognise the civic participatory value of such activity.

Drawing these threads together, while several studies have examined content creation in later life, the civic and creative aspects of digital skills have largely been ignored in digital inclusion strategies. This might reinforce and perpetuate societal representations of older adults as consumers rather than active, digitally contributing citizens. Moreover, while existing research has explored content creation in later life [10, 13, 30, 45], the connection between older adults' civic and digital participation through content creation remains underexplored. We build on the existing body of work by looking specifically at the potential for creative interactions with media to foster digital skills and thus digital participation. We highlight civic interests as a motivation to create content and show that the production process can be a gateway towards learning digital skills. We challenge the idea that digital inclusion is always a necessary precondition for digital participation, but suggest that older adults can enhance their digital skills as a by-product of a digital civic participation activity.

3 METHODS

3.1 Research question

With older adults increasingly producing a variety of media output, our study's research aim was to explore the relationship between the concepts of digital participation and digital inclusion. In particular, we sought to investigate the potential of content creation to enhance digital skills, and thus digital participation, in later life. We introduce three UK cases of content creation in later life and explore how the cases link to digital participation. The host University granted ethical approval for the participatory project and we followed the ethical guidelines of the British Society of Gerontology [6], placing value on the experiences and the knowledge of our collaborators. All our work was sense-checked with and approved by our collaborators. While one case involves a group that has been a longstanding collaborator as part of a participatory action research project, we became aware of the two other groups through social media (Twitter). The collaborating groups are described in Table 2 in respect to their members, content creation activity and the nature of their research engagement. To protect the identity of individual participants, we gave everybody the option to be anonymised. Some participants expressed the preference to be named. We have therefore indicated in the table, which participants are referred to by their real names and which by pseudonyms.

3.2 Collaborators / Participants

Table 2. Overview of Collaborators

Group	Members	Pseudonym	Age Range	Novice vs. long-term producers of digital content
Senior's Forum	Catherine	Yes	60-69	Novice
	Liz	Yes	60-69	Novice
	Ruth	Yes	60-69	Novice
	Eva	Yes	60-69	Novice
	Paula	Yes	<50	Novice
Age Speaks	Mervyn (Host of Radio Show)	No	70+	Novice
	Ian (Director)	No	50-59	Long-term
Sonder Radio	Beena (Director)	No	<50	Long-term
	Rachel (Director)	No	<50	Long-term
	Colin	No	70+	Novice
	(Host of Radio Show)			

3.2.1 Seniors' Forum. Our first case involves a third sector older people's organisation in North East England, the Seniors' Forum. As a group consisting of older volunteers and an administrator in her 40s, the Seniors' Forum engages with different media as part of its civic goal to disseminate informational content and connect to their local community of older adults. As part of a "communications team", different volunteers focus on specific aspects of the organisation's outreach and the working groups meet every three months to discuss the organisation's overarching media strategy.

The working groups encompass the different media of a community radio, an e-bulletin, a quarterly printed magazine, and social media. As the lead author has been embedded in the organisation as part of a participatory action research project for 24 months, regular meetings took place with the communication leaders, three of whom are included in this analysis (Catherine, Liz and Eva) amongst other participants. All group members had basic digital skills to begin with, such as using MS word or e-mails, and enhanced their digital skill set by producing digital content.

3.2.2 *Age Speaks.* Our second case describes the longstanding radio show *Age Speaks*, which has been broadcast daily since 2016 on a London-based community radio station. The show is hosted by Mervyn, a self-defining older persons activist who runs an organisation called Change AGENTS. Even though Mervyn has basic digital skills and learned to engage with social media in order to promote his show, he is a novice regarding the show's technical production aspects, which are managed by Ian, the radio station's director. By using the medium of radio, as well as making the recording available on live internet radio and on-demand downloads, Mervyn and Ian hope to increase their activist messaging on age-related topics. They seek to enhance the show's visibility and promote their activity by using a variety of social media (but focus mainly on Twitter). Mervyn was contacted by the lead author to learn more about the show. She subsequently appeared as a guest on the show, using the opportunity to visit the studio to conduct an in-depth interview.

3.2.3 *Sonder Radio.* The third research engagement involved *Sonder Radio*, a Manchester-based radio station for older people. *Sonder Radio* aims to promote wellbeing, reduce isolation and advocate digital inclusion by running workshops to support older adults in creating radio content. No digital skills are required to participate in the program and most of their content creators, like Colin, are computer novices. The creation of *Sonder Radio* was inspired by one of its directors' personal experiences of the positive effects of music in care homes for people with dementia, but quickly expanded as a platform to bring older (and younger) people together to create radio content. There are no rules concerning the content that is created. The intergenerational team seek actively to deconstruct traditional approaches to content creation, for example by not creating a running order and by using a portable studio, which supports creativity around what a show can look like. As part of our collaboration, the lead author visited the *Sonder Radio* studio, with a subsequent visit by *Sonder Radio* to North East England. Colin, a host on *Sonder Radio*, was invited onto the Seniors' Forum radio programme and *Sonder Radio* reciprocated by recording audio content with the Seniors' Forum team. Interviews and live-recordings were conducted during both visits.

4 DATA COLLECTION AND ANALYSIS

Adopting a qualitative and collaborative working approach, data were collected in three ways: 1) observations from ongoing engagement activities with participating groups, 2) semi-structured interviews; and 3) a workshop with the Seniors' Forum to explore their communications structure. This work was nested within a participatory and long-term engagement (over two years), which informed both the study design and analytic approach. Reporting on overarching themes of relevance for older content creators and then presenting insights from the workshop with Seniors' Forum, we illustrate the unique nature of content creation in later life and show how small community organisations of older adults engage in media production.

4.1 Engagement Activities

As part of our research engagement, the lead author visited the production context of each group, as described in the collaborator section, to gain a general overview of the production processes and to understand the personal and civic motivations for participants' content creation. These were captured in the form of written field notes.

4.2 Interviews

The four semi-structured interviews conducted by the lead author, lasting between 45 and 90 minutes, covered the topics of motivations for content creation, the person's experiences with the creation of media and interaction with media production technologies, and structures and concrete practices in content creation. Three interviews were conducted in pairs (Liz and Catherine, Mervyn and Ian, Beena and Rachel) and one with an individual older content creator (Colin). All interviews were managed in NVivo 12 software and coded using reflexive Thematic Analysis (TA) [4]. Thematic Analysis is "a method for systematically identifying, organising, and offering insight into patterns of meaning (themes) across a data set" [2, p.57] to make sense of shared experiences and commonalities, while acknowledging the active role of the researcher [2]. For this project, all interview data were coded in three stages using a combination of inductive and deductive thematic analysis. In the first stage, codes were applied to sentences or paragraphs inductively according to the data content and deductively reflecting the focus of the research question on content creation and digital participation/inclusion [3]. In practice, this means that even though we inductively derived codes such as "organisation of e-mail folders" or "archiving past content" to describe group-specific workflow practices or "funding" which describes financial aspects of a group's content creation activities, we decided to deductively select just those codes for the analysis that reflect wider aspects related to digital participation and inclusion as well as content creation in general. The second stage involved the integration into broader categories of emerging codes across the dataset, for example using the category of learning to contain codes such as "learning from books", "making mistakes" or "habits and routines". In the final stage, three overarching themes were derived: older adults' motivations for creating content (T1), creating content as a gateway to learn creative digital skills (T2), and becoming aware of challenges to create content in later life (T3). As part of our participatory work, the data and emerging themes were discussed within the research team and sense-checked with all collaborators. We give an overview of example codes and data in Table 3.

4.3 Workshop

In addition to the engagement activities noted above, we ran an explorational 3-hour workshop with the Seniors' Forum's communications team. This workshop was audio-recorded and transcribed. The participants were chosen based on their membership of the communications group. This workshop stemmed from an impression that volunteers differed in their perceptions of what their communication encompasses and how their different media outputs connect as part of a broader strategy. Consequently, we invited five members of the organisation to a workshop to explore the purpose and structures of the communications team, their media output and content creation strategies and how the organisation aims to stay connected to both their digitally literate and less-literate members, while advocating digital inclusion and participation. We consider the resulting insights to be of general interest to researchers working with organisations of older people who volunteer to self-organise their communications, without having a professional background. We will describe the detailed methods used in the workshop as part of the Findings section for a better understanding.

5 FINDINGS

In order to provide a broad overview of the relationship between content creation and digital participation in later life across different working groups in the UK, we begin this section by reporting on the findings from the thematic analysis of interviews conducted with all three groups of content creators. Drawing on the workshop carried out with the Seniors' Forum, we then explore

Table 3. Derived themes, example codes and data overview

Themes	Example Codes	Data
Motivations (T1)		
a) intrinsic	Improving skills	"[They said] "We can tell that you're actually quite used to this." Now, they couldn't have said that when I first started." (Mervyn, Age Speaks)
b) extrinsic	Reaching out	"We do know that the number of people signing up for the e-documents has increased." (Catherine, Seniors' Forum)
	Being an activist	"We always challenge ageism, always." (Mervyn, Age Speaks)
Digital skills (T2)		
a) intention to create content	Editing without computer skills	"For some people [...] who have very limited computer literacy and now wanting to learn how to edit which isn't the easiest of things to do. But they're willing to do it." (Beena, Sonder Radio)
b) by-product of content creation activity	Blogging about the show	"So I've just set up my own blog [...]. I'll be blogging about Age Speaks." (Mervyn, Age Speaks)
	Engaging with downloads	"But through it, Colin has become more digitally engaged. The other day I 'WeTransferred' something to him and he downloaded it." (Beena, Sonder Radio)
	Trying digital design	"I went to a day session to learn about that and came back with information about Canva [...] and I hear about flat icons, so it's a constant [learning]." (Catherine, Seniors' Forum)
Challenges (T3)		
	Being alone	"When you come away from work and you're sitting at home, often alone, I mean, you do have a husband but he might not be interested in doing what you're doing at all." (Liz, Seniors' Forum)
	Working collaboratively	"Your skills are generally increasing because you are working alongside other people." (Catherine, Seniors' Forum)
	Being patient	"It will take time with my age but I'll get there. If they've got the patience, I've got the patience." (Colin, Sonder Radio)

in more detail how one particular community organisation of older people volunteers to create a variety of media content. By presenting a more nuanced perspective on challenges in terms of digital participation within an organisation managed entirely by older adults, we raise awareness of experiences which may be of more general relevance to community organisations.

5.1 Interviews

We begin by presenting the outcomes of the thematic analysis undertaken on interviews involving members drawn from the three participating cases: Seniors' Forum, Age Speaks and Sonder Radio. By including three groups located in different UK cities, insights from the interviews are embedded in a wider context of content creation in later life. We describe and discuss three themes from our analysis: older adults' motivations for creating content; creating content as a gateway to learn creative digital skills; and becoming aware of challenges to create content in later life.

5.1.1 Older adults' motivations for creating content (T1). Our first theme concerns the precise motivations that underlie the three groups' objectives to embark upon the creation of a variety of content. As discussed in the background section, multiple factors can encourage older adults to become content creators. These are often grounded in a desire to be socially connected. We add to this line of argument by highlighting personal, intrinsic motivations to create content in later life, derived from codes such as "it's fun" or "improving skills". Additionally, we add to the body of research data which shows that professional, civic motivations can indeed also be important drivers for older adults to engage in the production of media content. By grouping initial codes, such as "being an activist", "highlighting later life issues", "volunteering" or "reaching out socially", we highlight the civic and extrinsic dimension of later life content creation.

Personal / Intrinsic Motivations. From a personal perspective, we identified content creation as a means of getting one's voice "out" as a motivating and empowering experience. We also highlight the importance of undergoing a learning process. When we asked Colin from **Sonder Radio** about what he enjoys most about producing radio, he shared his passion for talking to an audience and explained how his broadcasting practice developed over time:

"I like speaking down the microphone, normally and getting the right balance. Also, doing it ad lib, without stuttering as well. Because, when you start, if you've got a script in front of you, you start reading it and you start bubbling a bit. It's no good. It just sounds like you're acting. I just like it to swing, to roll off my tongue." (Colin, Sonder Radio)

This experience of developing a skill and learning about a new topic in general was echoed by Catherine from the **Seniors' Forum**, who identifies as a self-taught content creator:

"I think that from my point of view, as a person who kind of creates, I've learnt a lot about media and how to use media. So that's been really good for me and that's a personal thing." (Catherine, Seniors' Forum)

Whilst learning and a heightened confidence have been widely recognised as motivating factors for older adults to engage in content creation [13, 19], our interviews also exposed extrinsic and civic motivations that motivated participants to engage with content creation.

Civic / Extrinsic Motivations. Alongside personal reasons, for both the **Seniors' Forum** and Mervyn of **Age Speaks**, creating media content was motivated by a commitment to activism. The Seniors' Forum's professional motivations of advocating for older people means that they want to engage more people with their organisation by widening their digital outreach:

"I suppose it's success for the organisation too, because the reason that we do it, apart from our own personal learning experience, is we want to actually improve the reach of the Seniors' Forum because

we think that a lot of the work that the Seniors' Forum does is of benefit to older people." (Catherine, Seniors' Forum)

This shows that members of the Seniors' Forum are acutely aware of the impact of digitalisation on their community and of the importance of making use of digital media to reach a wider audience. However, this civic purpose is rooted in connecting and informing a community about general topics that could be of interest to older adults. This contrasts with Mervyn's content creation. As an older people's activist, the main purpose of producing his show is embedded in his activism within and beyond the co-operative sector. He uses Age Speaks as a medium to raise public awareness of age and ageing and the issue of ageism:

"Age Speaks [...] is about changing the narrative around age and ageing within and outside the co-op movement. [...] We always challenge ageism, always. So that's where we are." (Mervyn, Age Speaks)

The focus of Mervyn's content creation activity lies more in generating debate and in forming "online" communities around such debates than in engaging older adults in local discussions. However, for both the Seniors' Forum and Age Speaks, the activity of content creation is rooted in a civic purpose about engaging community either in local general discussions or to raise awareness about specific topics related to ageing.

5.1.2 Creating content as a gateway to learn creative digital skills (T2). This theme reflects the link between content creation and the development of creative digital skills. By engaging with the creation of content in some form, all groups reported on enhanced digital skills. This theme was derived by collating codes that show overlaps between content creation and specific digital skills (for example "blogging about the show", "engaging with downloads" or "trying digital design"). We also explored ways in which the groups learn and improve their digital skill-set as part of their content creation activities. The three groups' production structures range from being entirely self-produced (Seniors' Forum) to a collaborative production between the older person and a professional content creator (Age Speaks), and a format in which professionals offer resources to engage older adults in content creation (Sonder Radio). We describe in turn how the theme of gaining digital skills through content creation was reflected in each group, dividing the results in an intentional development of digital skills in order to create content vs. enhanced digital skills as a by-product of content creation.

Intentional development of digital skills to produce content. **Sonder Radio** provides an example of intentionally setting out to use radio as a creative approach to teach digital skills. As part of their concept, they offer workshops called "Let's Get Digital", which started in collaboration with local organisations:

"The housing associations would say to us 'Well we've got all these older people who want to learn how to use computer' so then we started doing really basic how you use computer programmes but evaluating them through radio. And then the residents were kind of like we really like this radio stuff, what's all that about and we were like 'Oh yeah, maybe we can do something there' so then we started doing [it] we recorded their monthly newsletter so that people who are visually impaired could access it." (Rachel)

This narrative of the inception of their teaching scheme shows the bi-directional relationship between content creation and development of digital skills and can, to relate to our earlier theme of personal motivations, stem from engaging with an enjoyable activity. Through the process of content creation, the older people involved in the production acquired digital skills. One of their members, Colin, had attended several sessions where he learned to audio edit:

"I've been to this class at Sonder Radio, doing the sound balancing. I've done two lessons there. I'm just getting into the way of the technology that surrounds [Laughter] radio."

This shows Colin's direct engagement with the technology needed to create a radio show. It also reflects his ambition to be able to create a show entirely on his own, without professional help. Even though they follow a top-down approach to teaching older adults content creation techniques, Beena adds that Sonder Radio is trying to move beyond the traditional model of broadcasting. Freedom to be their own content creators is valued and they aim to transition towards a more bottom-up model, by training older adults like Colin to become independent content creators: "I want people to feel like they can say what they want" (Beena, Sonder Radio).

Indeed, Sonder Radio has many highly motivated volunteers who request particular workshops and want to rely less on them as professionals to produce a show:

"So for some people who've never turned on a computer before or have very limited computer literacy and now wanting to learn how to edit which isn't the easiest of things to do. But they're willing to do it and that's great." (Beena, Sonder Radio)

Beena highlighted the connection between motivation, fun and digital engagement and identified heightened participation as a result. By engaging in something worthwhile and interesting, creative digital skills are developed deliberately to produce radio content. The team at Sonder Radio also show that digital inclusion is not always a necessary pre-condition for digital participation. If facilitated in a creative and social context, the motivations to create content and share it with others can be enough to engage with digital technologies in later life.

Enhanced digital skills as a by-product of a content creation activity. In this section we highlight the unintentional ways in which older adults deepen their digital skills as a by-product of a content creation activity. This reaches beyond consciously engaging with a tutorial or learning activity with a goal to gain a certain skill, to encompass a general increase in older adults' digital engagement as part of their content creation activities. One specific example of such a skill was identified by Beena from **Sonder Radio**:

"Colin is just buzzing from it [the content production]. You know. And I think that in itself even if one person benefits through it it's really good. But through it, Colin has become more digitally engaged. The other day I 'WeTransferred' something to him and he downloaded it." (Beena, Sonder Radio)

In this example, downloading a specific file that is relevant for his radio show reflects a new skill that Colin learned. Even though he never intentionally set out to learn how to download files from WeTransfer, it was a skill needed to support the production of the show and he managed to do it, increasing his digital skill set. As a contrasting example to Sonder Radio's approach of teaching older adults the basics of content production, it is also useful to highlight production models in which older adults are either self-taught, as in the case of Seniors' Forum, or working alongside a professional content creator, as applies to Age Speaks. We classify **Age Speaks** as a combined approach, in which Mervyn, the show's host, is assisted in the production of the show by Ian, a radio professional. Through Ian's guidance, Mervyn improved his general skills regarding the show's production: *Ian: "I think at first, I guided you a little bit. [...] I said 'oh that wasn't very good when you did that'." Mervyn: "Yes you've not said that recently." Ian: "No I haven't. I used to take ages to edit his show sometimes, because they went on for hours, but now I just sit and listen to it for an hour and I'll think, 'There's a bit there.'"*

This shows that working alongside a professional content producer can offer another way for older adults to engage with content creation. In this specific case, the technical aspects of the production are entirely carried out by Ian. However, despite not engaging with technical production skills, we still found that Mervyn was motivated to become engaged with other forms of digital participation in order to promote his show online. Mervyn expanded his digital skill set by conveying his ideas in different formats, for example via social media on twitter:

"Yes, yes, so we've got some followers on the Age Speaks Twitter account. So I'll use my own account to advertise. I also use the Age Speaks account [...] and we can also be a bit humorous." (Mervyn)

By managing two twitter accounts, Mervyn cross-promotes his show so that his discussions can reach a wider audience. He significantly increased his digital engagement with social media, as he is now adopting an outreach strategy to promote the show via his twitter accounts (e.g. using humour on the Age Speaks twitter). Mervyn also increased his digital participation by setting up a blog to promote his radio show further:

"So I've just set up my own blog, so I'm just starting to blog. So I'll be blogging about Age Speaks, the history of Age Speaks, on my own blog. It's a very new blog, because I've only just set it up. [...] That gives me freedom to talk about absolutely anything." (Mervyn)

Blogging in itself is another content creation activity that Mervyn was inspired to engage with in order to heighten the impact of his radio show. His approach of integrating different media in order to promote Age Speaks, resembles a marketing strategy on its own.

Contrasting to the previous two examples, the **Seniors' Forum** communications team consists entirely of older adults who are self-taught content creators without professional tutorials or assistance. By assuming responsibility for the organisation's content creation, they increased their own digital skills. Through trial and error they are *"constantly learning there are different ways of doing things"* (Liz). This approach acknowledges that there can be many ways to reach the same outcome. As part of their efforts to create the organisation's media output, team members make use of online tutorials in order to enhance their skill set: *"I have found quite a lot of little video 'how to do its' on YouTube [...] - they're usually really good, the ones I've used anyway"* (Catherine). They also make use of incidental opportunities to discover new ways that can support their content creation:

"Because I wasn't really aware of some of the things about social media, I went to a day session to learn about that and came back with information about Canva and then I go to a meeting [with the authors] and I hear about flat icons, so it's a constant [learning]." (Catherine)

Catherine in this case is open minded to try out new skills online, such as using the online platform canva to produce digital designs. In this way she is able to improve her digital knowledge and this can help her to generate more professional media output for the organisation.

In addition, the Seniors' Forum highlighted a social and civic dimension by pointing out that their increasing digital participation has not only been of use to them personally, but of wider use to their organisation: *"I think it's a success because we are learning skills, we are able to share those skills with each other and, hopefully, other people as and when they ask."* (Liz)

To summarise, we highlighted that content creation activities can be a gateway to enhanced digital skills and stronger digital participation in later life. Even though the three participating groups work in different production settings engaging with different learning strategies, we show that they developed a variety of digital skills either intentionally to support the content creation activity (e.g. downloading relevant files) or as a by-product (e.g. blogging, engaging with social media or learning digital design skills).

5.1.3 Becoming aware of challenges to create content in later life. The third theme concerns the challenges associated with using content creation approaches for digital skills development. This encompasses being alone and the need to create content collaboratively, time constraints and constant practice as the downsides of using creative approaches to develop digital skills. Depending on the type of production process (as mentioned in the previous theme: teaching, working alongside professionals and self-taught), these differ between the participating groups. We mainly report data from the Seniors' Forum in this theme, as they create all their content without professional guidance and support and therefore best reflect challenges that content creating older adults face

when working alone. However, we also report on challenges faced by the older adults from Age Speaks and Sonder Radio who are in touch with professional content creators. We derived this theme from codes that are connotated to a challenge or struggle, such as "being alone" or "constant practice", as well as codes that reflect (inter-) personal qualities (e.g. "collaborative work" or "being patient").

Disconnect from collaborative working. One main challenge, voiced primarily by the **Seniors' Forum** communication team whose working groups are fragmented, is the disconnection arising from being unable to share one's experience with others. This issue only seemed to apply to this particular group, as both Sonder Radio and Age Speaks operate in a more social context. Catherine describes her experience of working alone towards a piece of content, with which she struggled: *"However, when you actually get there, I feel really great. But what I really want to do is go and tell at least 10 people that I have succeeded, and often they don't want to know because why do they care? But I want to go and say, "Hey, I've done this," you know?" (Catherine)*

This shows that while celebrating smaller successes could be a motivational factor for the Seniors' Forum's content creators, on occasion the absence of a real team could be demoralising. This difficulty might become evident in particular to older people who are entering the retirement period and become disconnected from workplace colleagues. Being part of a team and making use of digital technologies together represents a valuable opportunity for peer-learning, as reported by Catherine:

"Usually when you're in work, because when you're working using electronic devices in whatever way it happens to be, your skills are generally increasing because you are working alongside other people and the other people will say things. Like we're doing here today, I'm saying, 'Well I do this [to resolve your problem]:'" (Catherine)

Catherine's feelings of disconnect and lack of support from other people were echoed by her colleague Liz, who also prepares the organisation's content on her own:

"When you come away from work and you're sitting at home, often alone, I mean, you do have a husband but he might not be interested in doing what you're doing at all, you're not precisely stuck where you are unless, as some people, they just stay there. But even if you want to increase your skills, it's much more of a struggle because you haven't got that friendship surrounding you where you can say, 'I'm tearing my hair out with this' and someone comes along and says, 'Well, have you forgotten how...' All of those little things. So it makes it quite often a struggle." (Liz)

By highlighting the importance of asking friends, family or colleagues for help with technical issues regarding their content creation, Liz implicitly suggests that collaborative learning in a group setting could facilitate the learning process. This experience might be particularly relevant for older adults who create content without professional support.

Time constraints and a constant practice. The second issue that the Seniors' Forum struggle with is their routine timescale in which content for the organisation needs to reach their members (for example, the newsletter is distributed bi-weekly). Creating content on a regular basis might be useful to keep practicing certain skills, but Liz also highlights the downside of missing a production cycle, forgetting details: *"if you're not using it on a regular basis, you do forget the format that you need to use it" (Liz).*

Not having professional guidance or instructions can become a problem, if the continuous practice is lost too. A similar challenge tying in with the importance of a constant practice is the struggle to maintain and replicate an outcome throughout the production cycle. Liz commented that it can be difficult to develop a precise strategy for what has been learned: *"The problem is when you get to the end result, can you remember how you got there. That's the difficult problem. 'Well it worked,*

but I can't remember what I did to make it work" (Liz). These findings highlight that older adults who engage in self-taught content creation might struggle to engage with a replicable production workflow. This ties in with Catherine's reflection, who suggested that due to time constraints imposed on her content creation by the organisational rota, she found it easier to engage with a familiar technology rather than invest time in learning new digital skills:

"In the end you have to make decisions, don't you? But I find it more challenging so I tend to stick with doing some of this [familiar] stuff, even though I'm using Canva a bit, I'm probably not using it in the most effective way because I don't know how to. So all the time I'm probably going the long way around. I might end up actually achieving what I want, roughly, but I might be doing ten steps rather than the three steps it should be, because no-one's there to tell me." (Catherine)

Like her colleague Liz, Catherine also experiences a lack of professional guidance and seems to use trial and error techniques to teach herself a new digital skills, which imposes new time constraints on her work as she has to "go the long way around" and is less efficient regarding her media output. Such results highlight the downside of engaging with content creation as part of volunteering with an organisation that operates to a specific timescale. The interviews show that a lack of time can result in the content creation activity becoming a 'stressor', which can be a potentially demotivating factor for older adults to engage with new digital skills. Finally, we want to highlight not a challenge, but a personal quality that is needed to overcome those challenges: patience. Some of our findings from Seniors' Forum's content creators Liz and Catherine already show that they bring a certain amount of patience to the activity, for example when they "go the long way around" or "can't remember what they did to make it work" and as a result have to start from scratch the next time. However, we want to acknowledge that being patient is a particular skill that all of our interviewees presented, regardless of their production workflow. Colin from **Sonder Radio** acknowledges the fact that learning new skills might *"take time with my age but I'll get there. If they [at Sonder] got the patience, I've got the patience"* (Colin), shedding a positive light on the fact that if he is interested in something, he will make time for it. In similar vein, making mistakes was accepted as an essential part of content creation in later life. At **Age Speaks**, some of the mistakes can be edited and encourage critical reflexivity regarding the content created: *"So I'll link into the community radio type of approach, making mistakes. And also, because it's recorded, then Ian can take out the noise and some of the flimflam that I might wallow about"* (Mervyn). By saying this, Mervyn acknowledges that he can develop his skills with enough patience, but in the meantime technology will help to cover up his mistakes.

Overall, we have highlighted three themes that are of importance for older content creators: 1) older adults' motivations for creating content, 2) creating content as a gateway to learn digital skills, and 3) becoming aware of challenges for older content creators. We covered multiple aspects, highlighting how civic motivations can encourage older adults to become active creators of content or how older content creators increase their digital skills through their content production. Whilst the creation of content can motivate older adults to engage in the wider digital sphere, thus strengthening their digital participation, self-organising content creators, such as the Seniors' Forum, also face unique challenges, such as a lack of professional support and the need to create content in collaboration with other older adults. In the following section we consider the case of the Seniors' Forum's communications more closely to hone in on the advocacy work that is done by older people's organisations to champion content creation activities and digital participation in later life.

5.2 Workshop

Five members of the Seniors' Forum communications team participated in a workshop designed to explore their media output strategies and to discuss the team's efforts to advocate for digital participation in later life. The workshop was facilitated using cards that depicted a wide range of media (such as social media, print media, video or audio) to elucidate the organisation's media interests. The first workshop activity required participants to classify the media cards into three categories: 1) media they are already using; 2) media they would like to use; and 3) media they do not want to use. Each participant selected a card from the pile and placed it into one of the categories. Participants were asked to share their thoughts on: why they selected their card, who might be typical producers of the chosen media, the target audience, the timescale associated with the media, and whether this form of media works for them as an organisation at the present time. The second activity mapped the organisation's media landscape. This involved using the cards that were selected in the previous activity as category one (media they are already using) and placing them on a board with additional information about people who are in charge of the content creation and how the different types of content creation link together. Once this was done, we added a few remaining cards from the category two card pile (media they would like to use) into the bigger picture of the organisation's media landscape, in order to look at potential ways of repurposing existing content into new media output. We analysed the resulting media landscape by classifying types of content that are produced into the different media and how the production processes relate to each other regarding content creators and the repurposing of content. Findings from the workshop are twofold: 1) a description of the organisation's media landscape generated through the card activity; and 2) a simultaneous scoping discussion on current production workflows of their content creation as well as exploring the organisation's views on the concepts of digital inclusion and digital participation. The discussion was analysed from the audio recording. Based on the length and intensity of the discussion, we highlight two main points: a lack of internal communication and being "digital" advocates.

5.2.1 Media Landscape. As depicted in Figure 1, the organisation created a broad media landscape consisting of four main media outputs in the format of: a printed magazine, an e-bulletin, a monthly radio show (also uploaded on YouTube) and social media (Facebook). In addition, they also produce printed promotional material in the form of posters and leaflets and put on exhibitions and advertising stalls to be in direct contact with their membership, older people in the North East of England. They have ambitions to extend their social media output and include Twitter. Overall, we identified the organisation has a highly diverse media output. By creating different forms of narrative and informative content, they keep their members informed in a variety of digital and non-digital ways.

5.2.2 Workshop discussion themes.

Lack of Communication. Throughout the workshop, participants discussed different challenges regarding their content creation. As a main challenge, they pointed to a lack of internal communication within the voluntary organisation and between the different parts of the media team, who work independently of one another. This echoes findings in the interview section, where we outlined some members' personal struggles which resulted from working in isolation of one another. However, visualising the media landscape helped to reinforce the perceived lack of connectedness between the content creators. Participants highlighted the organisation's fragmented media landscape and identified a resulting drop in efficiency as a main issue for their content creation, noting that: "[We] need to put in some quite extensive work now to say 'we've got this wealth of communications resources that we're working with, but actually we are not using them to best effect'.

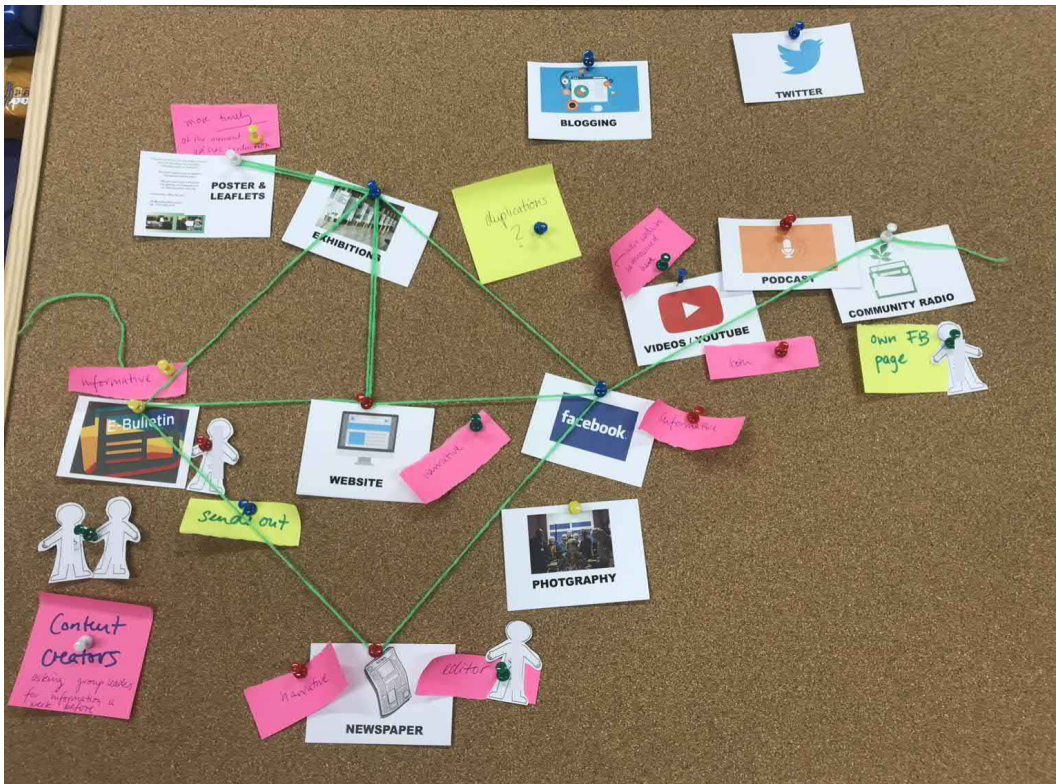


Fig. 1. Organisation's media landscape

Because we're all kind of doing our own thing really. And we're not making it work for us in the way that we should" (Eva)

Ruth went further, acknowledging the variety of output that is created by the volunteers and the high potential to connect their workflows, whilst identifying the organisation's inefficient workflows; "[they] are all fragmented and that's really sad. Because the potential is there!" (Ruth). Even though the Seniors' Forum aims to output different media that could draw on similar content (such as the printed magazine and e-bulletin), there are rarely any overlaps between the production workflows. Identifying a lack of shared communication led to a sense of frustration in the group, as participants recognised that, as a result, their media output "doesn't reflect all of the things that the Seniors' Forum is doing and it doesn't often show the impact. If there is an impact that we can show. I know impact is often quite hard to do" (Catherine). With this statement, Catherine also shows the immense dedication that the volunteers bring to their work and their intentions of reflecting their real-world impact through their media structure. The discussion reflected the group's aspiration to be as informative as possible and to produce content relevant to their audience, by highlighting their organisation's value. However, in addition to a lack of internal communication, participants also experienced a lack of external communication as they struggled to see if the content reached its intended audience. This also impacts on the volunteers' motivations. In this context, Ruth commented that "everybody is putting so much effort, but if you don't get the feedback, you don't know what the people really want". A recurring theme of the discussion was that the group is trying to implement strategies to track audience statistics and demographics. As Eva suggested:

"It would be good to know ... who is looking at it? We would get more feedback by putting it on mailchimp." Participants discussed whether using an online marketing tool like mailchimp could serve as a potential solution to their external communication issues. However, this would require the volunteers to take on another self-taught digital engagement:

Catherine: "I'd really like to try and use mailchimp. [...] but it is just so much easier to use the tools I know. It's just easier. So to put something together at the last minute, which the magazine kind of did, [...] you've got to do what you know so that you never then move on. And because it takes so much time, I would really like to do that with more than me. That's missing. When you have to do it on your own all the time, you get frustrated."

Liz: "Me too."

Catherine: "If you do it together, you can be frustrated together."

Liz: "And see different things."

With this, participants repeated some of the themes discussed in the interviews, such as preferring collective learning and time constraints. However, they also showed their motivation and awareness to engage with a new technology, which could improve their external communications. Overall, the workshop discussion showed that the Seniors' Forum struggles with a lack of internal communications to increase the efficiency of their media output, as well as external communications with their audience.

Being digital advocates. The workshop discussion also explored the organisation's take on the ideas of digital inclusion and digital participation. The Seniors' Forum's communications team typically advocate for digital inclusion for their members and try to produce as much digital content as possible. This is reflected in the media landscape (Figure 1). However, the organisation still provides its printed magazine to members without internet access in order to keep them informed. Nevertheless, workshop participants recognised that: "*if you are only getting information by print media you are becoming isolated from information by default, aren't you, because most of the information is coming electronically*" (Catherine). By highlighting time-sensitive information and events across the city digitally, the group wishes to encourage its members to access the digital content of their magazine as opposed to relying on printed copies, which are distributed less frequently and therefore convey mainly narrative content on a different time scale. As part of the organisation's manifesto, the Seniors' Forum commits to "develop opportunities for older people to learn and maintain their digital skills" and they align with the government's digital inclusion strategy by advocating for digital skills to "stay connected, informed and able to access work opportunities and services more easily". As members themselves, the communications team are enthusiastic and motivated to shape the discourse of growing older in their city. They are aware of their role as volunteers who represent a digital media output of an older people's organisation and as older digital advocates are determined to create a "perfect" outcome. A conversation between Catherine and Paula reflects the friction between wanting to create a professional output, while improving their own digital skills:

Catherine: We kind of want it to be of a really high standard, but we are all amateurs.

Paula: Busy amateurs.

Catherine: And it's the way the world is going. We are all expected to be super at everything. [...] You have to do it and you have to be the expert. So where do we draw the line?

This reflects the pressure that the volunteers feel to not simply be advocates for digital inclusion but to try to set an example to their less digitally enabled members for being an older person who actively and professionally participates in the digital sphere.

Drawing these ideas together, we described the workshop and its outcomes as an example of how an entirely self-taught organisation of older adults manages their communications strategy. We identified the variety of the organisation's media output, which was created more incidentally rather than intentionally, as well as their lack of internal and external communications, which contributed to the fragmentation of their communications output. Lastly, we highlighted participants' attempts to be digital advocates. The findings emphasise the key role of digital inclusion in the engagement between the organisation and its membership.

6 DISCUSSION

The research project presented here explores the potential of content creation to enhance digital skills in later life. By examining three different groups of older content creators, we gained both group-specific and overarching insights on the topics of digital participation and digital skills development. Our examples of how content creation can enhance digital skills in later life and, given that similar contexts exist elsewhere, we have every reason to feel confident that our insights have broader relevance in the fields of social computing and gerontology.

6.1 Limitations

Our findings should be interpreted within the obvious limitations of a small-scale empirical study. We are aware that our qualitative research project draws its evidence from a small and necessarily limited sample. It therefore lacks generalisability to other contexts. However, these are common limitations of qualitative and participatory approaches in Social Computing [20], which aim for transferability of the findings rather than strict generalisability. By working in-depth with a small and diverse group of collaborators, we gained unique insights into digital participation in later life and have been able to highlight the applicability of our findings to other groups of older content creators. Another limitation of our research lies within the geographical context of the UK. The experience of using digital content creation to be civically active in later life is likely to vary between countries and world regions, not least in terms of culturally bounded features digital content creation. We anticipate that findings would be different especially in countries that report higher rates of digitalisation (e.g. the Nordic countries) [12]. A further limitation concerns our inability, primarily due to the limited scale of our study, to consider sufficiently differences between different types of content creation. In our study, most content creators concentrated their strengths on the production of one specific medium. As a result, our findings are limited to these activities. We need more data from this participatory action project over time to be able to consider differences between the different types of content creation as the producers' skills increase and they start to engage with different types of media. Nevertheless, a key strength of our in-depth qualitative study is that provides initial proof of the idea that older adults can strengthen their digital skills through content production activities within a civic context.

6.2 Supporting digital civic contributions of older adults in policy and practice

Previous research has shown that digital participation is important if older adults are to maintain their role as stakeholders in society and participate in cultural, social and civic activities [14, 23]. We add to this body of knowledge by highlighting the value of content creation in later life and its potential to support older adults' societal and civic roles. Our cases showed a combination of self-focused and external motivations for older adults to create content, ranging from wanting to increase ICT literacy and confidence to providing professional and informational content as representatives of an older people's organisation. Indeed, our cases reveal the importance of digital participation, engagement with communities and active contributions to online discourses on ageing as motivators for creating content. This aligns with previous studies that have highlighted

both the importance of a sense of community and the potential for digital content creation as a space for social engagement and self-expression in later life [23, 45].

6.2.1 Implications for Social Computing. We suggest that rather than focusing primarily on younger content creators and their participatory contributions to society in Social Computing research, we need to expand our view and explore how older people make use of digital content for their activist purposes. While considering older adults' digital engagement from a biomedical perspective has its merits [42], we should also focus on the manifold motivations as well as barriers in later life to digital participation. A study that looked at older participants who chose not to take part in a technology-based social intervention [46] identified that social, personal and technological contexts play a role in the (non-)participation with a technology. Previous studies also recognise the need to create informal, personal and collaborative ICT learning environments, in which older adults can increase their digital skills depending on their personal needs [35]. Building on this, our findings reveal new opportunities to enhance digital skills through the creation of content within a civic context. We reveal a complex pattern of civic motivations, such as talking about ageing or keeping other older adults informed, which inspire some older adults to engage with digital content creation technologies. Subsequently, we also highlight novel challenges that influence older adults' content creation. Balancing both personal and civic life, we have to consider time constraints, which require some older adults to divide their attention between different areas of life, and reflect the lived experience of the "busy amateur", as one of our participants framed it. Additionally, challenges such as missing opportunities to acquire support with content creation become evident. We suggest that one way of addressing these challenges is by considering the "repurposing of workflows" to identify overarching patterns of content creation between different media (for example, same production patterns of producing a blog and then recording it as a podcast). Encouraging content creators to see similarities in workflows might empower them to produce a wider range of media, whilst at the same time become more time efficient. This can also encourage older people to view themselves as active content creators, diminishing the barrier between those "who consume content" and "those who produce content". Our findings repeat the existing demands to Social Computing, Design, but also policies on digital inclusion, to consider the potential of technologies as a means for older adults to be active in their communities, digitally and in real life [19].

6.2.2 Implications for policy and community practice. Our analysis suggests a need to reconsider current formats of digital inclusion delivery in practice and at a policy level. In terms of practice, there is value in re-thinking the ways in which digital inclusion is currently delivered through activities, which focus on the teaching of basic digital skills. Instead, we highlight the need to incorporate creative ways to support older adults' digital content creation as part of their participation in increasingly digitalised civic spaces. We suggest making use of the community media sector as a resource to encourage older adults to become more civically and digitally involved. This entails shifting attention to those older adults who already make use of media production. There is much to learn from such individuals' experiences of how media can be a way to bridge the digitalisation gap, as noted in this paper and in previous studies [8, 14, 35]. By creating content of different formats, older adults are able to share their voices more widely. Our analysis supports findings from the wider literature that older adults can indeed engage with digital media in creative and active ways [45], challenging stereotypical views of older adults in Computing and wider society, as they become active digital content creators [14]. These implications for current models of digital inclusion suggest a need to create more diverse opportunities for older adults to engage with digital content creation and more active encouragement of older people to participate in the digital world. There is ample potential in future research to investigate how we might adequately support older adults who wish to expand their civic contributions to embrace a digital component and

ways in which growing numbers of older adults can be motivated to contribute in the digital civic space. On a policy level, we suggest that such practice goals can be achieved by incorporating the concept of digital participation within the goals of digital inclusion frameworks. Such an approach acknowledges the distinction between ideas of digital participation and digital inclusion, with the former being better suited to supporting older adults' civic participation. Referring back to earlier considerations about exclusion in later life, we highlight that by acknowledging the civic contributions of older people in a digital space, we can promote social inclusion and combat risk factors for exclusion in later life.

7 CONCLUSION

This research presented here explored the potential of using content creation as a pathway to enhanced digital skills in later life. It adds to key debates about civic participation in later life by focusing on participation in digital spaces to achieve civic goals. We show that by engaging in a range of content creation activities, such as radio production and online communications, older adults can engage more widely with digital technologies and develop their digital skills. Digital content creation can also strengthen civic participation in later life and widen the reach of older people's voices. Our research highlights the importance of recognising older adults as active contributors in the digital sphere. These insights have implications for the delivery of digital inclusion strategies, leading us to propose a shift towards digital participation in later life as a means of supporting older adults to become more active in civic society.

Despite these promising examples of how digital skill development can happen through content creation, there is ample scope for future work to address this topic in greater depth. In particular, we need to consider contrasting examples, in which digital skills development might not arise from participation in content creation activities. Future research should continue to explore barriers to digital and civic participation of a diverse older population. There is also merit in exploring in more detail potential differences between various means of digital content creation activities, how they are used by older adults and in which ways they contribute to the development of digital skills in later life.

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