

A Qualitative Study of Older Men's Experiences with Digital Technology in Rural Ireland

"I would have been better
off pushing a wheelbarrow
or something..."¹

- Title** A Qualitative Study of Older Men’s Experiences with Digital Technology in Rural Ireland
- Report authors** Dr Darragh McCashin (Assistant Professor, DCU School of Psychology)
Órla McGovern, MSc (MSc., Research Assistant, DCU School of Psychology)
Suzanne Smith, MSc (MSc., Living Labs Manager, Netwell CASALA)
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Age Action Ireland
30-31 Camden Street Lower, Dublin D02 EC96, Ireland

CRO 198571, CHY 10583, RCN 20027254

Tel: +353 (0)1 4756989
Email: info@ageaction.ie
Web: www.ageaction.ie



¹ Focus group participant

About Age Action

Age Action is the leading advocacy organisation on ageing and older people in Ireland. Age Action advocates for a society that enables all older people to participate and to live full, independent lives, based on the realisation of their rights and equality, recognising the diversity of their experience and situation. Our mission is to achieve fundamental change in the lives of all older people by eliminating age discrimination, promoting positive ageing and securing their right to comprehensive and high-quality services.

table of contents

Executive summary	5
Research findings - a summary	7
Section 1: Background	8
1.1 Contextual overview	8
1.2 Methodology	10
Section 2: Evidence review	12
2.1 Overview	12
2.2 Study characteristics	13
2.3 Main themes	14
2.4 Summary	17
2.5 Key takeaways	18
2.6 Summary of measures of loneliness and/or wellbeing in the literature	18
Section 3: Qualitative focus groups	20
3.1 Contextual overview	20
3.2 Paradox of support	20
3.3 The emotional experience	23
3.4 Adapting to a digital world	25
3.5 Summary and next steps	28
Section 4: Stakeholder mapping outcomes	30
Section 5: Recommendations	31
5.1 Overall recommendations	31
5.2 Key takeaways	32
References	34
Appendices	38

EXECUTIVE SUMMARY

Background to the report

Our use of technology is changing at pace. Across all levels of Irish society, we are witnessing a growth in the need to adapt to new digitalised ways of living within our social, cultural, personal, and professional lives. Amidst these developments, it has become increasingly recognised that some groups in society have been experiencing unique challenges with such rapid change. One such group is that of older men in rural areas of Ireland. The evidence emerging from organisations such as Age Action Ireland and Men's Sheds, and indeed mirroring the findings within the broader research literature, indicates that older men have often been found to experience greater levels of isolation than women. This is occurring in the context of an Irish society that is significantly below other European countries with regards to digital literacy – all of which has been emphasised during the unprecedented challenges of COVID-19. Despite the acknowledged role of technology in potentially (in)directly addressing feelings of isolation (as experienced by some during the pandemic), there remains highly mixed levels of uptake across older populations. This is compounded by the reality that many technology-based services and solutions across society are built

without the input of the so-called 'end user' in mind.

Age Action's [Digital Inclusion and an Ageing Population](#) (2021) report highlighted the many challenges involved in addressing digital exclusion and underscored the opportunities for adopting a rights-based approach in building a response to digital literacy issues, with older adults and other stakeholders involved throughout such processes. Indeed, best practice approaches in the research literature suggest that a participatory approach to methodologies that can illuminate the 'voice' of the individual is most appropriate.

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Core aims and methodological approach

This report applies a three-part approach to address the following objectives: 1) conduct an evidence review of the available research literature to appraise the current knowledge base; 2) use focus group methods to understand what older men in rural Ireland (aged over 65 and living in an area having less than 1,500 persons) say about their experiences of technology and the related barriers and facilitators; and 3) critically summarise the totality of this data alongside a brief stakeholder mapping exercise to provide a holistic final output of actionable recommendations.

To ensure a high standard of

research methodology, a systematic review methodology was applied for objective 1. For objective 2, qualitative thematic analysis was applied to the use of focus groups to allow for a critically reflexive yet flexible approach to the data and to prioritise the voice of participants in the report. The last objective was addressed by hosting a Building Digital Bridges Living Lab workshop in conjunction with Netwell CASALA (Dundalk Institute of Technology) with a range of stakeholders, including organisations working with older adults, researchers, and older adults themselves. The outcomes from this workshop were blended with the overall outcomes from objectives 1 and 2 to provide a final conclusions and recommendations to contextualise the overall report.



Men's Sheds participants of Roundwood, Wicklow focus group. Arthur Hall, Tommy Heatly, Valentine Stray, Robert Heatley, Mártín Mac Siúrtaín, John Gilmartin, Darragh McCashin, Críostóir Begley. Credit: Age Action

Research findings - a summary

1. Evidence review

Using a systematic literature review methodology, the evidence review summarised the state of the current qualitative literature investigating digital technology use in older men and the association with feelings of loneliness/isolation. A total of 12 predominantly European-based studies containing 104 participants were analysed, and five common themes were extracted:

1. the use of technology for connection;
2. experiences of adapting to technology;
3. turning to others for support;
4. the importance of in-person communication; and
5. the perception of a generational/digital divides.

This review synthesises these key findings to highlight some of the key barriers and facilitators to the use of digital technology in older men.

2. Focus groups

Three focus group events with an overall total of 29 older men were conducted via Men's Sheds branches in rural Wicklow, Donegal, and Leitrim during March and April 2022. Three overarching themes were interpreted from the data: the paradox of

support; the emotional experience; and adapting to a digital world. Within each of these three themes, there was a rich set of sub-themes reported and an illustrative range of supporting quotation from participants.

3. Stakeholder mapping and critical summary

With 31 participants, the stakeholder mapping workshop allowed a range of different stakeholders to provide their perspectives, but also to interact, regarding the question of engaging rural men with technology. The workshop outcomes complemented the findings from prior focus groups by way of confirming many of the overarching themes, but also emphasised the appetite for effective peer support or buddy systems to provide technology education that is sustainable into the future for older men in rural Ireland. Taken together with the evidence review and focus group data, a critical summary is provided alongside actionable recommendations for stakeholders to consider. In brief, these include: applying inclusive and participatory co-design methodologies for any use of technology with older men in rural Ireland; acceptance and respect for non-adoption of technology; sustainable models of education and peer-to-peer support systems that build upon networks presently in place (such as Men's Sheds); and further research and evaluation on what is and is not working.

SECTION 1: BACKGROUND

1.1 Contextual overview

Evidence across Europe illustrate that older people in Ireland are significantly below other European countries with regards to digital literacy. Eurostat data from 2019-2021 demonstrate that a quarter of 55-74 year olds have never been on the internet, and of those that have, 43% have below basic skill levels. Of the over 75s, half have never been on the internet. The emergence of COVID-19 in 2020 and the plethora of societal restrictions that followed emphasised the importance of maintaining social connection and likewise the value of digital tools in potentially supporting this. However, while technology played a supportive role for many during this period (such as remote learning, social interaction, and entertainment), the evidence is mixed for older adults successfully transitioning to digital social connections within the COVID-19 context. Similar patterns are applicable for older adults' digital engagement with other services, such as telemedicine or online learning.

A further key variable of interest within this context is that of gender. Men have often been found to experience greater levels of isolation than women. More broadly, there has been growing evidence concerning the overall health and wellbeing of men, with

many international health indicators demonstrating that males are disproportionately worse than females. For example, the data indicates the following concerning trends for males: lower overall life expectancy and healthy life years, higher chances of diabetes and disease, and four and a half times more likely to die from suicide than females (Health Service Executive, 2017; WHO, 2018; Department of Health, 2019). Moreover, there are notable differences across lifestyle, norms and gender roles that have been linked to poorer health and wellbeing outcomes for men, such as the use of alcohol, risk-taking behaviours, avoidant behaviours due to self-reliance and/or competitiveness (Olliffe et al., 2019), and delayed help-seeking (Griffith, Bruce & Thorpe, 2019). From a public health standpoint, it is due to these gender disparities within the data that stakeholders have identified older men as an especially hard-to-reach cohort, presenting key challenges for the promotion of positive mental and physical health (Levant and Wimer, 2014), and likewise digital inclusion.

In Ireland, these trends have also been noted. Indeed, organisations dealing directly with men – namely, Men's Sheds – have reported exponential increases in their participants self-reported loneliness, particularly during COVID-19 (Sheds

for Life Impact Report, 2021). As service provision across many domains shift into hybrid formats, there is a growing recognition that, in the event of any future “locking down” of society, digital literacy for vulnerable groups will need to be ethically addressed to ensure inadvertent exclusion does not occur. Relatedly, as the State continues to transition into a digitally-dominant form of service provision alongside broader technological advancements, there is widespread concern about the digital inclusion of hard-to-reach populations. This is compounded by the experiences of older people in rural areas who are consistently at a higher ‘at risk’ of poverty rate than those living in urban areas (Central Statistics Office, 2012; 2015).

In recognising the above issues, Age Action’s Digital Inclusion and an Ageing Population (2021) report highlighted the many challenges involved in addressing digital exclusion, and underscored the opportunities for adopting a rights-based approach in building a response to the issues, with older adults and other stakeholders involved throughout the process. Nonetheless, stakeholders recognise that there will be a continued need to provide alternatives to digital services; and this too must be balanced in a so-called “new normal” world where hybrid-style societal setups will continue to disrupt. Indeed, from a rights-based perspective, Age Action Ireland have noted that no individual should be

(in)directly forced into accessing services online; but to mitigate against the risks of this, active steps are required to understand what older men’s preferences are in a society that will have a very different digital landscape in the near future. There is a consistent absence of the older male voice within national discourse, and this markedly the case for older men residing in rural areas of Ireland (defined as localities with less than 1,500 persons).

Despite an increasing level of evidence syntheses across disciplines, the research-to-practice gap remains problematic, as does the definition and indeed measurement of digital literacy according to recent high quality systematic reviews (Oh et al., 2021). Often, there is a notable lack of older adult input into the very studies and interventions designed to support them (Mannheim et al., 2019). To build upon the above reports and literature, this project will – through the lens of the Age Action Values – provide an evidence review of existing research literature, coupled with a qualitative investigation using focus groups of our target group. Together, these outputs will be blended with a stakeholder mapping exercise to provide an overall assessment of digital technology issues affecting older men living in rural Ireland.

1.2 Methodology

1.2.1 Participants

To be eligible for participation in this research, an inclusion criterion was set:

- Males
- Aged 65 or over
- Living alone or as a carer
- Residing in rural Ireland (defined as a locality with less than 1,500 persons as per CSO definition)
- Has the capacity to provide informed consent

Individuals were considered ineligible if there was an inability to provide full consent and/or significant diminished cognitive or psychological difficulty that would adversely impact their ability to participate (for example, active psychosis, neurocognitive or neurodegenerative diagnoses).

A total of 29 males fully participated in the qualitative focus groups, and 31 stakeholder participants participated in a stakeholder mapping workshop event (see Section 4).

1.2.2 Design and data analysis

To complete an evidence review of the available research, a qualitative systematic review approach was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) framework (Page et

al., 2020) (see appendix A for full methodological details).

To capture the experiences and the voice of older men in rural Ireland, a qualitative research design using focus groups was chosen. The use of focus groups allows for an interactive and immersive experience to generate a wealth of data. Qualitative design allows for the rigorous collection of a wide range of experiences to address a set of research questions. By capturing subjective experiences, qualitative research is recognised as being highly amenable to representing the voice of those we are interested in studying. Through collecting in-depth, rich, open-ended and sometimes noisy data from humans in real-world settings, qualitative methodologies facilitate the interpretation of global themes and participants' sense-making (Willig, 2013).

Thematic analysis was used to investigate the qualitative data from focus groups (Braun & Clarke, 2006; 2019; 2021). The involved following the 6-step guidelines outlined by Braun and Clarke (2006). Firstly, data were transcribed and transferred to Microsoft Word, and read and re-read to establish overall familiarity. Secondly, an initial coding of keywords and sentences were applied. Thirdly, all codes were then organised within draft themes and sub-themes. Fourthly, an extensive review and revision of (sub)themes was conducted. The fifth step involved the use of an online

whiteboard tool (Miro) to visualise and group themes in order to facilitate the definition and naming of both themes and relevant sub-themes. Finally, a full write-up of each theme and sub-themes occurred, with continued reference to raw data to ensure richness and originality of the older male voice was represented throughout. 10% of the overall dataset was independently coded by the first author to optimise inter-rater reliability.

1.2.3 Recruitment and procedures

Given the widely acknowledged hard-to-reach status of the target population, a strategic collaboration between Age Action Ireland, Dublin City University, Netwell CASALA, and Men's Sheds was initiated to support the recruitment drive. A full social media campaign using Twitter and LinkedIn was conducted, and direct contact with different eligible branches of rural Men's Sheds was established. Following this, a series of three in-person focus groups lasting approximately 45 to 60 minutes were conducted via the Men's Sheds branches, for which a full protocol is provided (see Appendix B).

1.2.4 Ethical approval

Full ethical approval was provided by the Research Ethics Committee in Dublin City University (DCUREC/2022/033).

1.2.5 Report structure

This report is structured as follows: section 2 provides a summary of the evidence review of current research, section 3 details the outcomes from all focus groups, and section 4 synthesises all findings, including a stakeholder mapping event, to offer conclusions and recommendations.

SECTION 2: EVIDENCE REVIEW

2.1 Overview

This evidence review summarises the current state of the qualitative academic literature investigating digital technology use in older men and the association with feelings of loneliness/isolation. The review outlines key themes that arose from each study and highlights some key implications for future research and policy regarding digital technology and older males. This review includes 12 studies, comprising 104 participants, that were selected and assessed for suitability following an extensive database search. A detailed account of the review process is included in Appendix A. A summary of some of the key study characteristics is included in the proceeding section.

2.2 Study characteristics

Country	Year	Analysis	Sample characteristics
UK	2020	Content Analysis	N= 19 (71-84) Living with partner (5) Living with children (1)
Italy	2021	Thematic Analysis	N= 10 (76-89)
Israel	2020	Thematic Analysis	N= 17 (71-78)
Nigeria	2021	Thematic Analysis	N= 5 (65-80) Living Alone (1) Living with partner (3) Living with children (1)
South Africa	2019	Content Analysis	N= 1 (65) Living in residential care
Finland	2021	Content Analysis	N= 5 (81-88)
UK	2021	Thematic Analysis	N= 2 (70s) Living alone (1) Living with Partner (1) Tech experience (high)
Spain	2021	Content Analysis	N= 7 (66-77) Living Alone (3) Living with Partner (3) Congregation (1) Tech experience (Low – Very High)
Norway	2017	Thematic Analysis	N= 7 (65-90)
Italy and UK	2020	Thematic Analysis	N= 15 (65-84)
The Netherlands	2019	Thematic Analysis	N= 8 (75-94) Living Alone (7) Living with Partner (1) Phone (6) Tablet (1) Desktop computer (3) Social tech (3)
UK	2021	Thematic Analysis	N= 8 (65-80)

Figure 1.1 Study characteristics

2.3 Main themes

The qualitative findings provided insight and a greater understanding of the experiences of older men using digital technology to reduce loneliness. A number of key themes were observed:

1. the use of technology for connection;
2. experiences adapting to technology;
3. turning to others for support; the importance of in-person communication; and,
4. the perception of a digital divide.

2.3.1 Use of technology for connection

Older men discussed their experiences using digital technology to stay connected with family and friends. Many men reported using smartphone applications such as WhatsApp to stay in contact with family members living abroad (Brooke & Clarke, 2020; Jarvis et al., 2019); while others reported using video-calling platforms such as Skype (Luders & Gjevjon, 2017). In one study, it was reported that the use of a WhatsApp group-chat resulted in the formation of friendships and social connections in real life (Jarvis et al., 2019). Another study highlighted how for one participant, they preferred using digital technology such as email instead of phone calls to connect

with people to allow time to gather thoughts (Liddle et al., 2021). Within a COVID-19 context, one study reported that social connection increased during the pandemic due to digital technology and the use of video calls (Llorente-Barroso et al., 2021). Outside of the COVID-19 context, many older men reported the usefulness of digital technology to keep up to date with family that they may not see regularly (Pera et al., 2020; Bruggencate et al., 2019; Wilson et al., 2021). Interestingly, one study documented an experience of one participant where digital technology was used to share information and photos to provide a sense of reassurance before travelling to a certain country (Pera et al., 2020).

However, while many studies highlighted the benefits of digital technology for social connection (Wilson et al., 2021), a number of studies documented barriers to using digital technology for social connection including technical issues and a lack of technology skills (Kulmala et al., 2021; Cipolletta & Gris, 2021) resulting in many men giving up on even trying to use technology. In addition to this, a number of studies highlighted that some men had no interest in using digital technology to keep in contact with people (Cipolletta & Gris, 2021) while another thought that digital technology would in no way improve social connection (Ekoh et al., 2021). One study also highlighted the issue of fear of interrupting someone by calling them unexpectedly which

appeared to be a barrier some (Wilson et al., 2021). Additionally, some older men found that they did not want to make online connections with people unless they were going to lead to in-person friendships (Wilson et al., 2021). A common issue that arose across most studies in relation to the use of digital technology to connect with others was social disconnection; whereby individuals spend so much time on digital technology that they become disconnected from those around them. One participant highlighted how “people don’t have time for each other anymore, they are all talking into their telephones or playing games on it” (Bruggencate et al., 2019, p. 1844). Two studies also highlighted how older men found that some of their family members spent all of their time on their phones (Ekoh et al., 2021; Luders & Gjevjon, 2017).

“people don’t have time for each other anymore, they are all talking into their telephones or playing games on it”²

² Bruggencate et al., 2019, p. 1844

2.3.2 Experiences of adapting to technology

Some older men recalled being appreciative of digital technology and how it has benefited their lives including the ability to send photographs to people and talk to people all around the world (Wilson et al., 2021). Other participants have highlighted a positive transition into the online world becoming familiar with technology related aspects, such as email (Luders & Gjevjon, 2017). In addition to this, a number of participants highlighted the benefits of social media as they adapt to digital technology (Pera et al., 2021). Many participants found that social media “makes life easier” (Pera et al., 2021, p. 790) while others discussed the act of sharing photos on social media helps communicate their personality while others described the act of sharing photos as “having virtual company” (Pera et al., 2020, p.791). A number of participants also highlighted their confidence in continuously adapting with the technology with one participant stating, “I don’t think that the pace is, you know, beyond me.” (Wilson et al., 2021, p. 8).

On the other hand, adapting to digital technology has not been a uniform experience across all older men. A number of participants highlighted that they only use digital technology such as a phone for emergency purposes such as calling motor breakdown services (Bruggencate et al., 2019). Other participants highlighted their use of more basic

technology such as a landline phone or a radio, stating that more advanced technology is too difficult (Bruggencate et al., 2019; Ekoh et al., 2021). Additionally, one participant acknowledged that while some older men might be used to using advanced technology such as smartwatches, they had no interest in developing their knowledge in the area (Liddle et al., 2021).

2.3.3 Turning to others for support

A number of participants discussed their experiences of using digital technology and turning to others for support with any issues they faced. For support with any technology problems that arose, many participants highlighted how they tended to turn to family members who have higher digital literacy, such as children or grandchildren (Luders & Gjevjon, 2017; Wilson et al., 2021). Additionally, a number of participants discussed turning to

I'm not afraid to ask the family, but I do tend to sort of ask them to show me how to do it rather than experiment³

³ Wilson et al., 2021, p. 12

non-family members for digital technology support such as visitors or volunteer students facilitating a digital literacy class (Luders & Gjevjon, 2017). One participant highlighted a potential reliance on family members for support with digital technology stating, "I'm not afraid to ask the family, but I do tend to sort of ask them to show me how to do it rather than experiment" (Wilson et al., 2021, p. 12).

2.3.4 Importance of in-person communication

While a number of participants highlighted the benefits of digital technology to connect with others, a common trend that appeared across a number of studies was the importance of in-person communication. Participants highlighted the difference between in-person and digital connections, including the loss of opportunity to look at someone's face and see their reactions in conversations (Cipolletta & Gris, 2021) or looking at how facial reactions can add something to conversations (Wilson et al., 2021). In addition to this, one participant highlighted the difference in conversation quality online versus in-person stating, "it's just a less comfortable feeling, I mean I would, I could sit here and talk to you, but if I were talking to you by Skype... I probably would be a bit more stilted and a little bit more formal and a lot briefer" (Liddle et al., 2021, p. 412). One participant also highlighted the crucial need for technology to not become the dominant form of

communication as “there is that need for people to always have people” (Wilson et al., 2021, p. 9). Relatedly, another participant argued that social technology has “destroyed the essence of the human being” (Wilson et al., 2021, p. 10). Furthermore, participants also noted how there is a greater risk of a message being misinterpreted when using digital technology compared to speaking in-person while another participant added that talking over the phone may lead to more arguments that would not arise ordinarily had the conversations occurred in-person (Wilson et al., 2021).

2.3.5 Perception of generational and digital divides

A number of participants also communicated a potential generational divide between older adults and younger people regarding technology use, with one participant stating, “the children do make use of their phones but for me, I can’t make use of it” (Ekoh et al., 2021, p. 636). Another participant stated that they did not grow up with technology and, therefore, they do not feel bad about not knowing how to use it and find the most basic technology such as a radio sufficient for them (Ekoh et al., 2021). Similarly, another participant also said that had no negative feelings attached to their lack of knowledge on digital technology because they viewed it as something for children (Ekoh et al., 2021). In addition to this, one participant found it hard to understand why his

daughter was on her phone so much and recounted seeing her use apps that he never heard of such as TikTok (Ekoh et al., 2021). By contrast, another participant recalled feeling slightly left out for not knowing how to use digital technology (Luders & Gjevjon, 2017), while another participant felt intimidated by their children as they did not know as much about technology (Pera et al., 2020).

Finally, one participant highlighted a digital divide in their area stating that within their village they do not have access to electricity, so they are unable to charge smartphones even if they wanted to use them (Ekoh et al., 2021).

2.4 Summary

Of the 12 studies included in this review, five common themes were interpreted. Many participants discussed the positive role digital technology has played in staying connected with others including family living abroad or during the Covid-19 pandemic. However, a number of barriers to this form of connection included low digital literacy, a lack of interest in technology, and the concern of digital disconnection. Many studies also discussed the various experiences of older men adapting to the use of digital technology including the use of social media and email while other studies highlighted how some older men prefer the simplicity of older technology such as radios and landline phones. A

number of studies also highlighted older men's experiences of receiving support with technology including turning to digitally literate family members; however, a dependence on other people for support with digital technology was also highlighted in one study. The importance of in-person communication was highlighted throughout the majority of studies where older men expressed how in-person connection with others cannot be replicated by digital technology including looking at facial expressions or the ability to add context to a conversation. A number of participants also expressed their preference for in-person communication compared to talking on the phone or on a video call. Finally, a number of studies highlighted a generational and digital divide perceived by older men regarding digital technology including how the younger generation appreciate digital technology and are more digitally literate because they grew up using it. On the other hand, other studies highlighted a digital divide in some areas due to a lack of resources including electricity. Ultimately, this review highlights some of the key barriers and facilitators to the use of digital technology in older men.

2.5 Key takeaways

1. Overall, there is a distinct lack of high quality qualitative research literature that analyses the combined

effects and experiences of older adults and digital technology, particularly with respect to social isolation.

2. Of the available and relevant literature, there are clear barriers (generational divides; preference for in-person communication) and facilitators (appropriate support systems, recognition and use of technology for connection for the use of digital technology) for the sustainable use of digital technology in the lives of older adults.

2.6 Summary of measures of loneliness and/or wellbeing in the literature

Although ineligible for this review (due to their quantitative design), there were a number of studies that measured loneliness and/or wellbeing in older males (Barbosa et al., 2019; Casanova et al., 2021; Garttinni et al., 2012; Lee & Kim, 2019; Wilson, 2018). In order for stakeholders to assess which measures may be suitable for future research and evaluation projects, a summary of the measures used in these studies (n =5) is outlined in the table below, as are the observed strengths and limitations.

Scale	Accessibility	Strengths	Limitations
Perceived Social Isolation	Freely available at the original paper (Cornwell and Waite, 2009)	<ul style="list-style-type: none"> Strong reliability and validity 	<ul style="list-style-type: none"> Not specific to social isolation (includes measures of loneliness)
Duke Social Support Index	Freely available at the original paper (Wardian et al., 2013)	<ul style="list-style-type: none"> Strong reliability and validity Good evidence to support its use 	<ul style="list-style-type: none"> Time-consuming Numerous subscales
Short Revised UCLA Loneliness Scale	Freely available at the original paper (Hughes et al., 2004)	<ul style="list-style-type: none"> Easy to complete and accessible Strong reliability and validity 	<ul style="list-style-type: none"> Short – there are only 3 items (may not capture every aspect of loneliness)
Sense of Belonging Metric (SOBI-P)	Freely available at the original paper (Hagerty and Patusky 1995)	<ul style="list-style-type: none"> Strong reliability and validity 	<ul style="list-style-type: none"> Only measures psychological state of sense of belonging
Self-esteem	Freely available online or from original paper (Rosenberg, 1965)	<ul style="list-style-type: none"> Good evidence for use Strong reliability and validity 	<ul style="list-style-type: none"> Specifically focuses on self-esteem rather than overall wellbeing
Gierveld's Loneliness Scale	Freely available at the original paper (Gierveld, 2006)	<ul style="list-style-type: none"> Strong reliability and validity Straight-forward to complete 	<ul style="list-style-type: none"> This is a shortened version of a larger scale (functionality as a measure of loneliness may be lacking)
Social Network Scale	Freely available from original paper (Lubben et al., 2006)	<ul style="list-style-type: none"> Strong evidence for use Strong reliability and validity 	<ul style="list-style-type: none"> Restricted scope in measuring social networks (relatives and friends only)

Figure 1.2 Measures of loneliness and wellbeing in the literature

SECTION 3: QUALITATIVE FOCUS GROUPS

3.1 Contextual overview

Three key overarching themes were found during the focus groups, as illustrated figure 1.3 below. The findings below are taken from a series of focus groups conducted for this report. Three focus groups were hosted in various rural areas in Ireland (Wicklow, Donegal, Leitrim). Participants were asked a series of open questions related to their experience with digital technology, how digital technology impacts social isolation, and their perceptions of the barriers or facilitators to digital

technology use in older men living in rural Ireland. A copy of these questions is attached in Appendix B.

3.2 Paradox of support

Participants discussed their different experiences getting support for digital technology use that ranged from family support to online classes. While some participants described positive experiences receiving support, in some cases a paradox was created where support with technology was unhelpful or brought up additional issues.

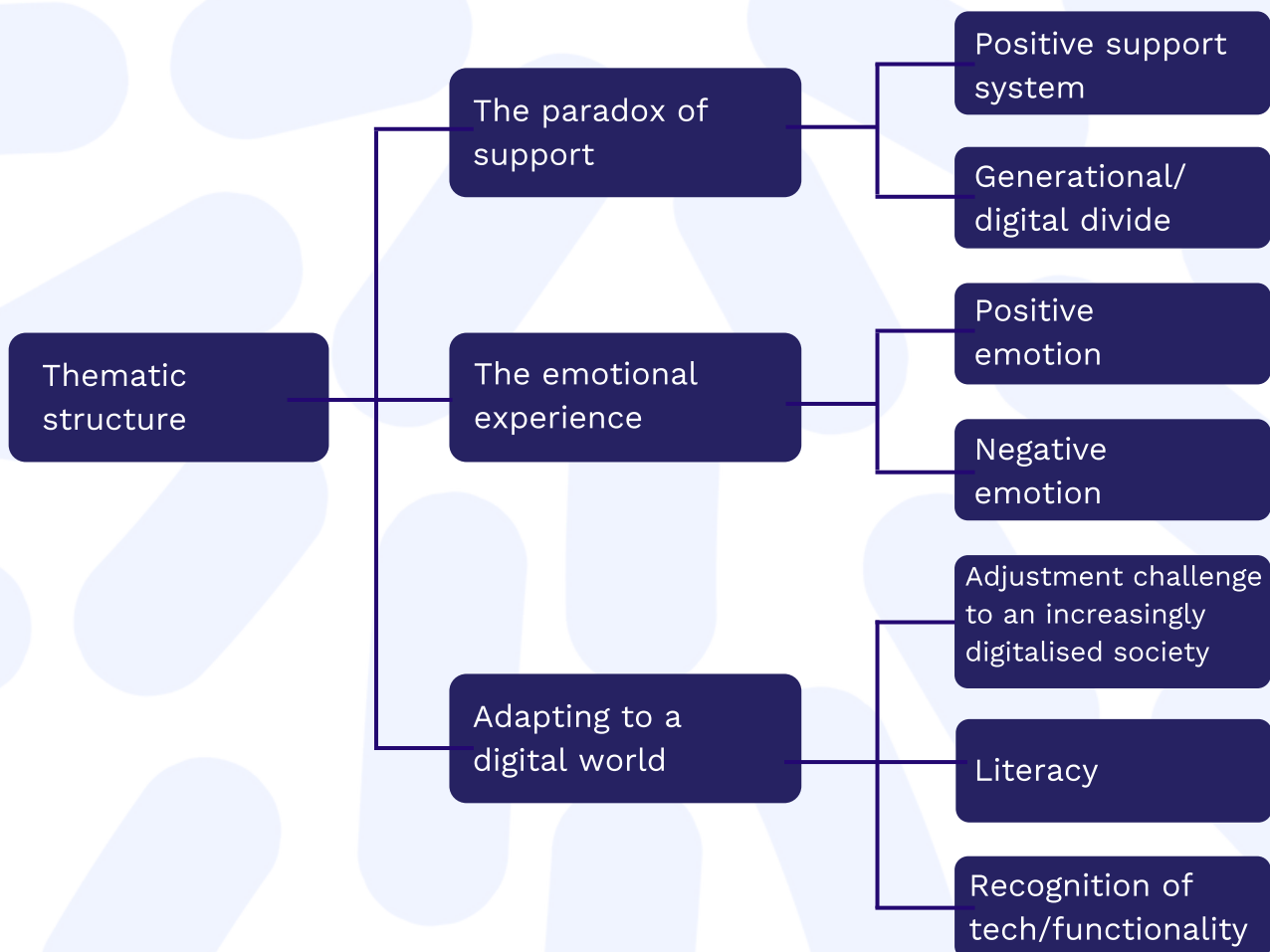


Figure 1.3 Overarching themes

3.2.1 Positive support system

One participant highlighted how grateful he was that his family was around to help him figure out digital technology to keep in touch:

“I had an experience recently, I had sort of grown up, you know, keeping in touch, and I wouldn’t be able to keep in touch only for I have sons and grandchildren to help me.”

Additionally, one participant described himself as “fortunate” as he had a family member living with him to whom he could turn to for technology support when needed:

“I’m relatively fortunate, I suppose, I’ve a young 40-year-old that’s into his technology in the house, so I can always go, “help”, which I often do.”

Another participant highlighted how after resisting the move to online communication, a family member helped him reconnect with family after their communication moved primarily online leaving him out of the loop:

“...but I found that I lost touch with my family, big time, you know because they came home for weekends or for holidays or whatever and they came in and said “hello” and whatever and then they just carried on because they were totally up to date with [family member] and so on, right? And with each other. I was the only one, I was an outsider. So, I had to take it on, and you know, I was lucky that [family member] was there

and she was able to maybe help me with it or like most other people here, there’s family that [can help with technology]”

A number of participants also described positive experiences getting technology support from community volunteers or education classes with one participant stating:

“I bought a new phone a number of years ago, and the Shed here was good and joining up then, introduced or, or opened up a space for us in [location] in the school, and it was a great help for the...to answer the phone and how to make a call and this and that and the other...”

“
I was the
only one, I
was an
outsider⁴
”

3.2.2 Generational/digital divide

Although participants highlighted experiences receiving support with digital technology, a number of participants also highlighted a potential generational or digital divide that leads to older men feeling more reluctant to use such technology. One participant had the opinion that

⁴ Focus group participant

despite there being a push to move everything online, the technology is primarily targeted towards young people:

“The technology is for young, geared largely to young people, yet we are being compelled to use the technology, particularly for filling out forms online, for renew the car tax... all these things which are simple enough if you’re a young person doing your own thing, but if you’re our age, no, living alone with no children and no grandchildren, no support network really, it’s left to yourself to sort it out. So, my suggestion here is anticipate, anticipate all our needs.”

Other participants highlighted how a generational divide between younger family members who are digitally literate and older men can lead to unhelpful technology support as they fix the issue without explaining how to do it leaving older men just as confused:

“Yes, but that’s bad I think because I mean they come in and then, it’s gone, done, you can learn nothing from them.”

“But see, I brought it down to a, a... one of the grandchildren now, she’s about 16, she’s, and she said, “No problem Granda”, dit, dit, dit, job done, as quick as that, you know? But still, I don’t know what she did, you know?”

As a result of this, participants highlighted a sense of dependence on others or a lack of autonomy when it

came to using digital technology with one participant stating that although they like learning about technology:

“I always love to have somebody close by”

Many participants highlighted the need to foster independence and simplicity when it came to supporting older men and digital technology:

“The route is give us independence, that we can do it, you know? Empower us as a group, do you with me, however that happens, but that when you’re gone, we can still do the business after.”

“Just press the button, it should be as simple as press the button, shouldn’t it?”

Many participants also highlighted the generational differences in technology use stating that because they did not grow up with it, they find it harder to understand.

“No problem Granda”, dit, dit, dit, job done, as quick as that, you know?⁵

⁵ Focus group participant

“Yes, yes, yes. You grew up with the machine, but I think with the phones, it’s like the younger folk now, they’re working these phones from two-year-old, or maybe earlier, and they’re growing up with them.”

3.3 The emotional experience

Throughout the discussion, participants highlighted a number of emotional reactions towards technology use and the implementation of technology into everyday life. These emotions were both positive and negative and ranged from fear and frustration to fascination.

3.3.1 Positive emotions

Many participants found the use of digital technology “really amazing”. One participant was in awe of how he could contact his son living abroad and video call him for free:

“But to hear, to talk to my son as he walks down the street in Strasbourg and he, and I can see him, and he can see me. That’s just amazing.”

Other participants highlighted how digital technology has played an important role in learning new skills with one participant describing their experience of using YouTube to do work in the garage:

“I’m able to, I mean, to learn, to do a job in the garage, and go to YouTube and see somebody fixing, putting a wheel on a wheelbarrow or whatever

it is. And Tim was saying to me, when his son did the plumbing in his house, that his son and a friend did all the plumbing. But they had a laptop or a computer on the table, following the instructions. And at the end of it all of course, they got somebody who was an expert to check that everything was done correctly.”

3.3.2 Negative emotions

Many participants expressed frustration in relation to learning to use digital technology and trying to navigate online systems. One participant highlighted the frustration of trying to input details into online websites.

“I forget what I was trying to do there, but me wrong date of birth they kept telling me and I said, “jaysus I have it this 73 years!” And me wrong e-mail address. Now again, it was a daughter that made up the email address, but they kept telling me, “that’s not your date of birth, that’s not your PPS number”, which is what you know, and I couldn’t get around it anyway, I had to get help.”

Furthermore, many participants highlighted frustration with online services with one participant discussing the poor treatment of older men.

“Yes, it’s almost they don’t want to speak, it’s just, and it’s not, it’s cruel, do you know, it’s, it’s, you could be a whole morning trying to make contact.”

Another participant highlighted feeling drained from trying to navigate online systems explaining:

“I think that's a very good point, they're inclined to wear you down. You start off and the next thing then, you've got to the very end then and it won't accept your... you kick off again. After you, after remember you having spent a long time at it, do you know, filling out the God damn thing and getting it you know...”

Participants also discussed feeling scared to use digital technology over fears of getting it wrong:

“You're kind of afraid to do things because, in case you'll just happen to do the wrong thing, yes.”

Fear was also discussed at length in relation to online scams within banking and online shopping with one participant highlighting the extent to which this fear manifests in everyday behaviour:

“I think, with the bank statements, and your bank account online, it's very frightening with the scams that are going on. I'm checking my balance quite...three times a day to make sure it's still there, and if I'm buying something online, I get halfway through and I think, no, I'm out of it, because of the scams that's going on.”

Participants also highlighted feeling embarrassed about asking for help with digital technology:

“I suppose we're all, well I'll include myself say, that we're all slightly embarrassed to have to say, "jaysus no don't...[know how to use technology]"

On the other hand, participants also highlighted that there should be no shame in asking for support with digital technology:

“Well, we don't do it often enough, really. But it's no harm, the best idea is to ask the grandchildren, there's no shame in that at all... Because you taught them how to use a spoon.”

Scepticism and caution also came up a number of times with participants highlighting the need to be cautious when it comes to using digital technology. One participant described data collection as “bloody creepy”, while another highlighted how older men are more cautious when it comes to internet and technology use:

“And like is it in our interest, what is all this storing about. I don't know if it's in our interest and the other thing about it is, because someone mentioned there, I don't know who said there, we'd be a very sceptical lot which I'm very very proud of, you know. Most people was... we were taught when we grew up, look before you leap... our youngsters were taught, leap and take the consequences and all that I can say, I do feel sorry for people that, the youngsters have total belief and total faith in technology, you know. They'd

never think that anything can go wrong, that they... you know, I think they're really walking themselves into it.”

“Well, we don't [ask for help] often enough, really. But it's no harm, the best idea is to ask the grandchildren, there's no shame in that at all... Because you taught them how to use a spoon.”⁶

3.4 Adapting to a digital world

Many participants brought up different elements related to the transition and adaptation to the online world that brought up a range of topics including barriers to the transition and appreciation of technology.

3.4.1 Adjustment challenges to an increasingly digitalised society

Many participants felt like there was no other option but to use digital technology, feeling a push from society at large and different industries:

“Well, the State, everybody is pushing technology.”

Some participants felt like they did not have a choice but to use digital technology:

“It's not a question that you can't do without it, you won't be allowed to do without it.”

A number of participants also discussed reluctance to engage with online services such as online banking:

“They keep asking me if I want to do internet banking. No, I don't and one of the reason is, and I always say to them, "you're going to lose your job if I do... which, so I'm looking after your job in the bank there while you've got me and others like me, your job is possibly reasonably safe". Internet banking, don't do it and I'm not going to do it, even if I've got to... I'd rather stuff me money under the floorboards.”

Participants also highlighted a number of challenges to learning about digital technology including the time it takes and skill retention issues:

“... a lot of men are very busy, they're involved in a hell of a lot of stuff and it does take a little bit of time and effort to actually get started, to learn how to do stuff.”

“Well, I think, I think myself, a lot of the problem is, if we do learn something today, and if we don't use

⁶Focus group participant

it, we'll say, for a week or maybe two weeks, by the time you go to use it, you've forgotten how to do it.”

As participants transitioned into the online world, a number of challenges appeared to arise along with some boundaries that participants have set up regarding what they are willing and not willing to engage with online.

3.4.2 Phone literacy

The majority of participants discussed the use of phones or smartphones with many describing positive or adaptive use including calendar reminders and downloading scanners:

“...now there's not nearly enough spaces in the day, like I need a reminder for so many things. Otherwise, I wouldn't get stuff done.”

“Today, my missus received some paperwork from SuperValu in town here and I don't know, she gets discounts, and it wanted to scan this box of fancy black and white shapes for scanning. So, she said, "I don't...", I said, "well you have download a scanner onto your phone". So, we did that, I did that for her and that were easy enough and then we scanned this thing”.

On the other hand, limitations to phone literacy were also discussed including problems with trying to find numbers or figuring out phone networks:

“I have a phone and I have a good few numbers on it. But I went to ring a lad the other day and his number was gone. And I know for a fact, your number's gone. So, there's different numbers is being taken off my phone, I don't know why.”

“But I'm not getting, I could ring you today...and it could come up on my phone, 'not registered on network'. Now, what the goddamn is 'registered on network'? Because his name is in the phone, whoever, and it's all I'm doing is pressing a couple of buttons to bring up the name and ring. And it comes up, not registered on network. What is going on?”

One participant also acknowledged their own role in the lack of phone literacy stating:

“Well, I suppose, in all honesty, we're to blame ourselves, because we're not, we're not working enough on it. And that's, I think that's a problem too, with our, with our, with each and every one of us. We're not working enough on these, these phones and all to...”

“
Now, what
the goddamn
is 'registered
on network'?⁷
”

⁷ Focus group participant

Participants described numerous cases where phone literacy was displayed; however, there were a number of areas where participants struggled to navigate issues with the phone while also making themselves accountable for their lack of engagement with technology.

3.4.3 Recognition of technology and its functionality

Participants discussed the functionality of digital technology and the important role it plays in our lives today including convenience and connection. Many participants highlighted how digital technology has made life easier:

“It's a screen, you press the green do da for WhatsApp, you look in the address, to get their name and it rings at their end and you can either have a phone conversation or a screen visual of them. That's relatively easy and very, very useful and great stuff particularly in a pandemic etc.”

One participant also described the simplicity of selling things online:

“We put it on DoneDeal, the photographs and everything. [Family member] did it again, but I could have managed that myself, I think, and it went on. Within less than two hours we'd eight hundred viewings, brilliant, you know, and it sold, and it sold local as well even though it went nationwide but yes, for that sort of things it's great.”

The use of digital technology to connect with others was also discussed at length by participants with many recognising the important role technology plays in staying connected:

“Well, if you think way back say in the '30's, 40's and way back there when young people went to America and it took maybe three or four weeks before a letter arrived. And compare it with what we have now, I mean, for all it's faults and there's plenty of them but at least that is, that's a plus, it has to be.”

Participants also acknowledged the use of technology to avail of medical services during the pandemic:

“The phone was very handy during the pandemic for... you contact to and from your doctor or local nurse that was doing the jabs and we were getting WhatsApps, "you are in tomorrow at 3 o'clock", that sort of thing. Brilliant for that.”

On the other hand, the majority of participants highlighted that although technology was useful to connect with others, it could not replace in-person connection:

“But the other thing about the technology is, and the Zoom is, you don't get that smile, that mischievousness, you know, and the face-to-face contact that you get in a Shed. You're not going to build up friendships on Zoom, do you know? You don't see the person coming into the room, hobbling because he has

arthritis, on Zoom. But you get the... we're back again now, thanks be to God, and we can have our regular meetings, and we can use the new technology, but it's hard to beat the face-to-face contact."

Another participant highlighted that online connection may not be enough to reduce feelings of loneliness:

"The phone was very handy during the pandemic for... you contact to and from your doctor or local nurse that was doing the jabs and we were getting WhatsApps, "you are in tomorrow at 3 o'clock", that sort of thing. Brilliant for that. But what I'm getting at there is that people could be quite lonely in their house even though someone is phoning them and all of that..."

Participants also expressed concern over the over-use of technology highlighting that people can become disconnected from others as a result of engaging too much with technology:

"But the way it's gone, though, it's so sad, you say, looking at people say sitting in a restaurant, the mother, the father, maybe the son and the daughter, and they nod to the waitress and they give their order, and then they, the four of them, they're there on their individual devices...no communication.....no dialogue..."

Ultimately, participants recognised the functional role of digital technology in society and in

⁸ Focus group participant

connection however, the majority of participants made it clear the importance of in-person connection should not be overlooked.

“But the other thing about the technology is, and the Zoom is, you don't get that smile, that mischievousness, you know?”⁸

3.5 Summary and next steps

A number of key themes and sub-themes arose from both focus groups. Participant's highlighted their experiences of receiving support with digital technology including turning to children and grandchildren; however, a dependency on others for support was again highlighted in these findings. Furthermore, a number of participants highlighted how turning to others for support can occasionally be unhelpful as they fail to grasp how to solve the problem when it is done for them by digitally literate family members. Additionally, participants highlighted how technology is geared more towards younger people and called for digital technology to be simplified for older adults. The emotional experience of using digital technology was also

described within the focus groups with some participants highlighting a positive emotional experience such as amazement while other participants described more negative emotional experiences including frustration, fear, and embarrassment. Participants' experiences of adapting to a digital world was also a common discussion across focus groups with a number of barriers and facilitators to this adaptation being highlighted including societal pressure to engage with technology, phone literacy, and recognition of how technology can be used to enhance connection. Participants also highlighted the importance of in-person connection and expressed a similar concern of digital disconnection from society. Ultimately, the findings from this study reflect the findings from the evidence review and offer a rich insight into the lived experiences of older adults in rural Ireland and their perceptions of digital technology and the role it can play in social isolation.

Overall, participants identified a number of suggestions to promote or support digital technology use in older men that included promoting independence so as to empower older men to use technology without relying on other people for support. A number of participants also called for technology to be simplified such as more straightforward smartphones, while others called for online services to be refined as easier to navigate and more accessible. Regarding education classes, participants called for classes to be needs-based to allow content to be tailored to the

individual. Participants also suggested that information and support with technology should come as a booklet so individuals can revisit the instructions on how to use something technology-related should they forget. A summary of these next steps are provided in the grid below.

Promote independence	Simplify technology
Needs-based education classes	Make technology support more accessible
Provide information booklet/tutorial on 'how to' with technology that can be returned to if needed	Improvements to online services

Figure 1.4 Support of technology use for older men

SECTION 4: STAKEHOLDER MAPPING OUTCOMES

A workshop was hosted in conjunction with Netwell CASALA (Dundalk Institute of Technology) with a range of stakeholders, including organisations working with older adults, researchers, and older adults themselves. These participants included: Louth Community & Age Friendly Office, Louth Leader Partnership, Home Instead, DDS4OP, DCST, Louth Library, and Acorn. The above question was put to these stakeholder groups to discuss, and participants were invited to record and summarise their responses using paper-based materials. Following a highly engaging and progressive interaction, a descriptive summary of key suggestions from the task completed the 31 stakeholder attendees can be seen in the grid below.

Importantly, these outcomes represent the combined outcomes from not just older adults, but also the wider community, including service providers and researchers. There is broad similarity in the suggestions provided – information, awareness, support, and accessibility – and particular emphasis on how such suggestions can be realised provided interesting insights. For example, the use of ‘buddy systems’ to promote group activities involving digital technologies is recognised way of creating sustainable engagement.

However, such systems are predicated on the existence of established community groups (such as Men’s Sheds); and finding the appropriate mix of abilities, attitudes and personalities can often influence the ultimate functioning of buddy systems. Regardless, this suggestion illustrates a cost-effective, personable and promising model that can be further in-built into existing communities, providing best practice resources can be provided (i.e., educational tools, technology resources, and administrative supports).

Improve access to broadband	Create a 'buddy system' to provide encouragement
Offer free digital resources	Build more awareness of digital technology
Enhance how information is shared - use different incentives	Utilise common spaces to reach out: parishes, GAA, and farming communities

Figure 1.5 Summary of key suggestions

SECTION 5:

RECOMMENDATIONS

5.1 Overall recommendations

This report firstly provided an overview of current research evidence. In addition, this report also provided an opportunity for 29 older men from rural Ireland to communicate their personal experiences and feelings with technology, and their opinions on the key barriers and facilitators. Taken together, there are a complex mix of internal and external factors that are implicated in older rural Irish men's (dis)engagement with technology over time.

In the first instance, it should be noted that there is a problematic lack of research evidence on the causal factors underpinning older rural Irish men's engagement or disengagement with technology, or initiatives to encourage their engagement. However, this qualitative research suggests that older men in rural Ireland are witnessing a vast amount of digital technological change within a relatively short time period such that a pressure is felt, and with that, a range of conflicting emotions. There was ample evidence that many older men do enjoy the basics of technology for communication or internet browsing (via the smartphone or a traditional mobile

phone), but there appears to be a common threshold where many older men experience a barrier. Common barriers included forgetting how to navigate a certain piece of technology (i.e., logging in to accounts, or fixing glitches), or feeling uncomfortable with the paradoxical nature of the support needed to navigate technologies (i.e., dependent versus independent).

Alongside these consistent experiences were the vast and deep emotional insights that were generously provided by participants. Indeed, some of these insights may well prove useful in considering the a priori motivation that needs to be cultivated before any digital interventions (such as digital literacy classes) can occur. Where older men feel fear, embarrassment or frustration at their lack of digital engagement or competencies, what might the appropriate emotional response be from their support system or society at large? Similarly, where positive emotional experiences occur – such as online quizzes, free music streaming or video-calling friends – how might this be consolidated to ensure sustainability, or to further promote newer technologies that may be beneficial to mitigating against risks of isolation or poor mental health?

The answers to such pivotal questions were not immediately obvious to participants in this report. What was clear was the sheer weight of the adaptation challenges perceived by older men – although a genuine appreciation for technology was broadly observed, the undercurrent of fear and scepticism was equally present (for example, the risk of online scams). Most of the men in this report did not feel that technology in and of itself can solve the macro problems of isolation, the practical challenges of living in rural Ireland (such as access to in-person banking, healthcare or the traditional Irish pub), nor the mental and physical health challenges that exist. Nonetheless, there was still clear acknowledgement that technology can and will play some role in their lives today and into the future. Within this acknowledgement, many men appreciated and recognised the difficulty in creating a support system for them. Indeed, the stakeholder mapping exercise illustrated some of the more practical responses to the barriers and facilitators of technology usage by older men in rural Ireland. It could be the case that the precise set of proposed solutions – for example, buddy systems or training courses – are not the contentious issues, but rather the implementation of such solutions present the greatest challenge. Given the emotional complexities outlined above, the building of trust, safety, community, respect, and autonomy will all play a pivotal role in supporting the wishes of older men in rural Ireland when it

comes to all things digital.

The totality of the rich data insights provided by both the evidence review, the focus groups and the stakeholder mapping workshop allow us to tentatively offer a series of reflections and recommendations for all stakeholders to critically consider into the future.

5.2 Key takeaways

- 1.** When seeking to build interventions or solutions for the barriers outlined above, creative and participatory methodologies should be used to ensure the involvement of older men in rural areas is prioritised.
- 2.** Build research capacity and isolate resources to specifically address the needs of rural Irish men – though challenging to execute, representative surveys on the specific needs of older men in rural Ireland would be extremely beneficial to guide service providers.
- 3.** Empower further the strengths of flourishing models such as Men's Sheds in rolling out programmes and activities conducive to empowerment, agency and education. The strategic use of GAA, agricultural, religious and charity sectors must also be critically considered as potential collaborators for rolling out support and dialogue initiatives.

- 4.** Acknowledge and respect the likelihood of zero uptake of technology from a small minority of older men into the future. Given the strategic direction of the Harnessing Digital framework in Ireland wherein targets of having 80% of adults with basic digital skills in a society where 90% of services are online, there needs to be considered efforts to respect, empower, and include men who wish to remain offline. This should be reflected in the provision of greater in-person options for such individuals, and the application of appropriate language usage that does not ‘otherise’ or unintentionally stigmatise such groups, nor inadvertently increase the difficulty of accessing services. A clear and accessible communications strategy from stakeholders will be needed as this large-scale digital framework evolves.
- 5.** To address the perceived digital divides, foster more intergenerational communication and events to allow a richer dialogue on the issues related to (mis)perceptions of technology across the life-course.
- 6.** When considering how to engage or educate older men in rural Ireland with technology, develop evidence-based approaches to building trust and rapport to precede any exposure to the technology (i.e., buddy systems, mentors). Moreover, to negate the

risk of creating sustainable pathways for older men to ‘check in’ or get a reminder of ‘how-to’ instructions will likely support greater engagement over time.

- 7.** Service providers must address the consistently negative experiences of older men with online or phone-based customer support services. Wait times, distrust and poor outcomes are an extremely common source of distress for older men in rural Ireland.
- 8.** Inaccessible or poor performing broadband are a mainstay issue for a minority of older men in rural Ireland – until such practical issues are addressed, many older men will continue to experience exclusion.
- 9.** Given the vast amounts of technology available to older men, provide consistent and simple language that succinctly explains their functionality, and effective support systems should be built to ensure early-stage barriers are overcome.

The preceding recommendations coupled with the evidence in this report supports the overall recommendations within Age Action Ireland’s report on Digital Inclusion and an Ageing Population, and the Government are likely to promote a more positive and inclusive digital environment for older men in rural Ireland if such recommendations are actioned.

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APPENDIX A

A.1 Evidence review methods

This review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) framework (Page et al., 2020).

A.1.1 Search strategy

Database searches were carried out on 25 February 2022 on four databases: PsycINFO, PubMed, CINAHL, and Web of Science. Free text terms were derived from similar literature and were applied to all databases (Oh et al., 2021; Poscia et al., 2018). The databases were searched using a combination of representative search terms. Search terms were modified to match database-specific indexing terms. Searches were restricted to those published in the English language and empirical research. The year of study publication was limited to those conducted after 2012 in order to capture a more up-to-date conceptualisation of digital literacy and social isolation. The reference lists of included studies were also hand-searched for other potentially relevant research.

A.1.2 Selection criteria

Empirical articles were identified if they 1) contained male participants over the age of 65; 2) qualitatively collected participants' experiences of digital technology; 3) qualitatively collected participants' experiences using digital technology to reduce loneliness; and 4) were peer-reviewed. Studies that had control groups that met the inclusion criteria for this review were also included but no comparator groups were defined a priori. Studies were excluded if: 1) they contained quantitative research only; 2) contained female participants only; 3) they did not describe empirical research (such as reviews, conference proceedings, grey literature etc.); and 4) the primary aim of the study was to validate a measure.

A.1.3 Data extraction

Titles and abstracts from relevant studies were exported from their relevant databases and imported into Zotero where duplicates were removed. The remaining studies were imported into Covidence where title and abstract screening was independently screened by the first reviewer (O.M.G) and those that were deemed irrelevant were discarded. The full texts of the remaining relevant studies were obtained and independently reviewed by the first

reviewer (O.M.G) according to the inclusion and exclusion criteria outlined above. The same reviewer (O.M.G) conducted a quality assessment of the included articles. The following information was extracted from the included studies: 1) authors, 2) date of publication, 3) country of publication, 4) study design, 5) recruitment methods, 6) sample size 7) sample characteristics, 8) methods of analysis, 9) specific findings related to attitudes towards digital technology and its association with social isolation.

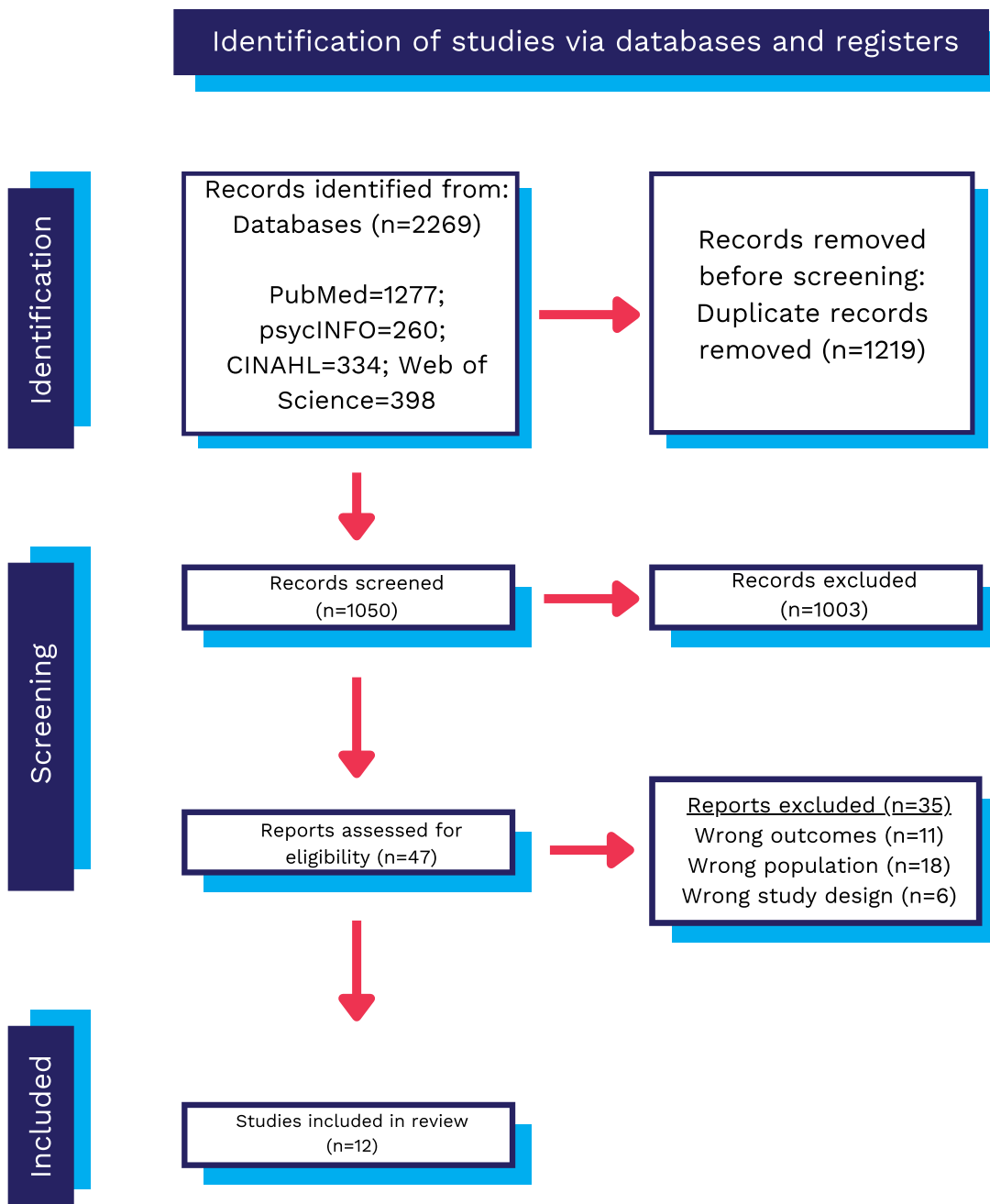
A.1.4 Quality assessment

Full-text articles identified for inclusion were assessed using the Critical Appraisal Skills Programme (CASP, 2018) checklist in order to appraise the quality of the qualitative studies. Headings in the CASP assessment tool included that the study had a clear statement of the aims, appropriate qualitative methodology, appropriate research design to investigate aims, appropriate recruitment strategy, appropriate data collection, relationship between researcher and participants considered, ethical concerns considered, rigorous data collection, clear statement of findings, and value of research. The headings were applied to the included studies and were categorised under three responses: “yes”, “can’t tell”, or “no”.

A.1.5 Data analysis

Narrative synthesis was employed to analyse and combine the findings of primary studies (Thomas & Harden, 2008). This process involved three stages; line by line coding of the text, the development of descriptive themes and the development of analytical themes. Firstly, the findings section of the primary articles was analysed and thematically coded. Following this, the codes were grouped according to similarities, patterns and differences and subsequent description themes were clarified.

A.2 Prisma Diagram



A.3 Search strategy

Qualitative AND Elder* OR Old OR “older adults” OR aged OR “very elderly” OR older OR ageing OR senior* OR geriatric OR “old age” AND “Digital literacy” OR “digital technology” OR technology OR “digital divide” OR “technology literacy” OR “technology disparity” OR “technology divide” OR “computer literacy” OR computer OR “mobile phone” OR phone OR iPad OR iPhone OR laptop OR telephone OR smartphone OR tablet AND Loneliness OR isolation OR “social isolation” OR lonely OR isolated OR “socially isolated” OR alone OR alienation OR alienated OR aloneness

APPENDIX B

Focus group questions

<u>Questions</u>	<u>Prompts</u> To be used where there are silences, or where a direct response is provided. Prompts will be used as follow-ons - for e.g. X participant mentions 'Skype', researcher responds 'how long have you used Skype?' or 'Has anyone else experience with Skype'	<u>Interviewer guide</u>
Q1 - Context-setting Can you say a bit about your experience(s) with technology - such as computers, mobile phones, for e.g?	-Have you ever used X before... -What springs to mind when you think of___ -How do you feel about these technologies...	-Rapport-building; ethically generating interactivity; setting-the-scene -Getting a feel for the dynamics in the room, the language used to refer to technology
Q2- When thinking about how the world uses technology such as mobile phones and computers, what practical advantages are there in using them day-to-day?	-Do you think they played an important role during Covid-19 lockdowns? -Why do you think so many people rely on technology nowadays?	-Getting a sense of how participants view benefits of technology - Insight into how tech impacts loneliness/isolation
Q3 - When thinking about how the world uses technology such as mobile phones and computers, what practical disadvantages are there in using them day-to-day?	- What problems do you think can arise from how we use technology?	-Getting a sense of how participants view disadvantages of technology
Q4 - What do you think would work best to support someone learning about technology?	-What comes to mind when you think of a digital literacy class? -What do you think is important to know regarding technology?	- Gain insight into facilitators to digital technology learning

<u>Questions (cont.)</u>	<u>Prompts (cont.)</u>	<u>Interviewer guide (cont.)</u>
<p>Q5- What do you think would stop someone from learning about digital technology?</p>	<ul style="list-style-type: none"> - What challenges do you think might arise? -What would stop you from wanting to learn? 	<ul style="list-style-type: none"> - Gain insight into barriers to digital technology learning
<p>Q6- What types of support do you think would be useful to help with technology and/or loneliness/isolation?</p>	<ul style="list-style-type: none"> -How would technology help someone feeling isolated/lonely - What sort of technology do you think would be most important? 	<ul style="list-style-type: none"> - Understand how technology might help with loneliness/isolation -Identify specific digital literacy areas that might be important to consider for this target group
<p>Q7- Some men love to use technology, whereas others don't appear interested at all - could you discuss why that might be the case?</p>	<ul style="list-style-type: none"> - What might be specific barriers to men when using/learning about technology - Do you think there are separate challenges for men when learning about technology? 	<ul style="list-style-type: none"> - Deeper insight into barriers facing men learning about technology
<p>Q8- In an ideal world, how would you like to see technology fit into your life?</p>	<ul style="list-style-type: none"> - How learning how to use it wasn't an issue, what sort of technology would you like to incorporate into your life? - What comes to mind when you see yourself using technology? 	<ul style="list-style-type: none"> - Identify goals for digital literacy education