Exploring and evaluating the War Widows InTouch (WW.it) Programme

Northumbria University NEWCASTLE

FINAL PROJECT REPORT
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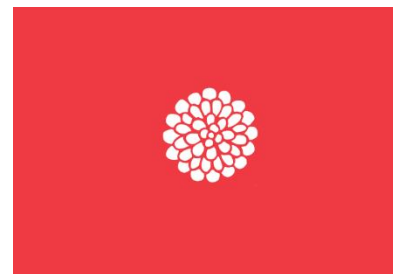Dr Gemma Wilson-Menzfeld

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All images in this report have been sourced through the Centre for Ageing Better's age-positive images library.

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Executive Summary

Experiences of loneliness and social isolation through widowhood are complex and compounded by military bereavement. Digital technology is one method to facilitate social connection, with social interaction being considered as one of the central motivations for older adults being online (Age UK, 2015; Büchi, Just, & Latzer, 2016; Cotten, Anderson, & McCullough, 2013).

The use of technology has become central to many of our lives through the COVID-19 pandemic, not only for social connection, but for work, education, shopping, and online banking etc. However, the issue of digital exclusion deters some individuals from using technology to connect with others, either through lack of access (internet access and access to digital devices), lack of skills (and confidence), or not recognising the tangible outcomes individuals perceive from using the internet (Blank & Groselj, 2014; Scheerder, van Deursen, & van Dijk, 2017; van Deursen & Helsper, 2015).

The War Widows InTouch (WW.it) programme provided members of the War Widows' Association (WWA) with iPads and/or iPad training to empower individuals digitally, and to support the development of new skills to connect with others online. The WW.it project aimed to connect members of the WWA across the UK, as well as improve their digital access, digital confidence, and digital skills.

This study was carried out independently, aiming to explore and evaluate the implementation and running of the WW.it programme. Specifically, this study aimed to examine the perceived impact of the intervention(s) from the perspective of participants and the instructor, reflect on the perceived facilitators and barriers to implementing the intervention(s), and map perceived changes to social isolation, loneliness, and well-being.

The study was carried out across two phases, using both surveys and interviews. In total, 35 participants partook in Phase one (35 completed surveys, and 17 also participated in interviews), and 28 participants took part in Phase two (28 completed surveys, and 12 also

participated in interviews). At Phase two, an interview was also conducted with the instructor leading the WW.it training programme.

Three themes were generated from Phase one, with survey data integrated throughout the interview findings to highlight pertinent points. The same process was completed for Phase two where a further three themes were generated.

Findings demonstrated the benefits of the WW.it programme in improving access to technology and internet connectivity. The iPad training itself led to improved skills and increased confidence, as well as reduced fear around using the iPad; although some did not develop as many skills as they had believed they would before starting training and fear of scamming and online financial affairs remained for many.

In Phase one, many participants did not recognise the potential benefits of the iPad as they had no prior experience of using one, however, once they were supported to use this device for their own interests during training, they were able to see how this technology could benefit them, and their own daily living. The personalised learning and programme content supported individuals to recognise tangible outcomes from using the internet. Through this, there were widespread advantages to using the iPad, including enhanced civic participation and social connection. A Wilcoxon Signed Ranks Test showed significant reduction of total loneliness scores following receipt of the iPad and the iPad training. There were no further significant effects observed for social isolation, technological use, or attitudes towards technology.

Whilst the WW.it training session was useful for many participants, this was just a launchpad to their learning. Individuals spoke of seeking additional learning opportunities to further enhance their skills and knowledge. Whereas others continued to rely upon friends and family to support them in unfamiliar or financial digital tasks.

As part of this project, a reflective tool for delivering digital skills to older adults was developed through the systematic narrative review. This was developed to use when delivering digital skills training programmes for older adults. It focuses specifically upon the negative perceptions of ageing, the learning environment, and the value of technology. The WW.it programme took into account all three of these values, however, lessons can be learned moving forward. This

tool can be used by practitioners when reflecting on programme delivery, as well as when evaluating digital skills delivery programmes.

Recommendations for practice

Several recommendations were developed from the findings of this study.

1. Multiple practical recommendations for digital skills training arose from this study and are recommended for consideration in future delivery programmes aimed at older adults:
    *   Shorter sessions spread across several weeks
    *   Face-to-face, group classes
    *   Importance of demystifying the technology through debunking jargon
    *   Importance of reducing fear of using the system
    *   Focus on accessibility settings
    *   Personalised learning and content

2. Training across multiple systems (e.g. Kindles or Android devices) was difficult for the instructor and not always beneficial for the learner. It is recommended, for future programmes, that training focusses upon one system only. This will also support peer-learning between individuals on the programme using the same device.

3. Online training allowed for individuals to participate in the WW.it programme from across the UK, however, this geographical dispersal would have been difficult if training was done face-to-face. Therefore, one recommendation for this project would be to roll out training regionally, through peers, or Regional Organisers at the WWA. This would group learners together to benefit from face-to-face, peer-supported learning.

4. Multiple participants suggested having training materials to accompany the training, whether this was a paper handout, online aide-memoires, or a recording of the session. One recommendation was to include bitesize help sheets on the WWA members area. This would encourage use of the WWA website and members area, as well as supporting individuals to improve and practise their digital skills. Other organisations

could provide similar materials on their own website, provide learners with paper handouts, or online handouts via email.

5. Signposting information should be provided by organisations for learners to seek further training once the programme is completed. This could be through local digital champions, national digital organisations, textbooks, or online-only resources.

6. It is recommended that organisations utilise the reflective tool when implementing and/or running programmes to improve older adults' digital skills. Ensuring that the three core areas of the tool are met is fundamental for inclusive, supportive, and empowering digital skills training.

   a. Following on from this, one drawback for participants was often their own perceptions of ageing. It is recommended that organisations and instructors recognise the importance of this in their learning, and place emphasis on individual learning styles, through use of the reflective tool for delivering digital skills to older adults.

Introduction

Loneliness is defined as an unpleasant emotional response to a perceived discrepancy between the number or quality of relationships a person desires and those they have (de Jong Gierveld, 1998). On the other hand, social isolation is an objective state which reflects the frequency of social relations and social networks (Victor, Scambler, Bond, & Bowling, 2000). Both loneliness and social isolation can be prevalent throughout the life course (Hawkley, Buecker, Kaiser, & Luhmann, 2020), and there are a number of transitory periods that particularly increase the likelihood of experiencing loneliness, including, new motherhood (Lee, Vasileiou, & Barnett, 2019), leaving work or retirement (Coyle & Dugan, 2012), and widowhood (Collins, 2014b).

Experiences of loneliness and social isolation through widowhood are complex and are compounded by experiences of wider familial relationships, friendships, financial hardship, and a lack of access to social support (Collins, 2014a, 2014b, 2017). This complexity increases further when considering military bereavement and widowhood. Experiences relating to the notification of death of military personnel can have both short-term and long-term psychological impact on war widow(er)s, and can have a continued impact on experiences of social isolation and loneliness (Kiernan et al., 2021). Furthermore, war widow(er)s must often relocate following their spouse's death, and this geographical relocation may result in loss of their (military) community and can have both short-term and long-term impact on well-being and social connections (Collins, 2014a, 2014b, 2017; Kiernan et al., 2021).

Digital technology is one way of facilitating social connections from afar, with social interaction being considered as a core reason for older adults being online (Age UK, 2015; Büchi et al., 2016; Cotten et al., 2013). Yet, the evidence of the effectiveness of technology on alleviating loneliness is contradictory (Beneito-Montagut, Cassián-Yde, & Begueria, 2018). A recently published systematic review aimed to identify the interventions enabling long-distance interactions through technology-mediated communication, targeting loneliness and social isolation in old age (Ibarra, Baez, Cernuzzi, & Casati, 2020). In reviewing 25 papers, the authors conclude that technology allowed individuals to expand their social networks, strengthen existing ties, provide social support, and also build community rapport. However,

only some of the studies found that technology impacted experiences of loneliness (Ibarra et al., 2020). Despite this contradictory evidence, the focus on digital access and skills has increased considerably since the onset of COVID-19, and many individuals around the world relied on digital technology to connect with friends and family living outside of their own household.

Whilst there has been a rise in internet use from those over 75 years old in the last decade (Eurostat, 2017; Office for National Statistics, 2018), older adults still use the internet to a lesser extent than younger generations and are more likely to be considered as 'digitally excluded' (Age UK, 2018). Therefore, when reflecting on the potential benefits of technology use for social connection, it is imperative to consider digital exclusion, which includes lack of access (internet access and access to digital devices), lack of skills (and confidence), and the tangible outcomes individuals perceive from using the internet (Blank & Groselj, 2014; Scheerder et al., 2017; van Deursen & Helsper, 2015).

WW.it Programme

The WWA is a registered charity with 1,941 members (as of November 2021). The WWA identified concerns from its members regarding experiences of loneliness and social isolation, and a desire to be connected to peers/members who are spread throughout the UK. Therefore, the War Widows InTouch (WW.it) project was initially designed to connect war widow(er)s at both a national and local level and build an online community. However, this was only one proposed benefit of the programme, the WW.it programme also aimed to increase digital inclusion by improving digital access, digital confidence, and digital skills.

The WW.it programme provided members of the WWA with iPads and/or iPad training, to empower individuals and to learn new skills to connect them with others online. This project builds on the success of the award winning 'Project Semaphore', a project ran by the Royal Naval Association with similar aims (Royal Naval Association, n.d.). This programme aimed to extrapolate learning from Project Semaphore to support the war widow(er)s' population nationally. However, as a result of the COVID-19 pandemic, the implementation and running of the WW.it programme changed significantly which will be discussed throughout the report.

The WW.it project has been run and handled entirely by the WWA. Northumbria University were not involved in the delivery of this project but provided an independent academic evaluation of the WW.it Programme and this is the subject of this final report.

Aims

This study aimed to explore and evaluate the implementation and running of the WW.it programme. Specifically, this study aimed to:

- Examine the perceived impact of the intervention(s) from the perspective of participants and the instructor
- Reflect on the perceived facilitators and barriers to implementation of the intervention(s)
- Map perceived changes to social isolation, loneliness, and well-being

Method

Design

A mixed-method explanatory sequential design was adopted in this study (Creswell, Klassen, Plano Clark, & Smith, 2011), in order to gather in-depth information regarding the implementation and perceived impact of the WW.it programme (Figure 1).
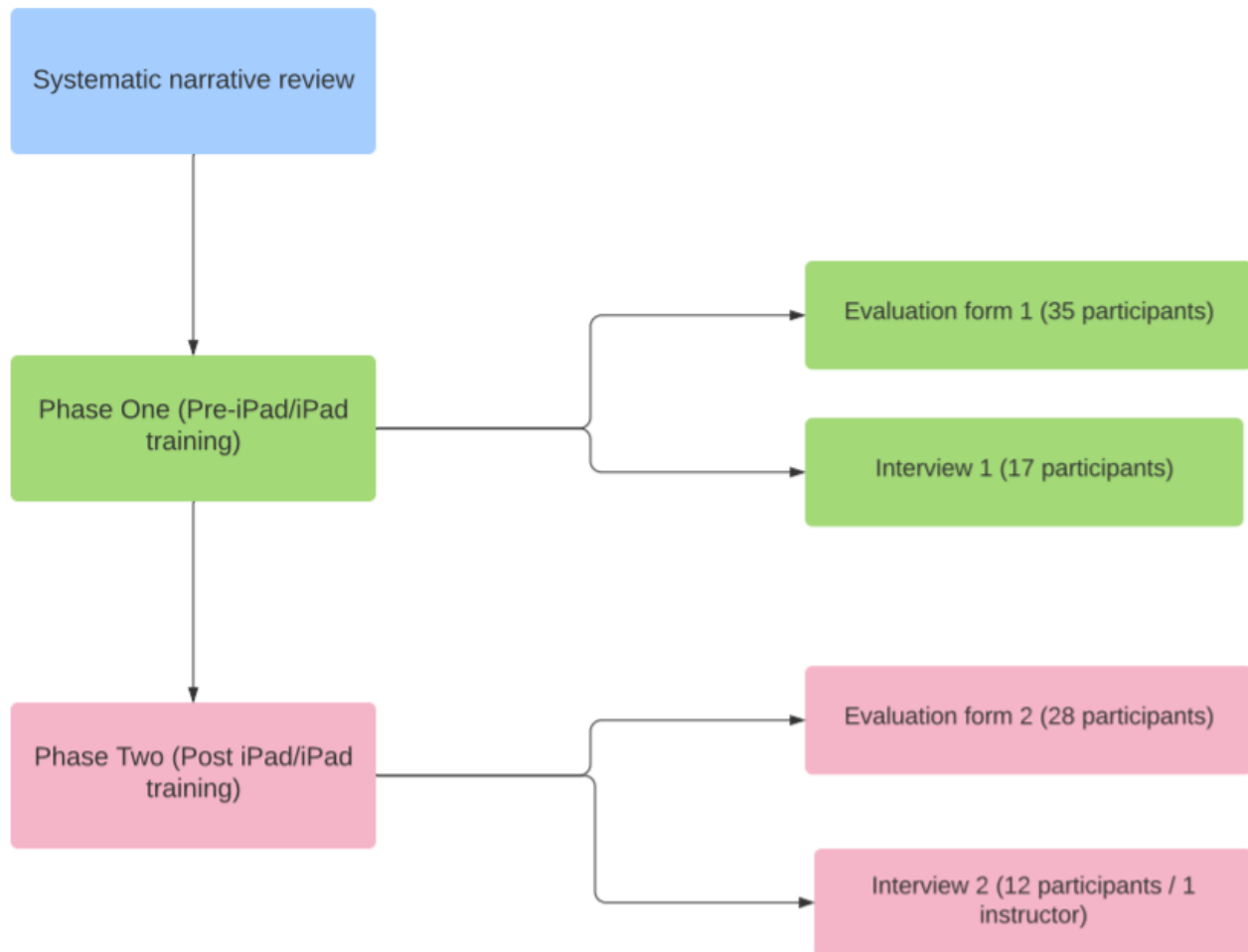
Figure 1: Study design

A systematic narrative review was conducted as part of this study, before Phase one took place, and explored the delivery of digital skills programmes for middle and older age adults. A summary of this review can be found in the next chapter of this report.

This study received ethical approval from Northumbria University's ethical approval system (reference number: 120.3305). This study was conducted during the COVID-19 pandemic and data collection methods were virtual, adhering to the UK Government's rules and Northumbria University's guidance on social distancing and completing face-to-face research.

Participants in WW.it programme

There are two types of membership to the WWA. To be a full member of the WWA, an individual must receive/have received a War Widows' Pension or Armed Forces Compensation Scheme 2005 Payments. An individual can become an associate member of the WWA if they are interested in the welfare of War Widow(er)s or in supporting the aims of the WWA. Of its 1941 members, 1328 are full members and 613 are associate members (as of November 2021).

For the WW.it programme, only members aged 65 years of age or older were eligible. Full members were eligible for both the iPad provision and iPad training, whereas associate members were eligible for iPad training only. Participation in this study was completely voluntary and their participation (or lack of) did not impact their selection on the WW.it programme. Participants were recruited from across the UK. A purposive recruitment approach was taken to ensure a spread of members across the network. The WWA were responsible for recruitment onto both the programme and evaluation.

Initially, 54 individuals volunteered to participate in this study, however seven withdrew due to ill health, or no longer owning a device. Therefore, in total, 37 participants received an iPad and iPad training, and 11 individuals received iPad training only.

Phase one

Participants

Thirty-five participants completed the initial survey (Table 1). Of the 91% of participants who had children; 25% had one child, 38% had two children, 22% had three children, and 6% had four children. The length of time following bereavement and membership with the WWA ranged from immediately to "60/61" years. Two participants were associate members. Of the 10 participants who were members of single services associations, 70% were members of the RAF Widows' Association. Participants were members of the following organisations: Army Widows' Association (10%), BLESMA (10%), Blind Veterans Association (10%), or the Royal British Legion (10%).

Table 1: Participant characteristics for Phase one survey (N=35)*

Age (n=32)	66 - 95 years (mean = 79.81, SD = 7.26)
Gender (N=35)	Female (100%)
Ethnicity (N=35)	White (100%)
Location (N=35)	Greater London (11%)
	Northern England (26%)
	Mid England (14%)
	Southern England (34%)
	Scotland (9%)
	Northern Ireland (6%)
Marital status (N=35)	Married, civil partnership or co-habiting (17%)
	Separated (3%)
	Widowed (77%)
	Widowed and divorced (3%)
Children (N=35)	Yes (91%)
	No (9%)

Lived alone (N=35)	Yes (69%)
	No (31%)
Employment** (n=32)	Retired (60%)
	Part-time (9%)
	Unpaid/voluntary work (20%)
	Unemployed / Not currently looking for work (15%)
Previously served (N=35)	Yes (14%)
	No (86%)
Length of time participants became a member of the WWA following their bereavement (n=34)	Immediately (6%)
	Within a year (23%)
	1-10 years (29%)
	10-25 years (22%)
	Over 25 years (6%)
Membership to single service associations (N=35)	Yes (29%)
	No (66%)
	Not sure (3%)
	Prefer not to say (3%)

* Those options which equated to 0% are not shown.

** One participant noted they were furloughed at time of data collection, i.e. employed part-time however unable to work due to the nationwide lockdowns as a result of the COVID-19 pandemic.

Of these 35 participants, 17 also chose to participate in semi-structured interviews (Table 2). All participants were female, aged between 66 and 95.

Table 2: Participant characteristics for Phase one interview (N=17)*

Age (N=17)	66 – 90 years (Mean = 78.24, SD = 7.28)
Gender (N=17)	Female (100%)
Ethnicity (N=17)	White (100%)
Location (N=17)	Greater London (18%) Northern England (24%) Mid England (12%) Southern England (35%) Scotland (6%) Northern Ireland (6%)
Marital Status (N=17)	Married, civil partnership or co-habiting (18%) Widowed (77%)
Children (N=17)	Yes (82%) No (18%)
Lived alone (N=17)	Yes (76%) No (24%)
Employment (n=15)	Retired (33%) Part-time (13%) Unpaid/voluntary work (31%) Unemployed / Not currently looking for work (15%)
Previously served (N=17)	Yes (12%) No (88%)

*Those options which equated to 0% are not shown.

Survey Instrument

A paper-based survey was disseminated for Phase one. This survey asked for information regarding participant demographics; membership to any of the military widows' associations; current use of technology; experiences of social connection; and about life during COVID-19. The survey also included Lubben Social Network Scale (Lubben et al., 2006) and De Jong Gierveld Loneliness scale (de Jong-Gierveld, 1987) to measure social isolation and loneliness. The survey was a mix of Likert scales, tick-box questions, and open-ended questions. A glossary of terms was provided at the end of the survey to increase understanding of the questions for all respondents.

Procedure & Data Collection

All individuals who had volunteered to participate in the WW.it programme were given the opportunity to participate in the evaluation. If individuals wanted to participate in this evaluation, they had the opportunity to email or call a member of the research team to take part.

Once individuals identified themselves as willing to participate, the WWA posted out self-report surveys. All surveys were undertaken on paper and returned via post. A consent form was included in this pack. This survey was completed when the participant initially became involved in the project, and before they received the iPad/iPad training. At this point, participants were able to opt into taking part in a semi-structured interview by providing their contact details on the returned survey.

Each semi-structured interview was carried out virtually (via Zoom) or over the telephone. Interviews were audio recorded and transcribed anonymously. Interviews ranged from 15 - 60 minutes in length.

Data Analysis

Microsoft Excel was used to produce descriptive statistics to analyse data derived from the self-report surveys. Interview data was analysed using Braun and Clarke's reflexive, inductive

Thematic Analysis (Braun & Clarke, 2006, 2013, 2019). The NVIVO 12 software package was used to facilitate analysis of this data. Quantitative survey data and qualitative interview data were then integrated.

Phase two

Participants

The same cohort of participants involved in Phase one were also involved in Phase two, however seven withdrew due to ill health, or no longer owning a device. One participant was excluded as although they completed the Phase one survey, a co-learner completed the Phase two survey, therefore this would not be an accurate representation of the impact of the training. A further participant received the iPad but did not complete training through the WW.it programme, thus responses were included relating to receipt of the iPad but not regarding the iPad training. Therefore, 28 participants completed the Phase two self-report survey (Table 3).

Table 3: Participant characteristics for Phase two survey (N=28)*

Age (n=26)	71-95 years (mean = 80.20, SD = 7.82)
Gender (N=28)	Female (100%)
Ethnicity (N=28)	White (100%)
Location (N=28)	Greater London (11%)
	Northern England (25%)
	Mid England (14%)
	Southern England (39%)
	Scotland (7%)
	Northern Ireland (4%)

Marital status (N=28)	Married, civil partnership or co-habiting (18%)
	Widowed (79%)
	Widowed and divorced (4%)
Children (N=28)	Yes (93%)
	No (7%)
Lived alone (n=27)	Yes (68%)
	No (32%)
Employment (n=26)**	Retired (50%)
	Part-time (12%)
	Unpaid/voluntary work (19%)
	Unemployed / not currently looking for work (15%)
Previously served (N=28)	Yes (18%)
	No (82%)
Length of time participants became a member of the WWA following their bereavement (n=24)	Immediately (8%)
	Within a year (29%)
	1-10 years (37%)
	10-25 years (21%)
	Over 25 years (4%)
Membership to single service associations (N=28)	Yes (36%)
	No (61%)
	Not sure (4%)

* Those options which equated to 0% are not shown.

** One participant noted they were furloughed at time of data collection, i.e. employed part-time however unable to work due to the nationwide lockdowns as a result of the COVID-19 pandemic.

Of the 93% who had children aged between 36 and 66 years; 22% had one child, 39% had two children, 30% had three and 9% had four. Only one participant was an associate member of

the WWA. 36% of participants were members of single service organisations; organisations included RAF Widows' Association (64%), Army Widows' Association (9%), BLESMA (9%), Blind Veterans Association (9%), and the Royal British Legion (9%).

Participants were sent the Phase two survey via email to align with their new digital learning, however, there was the option to receive a paper copy if preferred. They also had the opportunity for support from the programme manager of the WW.it if they struggled to complete this online. All participants completed the online version.

In Phase two, 12 learners took part in semi-structured interviews (Table 4), all were female, aged between 66 and 90. In addition to learners, Phase two also involved an interview with the instructor who delivered this project and the iPad training (N=1).

Table 4: Participant characteristics for Phase two interview (N=12)* **

Age (N=12)	66 – 90 years old (Mean = 77.75, SD = 7.65)
Gender (N=12)	Female (100%)
Ethnicity (N=12)	White (100%)
Location (N=12)	Greater London (17%)
	Northern England (33%)
	Mid England (8%)
	Southern England (33%)
	Scotland (8%)
	Northern Ireland (33%)
Marital status (N=12)	Married/ Civil partnership/ Co-habiting (25%)
	Widowed (75%)
Children (N=12)	Yes (83%)
	No (17%)

Lived alone (N=12)	Yes (67%)
	No (33%)
Employment (N=12)	Employed part-time (25%)
	Retired (33%)
	Unemployed / Not currently looking for work (8%)
	Unpaid / Voluntary work (33%)
Previously served (N=12)	Yes (17%)
	No (83%)

*Those options which equated to 0% are not shown.

** This does not include the instructor

Survey Instrument

The purpose of the follow-up survey and interview was to reflect on the overall experience of being involved in the WW.it programme. The survey focussed on the perceived impact of the iPad and the training on loneliness and social isolation (de Jong-Gierveld, 1987; Lubben et al., 2006); benefits of the WW.it programme; feelings around technology; using the iPad; connections with the war widow(er)s community; and comments on the training.

Procedure & Data Collection

Phase two data collection took place 6-8 months after Phase one, once participants had received the iPad and had undertaken the iPad training. Other than the Phase two survey being available online, the process for both Phase one and Phase two were identical.

Data Analysis

Data was analysed using the same data analysis strategy used in Phase one, with the exception of statistical analyses which were carried out in IBM SPSS. As the present study is a repeated measures (paired data) design, technology usage, attitudes towards technology, total loneliness, total social isolation, and categories of loneliness and social isolation were analysed using a Wilcoxon signed ranks test.

Systematic Narrative Review Summary

What is a systematic narrative review?

A systematic review involves searching, appraising, and collating all relevant evidence on a particular topic, in order to answer a research question (Poklepovic, 2019). Systematic narrative reviews allow the inclusion of evidence from multiple sources, both quantitative and qualitative (Snilstveit, Oliver, & Vojtkova, 2012). The full paper will be submitted to an academic journal for publishing. The following is a summary of this paper.

Background

The "digital divide" is defined as the gap between those who are digitally included and those who are digitally excluded. Whilst digital exclusion is not solely an issue related to advancing age, there are various factors which heighten the risk of digital exclusion for older adults including cross-sectional inequalities (Age UK, 2018). Older adults are a heterogenous group, and therefore differ considerably in their digital access, technology adoption, and digital skills (Niehaves & Plattfaut, 2014; van Deursen & Helsper, 2015). This heterogeneity also concerns learning, and the learning environment, in which these digital skills are developed.

Geragogy and critical geragogy are adult learning theories. These theories, unlike pedagogy, consider a more nuanced learning theory that targets older adults' learning and acknowledges older adults' distinct physical, emotional, and social learning needs (Formosa, 2002, 2011; Lebel, 1978; Wright & Wright, 2016). It is imperative to consider learning theory, particularly geragogy and critical geragogy, in digital skills training when considering the empowerment of older adults, particularly groups of older adults most at risk of digital exclusion.

Aim

Technology focussed educational interventions are a vital part of the effort to close the digital divide for older adults, and understandably a large proportion of research tends to focus on user experiences and outcomes. However, the unique perspective of those tasked with delivering these programmes is often neglected. This review therefore sought to explore

existing evidence of digital support programmes for older adults. This review had two main aims: 1) To explore the implementation and delivery of digital skills support programmes for middle and older age adults; 2) To understand the presence of adult learning theory (namely geragogy) in the delivery of digital skills support programmes for middle and older age adults.

Method

A total 1,713 papers were identified by the initial searches. After a process of screening, 17 papers were included in this review. These papers were then subjected to a process of data extraction and charting, which involved members of the research team (GWM and JG) noting initial themes to identify patterns across the dataset. The data was then summarised numerically in terms of the paper characteristics, and thematically, in terms of the authors interpretation of the data.

Results

Three themes were generated during the analysis process. The first theme was negative perceptions of ageing. Perceptions of ageing had an impact upon the delivery of the programmes, both from the perspective of users and deliverers. The second theme was the learning environment. This theme reflects notions of lifelong learning and the importance of the instructor. The third theme was the value of technology. The value that older adults place on technology and learning new technology-based skills was crucial, with both users and deliverers noting the benefits of understanding their motivations to use technology, tailoring and personalising programme sessions to the individual, and the benefit of integrating programmes into other services.

Discussion

Internalised negative perceptions and stereotypes of ageing were a major barrier throughout the papers in the review (Arthanat, Vroman, Lysack, & Grizzetti, 2019; Brown & Strommen,

2018; Gould et al., 2020; LoBuono, Leedahl, & Maiocco, 2019; Tomczyk, Mróz, Potyrała, & Wnęk-Gozdek, 2020), and it is clear that this must be addressed through the delivery of digital support programmes. Digital skills programmes have the potential to empower older adults (Ferreira, Sayago, & Blat, 2016) and it is therefore important that these programmes seek to build confidence and increase feelings of self-efficacy among learners, building this into the programme from the outset. This review found the learning environment to be particularly influential in gaining digital skills and building confidence.

Older adults are a diverse cohort, yet they are often viewed as one homogenous group with the same needs. Viewing older adults as one homogenous group is problematic for several reasons, but when it comes to learning, this can be a significant barrier. It is critical that digital skills training considers both geragogy and critical geragogy to empower older learners, particularly those at most risk of digital exclusion. This review also found that personalisation of programmes not only supported the learning environment in that it allowed for the individual's unique learning style and preferences to be taken into account (Seo, Erba, Altschwager, & Geana, 2019), but also the value of the programme. Evidence in the digital skills arena strengthens the notion in that non-personalised and traditional ICT courses are less effective in getting people online (Age UK, 2018). This review demonstrated that personalising learning programmes enabled learners to see the value of digital technologies

Demonstrating the value of technology to individuals is important to increase knowledge and understanding of the tangible outcomes from internet use and ultimately increase the want to participate (Blank & Groselj, 2014; Scheerder et al., 2017; van Deursen & Helsper, 2015). Value sometimes may only be recognised once the individual has started using the device (Tsai, Shillair, Cotten, Winstead, & Yost, 2015) and therefore may reduce the motivation to use technology.

Conclusion & Implications

This systematic narrative review aimed to examine the role of geragogy in the delivery of digital skills programmes for middle and older age adults. If you examine this based on whether the literature acknowledges the theories of geragogy, it would appear this has no role. However, if

you unpick the themes relating to the implementation and delivery of these programmes, the themes all have an underlying thread of empowerment, and embody geragogy.

When considering the delivery of a digital skills programme to older adults, there is a clear intersection with negative perceptions of ageing, the learning environment, and the value of technology. Taken together, addressing these components can improve not only the procedures, but also the experiences of those delivering and receiving the programme, and help improve sustainability of programmes over time. The literature on geragogy and critical geragogy should be considered when developing digital skills support programmes for older adults, with an emphasis on providing older adults greater control over their own knowledge. Removing the misconception that 'any type of learning will do' is crucial to improving the services that are available across the globe and embracing geragogy in the development of services will help achieve this.

Figure 2 outlines the three components to consider for delivering digital skills to older adults, with an emphasis on putting geragogy into action. This was developed as a reflective tool to use when delivering digital skills training programmes for older adults. It focuses specifically upon the negative perceptions of ageing, the learning environment, and the value of technology.
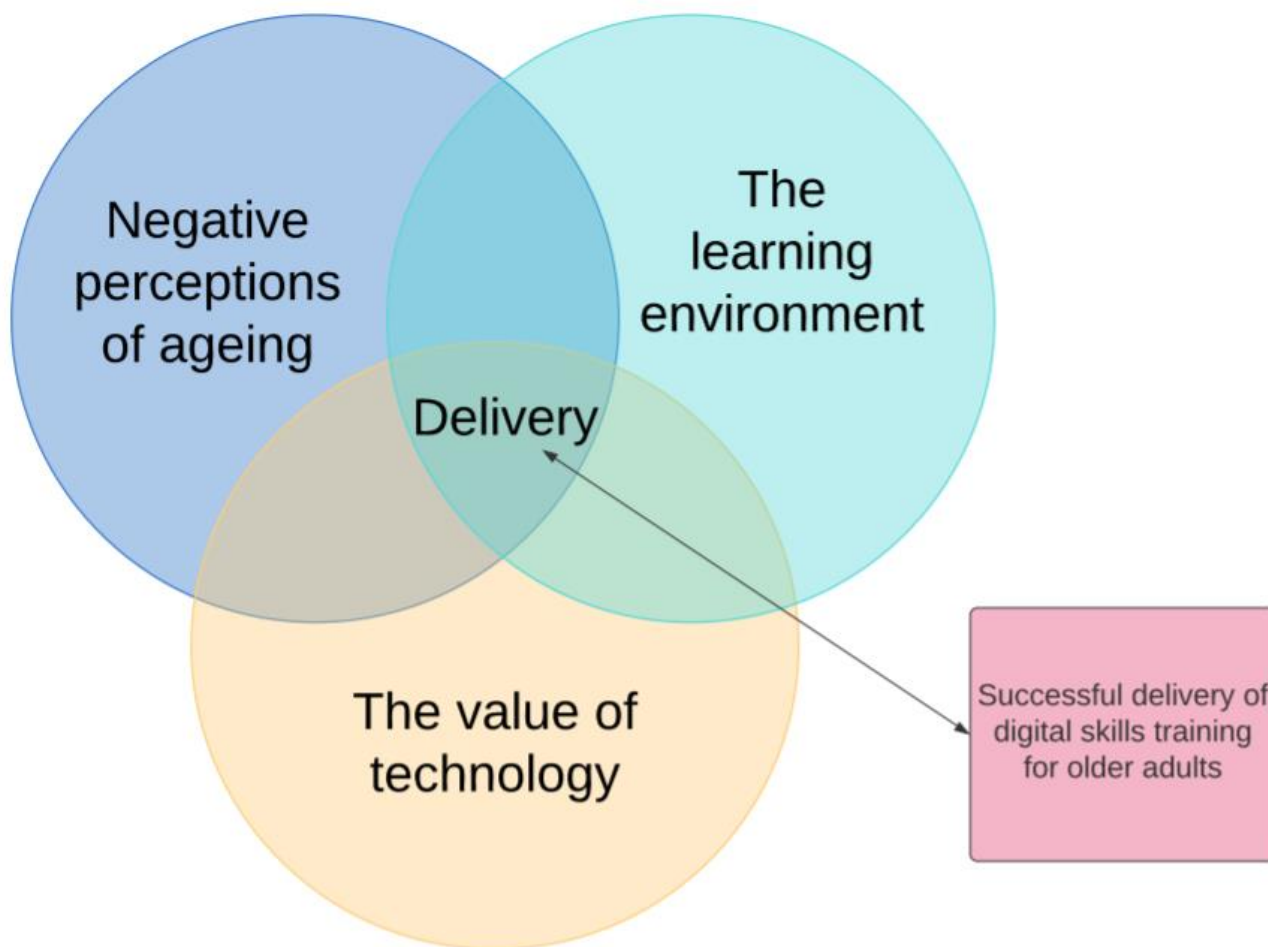
Figure 2: Components to consider when delivering digital skills to older adults

Phase one findings

Three themes were generated from the data: intentions and reasons for using technology, self-perceived barriers to digital participation, and social facilitators and barriers to participation. Each theme has a set of sub-themes (Table 5). Survey data (both quantitative statistics and qualitative quotes) are integrated throughout to highlight pertinent points. Appendices A-F presents the full descriptive statistics from the Phase one and Phase two surveys.

Table 5. Phase one themes

Theme	Sub-Theme
Intentions for using digital technology	Recognising the potential of digital technology
	Social inclusion, engagement, and civic participation
Self-perceived barriers to digital participation	Perceived lack of skills
	Health
	Confidence
	Fear
	Ageing
Social facilitators and barriers to digital participation	Family dynamics
	Peer and community support

Theme 1: Intentions for using digital technology

Prior to receiving an iPad, or iPad training, participants discussed their intentions and reasons for using, or wanting to use, digital technology.

Recognising the potential of digital technology

Some individuals did not recognise the potential of using digital technology or the internet. This was evident in both interviews and survey responses. Individuals discussed confusion over what is possible regarding use of an iPad.

> *"Being shown what it can do, probably that I don't even know what it can do…I haven't even thought about some things probably" (P023, Age 71)*

> *"On the iPad that I don't know what they are. I don't know how to use them and what they do […] all these symbols on this iPad and I don't know what most of them are. So I am looking forward to knowing what they are and how I can use them" (P024, Age 71)*

> *"I don't know what difference it is to a computer, or a phone with all the gadgets on" (P026, Age 66)*

This often made it difficult for participants to express what they were hoping to do with, or learn about, the iPad.

> *"Right, I will start by saying my answer is a little bit restricted because in all honesty I don't know what you can do with an iPad […] Once, if you like, I am a bit more aware of what you can do with it, I am assuming that more possibilities will suddenly become available" (P016, Age 79)*

This was also reflected in survey responses. When asked about the frequency of their digital use (of the 30 participants who provided a response) 38% had never used video-calling and 6% were unsure what this was. Participants appeared to have limited use of social media; for instance, 47% never used Facebook and 48% did not use Facebook Messenger. None of the sample used Twitter or Instagram, with 23% and 32% being unsure what these were. In contrast, all 30 participants were aware of emails and most demonstrated regular use (25% using this more than once a day / 31% daily use / 13% weekly use). However, 15% of

participants never used emails at the time of Phase one survey completion. For more information regarding frequency of technology use, see Appendix A.

Social inclusion, engagement, and civic participation

The use of technology engendered a sense of independence and allowed individuals to connect to society and engage in civic citizenship. However, these intentions to keep up to date with technology were often perceived as being a necessity - to avoid feeling left behind. One survey respondent stated that they wished to participate in the WW.it programme due to feeling "*… at a disadvantage to others who use technology… I feel there is a superiority that they can do something I can't*" (P001, Age 76). When asked if they felt it was important to keep up with the latest trends in technology, 26% of the survey sample strongly agreed and 43% agreed. For more information about participants' attitudes to technology, see Appendix B.

There was acknowledgement of an increasingly paperless world and sensing the importance of increasing their digital skills to remain independent.

> *"Well, I don't want to be ignorant, and I think it's something everybody should… I think, I mean it's definitely here and it is definitely the future and I think paperwork will gradually disappear. So, I think we need to move forward. It doesn't matter what age we are, we can't live in the past… I don't want to be left behind because you can learn so much"* (P018, Age 80)

> *"I would feel that I am keeping up a bit more with modern life"* (P016, Age 79, survey response)

P026 discussed the importance of digital engagement for civic inclusion.

> *"To actually achieve things that are appreciated should we say, by other people. You know, if I could be of use then great"* (P026, Age 66)

Participants had the opportunity to list other ways in which they felt the iPad or iPad training would support their daily living. These included: creativity; mental stimulation; research/tracking bills; keeping up to date with modern life; improving general knowledge; and keeping updated with news.

This pressure to keep up to date with technology was also felt with regards to maintaining social connections. Participants hoped that receiving the iPad would enable them to maintain contact with friends (74%) and family (71%), and a similar percentage hoped that the training would also assist with this (74%). For more information regarding participants' motivations for receiving the iPad and iPad training, see Appendix C.

> *"The social side and sort of being up to date. Yes, just generally, I feel*
> *I've let myself get behind" (P022, Age 88)*

> *"Well to be more [socially] involved. I don't want to become a cabbage*
> *when I retire" (P026, Age 66)*

It was evident that participants felt a sense of connection with other members of the war widow(er)s' community. Participants often kept in touch with other members via telephone (51%), or at face-to-face events (49%) when they were able to do so. Fewer participants connected one another via digital means; 3% through video-calling, 9% via social media, and 6% through email. 74% of survey respondents hoped receiving the iPad would facilitate communication with the war widow(er) community, and 71% felt that training would support them to do this. For more information regarding connection to the war widow(er)s' community, please see Appendix D.

> *"We stay in touch as a group, yes. There are only 4 of us now that get*
> *to the meetings, so we keep in touch just by telephone and that's it.*
> *But it was a lovely, it's a lovely experience whenever you meet,*
> *because you meet these people, there were 5 of us, and we would*
> *meet and it was just as though you were meeting your best relations*
> *and your best friends" (P015, Age 88)*

"I could Zoom with the other war widows when they get together"
(P031, Age 75, survey response)

However, it is important to note that the initial survey was completed during the nation-wide lockdown and therefore responses may reflect prior engagements or may be influenced by the present situation. All participants stated that the COVID-19 pandemic and nationwide lockdowns had impacted their social relationships (100%).

Both loneliness and social isolation scores were measured in the survey at Phase one (Figure 3).
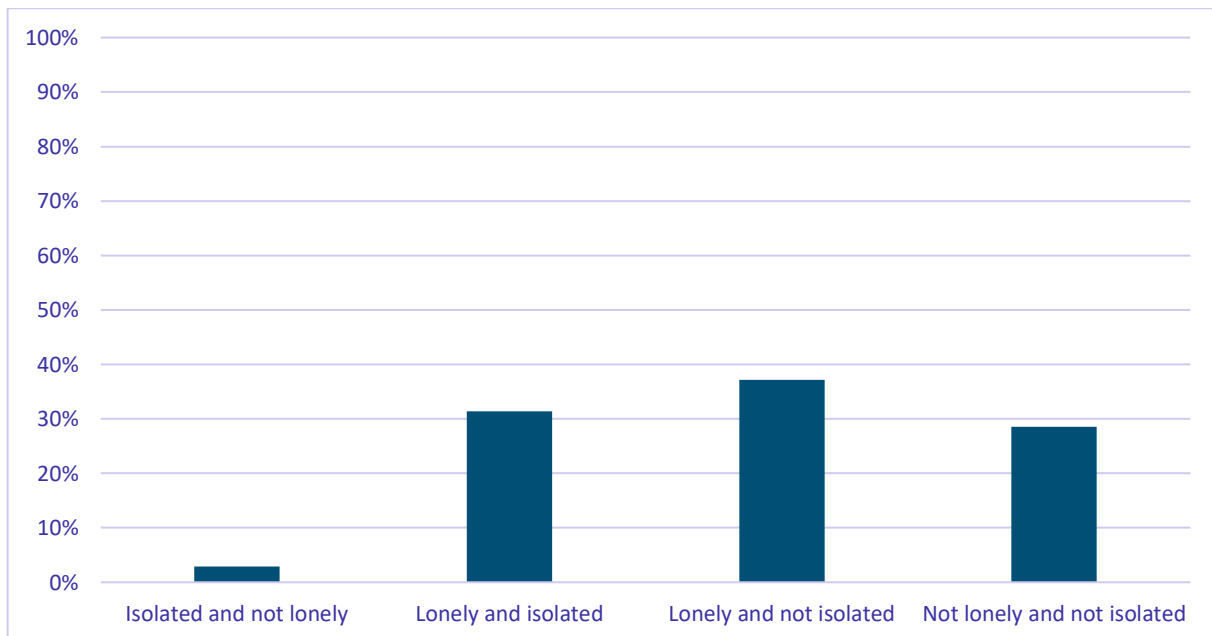
Figure 3. Categories of loneliness and social isolation (N=35)

As can be seen from Figure 3, responses were spread between those who were lonely and not isolated (37%), those who were both lonely and isolated (31%), and those who were not lonely and not isolated (29%). In contrast, only 3% were isolated but not lonely.

"I do miss, now I'm on my own, I do miss the company and it's been
worse since the lockdown" (P018, Age 80)

"The pandemic has actually cut me off" (P021, Age 78)

"It is difficult in lockdown because I live in a very rural setting. I never see anyone. I just see my son once per week" (P030, Age 74)

"Because of the 3 lockdowns, I have been more or less unable to see any of my family or friends for most of the last 10 months" (P002, Age 79, survey response)

79% of participants stated that COVID-19 had changed how they communicated with others and 84% stated that it had encouraged them to engage with technology to continue social connections and, in some cases, provided additional motivation for participating in the WW.it programme.

The national lockdown measures impacted participants' ability to attend external activities and organisational events, whilst also reducing face-to-face contact with family and friends.

"My social life with the War Widows, other groups ([military] club, [Women's Institute]) and my friends has completely disappeared. No face-to-face events. I do not know how to use Zoom and other technology other than texting" (P027, Age 89, survey response)

However, there was also acknowledgment that online social connection is not a replacement for face-to-face connection.

"And Zoom doesn't in any way replace that kind of link" (P016, Age 79)

Despite the scores highlighting experiences of both loneliness and social isolation across the sample, only 43% of respondents hoped that the iPad/iPad training could reduce loneliness, and 46% (iPad) and 51% (iPad training) hoped these would decrease social isolation.

Theme 2: Self-perceived barriers to digital participation

Participants discussed various self-perceived barriers which negatively influenced their use of digital technology.

Perceived lack of skills

Older adults are not one homogenous group and have varying technological experiences and skills, as well as differing learning styles and experiences although almost all participants wanted to learn new skills when receiving the iPad (91%) and iPad training (97%). While some participants had experience of using computers, laptops, or smart technology, others did not.

> *"I've never actually been on a computer course, it's something that I have always meant to do but never actually got on with it […] so I am not really fully equipped with all the modern technology. I need to be fully equipped" (P010, Age 76)*

Individuals' skill levels, or perceived skill levels, restricted their interaction with technology.

> *"I don't know how to text, so it is just phone calls" (P015, Age 88)*

> *"I never think to look it up on Google and I should, it's lack of, not necessarily lack of knowledge because I know it's there to do but I've never got the experience of actually doing it" (P021, Age 78)*

This lack of skills often resulted in frustration. Prior to the training P019 only used her computer for online shopping, but her lack of technological skills often left her frustrated when doing this regular task, and feeling that time was wasted on the computer.

> *"I don't use [my laptop] at all, apart from putting in my shopping list to [a supermarket] once a week […] sometimes it's more successful than others. I mean that was over an hour, an hour and 20 minutes, last night and it's not a very long list" (P019, Age 84)*

Participants' lack of skills, and the consequential restrictions this has on their daily living, was often one of the main reasons for wanting to participate in the WW.it training programme, and whilst some had participated in training programmes in the past, these had not always been successful.

> *"I tried to do a course a long while ago. It was the early time in 2000, I don't know which year, I can't remember. But as I say, I didn't really understand it that well. It was called Computing for the Petrified, So one week one of the… I was linked up with another lady and one of us was to have the computer one week and then I [inaudible] the computer the week that my colleague had it. So it wasn't very successful, I'm afraid" (P019, Age 84)*

> *"I did a computer course, years and years and years and years ago, but I think virtually everything I learned is all out of date, is you know, been deleted. You know it's obsolete now. So it doesn't… it didn't really… it doesn't really help now" (P024, Age 71)*

Health

Participants reflected on their own health status, how this impacted their daily life generally, and how this could impact their use of technology. Health problems included issues with arthritis impacting their ability to physically use devices and hit the correct buttons, and problems with eyesight and glare from the screen.

> *"But you see my hands are getting slower and with arthritis you hit the wrong buttons" (P022, Age 88)*

> *"I found Windows difficult because of the glare, the glare from the screen and my contact lens woman gave me a shield, but it made it so dark I couldn't see it. I couldn't see the screen" (P001, Age 76)*

This highlighted the importance of accessibility. Often, participants were unsure how to change accessibility settings to meet their needs.

> *"But there's, you know, settings is a mystery to me. I am sure there's really useful things that I should know about in settings, but I don't"*
> *(P032, Age 71)*

Confidence and fear

Several participants exhibited low confidence with their own digital skills. Some participants commented directly that they did not feel confident which was also reflected in the survey with 89% of participants hoping that the iPad and the iPad training would increase their confidence.

> *"It is just my lack of knowledge about the technology is, I suppose, I don't really have the confidence to go and choose between a range of things" (P010, Age 76)*

Others made self-deprecating comments about themselves and their abilities regarding technology.

> *"I would like to get my training by the end of November because I really don't want to be labelled a slow person when I'm not really a slow person" (P019, Age 84)*

P018 made several negative comments about herself being "stupid" and demonstrated extremely low confidence.

> *"I'm not that clever" (P018, Age 80)*

> *"I must seem very stupid to you. I'm sorry" (P018, Age 80)*

Low confidence was a real problem within this group of participants, and some reflected on wanting to improve their confidence through WW.it training.

"Right, so I would like to think that generally I would become more confident. I would have more abilities. I wouldn't be so frightened of technology, and I would perhaps use technology in a better way" (P016, Age 79)

One participant demonstrated an element of regret at not learning technology skills earlier.

"It is my own fault. I should have got on with it and gone on a course, but retirement can be surprisingly busy" (P010, Age 76)

Lack of confidence often engendered a sense of fear. Usually, this fear was related to worry of doing something wrong, and then not knowing how to undo the error. This hindered their use of technology greatly. 77% of participants hoped receiving the iPad would enable them to develop a more positive view about iPads, whereas 80% hoped that the training would facilitate this.

"I think, I'm a bit frightened of the computer. I know that sounds a bit weird…. But I almost, I am worried that I don't know which buttons I'm pressing and I am worried that I will press something and suddenly everything will be wrong and I have no way of reclaiming it" (P016, Age 79)

Others were concerned about security and privacy issues.

"I am apprehensive about using social media. I have been bombarded with contacts trying to fraudulently obtain personal information" (P003, Age 79, survey response)

"I am terrified, every time I do anything on email. I always think the whole world can see what I am doing and any burglar could move into my house or whatever, if I say I am going away" (P020, Age 79)

However, there was some recognition among participants that these fears were unfounded and there was some hope that WW.it training may help alleviate these concerns.

"So, I'm sort of stuck with the thought of, you know, I think totally unfounded fear really of the whole thing" (P020, Age 79)

Ageing

Participants reflected on their own ageing as being a barrier to technology use, as well as their peers' ageing. Participants used self-deprecating, ageist terms to describe their technology use, such as being a "*dinosaur*" (P026, Age 66).

Participants discussed how people of their generation are not particularly engaged with technology, and if they are it is due to encouragement from younger family members.

"I don't think people of our generation are really but I mean we've got them. Really thanks to our children's efforts sort of saying, you've got to be able to do this and you've got to be able to do that" (P010, Age 76)

There was some discussion about being left behind as you age, and the perception that younger people believe older adults are unintelligent if you cannot use technology.

"And they are getting left behind and if you get left behind, youngsters think you're a thicko, you know, you've got not brains" (P021, Age 78)

In keeping with this, participants discussed the impatience of their friends and family when trying to learn about technology.

"I think they sometimes just sort of say, oh give it to me and I will sort it and that's fine sometimes, but I think when you have been left on your own for any reason suddenly, you don't want to lose independence again. So I do it because they have better skills than I have, but I actually, one of the reasons for doing this project is that I wanted to be able to do things myself and not to have to keep asking people to help me" (P032, Age 71)

Consideration was also given to the biological impact of ageing and how the learning process can be impacted by this.

> *"And as you get old, because I am 87. It does take you longer to absorb things" (P022, Age 88)*

Theme 3: Social facilitators and barriers to digital participation

Perceived internal barriers to digital technology use have been discussed above, however, the participants also explored wider social influences on digital participation. These influences were both facilitators to technology use, as well as barriers.

Family Dynamics

It was clear that family support was important for technology use and in some cases family members gave them devices as a gift.

> *"Just a few months ago my son gave me, is it called an iPad? And he showed me how I could read the Daily Mail" (P015, Age 88)*

Relying on family members for ongoing support was not always straightforward, however, and some participants were concerned about asking for help and becoming a burden.

> *"I don't progress very much because I don't want to keep going pestering my son saying, how do you find this, how do you find that?" (P015, Age 88)*

In addition, some of the support provided by family members was perceived to be inadequate. It was suggested that some children did not have the patience to demonstrate how to use certain functions or make assumptions about their skills.

> *"She just tells me, oh mum, I can do it quicker and then, so she does it for me" (P018, Age 80)*

"But then they fit us up with the technology, but they assume that we will know how to use it" (P010, Age 76)

Family dynamics were also considered by those who were ageing without children. One participant commented that peers suggest asking their children or grandchildren. It was felt that there was an assumption that they had a family, and that family would be able to help.

"So yes, all of us don't have family. So, we don't actually… They say go and ask your grandchild. We don't have them to ask" (P001, Age 76)

Peer and community support

Some participants sought out peer support from friends and neighbours.

"I have to try and get other people to help me, sort of next-door neighbours and I have a new next-door neighbour and she'll sort of come in" (P020, Age 79)

"He is the son of someone who used to live in the same street. He is very, very good and he is retired so you know he is free in the daytime. But of course, at the moment we can't do anything because we are not allowed, as you know" (P016, Age 79)

Of course, this support was not always available, as discussed by P016, above, in the context of COVID-19 social restrictions. COVID-19 also had an impact on the support individuals received from community organisations, such as the library.

"We had, until we had the pandemic, anything I was stuck on I used to pop down to our local library which has computers and get their advice, but of course that is missing now" (P010, Age 76)

"Although I have a small "notebook" and "get by" ordering groceries fine, I am "self-taught" regarding the computer and so struggle with

many difficulties. I used to go down to our local library, which has computers, for help, but they have been closed for many months now, and so I really do need some instruction" (P010, Age 76, Survey response)

This meant that individuals most often had no other support from community organisations, until they were enrolled onto the WW.it programme.

Participants were not always on the receiving end of this training. P007 discussed her plans to pass on her knowledge and skills once she had completed the WW.it training. She reflected on how many of her peers have not been given adequate training and she was keen to educate others.

"I have people already who are queuing up now who want me to train them on iPads they have had for ages in a drawer, because their family members don't get round to showing them how to use the device to its full potential" (P007, Age 88)
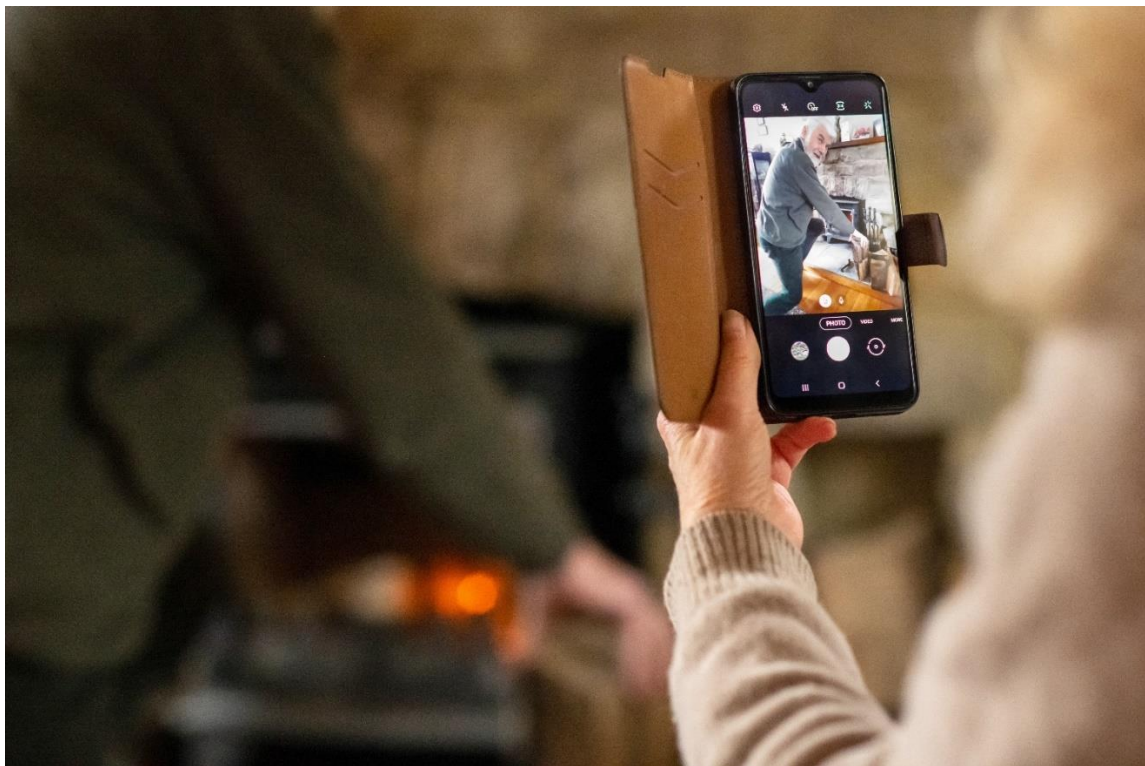
Phase Two Findings

Three themes were generated from the data: benefits of the WW.it programme, perceptions of the WW.it programme, and continued support required. Each theme has a set of sub-themes (Table 6). Survey data (both quantitative statistics and qualitative quotes) are integrated throughout to highlight pertinent points. Appendices A-F presents the full descriptive statistics from the Phase one and Phase two surveys.

Table 6. Phase two themes

Theme	Sub-Theme
Benefits of the WW.it programme	Development of new skills
	Improved confidence and reduced fear
	Civic Participation
	Using technology to keep in touch with others
Perceptions of the WW.it programme	Debunked iPad
	Personalisation
	The importance of the instructor
	Feedback moving forward
Continued support required	Additional family support
	Sustained learning

Theme 1: Benefits of the WW.it programme

There was a plethora of reported benefits from participating in the WW.it programme – from developing new skills, to increasing their civic participation and social connections. Participants were extremely grateful for the opportunity to participate in the Ww.it programme – both in receiving an iPad and receiving the iPad training. Participants described this as a "*wonderful*" (P001; P015; P016) and "*golden*" (P020) opportunity, with P006 describing the day she got the iPad as "*one of the happiest days of [her life]*". Additional benefits noted in the Phase two survey were the ability to locate and access information available online, feeling more included and therefore more important, and having the opportunity to learn more about the capabilities of the iPad.

Development of new skills

The most discussed benefit of the WW.it programme was the development of new digital skills. These ranged vastly across participants depending upon their existing digital experience, and through the personalised nature of the training.

> "*I had to be trained I didn't even know how to turn it on […] I've done my first email*" (P001, Age 76)

> "*[The iPad] takes brilliant photographs, I learnt how to do that*" (P023, Age 71)

The development of skills could also be reflected in technological use. There as an increase in daily use of emails (38% to 43%), monthly video calling (24% to 36%), and daily use of WhatsApp (12% to 23%). The percentage of participants who never used WhatsApp decreased following receipt of the iPad and training (44% to 23%), however there was also a reduction in weekly usage (16% to 8%).

However, whilst 89% of respondents reported that receipt of the iPad, and 82% reported that iPad training resulted in the development of new skills, this was a reduction from the initial 93%/100% in Phase one who believed that they would develop new skills. There are two

possible reasons for this reduction. Firstly, this may have been influenced by individuals not knowing the potential use of the iPad at the beginning of the study, and therefore not knowing what skills could be developed as a result of training. Alternatively, it may have been affected by a small number of participants who did not find the training useful. Both P020 and P026 had continued difficulties after the training session and did not feel as though they had moved forward with their training. For P020, this was due to conflicting systems compared to what she had been used to.

> *"I found it quite difficult. I found it much more difficult than I'd expected to. I thought as I had a Samsung tablet, I would find the Apple, easy, you know, just slightly different and I didn't, I found it very difficult and confusing and really, I… it really sort of. destroyed my confidence I felt I really, you know, I just couldn't… I didn't know if I could go on with it"*
> *(P020, Age 79)*

This was a point considered by the instructor, who reflected on the difficulties in training over multiple systems.

> *"Quite a few people then came and said, oh, I would love some training on my device, which wasn't iPad, which of course, because I'm… I know how to use an iPad. I've never even seen a chrome book or a fire… kindle, whatever. I absolutely cannot help those people"*
> *(Instructor)*

> *"So would I do things differently? Yes, I think I would say that if it's iPads that we're giving out, then it's iPad training that we offer and that's it. If, that's if a separate project is to be run, so that if you've got a device that's not an iPad and you want some training. I think that needs to be separate" (Instructor)*

Whilst P026 continued to struggle to use the iPad, and did not wish to continue using this, she did recall some learning through her training.

"Well to be honest it's been a few months since then, so things are a little hazy. I can't recall a great deal of what I did […] The only useful thing that I can recall right now is that something called Safari which I thought was a trip you made in Africa. It was actually the equivalent of Google and that's about the most important thing I… you know, but I haven't used it since, so…" (P026, Age 66)

Reflecting findings from Phase one, some participants also felt that their age hindered their digital skills development during the iPad training.

"At my age I am getting a bit… I am not senile, and I know what I am doing […] But I take two steps forward and one back, if I can make myself understood" (P006, Age 90)

"But to realise that it's not obvious to people who have had to cope with this really at the end of their lives, all this new technology, you know, it is not easy at our age to take it onboard, and I think probably for our age, we are better than many, aren't we?" (P010, Age 76)

P021 discussed the importance of the instructor going slower to accommodate her age.

"Because she did tell me a lot, a good few things that I have never done before […] so you've got to take that into consideration and not shove too much, too fast at an older person" (P021, Age 78)

The instructor also acknowledged the importance of going at an appropriate pace for participants.

"If you get stuck, if you get too tired, you say, we can stop. We can, you know, do another session, another day" (Instructor)

I said, you don't have to rush, rush through everything, just take your time. I said, if we run out of time, we will book in another session. It is not the end of the world so, you know. So once they kind of get over

the panic and the… I think some folks equate computers with everything has to be quick" (Instructor)

Since learning new digital skills, most participants used the iPad frequently and planned to continue using the iPad moving froward.

"I couldn't live without it" (P015, Age 88)

"I tend to use it more than I thought I would do" (P032, Age 71)

"I think the iPad is completely full of the up-to-date things you need I would be completely lost without It" (P004, Age 81, survey response)

However, whilst participants showed a positive attitude towards iPads during the individual interviews, this was not reflected in the survey. Fewer participants reported having a positive attitude towards iPads (64%) and the training (64%) compared to baseline (82%/82%, respectively).

Improved confidence and reduced fear

As reflected in Phase one, participants often lacked confidence when using digital technology, either due to lack of digital experience or due to poor experiences with past technology. As a result of the training, participants felt more confident doing daily tasks on the iPad independently.

"Well I do have a sort of confidence, yes, not in everything, but in what I want to learn" (P001, Age 76)

"I'm more confident in using it and it's just… I'm still sort of amazed all the things I can do with it, really you know" (P015, Age 88)

"I am much more likely to have a go now" (P032, Age 71)

This improved confidence influenced their daily living in various ways, from increasing social contact, to online shopping, and entertainment.

Improved confidence was often due to a reduction in fear, particularly when they felt that they were unable to break the iPad.

> *"Because they were too scared to even look at it or open it. There was one lady who said, she didn't even want to open the flap of the protective case because she didn't know if that was the thing that she should do first, you know" (Instructor)*

> *"I'm not afraid of the iPad. I'm not frightened of it, and I know that I can't… it was explained to me that I can't do anything sort of wrong in it" (P015, Age 88)*

> *"After the training, I think I felt confident after the training that I wasn't going to damage anything, that was my problem" (P016, Age 79)*

The instructor was also specific in teaching participants the importance of the home button, and it was clear that participants become comfortable using this button if they felt something had gone wrong.

> *"You know. I was a bit concerned because the icons started to tremble. When I did something… but [anonymised] told me, this is before I got [training], that I would have to get an engineer in to stop them doing this, but you see [the instructor] just pressed something and it stopped. You press the home button and it all stopped, you see" (P001, Age 76)*

Despite this, survey respondents did not feel they had increased their confidence as much as they had anticipated doing so at the beginning of the programme, with 93% hoping that their confidence would increase through receiving an iPad compared to 79% feeling that their confidence had actually increased at Phase two. Similarly, 93% hoped iPad training would increase their confidence, compared to 64% feeling that it had led to increased confidence at Phase two. Again, whilst the reason for this reduction is unknown, it may be explained in the same way as the differences in perceived skills development, as described above.

One area in which individuals did not seem less fearful was online banking, and generally using their bankcard on the internet.

"I would never under any circumstances do online banking on anything. Computer, iPad, telephone, whatever, no" (P016, Age 79)

This was intertwined with the persistent fear of being scammed.

"[I won't do online banking] because I'm terrified of falling foul and people getting a hold of my account and emptying it. Not that I would necessarily give them any information to do that, but you know, I do keep reading in the paper of people who've lost masses of money and hackers have broken into accounts and broken into banks" (P020, Age 79)

Despite feeling more confident about using the iPad, online banking and financial transactions were still areas in which individuals generally did not feel confident or comfortable.

Civic participation

Participants felt more connected with the wider world as a direct result of the iPad training. As part of this, participants discussed the importance of being able to find new information online.

"I'm still sort of amazed all the things I can do with it, really you know. The lawn's getting… there's moss growing in the lawn and here I can look up and see, you know, why's this happened? What do I do? How do I deal with it?" (P015, Age 88)

Participants outlined the value of keeping up with local and world news during the individual interviews.

"Here it was, I could sit down and could get into the Daily Mail and the Express and the Guardian and have a look at what was going on in the world and all these things. Oh my goodness, oh, just so…. This was a new world, and this was wonderful […] It's not just your own doorstep. It's all the economic things and everything that's happening

in the whole world and you're aware of them and emotionally you become quite involved in a lot of these things" (P015, Age 88)

"Oh I think it's… I find it actually very informative. I mean I… you know, I mean I am interested in politics, and I do like the, watching the, you know, the politics live show and I do, I mean, you know and yesterday, I did watch the question time and things in parliament and so forth and I feel a sort of more informed person as to what's going on" (P020, Age 79)

These newfound skills allowed individuals to find out information for themselves, and to remain connected to the world remotely. This was especially important in the context of COVID-19, which impacted the way in which individuals used, or wanted to use, the iPads. Some felt vulnerable before receiving the technology, and before knowing how to use this technology.

"Because I realised with the pandemic that I am very vulnerable. I don't have family. I've outlived them all […] And everything I was going to, like 14 events got cancelled. So I actually had no food in the fridge. I know and I realised the shops around here, I tried them all, did not want somebody phoning up, they want them getting a slot online. Well I couldn't do that" (P001, Age 76)

"But anything else, I have to… well, I've got an ordinary, a smart phone but not an iPhone and I've been managing on that, but obviously with COVID, it's changed everything" (P023, Age 71)

Being able to use technology and connect with their community through a time of social isolation was fundamental for well-being.

Using technology to keep in touch with others

The Phase one survey stated that 39% of participants hoped that both receiving the iPad and the training would reduce feelings of loneliness. At Phase two, only 32% felt that the iPad (29%

felt that the iPad training) led to a reduced loneliness and isolation. Regarding the psychometric measures, there was a reduction in self-reports of loneliness (64% at Phase one; 57% at Phase two) and social isolation (29% at Phase one; 18% at Phase two) following participation in the WW.it programme. A Wilcoxon signed ranks test was completed and showed a significant reduction in total loneliness (median 4 to 3/mean rank 10.64 to 5.50) following receipt of the iPad and provision of training (P=.005). There were no further significant results (P>.05). See Appendix H for SPSS outputs. Categories of loneliness and social isolation before and after iPad provision and training are presented in Figure 4.
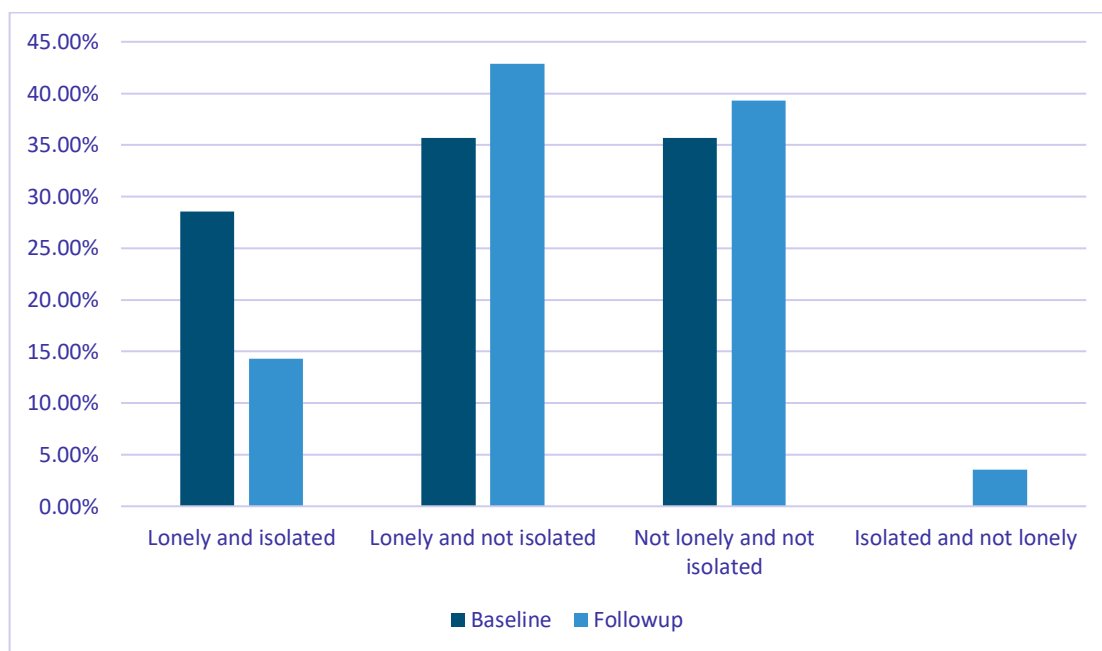
Figure 4: Comparison of loneliness and social isolation groupings at pre and post iPad provision / training

Changes to experienced loneliness and social isolation were inconsistent across the sample. The number of participants who were categorised as being both lonely and isolation dropped following the iPad provision and training (14% at Phase two, compared to 29% in the first phase). Similarly, the number of individuals who felt neither lonely nor isolated slightly increased following the iPad provision and training (39% at Phase twos, compared to 36% in

the first phase). There was however a slight increase in participants being not lonely and not socially isolated (39% at Phase two, compared to 36% in the first phase), and of those feeling lonely but not isolated (36% at Phase two, compared to 43% in the first phase).

Using technology to connect with others was one of the biggest motivations of using the iPad. Training allowed individuals to develop multiple skills which supported them to contact others digitally, whether this was via email, social media, Zoom, or even taking and sending photographs. 50% of participants reported that the ability to maintain contact with family was a benefit of receiving the iPad and the training, again this was lower than that shown in the survey carried out beforehand (68% and 71%). Similarly, 50% and 43% of respondents noted that the iPad and the training facilitated continued contact with friends compared to the 71% at baseline.

> *"I mean it's just, it's just really useful, but our use now is purely social, you know, it's not for work anymore. But it's still, it's still nice to be able to, well just send emails to our children, saying hey, I haven't heard from you for a while, are you all okay, you know or text them, or sometimes both, if we don't hear anything" (P010, Age 76)*

> *"I messaged [my niece] on Facebook using [the iPad], this morning" (P021, Age 78)*

For some participants, there was also the added benefit of being more involved in the WWA or connecting to other war widow(er)s more easily. Participants reported connecting to the WWA more frequently following receiving the iPad and the training; 21% never connected (compared to 40% at Phase one) and 4% connected more than once a day. Since receiving the iPad training, 50% of participants stated that they accessed the WWA member's area on the WWA website more than usual. Similarly, 11% used video calls to connect at Phase two compared to the 4% at Phase one. Other methods of contact included letters and Christmas cards. Participants also noted that their contact continued to be reduced due to the ongoing situation with the COVID-19 pandemic.

> *"I'm going to have access to [War Widows' Association] events going on. I'm hoping to go to the cenotaph this year. But apparently in*

previous years, I could have viewed the services from my iPad. I would like that" (P001, Age 76)

"Well I like to go on to the site and read all the reports that are coming in […] and then the little bits that are getting added on to [the members area], that… and I think that's, that's fantastic, yeah. It makes you feel that even though we haven't been able to meet all during the pandemic then there's these things I can go into and read what people are doing" (P015, Age 88)

"I keep checking into the War Widows member's area. And obviously the campaign 300, which I'm interested in because I am one of those people concerned. So I keep checking on that and if there was something that I wanted to comment on, I would comment on it" (P032, Age 71)

That is not to say that everyone wished to connect with others online. Despite their new training, some participants continued to socially connect using other means, such as the telephone.

"But the phone I have to say is my lifeline […] and the reason being it takes me so long to write on the computer" (P006, Age 90)

"I don't… I rarely use computers to communicate with my family. I love my… my landline and I phone them if I want to speak to them. And they phone me. We've never exchanged emails or I've never, you know texted anybody ever. I don't know how to" (P020, Age 79)

For others, it was evident that digital social connection was useful when face-to-face connection was not possible (especially during COVID-19), but it was not a replacement for face-to-face connection.

"When I meet somebody, I like to meet them face to face, I don't want to meet them on a computer and I don't want to, you know, it's just not me. I tend to think that it's a backup for… not being able to see people and I'd rather see people and use it as a backup. I don't want it to

become the only thing or the only way that we get… because I will just

not use it if that was the case" (P026, Age 66)

Theme 2: Perceptions of WW.it programme

The iPad training impacted participants' interactions with the iPad in various ways, and in many cases, benefitted their daily living. Participants gave much feedback on the training programme itself.

Debunked iPad

Participants described how the training 'debunked' the iPad for them. Many participants described how different the iPad was to the technology they were used to in the past, such as a laptop or desktop computer. This was primarily through lack of on-screen text, which is replaced by apps, jargon, and a touchscreen.

> *"it's about finding a way to make it not sound complicated. Not make*
> *them feel stupid, like oh I should have known that but also make it that*
> *they actually want to keep learning, because tech stuff. I mean, it is*
> *the most boring thing in the world and if you don't know how to do*
> *something" (P001, Age 76)*

> *"Because you looked at all these little things there and you hadn't a*
> *clue what they were. So, someone to explain what each of them meant*
> *then that opened up, especially the one that I call the compass" (P015,*
> *Age 88)*

This debunking was facilitated through personalised, one-to-one learning, in which the instructor built up a relationship with each participant and began to understand their own needs and difficulties.

"I've been renaming some of the buttons. Letting other participants, you know, well I was speaking to a lady last week, obviously I don't give any names. Speaking to a lady last week and she calls that the do, do, do button. Oh, I like that. The do, do, do and she's like, why did you call it that and then I said, because if in doubt, you just, do, do, do" (Instructor)

"I'm like right, go… press the drain, press the drain and there's no way that is how you would teach, you know, if you were doing computing in a school or something. But you know, you've got to sort of adapt it and make it fun for people" (Instructor)

"So all that kind of just changing some of the terminology and the way that I would explain things. I'd be like, that's the button to get you on the internet. And that's what, that's how they remember it" (Instructor)

When reflecting on their experience of the iPad training, 59% of respondents stated that there was enough information. In contrast, 26% stated there was not enough information and 15% reported there was too much. Whilst participants appreciated the changes that occurred due to the COVID-19 pandemic; there was an awareness of the limitations of these changes and a preference for face-to-face training.

"Was most interesting to be taken through what the [iPad is] capable of but unfortunately there was so [much information] I could not take it all in let alone remember [it. However] it has fuelled my desire to [to] become [more proficient] in the applications that are of interest to me" (P013, Age 81, survey response)

"I believe that the information was good by [Instructor], however I think if it had been recorded I could have referred back to it rather like a training manual. I still lack the confidence with the devise, as I do have some experience with computers. Anyone without prior knowledge I am sure would have been over whelmed with so much training all in the one session rather than sound bites at regular intervals" (P021, Age 78, survey response)

Personalisation

The WW.it training sessions were initially intended to be run as group sessions, however, the context of COVID-19 changed this, and all sessions were carried out remotely and one-on-one (unless another family member was present).

> *"We'd said, right, so the people who are going to do the training, we are not going to dictate how they do it, because you know, everybody's got their own, you know, it was going to be right we need the very basics, the switching on, the plugging it in, the charging it, the what the buttons do, that sort of thing and if you can also cover the War Widows website, email and a little bit on internet security" (Instructor)*

> *"And I think as well with each individual the session has… not all the sessions have been the same. Even though, you know, I'm a bit more structured as things have gone on, but they all need something slightly different" (Instructor)*

> *"She had her sort of standard format that she wanted to cover, but then she adjusted that to… if we got to something, she'd say, do you understand this? Have you done this before? Are you familiar with it? And sometimes I was familiar with certain aspects. So, we were able not to spend time on those too much" (P032, Age 71)*

> *"My daughter sits with me patiently when she can show me. She also does the online shopping and banking with me. I do have a little difficulty remembering what to swipe and where to press." (P017, Age 92, survey response)*

This allowed for personalisation in both learning style and content. A mix of both basic digital skills training and more personalised training materials was one of the benefits individuals described.

"There was one individual who, you know, she just wanted to spend ages working out how to do things on the camera because that's, you know, she's got an amazing garden and she loves taking pictures of the flowers, but she didn't know how to send them to people. So instead of going round two of the simple apps. I went round one of them and then we went straight into camera, and we did over an hour just inside the camera and she was taking various pictures in her house" (Instructor)

"She focused on all the little symbols. Lots of… the little symbols on the iPad that I didn't understand and then she taught me about the eBay" (P015, Age 88)

"It was personalised to me, very much so" (P020, Age 79)

"So initially of necessity the training had to concentrate on setting an alarm clock, you know, how you could look at time zones in different countries and then the next session by the time I'd sorted out the router password, we were then able to verify my identity which then made much more things open on the iPad. So I'd be able to, if I wished go into like programmes and books and so on" (P016, Age 79)

Not only did this allow individuals to develop the skills they found most useful to them, but it also added value to the training and individuals thought this would be more useful than group training.

"Oh my goodness, you know, yeah. Here's this and to think I was making so many mistakes in it and these were being dealt with just for me" (P015, Age 88)

"I think if you were trying to do it in a group, it would be difficult, because okay, some things would be common, but for example, my problem with my router password, would have been individual to me.

So it wouldn't really have been of interest to other people, and it took up so much time" (P016, Age 79)

The instructor recognised the importance of individual differences, especially around learning style, and adapted the training based on this.

"It's been nice to see how different people learn" (Instructor)

This personalisation also promoted accessibility options suitable for each individual. Some participants found it difficult to interact with the iPad due to sight impairment, hearing impairment, or dexterity issues. Learning about the accessibility options was described as one of the biggest benefits to this training as many did not know that it was possible to adapt these features.

I like the iPad because you can make it bigger or smaller and you can have different… I like the black background. I don't like a white background, I find it glares" (P001, Age 76)

"It's just my typing, my hands aren't marvellous" (P006, Age 90)

"And then this is how you can put a screen saver shot on and this is, you know, how you can make the words, the text larger if you want to" (P032, Age 71)

"Interviewer: Do you mean that the computer has now has been able to be set up so that it's right for you, you know the size of the text and the spacing and everything, that's right for you to be able to use that? P006: Oh yes, it's wonderful. It used to squeeze up two lines together. I need around ½ an inch space between each line. And that's easy to read" (P006, Age 90)

The importance of the instructor

Participants continuously described the importance of the instructor as part of the WW.it programme. The instructor was especially important for those who were more anxious about using the iPad and starting the training programme.

> *"I liked her on the phone. I think it helps to like the person" (P001, Age 76)*

> *"She was absolutely spot on. She understood and she knew everything, and she really was a benefit and of course the mistakes that I was making there, in my training, but that helped because the same thing was happening when I was trying to work it on my own and for her to explain what all these other things were" (P015, Age 88)*

> *"I think we only had one, two, maybe 3 meetings in total, but I mean right from the word go, I just felt very comfortable with her. So that was nice" (P016, Age 79)*

Patience was another characteristic that was important.

> *"And she wasn't rattling off the information and she's an incredibly patient person and no, I look forward to it. I'm seeing her tomorrow afternoon at 2 o'clock and I look forward to… they're not like lessons and I learn a lot. I don't realise I've learnt a lot and you know, until she'll say something, and I think, oh yes, I know what you mean" (P001, Age 76)*

> *"She was so patient and understanding and the bits that I was not understanding, and you know, fumbling about and not being able to change pages and everything. She understood what my problem was, and she was able to help me" (P015, Age 88)*

> *"I thought [the instructor] had incredible patience. And how she tackled it at a distance, you know, I take my hat off to her. I mean I was*

having… I couldn't necessarily explain to her all the time what was showing on my screen" (P016, Age 79)

Participants typically felt very comfortable with the instructor, and this undoubtedly facilitated their learning.

Feedback moving forward

Participants had multiple suggestions if a similar programme was to run again. The WW.it programme changed considerably as a direct result of COVID-19. COVID-19 led to delays in receiving iPads, especially those with SIM cards, as well as completely changing the way in which the training was run. SIM card iPads were provided to members who did not have Wi-Fi access. This was an important part of the programme, as it made it more accessible for those without broadband, as opposed to excluding this group further.

"Originally, as you know, we were hoping to utilise, you know, libraries and community centres. Apple were onboard, they were more than happy to be a partner with us in that" (Instructor)

"Well, it wasn't… you see the thing was, that it didn't work out for me anything like… it wasn't as I had expected, because I thought we were going to have people coming to the house, you know, I would have somebody from Plymouth who would come and… and show me how to use it and we would, you know, and it didn't, it was dear [anonymised] from Glasgow doing it… it's much more difficult doing it, you know, via a Zoom meeting on the laptop with the iPad" (P020, Age 79)

"Replacing staged one to one training with a 2hour zoom lesson was never going to be as effective or useful. [Instructor] used the time really well and we covered a lot of ground and it was very useful but it would have been helpful to have had a follow session once we had played

around with the iPad and our confidence had grown a bit" (P031, Age 75, survey response)

"...a zoom video call was not ideal but you [Instructor] definitely made the most of it" (P032, Age 71, survey response)

Due to the ongoing COVID-19 pandemic, remote learning was the only viable option for the WW.it programme to progress, however, some individuals did highlight the restrictions of online learning.

"In the way that we've had to deliver the training. I mean I'm doing 99% of the training online one to one. You know and that was never meant to be the case. I mean a lot of these ladies had never, never been online before in their lives, never mind suddenly doing a training session over a video call, online" (Instructor)

"And how she tackled it at a distance, you know, I take my hat off to her. I mean I was having… I couldn't necessarily explain to her all the time what was showing on my screen. So I was having to hold up, you know, my computer so she could see what I could see, and she would do that, you know, for an hour at a time, an hour and a quarter, whatever. It must have been absolutely draining for her mentally, but I mean, she was so patient and so good sorting things out for me. So yes, you know, I thought the training was as good as it could be under the circumstances" (P016, Age 79)

"Doing it face to face or even if it was possible to join a few of us together in one area. And you get being… a connection there, you know, before you do anything else and then you learn together. And then you keep sharing together and you know, in touch together and then you can ask questions a lot more and yes, you know, you are time limited doing that hour. I mean if it had been more than one session and if it had been face to face, it would have, yes, obviously it would have been probably even more useful" (P032, Age 71)

"Unfortunately on the day of my training we had a technical problem in that I could see the Trainer, but she could not see me! However, all things considered, we managed and I enjoyed the day. I took from it the fact that practise makes perfect. Unfortunately I have been sick since training, but am now much better so am using my iPad most day" (P007, Age 88, survey response)

Mainly, this feedback was for face-to-face and group-based sessions.

"I think in the future it would be easier, possibly, because I'm assuming that in the future it might be possible to go back to as what I'll phrase as person to person in house training, rather than at a distance" (P016, Age 79)

"Well I think the training really was difficult. I think I would really like somebody who comes to my house" (P020, Age 79)

However, some participants did acknowledge the drawbacks to this – firstly through less personalisation, and secondly through geographical dispersion.

"COVID has really changed the entire way that we've had to look at the project, you know, ideally the training was going to be used as a social thing as well and I was going to try and get people from as close as possible together. Which was actually proving to be quite difficult anyway because actually the members that have taken part in the project are very, very far flung and spread anyway" (Instructor)

"Because I think if you were trying to do it in a group, it would be difficult, because okay, some things would be common, but for example, my problem with my router password, would have been individual to me. So it wouldn't really have been of interest to other people, and it took up so much time. So yes, the one to one for me was far more beneficial" (P016, Age 79)

"I just felt it would be easier for her to deliver to a group rather than each individual. Although I do appreciate individually you would get more attention from the trainer" (P026, Age 66)

As members of the WWA live dispersed throughout the UK, group meetings may be problematic, and may not be viable if this was to run as another national programme.

In addition to face-to-face, group sessions, participants also highlighted the potential for shorter, more frequent sessions, as opposed to one 2-hour session. Participants felt that shorter, more frequent sessions would aid their learning, and allow them to practice in between.

"Well, I would suggest that you did it in sound bites. Instead of a whole 2 hours all at once […] Teach somebody one thing maybe over 10 minutes and then tell them to practice" (P021, Age 78)

"Two hours was too much. I suppose there was a lot to cover, but I think it was just too much all at once" (P023, Age 71)

"Follow up sessions perhaps targeting areas of which the elder war widows have struggled with to help gain knowledge and confidence" (P021, Age 78, survey response)

"Would quite like a refresher opportunity once I have "played around" with the iPad a bit more and maybe some questions and things that have arisen as I have experimented" (P024, Age 71, survey response)

Participants also suggested online aide-memoires, or a handbook, to accompany the session.

"Just something simple, points, you know, if you want an attachment for example, you know, this is what you do" (P010, Age 76)

"If we'd also had access, perhaps even on the website in the members area, like an aid memoire where you can go on there because after, I think it as an hour, I had with [anonymised], I can't remember. You know, it was quite intense, and we covered a huge amount, but then

as you are starting to do things as the weeks go on, you think, now
what did she say? You know, which keys do I press? So I think there
is room for something to be on the website where the basic functions
are explained" (P032, Age 71)

Some regretted not having pen and paper with them during their training session and would have liked to refer back to documentation when practising at home alone.

"The only thing I regret about it, I didn't think to take a pen and a paper
with me to write down, there and then so I could sit and look at it and
say now remember this bit, what happened there and why did you do
it and now do it" (P015, Age 88)

"But if you've no… anything written, and nothing recorded. You think,
how do I access that? What do I do?" (P021, Age 78)

Theme 3: Continued support required

Participants discussed the need for ongoing support to continue their iPad/digital skills learning and highlighted specific ways in which they felt their learning could be facilitated moving forward. This continued support was seen as coming from family, local organisations, as well as self-led learning.

Sustained learning

For many participants, the WW.it training was the first training session they had attended to support their use of digital technology, and it was the first training session all participants had attended which was focussed on the iPad. For some, there were barriers that remained which negatively influenced their ongoing use of the iPad.

"I have to be honest with you, I find it very difficult" (P006, Age 90)

The WW.it programme was flexible in that the participants who required further training were able to ask for this, however, this training was not intended to be continued. Despite this, multiple participants discussed the need to get back in touch with the instructor to ask more questions.

"[The instructor] has said to me she will be in place, so to speak, until the end of November. So I will send her an email with the question and get an answer to that" (P016, Age 79)

"It is a learning curve, it's quite a steep learning curve, but I haven't… the thing that I've got to get sorted with her and I will ring her about it is the… is this other thing, is this email [problem]" (P020, Age 79)

For most, the sustained learning needs were through their fresh understanding of the iPad and its potential. Participants picked up basic skills, and some skills that were personalised to their needs in the WW.it programme, but they discussed areas in which they required continued learning – either formally or through self-led practice and discovery.

"I did go to the library every day, you get 2 hours free at the library. So I could always stay in touch there" (P021, Age 78)

"I have been able to take it down to the local library and get on to the internet connection thing down there and another one in the coffee shop in town" (P023, Age 71)

"So, there are just things that I keep discovering that are out there which perhaps I didn't really use or know about really" (P032, Age 71)

Whilst this formal sustained practice was sought through the WW.it programme, and was intended to supplement the WW.it programme, barriers related to both COVID-19 and geography meant that this was not possible.

"I mean I had already started making links with charities and what not […] some charities were like, oh we'd love to help you, but you know, we don't have anybody in our area […] There is a charity that does

have digital champions and they cover the UK and I thought, great, I am glad I found you, but again they're still trying to find volunteers to cover lots of areas. So still they have quite a few areas where our War Widows are, that they don't have anybody" (Instructor)

This must be taken into consideration when considering similar programmes in the future.

Additional family support

Participants felt as though their learning had not ended after completion of the WW.it programme, and it was evident that their family continued to have a role in supporting ongoing learning.

"I've got a few nieces. My other niece has… is quite savvy and she said, bring your tablet round and we will have, every Tuesday, because I go to her house every Tuesday for dinner" (P021, Age 78)

"I thought, how have I done that and then my son came and showed me, he said look you've moved it to that" (P023, Age 71)

"I feel I would have been much further on with my knowledge of the iPad if I'd not been sick. However, since recovering, I am using it every day and am looking forward to a day this week when one of my grandsons is visiting me and we are having a Pizza lunch and an iPad Session!" (P007, Age 88, survey response)

P015 remained unconfident using online shopping, so this was one task she could not do alone.

"I get to the end of it and then I can say to my son, look get that and there's my card, finish for me. I still don't like… I'm still frightened to put money into it" (P015, Age 88)

However, some described the guilt they felt from asking their family for help, partly through time constraints.

"But you see, if you had the grandchildren and children, they haven't necessarily got the time to teach you, because people are so busy working" (P001, Age 76)

Some also described feeling 'stupid' or acknowledging their family's frustration when trying to support them with technology.

"[My family have] given up with me. They think I'm such an idiot that trying to explain technology to me is a waste of time. So they've given up" (P026, Age 66)

Some did not have family to rely on and described the inequity they felt because of this.

"It's not that I'm a stupid person […] I've got it in there and I've got no one to show me how to do it. Everyone keeps saying, oh it's easy, you'll be able to do that yourself and this, that and the other" (P001, Age 76)

"See I don't have children. I don't have nieces and nephews handy. There's no sort of 12-year-old I can go to" (P016, Age 79)

"I haven't got a grandson or grandchild I have, you know, near me and my sons are living in London and it's difficult to get help" (P020, Age 79)

Not all participants have family to support their continued learning, and this is important to consider within digital learning programmes moving forward, especially when considering peer support that may be offered from group sessions. The programme was a launchpad for participants' learning and it is evident that further learning was needed as time moved on.

Discussion

This study aimed to explore and evaluate the implementation and running of the WW.it programme. Specifically, this study aimed to examine the perceived impact of the intervention(s) from the perspective of participants and the instructor, reflect on the perceived facilitators and barriers to implementing the intervention(s), and map perceived changes to social isolation, loneliness, and well-being.

Digital exclusion encompasses the lack of access (internet access and access to digital devices), lack of skills (and confidence), and the tangible outcomes individuals perceive from using the internet (Blank & Groselj, 2014; Scheerder et al., 2017; van Deursen & Helsper, 2015). Many organisations offering digital assistance across the UK, and globally, support the reduction of digital exclusion by improving access only, however, not all aim to tackle all three strands of digital exclusion.

The WW.it programme provided (full members of the WWA) with a free iPad (associate members received training only), and for those without broadband a free SIM iPad was provided. This immediately improved access to digital technology, especially for those who were most excluded and without internet connectivity. Of course, moving forward, the sustainability of this programme must be considered, and the cost of iPads/SIM iPads must be taken into account.

The iPad training improved skills and confidence and reduced some fear concerning the iPad (although fear of scamming and online financial affairs remained for many), once more removing this second barrier for digital exclusion. The iPad provision and iPad training led to increased familiarity with the technology, as well as improved digital skills and confidence. As a result, this increased the frequency of using various applications, and influenced individuals' daily living in various ways. Whilst the WW.it programme initially intended to focus on the benefits of increased social connection through technology use, this was only one benefit, and it was evident that there were more widespread advantages, including enhanced civic participation.

For many participants this training session was just the start of their learning. However, some survey responses were inconsistent with this, suggesting that individuals did not agree that they developed as many skills, or confidence, as they would have liked to at the beginning of training. These findings may reflect the sample's lack of experience of using iPads beforehand which impacted their initial expectations or influenced by some participants who struggled with the training and did not intend to use the iPad moving forward. Whilst participants benefitted from the programme, they spoke of seeking learning opportunities to further enhance their skills and iPad knowledge. Others discussed the continued reliance upon friends and family to support them in unfamiliar or financial digital tasks.

Finally, the personalised learning styles and programme content supported individuals to recognise tangible outcomes from using the internet. Many participants did not recognise the potential benefits of the iPad as they had no prior experience of using one, however, once they were supported to use this device for their own interests during training, they were able to see how this technology could benefit themselves, and their own daily living.

One of the aims of this study was to map changes to social isolation and loneliness across phases, however, findings were inconsistent across the sample and completion of Wilcoxon Signed Ranks test showed there were no significant changes in these categories. There also no significant in total social isolation scores. A Wilcoxon Signed Ranks Test showed significant reduction of total loneliness scores following receipt of the iPad and the iPad training. The ever-changing COVID-19 restrictions throughout the UK must be taken into account when interpreting these results. Further caution should be taken due to the limited sample size of the study. These findings do support other contradictory evidence in this field (Beneito-Montagut et al., 2018; Ibarra et al., 2020). Results showed that participants used the iPad to connect with family, friends, and the war widow(er)s' community, however, participants also expressed that this connection was not the same as face-to-face connection. This is consistent with other research with the older population (Ibarra et al., 2020; Wilson, Gates, Vijaykumar, & Morgan, 2021) which acknowledges the use of technology to support social networks, to provide social support, and also build community rapport, but does not always results in changes to loneliness and social isolation (Ibarra et al., 2020).

Delivering digital skills to older adults

A reflective tool for delivering digital skills to older adults was developed through the systematic narrative review as part of this project (Figure 2). It is imperative to reflect on the facilitators and barriers of the WW.it programme through the lens of the developed reflective tool, especially when considering moving forward.

Negative perceptions of ageing

All participants in this study were over 65 years old, and perceptions of their own ageing was a barrier to technology use, and digital learning, across both Phases one and two. The reflective tool for the delivery digital skills for older adults promotes the importance of challenging negative perceptions of ageing, across both learners and facilitators, and to promote a reflexive and individual approach to learning. This personalisation (both in content and learning style) was only possible as it was through individual training, so despite individuals wanting to attend group classes in the future, the reduction in personalised learning is one potential drawback. Many participants suggested accompanying materials for future sessions. This would further support reflexive and individualised digital learning.

The learning environment

The reflective tool recognises the crucial role of the learning environment for digital skills development. The WW.it programme was implemented throughout various COVID-19 lockdown restrictions. Therefore, the training was delivered one-to-one and online. There were both advantages and disadvantages to this, as explored throughout this report. Advantageously, it allowed for personalised learning (through content and learning style), as well as the inclusion of participants dispersed throughout the UK who may not have been able to access local support. Despite this, participants sometimes struggled to learn through a screen without the instructor beside them, and consequently still preferred face-to-face, group learning, and would choose this learning environment moving forward. It was important for participants to have additional learning materials, either as a handbook on paper, as a

recording, or as aide-memoires online. This would have promoted both learner and instructor expectations and would have supported continued learning after the training had ended.

The relationship between the instructor and the learner was important, both in trust and patience. Participants described feeling anxious about beginning training and the relationship with the instructor put them at ease.

Value of technology

Individual values for technology were imperative in the delivery of digital skills reflective tool for older adults, as well as in the WW.it programme through individualised support and personalised training, as described above. One way of improving this further would be to reduce the length of the training session, and replace with multiple, shorter sessions. This is something that was reflected on by participants. It would allow the instructor to check in to see if their motivations had changed, and to therefore bring more value to their training.

The influence of COVID-19

It is not possible to remove the context of COVID-19 from this study. COVID-19 had a major impact on the delivery of the training, as well as individuals' motivations for taking part, and the experiences of social isolation and loneliness throughout the course of this study.

Inadvertently, this has become one of the first studies to evaluate online digital skills delivery for older adults in the UK during the COVID-19 pandemic and national lockdowns. None of the restrictions could have been foreseen and this was a learning experience for all involved, and there is much learning to be taken from this study.

We must also consider COVID-19 in relation to the study findings. Firstly, through motivation to take part, and what individuals wished to use their technology for. Secondly, in terms of individuals' experiences whilst taking part. However, this is not to say that individuals' motivations to use technology will necessarily change as COVID-19 lessens. The pandemic shone a light on digital exclusion and raised awareness of the vast divide across the UK and

internationally (Bower, Grant, & Nielsen, 2021). There have been fundamental changes to the way people work, education and communication (Bower et al., 2021), as well as there being changes to the way services are offered, such as banking (Martin, 2020) or booking GP appointments (Clarke, Pariza, & Wolters, 2020). The digital shift has been stark and fast moving. This places even further importance on programmes which support individuals to gain access to digital technology, as well as developing digital skills and confidence, and awareness raising for ways in which digital technology can be useful in their daily living.
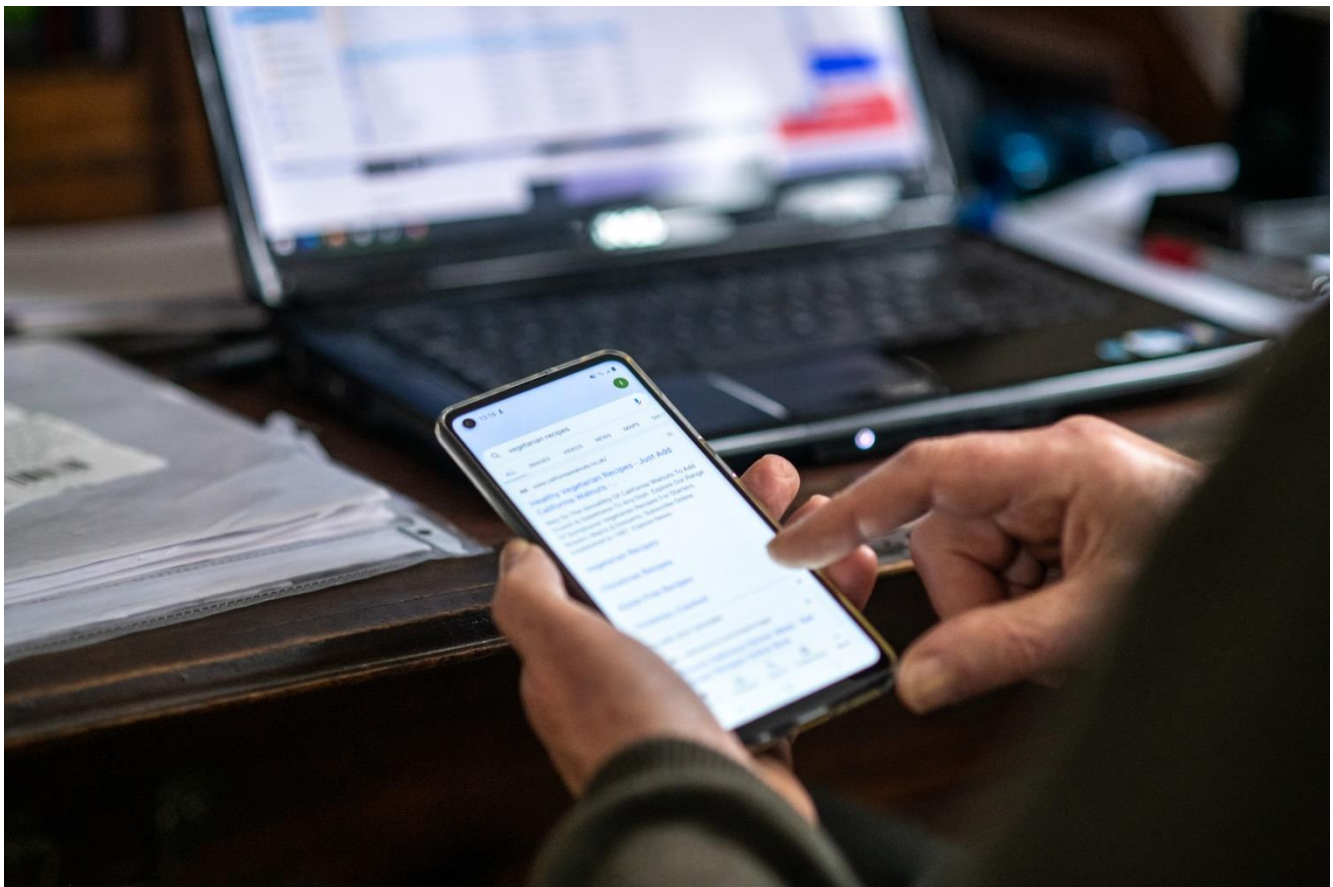
Strengths and Limitations

A strength of this project is the adaptability of data collection through COVID-19 restrictions. Furthermore, the study gained geographical reach across the UK and therefore the findings are of national significance.

Of course, there are also limitations to this research. Due to the nature of WWA membership, this sample consisted of all white females, over 65 years old. Whilst this represented the organisation in which the study was carried out, it limits the way in which the findings can be translated to the wider population. This sample was also mainly made up of RAF widows and may have skewed the findings.

The context in which the study was conducted must be considered. The data was collected during an ever-changing landscape and COVID-19 restrictions. Changes to an individual's digital skills, use of technology, social isolation, loneliness, or other factors related to well-being are not necessarily due to the WW.it programme, but may be a consequence of other intervention or contextual change.

Data in Phase two was collected relatively shortly after individuals took part in the training programme, and it is therefore not possible to understand the long-term impact of the iPad training, or sustained use of the iPad. Furthermore, the way in which survey data was collected differed between Phase one (a paper-based survey) and Phase two (an online survey). This was to support their newly acquired digital skills development, however, this meant that data retrieved from both surveys differed a little in their presentation. Whilst still comparable, individuals wrote more free text on the paper survey, and changed their responses as they required, but could not do this online. This is one consideration for future research.

Recommendations for practice

1. Multiple practical recommendations for digital skills training arose from this study and are recommended for consideration in future delivery programmes aimed at older adults:
   - Shorter sessions spread across several weeks
   - Face-to-face, group classes
   - Importance of demystifying the technology through debunking jargon
   - Importance of reducing fear of using the system
   - Focus on accessibility settings
   - Personalised learning and content

2. Training across multiple systems (e.g. Kindles or Android devices) was difficult for the instructor and was always beneficial for the learner. It is recommended, for future programmes, that training focusses upon one system only. This will also support peer-learning between individuals on the programme using the same device.

3. Online training allowed for individuals to participate in the WW.it programme from across the UK, however, this geographical dispersal would have been difficult if training was done face-to-face. Therefore, one recommendation for this project would be to roll out training regionally, through peers, or Regional Organisers at the WWA. This would group learners together to benefit from face-to-face, peer-supported learning.

4. Multiple participants suggested having training materials to accompany the training, whether this was a paper handout, online aide-memoires, or a recording of the session. One recommendation was to include bitesize help sheets on the WWA members area. This would encourage use of the WWA website and members area, as well as supporting individuals to improve and practise their digital skills. Other organisations could provide similar materials on their own website, provide learners with paper handouts, or online handouts via email.

5. Signposting information should be provided by organisations for learners to seek further training once the programme is completed. This could be through local digital champions, national digital organisations, textbooks, or online-only resources.

6. It is recommended that organisations utilise the reflective tool when implementing and/or running programmes to improve older adults' digital skills. Ensuring that the three core areas of the tool are met is fundamental for inclusive, supportive, and empowering digital skills training.
   b. Following on from this, one drawback for participants was often their own perceptions of ageing. It is recommended that organisations and instructors recognise the importance of this in their learning, and place emphasis on

individual learning styles, through use of the reflective tool for delivering digital skills to older adults.

Recommendations for future research

1. It is recommended that a longitudinal study is carried out to understand the long-term impact of iPad training, and use of an iPad, on daily living, and well-being over time.

2. It is also recommended that future research utilises the reflective tool for delivering digital skills to older adults when evaluating programmes to improve digital skills. This is based on systematically reviewed evidence and geragogy theory and recommends three core areas for consideration.

3. Research into online digital skills training is novel. This study recognises the homogeneity of the sample as a limitation, although it does represent membership of the WWA. Therefore, further research must consider the inclusion of wider populations for findings to be translatable to the wider, older population.

Conclusion

Through iPad provision and iPad training, the WW.it programme aimed to empower members digitally, and to support the development of new skills to connect with others online. This evaluation aimed to independently explore the implementation and running of this programme.

Before participating in this study, many participants did not recognise the potential benefits of the iPad as they had no prior experience of using one. Once they had received the iPad, and participated in the training programme, most participants felt they benefitted from the WW.it programme through improved access to technology and Wi-Fi connectivity, improved skills, and increased confidence. The personalised learning and programme content supported individuals to recognise tangible outcomes from using the internet. Through this, there were widespread advantages to using the iPad, including enhanced civic participation and social

connection. There was a significant reduction in total loneliness scores following provision of the iPad and iPad training; no other significant changes were observed for categories of loneliness and social isolation, and total social isolation scores. For many, this was just a launchpad to their learning and individuals spoke of seeking additional learning opportunities to further enhance their skills and knowledge.

A reflective tool for delivering digital skills to older adults was developed. It is recommended that this is used when designing, implementing, and evaluating digital skills programmes for older adults. A number of practice and research recommendations have been suggested following this study.

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Appendix A: Frequency of technology use (Phase one)

Table 7. Frequency of Technology Usage

Email (n=32)	Never used (16%)
	Monthly (9%)
	Weekly (13%)
	Daily (31%)
	More than once a day (25%)
Facebook (N=34)	Not sure what this was (6%)
	Never used (47%)
	Monthly (6%)
	Weekly (15%)
	Daily (18%)
	More than once a day (9%)
Facebook Messenger (n=33)	Not sure what this was (12%)
	Never used (48%)
	Monthly (6%)
	Weekly (18%)
	Daily (12%)
	More than once a day (3%)
Video calling (n=32)	Not sure what this was (6%)
	Never used (38%)
	Monthly (22%)
	Weekly (25%)
	Daily (3%)
WhatsApp (n=32)	Not sure what this was (13%)
	Never used (44%)
	Monthly (6%)
	Weekly (13%)
	Daily (9%)
	More than once a day (13%)

Twitter (n=31)	Not sure what this was (23%)
	Never used (77%)
Instagram (n=31)	Not sure what this was (32%)
	Never used (68%)
Online Shopping (N=35)	Not sure what this was (6%)
	Never used (31%)
	Monthly (29%)
	Weekly (26%)
Online banking (n=33)	Not sure what this was (9%)
	Never used (58%)
	Monthly (12%)
	Weekly (15%)
	Daily (6%)
Entertainment (N=35)	Not sure what this was (3%)
	Never used (51%)
	Monthly (9%)
	Weekly (9%)
	Daily (26%)
	More than once a day (3%)

Appendix B: Attitudes to technology (Phase one)

Table 8. Participant Attitudes towards Technology

I feel it is important to be able to find any information whenever I want online (n=34)	Strongly agree (50%) Agree (26%) Neither agree nor disagree (21%) Disagree (3%)
I feel it is important to be able to access the internet any time I want (n=34)	Strongly agree (53%) Agree (21%) Neither agree nor disagree (24%) Disagree (3%)
I think it is important to keep up with the latest trends in technology (N=35)	Strongly agree (26%) Agree (43%) Neither agree nor disagree (26%) Disagree (6%)
I get anxious when I don't have my mobile phone (n=34)	Strongly agree (12%) Agree (9%) Neither agree nor disagree (24%) Disagree (38%) Strongly disagree (15%)
I get anxious when I don't have the internet available to me (n=34)	Agree (15%) Neither agree nor disagree (29%) Disagree (41%) Strongly disagree (12%)
I am dependent on my technology (n=34)	Strongly agree (3%) Agree (26%) Neither agree nor disagree (32%) Disagree (24%)

	Strongly disagree (15%)
Technology will provide solutions to many of our problems (n=34)	Strongly agree (24%) Agree (41%) Neither agree nor disagree (29%) Disagree (6%)
With technology anything is possible (n=34)	Strongly agree (15%) Agree (35%) Neither agree nor disagree (41%) Disagree (9%)
I feel that I get more accomplished because of technology (n=33)	Strongly agree (12%) Agree (42%) Neither agree nor disagree (30%) Disagree (15%)
New technology makes people waste too much time (n=33)	Strongly agree (6%) Agree (15%) Neither agree nor disagree (42%) Disagree (30%) Strongly disagree (6%)
New technology makes life more complicated (n=33)	Strongly agree (12%) Agree (33%) Neither agree nor disagree (33%) Disagree (21%)
New technology makes people more isolated (n=33)	Strongly agree (3%) Agree (21%) Neither agree nor disagree (45%) Disagree (24%) Strongly disagree (6%)

Appendix C: Motivations for receiving the iPad and iPad training (Phase one)

Table 9. Participant objectives for receiving the iPad and training

	iPad	iPad training
Increased confidence using iPads	89%	89%
Positive attitude towards iPads	77%	80%
Learning new skills	91%	97%
Staying in touch with family	71%	74%
Staying in touch with friends	74%	74%
Staying in touch with war widow community	74%	71%
Feeling less lonely	43%	43%
Feeling less isolated	46%	51%
Entertainment	51%	57%
Online shopping/banking	69%	69%

Appendix D: Connection to War Widows' Community (Phase one)

Table 10. Participant connections with the War Widows' Community

How often do you connect with the war widows' community? (n=26)	Never (42%)
	Monthly (46%)
	Weekly (8%)
	Daily (4%)
Methods of contact	Face-to-face (20%)
	Video-calling (3%)
	Email (6%)
	Social media (9%)
	Telephone (51%)
	Face-to-face at War Widow Association events (49%)

Appendix E: Frequency of technology use (Phase one to Phase two)

Table 11. Frequency of technology use (Phase one to Phase two)

	Email		Facebook		Facebook Messenger		Video calling		WhatsApp	
	Phase one (n=24)	Phase two (N=28)	Phase one (n=27)	Phase two (n=27)	Phase one (n=27)	Phase two (N=28)	Phase one (n=25)	Phase two (N=28)	Baseline (n=25)	Phase two (n=26)
Not sure what this is			7%	11%	11%	25%	8%	4%	12%	19%
Never used	17%	18%	50%	37%	52%	32%	40%	36%	44%	23%
Monthly	8%	14%	4%	4%	7%	14%	24%	36%	8%	23%
Weekly	17%	11%	11%	15%	19%	11%	24%	21%	16%	8%
Daily	38%	43%	21%	26%	7%	11%	4%	4%	12%	23%
More than once a day	21%	14%	7%	7%	4%	7%			8%	4%

	Twitter		Instagram		Online shopping		Online banking		Entertainment	
	Phase one (n=25)	Phase two (n=26)	Phase one (n=25)	Phase two (n=25)	Phase one (n=26)	Phase two (n=26)	Phase one (n=27)	Phase two	Baseline (N=28)	Phase two (n=27)
Not sure what this is	24%	15%	32%	16%	4%		11%		4%	

Never used	76%	85%	68%	84%	38%	46%	59%		46%	44%
Monthly					38%	19%	11%		11%	15%
Weekly					19%	31%	15%		7%	26%
Daily						4%	4%		29%	11%
More than once a day									4%	4%

Appendix F: Attitudes to technology (Phase two)

Table 12. Attitudes to technology (Phase one to Phase two)

	Important to find information online		Important to keep up with the latest trends in technology		Important to access internet when wanted		Anxiety without mobile phone		Anxiety without available internet	
	Phase one (n=27)	Phase two (N=28)	Phase one (N=28)	Phase two (N=28)	Phase one (n=27)	Phase two	Phase one (n=27)	Phase two (N=28)	Phase one (n=27)	Phase two (N=28)
Strongly agree	44%	36%	25%	14%	48%		7%	4%		
Agree	29%	46%	43%	50%	22%		11%	7%	15%	11%
Neither agree nor disagree	22%	18%	25%	36%	26%		22%	32%	26%	36%
Disagree	4%		7%		4%		41%	36%	44%	36%
Strongly disagree							19%	21%	15%	18%

	Dependent on technology	Technology provide solutions to problems	Technology makes anything possible	Get more accomplished because of technology	New technology wastes too much time

	Phase one (N=28)	Phase two (N=28)	Phase one (N=28)	Phase two (n=27)	Phase one (n=27)	Phase two (N=28)	Phase one (n=27)	Phase two (N=28)	Phase one (n=27)	Phase two (n=27)
Strongly agree		4%	25%	15%	15%	14%	15%	4%	4%	4%
Agree	29%	14%	43%	41%	33%	43%	33%	54%	15%	22%
Neither agree nor disagree	25%	18%	25%	30%	41%	32%	33%	25%	44%	37%
Disagree	29%	50%	7%	15%	11%	11%	19%	11%	30%	19%
Strongly disagree	18%	14%						7%	7%	19%

	New technology complicates life		New technology causes more isolation	
	Phase one (n=27)	Phase two (N=28)	Phase one (n=27)	Phase two (N=28)
Strongly agree	15%	4%	4%	7%
Agree	37%	46%	22%	14%
Neither agree nor disagree	30%	25%	44%	29%

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| Disagree | 19% | 18% | 22% | 36% |
| Strongly disagree | | 7% | 7% | 14% |

Appendix G: Expected and reported benefits from receiving the iPad and the training (Phase two)

Table 13. Expected and reported benefits from receiving the iPad and the training (Phase one to Phase two)

	Receiving the iPad		Receiving the iPad training	
	Phase one	Phase two	Phase one	Phase two
Increased confidence using iPads	93%	79%	93%	64%
Positive attitudes towards iPads	82%	64%	82%	64%
Learning new skills	93%	89%	100%	82%
Staying in touch with family	68%	50%	71%	50%
Staying in touch with friends	71%	50%	71%	43%
Staying in touch with War Widow community	71%	57%	64%	54%
Feeling less lonely	39%	32%	39%	29%
Feeling less isolated	46%	32%	50%	29%
Online shopping/banking	68%	43%	64%	36%
Entertainment	50%	43%	57%	39%

Appendix H: Connection with the war widow(er)s' community (Phase two)

Table 14. Level of connection with the war widow(er)s' community (Phase one to Phase two)

	Phase one (n=20)	Phase two (n=24)
Never	40%	21%
Monthly	55%	42%
Daily	5%	0
More than once a day	0	4%
Other		33%

Table 15. Methods of connection with the war widow(er)s' community (Phase one to Phase two)

	Phase one	Phase two
Email	7%	7%
Video call	4%	11%
Face-to-face	25%	14%
Social Media	11%	14%
Telephone	54%	39%
Meet at War Widow Association events	57%	46%

Appendix I: Connection with the war widow(er)s' community (Phase two)

Table 16. Wilcoxon signed ranks test for technological usage, attitudes towards technology, loneliness and social isolation

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	25th	50th (Median)	75th
Baseline_LandSN_Category	28	2.21	1.228	1	4	1.00	2.00	4.00
Baseline_total_SN	28	17.32	7.921	3	34	12.00	17.50	23.00
Baseline_total_loneliness	28	3.57	1.709	1	6	2.00	4.00	5.00
Followup_LandSN_Category	28	1.93	1.016	1	4	1.00	2.00	2.00
Followup_total_SN	28	17.54	7.946	3	30	13.25	17.50	24.00
Followup_total_loneliness	28	2.64	1.660	0	6	1.00	3.00	4.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Followup_LandSN_Category - Baseline_LandSN_Category	Negative Ranks	8[a]	6.56	52.50
	Positive Ranks	3[b]	4.50	13.50
	Ties	17[c]		
	Total	28		
Followup_total_SN - Baseline_total_SN	Negative Ranks	13[d]	13.54	176.00
	Positive Ranks	13[e]	13.46	175.00
	Ties	2[f]		
	Total	28		
Followup_total_loneliness - Baseline_total_loneliness	Negative Ranks	14[g]	10.64	149.00
	Positive Ranks	4[h]	5.50	22.00
	Ties	10[i]		
	Total	28		

Test Statistics[a]

	Followup_LandSN_Category - Baseline_LandSN_Category	Followup_total_SN - Baseline_total_SN	Followup_total_loneliness - Baseline_total_loneliness
Z	-1.814[b]	-.013[b]	-2.829[b]
Asymp. Sig. (2-tailed)	.070	.990	.005

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Baseline_Email_use	24	4.38	1.377	2	6	3.25	5.00	5.00
Baseline_Facebook_use	28	3.11	1.571	1	6	2.00	2.00	5.00
Baseline_Facebook_Messenger_use	27	2.70	1.325	1	6	2.00	2.00	4.00
Baseline_Videocalling_use	25	2.76	1.052	1	5	2.00	3.00	4.00
Baseline_Twitter_use	25	1.76	.436	1	2	1.50	2.00	2.00
Baseline_Instagram_use	25	1.68	.476	1	2	1.00	2.00	2.00
Baseline_Online_shopping_use	26	2.73	.827	1	4	2.00	3.00	3.00
Baseline_WhatsApp_use	25	2.96	1.541	1	6	2.00	2.00	4.00
Baseline_Entertainment_use	28	3.21	1.475	1	6	2.00	2.50	5.00
Followup_email_use	28	4.21	1.371	2	6	3.00	5.00	5.00
Followup_Facebook_use	27	3.30	1.636	1	6	2.00	3.00	5.00
Followup_Facebook_messenger_use	28	2.71	1.584	1	6	1.25	2.00	4.00
Followup_videocalling_use	28	2.86	.932	1	5	2.00	3.00	3.75
Followup_Twitter_use	26	1.85	.368	1	2	2.00	2.00	2.00
Followup_Instagram_use	25	1.84	.374	1	2	2.00	2.00	2.00
Followup_online_shopping_use	26	2.92	.977	2	5	2.00	3.00	4.00
Followup_WhatsApp_use	26	3.04	1.562	1	6	2.00	3.00	5.00
Followup_Entertainment_use	27	3.15	1.231	2	6	2.00	3.00	4.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Followup_email_use - Baseline_Email_use	Negative Ranks	5[a]	6.20	31.00
	Positive Ranks	6[b]	5.83	35.00
	Ties	13[c]		
	Total	24		
Followup_Facebook_use - Baseline_Facebook_use	Negative Ranks	5[d]	6.80	34.00
	Positive Ranks	8[e]	7.13	57.00
	Ties	14[f]		
	Total	27		
Followup_Facebook_messenger_use - Baseline_Facebook_Messenger_use	Negative Ranks	7[g]	7.00	49.00
	Positive Ranks	7[h]	8.00	56.00
	Ties	13[i]		
	Total	27		
Followup_videocalling_use - Baseline_Videocalling_use	Negative Ranks	6[j]	5.00	30.00
	Positive Ranks	5[k]	7.20	36.00
	Ties	14[l]		
	Total	25		
Followup_Twitter_use - Baseline_Twitter_use	Negative Ranks	3[m]	4.00	12.00
	Positive Ranks	4[n]	4.00	16.00

	Ties	16[o]		
	Total	23		
Followup_Instagram_use - Baseline_Instagram_use	Negative Ranks	3[p]	5.00	15.00
	Positive Ranks	6[q]	5.00	30.00
	Ties	13[r]		
	Total	22		
Followup_online_shopping_use - Baseline_Online_shopping_use	Negative Ranks	3[s]	5.50	16.50
	Positive Ranks	7[t]	5.50	38.50
	Ties	15[u]		
	Total	25		
Followup_WhatsApp_use - Baseline_WhatsApp_use	Negative Ranks	8[v]	7.50	60.00
	Positive Ranks	8[w]	9.50	76.00
	Ties	7[x]		
	Total	23		
Followup_Entertainment_use - Baseline_Entertainment_use	Negative Ranks	11[y]	10.23	112.50
	Positive Ranks	9[z]	10.83	97.50
	Ties	7[aa]		
	Total	27		

Test Statistics[a]

	Followup_email_use - Baseline_Email_use	Followup_Facebook_use - Baseline_Facebook_use	Followup_Facebook_messenger_use - Baseline_Facebook_Messenger_use	Followup_videocalling_use - Baseline_Videocalling_use	Followup_Twitter_use - Baseline_Twitter_use	Followup_Instagram_use - Baseline_Instagram_use	Followup_online_shopping_use - Baseline_Online_shopping_use	Followup_WhatsApp_use - Baseline_WhatsApp_use	Followup_Entertainment_use - Baseline_Entertainment_use
Z	-.189[b]	-.849[b]	-.233[b]	-.284[b]	-.378[b]	-1.000[b]	-1.165[b]	-.449[b]	-.284[c]
Asymp. Sig. (2-tailed)	.850	.396	.816	.776	.705	.317	.244	.653	.776

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	25th	50th (Median)	75th
							Percentiles	
Baseline_find_info	27	1.85	.907	1	4	1.00	2.00	3.00
Baseline_keep_trends	28	2.14	.891	1	4	1.25	2.00	3.00
Baseline_anxious_mobile	27	3.52	1.156	1	5	3.00	4.00	4.00
Baseline_anxious_internet	27	3.59	.931	2	5	3.00	4.00	4.00
Baseline_dependent_tech	28	3.36	1.096	2	5	2.00	3.00	4.00
Baseline_tech_solutions	28	2.14	.891	1	4	1.25	2.00	3.00
Baseline_tech_possible	27	2.48	.893	1	4	2.00	3.00	3.00
Followup_find_info	28	1.82	.723	1	3	1.00	2.00	2.00
Followup_keep_trends	28	2.21	.686	1	3	2.00	2.00	3.00
Followup_anxious_mobile	28	3.64	1.026	1	5	3.00	4.00	4.00
Followup_anxious_internet	28	3.61	.916	2	5	3.00	4.00	4.00
Followup_dependent_tech	28	3.57	1.034	1	5	3.00	4.00	4.00
Followup_tech_solutions	27	2.44	.934	1	4	2.00	2.00	3.00
Followup_tech_possible	28	2.39	.875	1	4	2.00	2.00	3.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Followup_find_info - Baseline_find_info	Negative Ranks	8[a]	9.00	72.00
	Positive Ranks	8[b]	8.00	64.00
	Ties	11[c]		
	Total	27		
Followup_keep_trends - Baseline_keep_trends	Negative Ranks	5[d]	8.10	40.50
	Positive Ranks	8[e]	6.31	50.50
	Ties	15[f]		
	Total	28		
Followup_anxious_mobile - Baseline_anxious_mobile	Negative Ranks	6[g]	6.50	39.00
	Positive Ranks	7[h]	7.43	52.00
	Ties	14[i]		
	Total	27		
Followup_anxious_internet - Baseline_anxious_internet	Negative Ranks	9[j]	9.44	85.00
	Positive Ranks	9[k]	9.56	86.00
	Ties	9[l]		
	Total	27		

Followup_dependent_tech - Baseline_dependent_tech	Negative Ranks	7[m]	10.21	71.50
	Positive Ranks	12[n]	9.88	118.50
	Ties	9[o]		
	Total	28		
Followup_tech_solutions - Baseline_tech_solutions	Negative Ranks	4[p]	6.00	24.00
	Positive Ranks	9[q]	7.44	67.00
	Ties	14[r]		
	Total	27		
Followup_tech_possible - Baseline_tech_possible	Negative Ranks	9[s]	9.33	84.00
	Positive Ranks	8[t]	8.63	69.00
	Ties	10[u]		
	Total	27		

Test Statistics[a]

	Followup_find_info - Baseline_find_info	Followup_keep_trends - Baseline_keep_trends	Followup_anxious_mobile - Baseline_anxious_mobile	Followup_anxious_internet - Baseline_anxious_internet	Followup_dependent_tech - Baseline_dependent_tech	Followup_tech_solutions - Baseline_tech_solutions	Followup_tech_possible - Baseline_tech_possible
Z	-.221[b]	-.369[c]	-.479[c]	-.024[c]	-.995[c]	-1.615[c]	-.371[b]
Asymp. Sig. (2-tailed)	.825	.712	.632	.981	.320	.106	.710

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

c. Based on negative ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	Percentiles 50th (Median)	Percentiles 75th
Baseline_more_accomplished	27	2.56	.974	1	4	2.00	3.00	3.00
Baseline_People_waste_time	27	3.22	.934	1	5	3.00	3.00	4.00
Baseline_Life_complicated	27	2.52	.975	1	4	2.00	2.00	3.00
Baseline_people_isolated	27	3.07	.958	1	5	2.00	3.00	4.00
Followup_more_accomplished	28	2.64	.989	1	5	2.00	2.00	3.00
Followup_people_waste_time	27	3.26	1.130	1	5	2.00	3.00	4.00
Followup_life_complicated	28	2.79	1.031	1	5	2.00	2.50	3.75
Followup_people_isolated	28	3.36	1.129	1	5	3.00	3.50	4.00

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Followup_more_accomplished - Baseline_more_accomplished	Negative Ranks	6[a]	5.33	32.00
	Positive Ranks	6[b]	7.67	46.00
	Ties	15[c]		
	Total	27		
Followup_people_waste_time - Baseline_People_waste_time	Negative Ranks	10[d]	8.90	89.00
	Positive Ranks	9[e]	11.22	101.00
	Ties	7[f]		
	Total	26		
Followup_life_complicated - Baseline_Life_complicated	Negative Ranks	7[g]	7.50	52.50
	Positive Ranks	10[h]	10.05	100.50
	Ties	10[i]		
	Total	27		
Followup_people_isolated - Baseline_people_isolated	Negative Ranks	8[j]	8.63	69.00
	Positive Ranks	12[k]	11.75	141.00
	Ties	7[l]		
	Total	27		

Test Statistics[a]

	Followup_more_accomplished - Baseline_more_accomplished	Followup_people_waste_time - Baseline_People_waste_time	Followup_life_complicated - Baseline_Life_complicated	Followup_people_isolated - Baseline_people_isolated
Z	-.561[b]	-.257[b]	-1.216[b]	-1.393[b]
Asymp. Sig. (2-tailed)	.575	.798	.224	.164

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.