Bridging the Age-based Digital Divide: An Intergenerational Exchange during the First COVID-19 Pandemic Lockdown Period in Ireland

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ABSTRACT
This qualitative study explored the digital communication skills assistance provided by young adults in the age range 18 to 25 years to older family members during the period of the first COVID-19 pandemic lockdown in Ireland in 2020. Data were collected from a sample of young adults (n = 248) using an online survey instrument to explore their learnings from the intergenerational exchange. The study found that young adults who assisted their older family members considered the learning experience to be successful and were rewarded with reciprocal benefits. This study contributes to the field of intergenerational research by exploring the perspectives of young adults involved in an intergenerational exchange to support the digital skills of their older adult family members in Ireland.

KEYWORDS
Digital literacy; digital skills; intergenerational learning; older adults; young adults

Introduction

Older adults who live alone are at greater risk of social isolation than those who live with others (Drennan et al., 2008; Ward et al., 2019). This can be mediated by social networks that include family and friends along with social and civic engagement activities. Data collected by The Irish Longitudinal Study on Ageing (TILDA) found that in 2019, 60% of adults ages 70 years and older enjoyed regular social activities. Forty-seven percent of this cohort had engaged in volunteering in the past year, with 17% volunteering every week (McGarrigle et al., 2020). Spring 2020 saw the arrival of the global pandemic known as COVID-19. For a period of almost 3 months, all people in Ireland ages 70 years and older were advised to remain in their homes (Department of Health, 2020). For many, this resulted in becoming cut off from their family and social networks.

With the onset of the pandemic the use of digital communications mediated by the Internet, such as Zoom, FaceTime and other apps to facilitate communications on a one-to-one, one-to-few/many basis, might seem an obvious
solution to keep in touch with family and social networks. However, in 2019, 33% of the Irish population in the age range 65 to 74 years had never accessed the Internet (Eurostat, 2019). Therefore, it was likely that a significant number of older adults might be challenged to quickly gain the skills for Internet-mediated communication once the first lockdown was announced. For the purpose of this paper digital divide is defined as “a division between people who have access and use of digital media and those who do not” (Van Dijk, 2019, p. 1). In essence, this cohort of older adults was caught on the wrong side of the digital divide at a time when being digitally connected would be of value to them.

With the absence of face-to-face contact caused by the lockdown restrictions enforced during the pandemic, richer digital communication such as video and group text chats could offer superior quality interactions. However, physically cut off from their family and social networks, some older adults confined to their homes did not have the necessary digital skills to communicate with family and social networks using Internet-mediated communications. Yet, with the choice of in-person interactions removed, adopting new media communications presented another dilemma in who to reach out to for assistance. Personal visits were not possible, information and communications technology (ICT) equipment could possibly be purchased by telephone but then could not be set up, and in-person training programs offered by libraries and other organizations were suspended. A potential option was for family members to assist this learning when face-to-face contact with non-household members was greatly restricted. Therefore, this study will examine the extent to which, and how, young adults contributed to the development of digital communication skills by older family members during the months of the first COVID-19 pandemic lockdown in Ireland. The research is important owing to its focus on the perspective of young adults as parties to an intergenerational learning exchange within a family environment. An online survey will be distributed to a sample of university students ages 18 to 25 years to provide these important insights.

Social isolation and COVID-19

It is generally accepted that individuals who have strong social connections to family, friends and community, age more healthily than those with weak or no social connections (Ward et al., 2020). In a study of older people across four European countries, including Ireland, during the period of the COVID-19 pandemic, researchers found that “social isolation was exacerbated or created by the lockdown” (Pentaris et al., 2020, p. 3). Older adults familiar with using ICTs were able to stay in contact with family and social networks during this period using richer communications media than the traditional telephone. The inability to maintain social ties during a sudden enforced period of
physical distancing is central to this study, and affords consideration of the concept of social disconnectedness, described as “marked by a lack of social relationships and low levels of participation in social activities” (Cornwell & Waite, 2009, p. 32). The World Health Organization (WHO) defines healthy aging as “the process of developing and maintaining the functional ability that enables wellbeing in older age” (World Health Organization, 2020, para. 3). Healthy aging and wellbeing are concepts that are closely tied to social connectedness (Ball et al., 2017; Barbosa Neves et al., 2018; Liddle et al., 2020; Seeman et al., 2001; Seifert & Schelling, 2018). The WHO places importance on the role of functional ability so that people can be capable of doing all that they wish to do, through the interaction of two components, that of the individual’s own intrinsic capacity, and their surrounding environment (World Health Organization, 2020).

The digital communications divide

Much has been written on the so-called digital divide in recent decades with studies across an enormous range of focal areas such as lack of access to digital infrastructure as a result of physical location, often referred to as the urban-rural divide (Antonio & Tuffley, 2015; Ball et al., 2017). Unequal access based on education, socio-economic status or older age can contribute to a digital divide (Eynon, 2009; Eynon & Helsper, 2010; Hargittai & Dobransky, 2017; Hargittai et al., 2019). Some older adults who grew up without the Internet simply are not motivated to go online (French et al., 2019; Helsper & Reisdorf, 2013; Tyler et al., 2020; Van Deursen & Helsper, 2015). They are described as physical natives, preferring “methods of communication that involve physical face-to-face presence, which relies on traditional codes of etiquette that do not currently exist digitally” (Ball et al., 2017, p. 1179). They visit the bank, post office, library, and shops, in person, thus enabling social interaction. Traditional communications media, most notably the telephone, are used to maintain social connectedness (Yuan et al., 2015) to supplement in-person interactions. In 2020 this cohort of the Irish population was the most impacted by the period of the COVID-19 pandemic lockdown in terms of communications and social contact (Pentaris et al., 2020; Ward et al., 2020, 2021). The inequality caused by the digital divide contributed to the sense of social isolation for those unable to interact using digital communications.

The role of family members

The concept of intergenerational learning is central to this study particularly in the form of ‘learning from one another’ as distinct from ‘learning together’ or ‘learning about one another’ terms attributed to Siebert and Seidel by Schmidt-Hertha et al. (2014, p. 148). In the context of the COVID-19 pandemic it might be argued
that any learning in relation to ICTs was more relevant to the older generation particularly in relation to digital skills development. Intergenerational learning opportunities were further curtailed during the period of the pandemic to merely family and household contacts rather than a wider network of social ties including group and association membership (Berkman & Syme, 1979; Ward et al., 2019). The term “warm experts” (Bakardjieva, 2005, p. 99) is appropriate to describe the mediating role played by young people who helped their older family members with their digital communications pointing to intergenerational family solidarity (Azevedo & Ponte, 2020). The informal nature of the role along with the accessibility of the young person to provide support to the novice user is an important element of success.

In a study of Swiss older adults, Friemel (2016) found that the preferred learning setting to use the Internet was at home supported by family and friends, followed by adolescents coaching their family and friends. Olsson and Viscovi (2018) reported in a study of older adults in Sweden that continuous assistance is also required by more experienced users and that the learning preference is one-to-one, face-to-face interaction. Social support extends beyond the family and friends and can be provided by organizations that provide telephone support for technology related questions or organized mentoring programs (Lee & Kim, 2019). Assistance may also be provided informally, by friends and members of social networks playing a support role (Meyers et al. 2013).

The public health restrictions implemented in response to the COVID-19 pandemic, on the one hand exacerbated social isolation challenges faced by many older adults (Ward et al., 2020, 2021). On the other hand, the restrictions provided an opportunity for intrafamilial exchanges to assist older adults with digital communication skills, thereby enabling them to alleviate isolation by staying in contact with family and friends. This research contributes to the intergenerational literature by exploring the perspectives of the younger generation of family members involved in a learning exchange. It also offers relevant insights for educational policy development in intergenerational and family-based learning.

**Methods**

**Design**

A qualitative online survey design was employed to explore participants’ experiences of assisting older family members during the COVID-19 lockdown period in Ireland in the spring of 2020. A licensed copy of Qualtrics from Lancaster University was used to create the online survey. Survey data were collected anonymously over a 5-week period during September and October 2020. Ethical approval for this study was granted by Lancaster University.
Sample

Purposive convenience sampling was used with two key inclusion criteria selected. Potential participants were students recruited from two Irish universities. To be eligible for the study, the students had to be ages 18 to 25 years old and to have provided assistance to one or more older family members with their digital communications during the lockdown period. At the first university I distributed the survey by e-mail to the student population of over 21,000 undergraduates and postgraduates. At the second university I distributed the survey to a cohort of 90 first year undergraduate students following a talk I was invited to give. Consent to participate was provided by 460 students. One hundred and ninety-two participants did not meet the inclusion criteria. A further 20 responses were found to be not fully complete and removed from the dataset, resulting in a final sample size of 248 for data analysis. Sixty percent were female and 39% were male. Eighty-three percent were ages 18 to 21 years and 17% were ages 22 to 25 years.

Instrument

An online survey instrument was employed to collect data from participants. Demographic questions included age range, gender and formal educational level. Next, I asked questions pertaining to the types of communications for which they provided support, how much time they spent, and how they communicated with their older family members. Finally, Likert-scale and open-ended questions were posed to explore participants’ emotions and opinions surrounding the intergenerational experience:

- How successful do you think the result of the learning activity was in terms of helping your family member(s) with digital communications?
- Can you briefly explain why you considered the result of the learning activity to be successful/unsuccessful?
- Once the period of the lockdown ended did you take any action to continue to support your family member? If yes, can you briefly state what this action was?
- What do you feel you learned from the overall experience?
- Is there anything else you would like to share about the experience?

Data collection

A participant information letter with a link to the survey was posted online to my personal blog for ease of access by participants (Flynn, 2020). This post was distributed to the approved university e-mail lists. Those willing to participate proceeded to click on the link to the online survey where consent was collected before continuing to the survey.
Data analysis

The survey data were exported from Qualtrics to Microsoft Excel where coding was undertaken manually, and initial themes identified. Given the relatively large volume of data NVivo was used to analyze responses from the open-ended questions and to develop the emerging themes in more detail (Jackson & Bazeley, 2019). A word frequency query of the survey data was used to identify recurring words from participants in the open-ended questions, identified as codes. Crosstab and matrix coding queries were used to compare the codes labeled as “assistance,” “patience” and “taking technology for granted” in relation to the attribute data and responses to closed questions. To ensure the trustworthiness of the data analysis, the initial themes were triangulated with another peer researcher. She identified the strength of the term “connection” from the initial data analysis, and these were developed further into the themes presented in the study findings.

Findings

The overarching question of this study asked: to what extent and how, did young adults contribute to the development of digital communication skills by older family members during the months of the COVID-19 pandemic lockdown in Ireland? In this section I first present findings from the descriptive data reported by participants. I then explain the analysis of the themes generated from the open-ended questions.

Two hundred and forty-eight participants provided ICT assistance to older family members and were asked to select all the types of technology for which they provided support. Of 396 types of technology mentioned, the majority (41%), were one-to-one video calls such as Zoom, Skype and FaceTime; this was followed by one-to-one text messaging using mobile phone text, WhatsApp and Messenger (34%). Fewer participants (17%) mentioned group video and/or audio communications and a small number mentioned “other” including help with e-mail, Facebook, YouTube, and Twitter. Also, keeping up to date with government and public health advice, livestreams of church services, playing bridge online, and accessing newspaper websites.

One hundred and thirty-nine participants (48%) responded that they used a telephone to assist their family members since in-person visits with over 70-year-olds were not allowed. A further one hundred and twelve (38%) offered support in-person at a distance, for example, from the front garden or through the window. Several participants responded that they shared a household with the family member in question. In terms of total time spent by young adults in this learning activity during the lockdown period, of the 207 participants who responded to the question, 52% indicated two to five hours. This was followed by 36% who indicated less than one hour, 7% indicated six to ten hours, and 5% indicated more than ten hours.
Participants rated the success of the learning activity on a 5-point Likert scale. Most participants (90%) considered the activity to be either extremely successful or somewhat successful. Participants provided a variety of reasons for considering the learning activity as successful. These included an improvement in the family member’s digital skills, and their ability to remain in contact with family and friends using an alternative to the telephone. Further reasons referenced increased confidence of the family member and independence in their use of the technologies, becoming less reliant on others for assistance. Additionally, addressing issues of loneliness and isolation by the family member, opportunity to relate to the older generation that would not normally have taken place, thus bringing family closer by chatting together every week. As a result of the learning activity, almost half of the participants indicated they felt happy, followed by one-fifth who felt appreciated, and another one-fifth who felt relieved. Only five participants (2%) considered the activity to be unsuccessful. Participants were also asked if they continued to assist their older family members once the lockdown period ended. Of the 192 participants who responded to the question, 55% responded positively. Examples of actions included addressing questions regarding the technologies used during the lockdown period, helping with features of hardware not availed of previously, with smartphones occurring in many responses.

Four key themes were developed from the data collected from the open-ended questions: 1. The importance of family connection; 2. Connection develops learning; 3. Connection develops independence, and 4. The reciprocal value of connection.

**Theme 1. the importance of family connection**

Being able to help older family members requiring assistance with their digital communications was very important to the participants. This theme supported family connections and the place for intrafamilial learning. Older family members supported by participants in this study were split evenly across the three age ranges, 64 years and under, 65 to 74 years, and 75 years and over. Any expectation that fewer family members would fall into the 64 years and younger group did not emerge. Participants recognized the importance of staying connected with family members of all ages during this time. Sample quotes reflecting this theme ranged from simply, “I got to interact with my grandparents” (Participant 38) and “my nanny was able to keep in touch with our family and made her feel less lonely” (Participant 82) to

Lockdown was extremely isolating at the beginning for my grandparents, although they were sceptical of technology at first, the joy on their faces when they eventually got to be part of Zoom call with the six families all dotted around the world each Sunday, I believe gave them hope and a sense that they were not alone and we were all there for them. (Participant 95)
Family was especially important to participants at this difficult time and digital communications helped maintain these important connections. The value of the social connection was appreciated by the younger generation, particularly some of the female participants who commented, “although I couldn’t see my granny physically, I still got to see her face and talk to her properly through FaceTime” (Participant 136) and “my granny was able to feel less lonely in her isolation and was able to talk to whole family. And also, it brought our family closer by chatting every week which normally wouldn’t have happened” (Participant 106). The nuances of the comments from some of the males differed, suggesting that the older family members benefitted more from the interaction. One participant noted, “I helped them get on to a Zoom call with the rest of my family which ultimately gave them a chance to catch up with all of us” (Participant 412) and another reported that “it allowed them to get online to video call the other members of family that they were having trouble with doing previously” (Participant 429). When the need arose, these participants were happy to help maintain and, in many cases, improve, connections for all the family, not only the isolated older adults.

### Theme 2. connection develops learning

Older family members appreciated the learning experience to engage with the technologies. The social connection between younger and older family member(s) to facilitate the required learning had a positive outcome. In many cases the experience reinforced the value of the social connection in that the older family member continued to use the technologies with their newly developed skills. Sample quotes reflected in this theme included “my grandmother went from never having touched a computer before to being able to use Skype, Google and email” (Participant 66) and “they are now confidently able to use the digital devices themselves” (Participant 92). This reinforces the learning for many of continuing to engage with digital communications once the lockdown period had passed, as Participant 168 observed, “I’m confident that even after COVID-19 they will retain some knowledge and use of the digital tools they learned to use during isolation.” Participants also mentioned providing support for laptops and smart televisions that family members already had, furthering their education of the Internet, navigating the web and online shopping. In a sense, the lockdown experiences opened up new learning opportunities for digital skills development by these older adults through their connections with younger family members.

### Theme 3. connection develops independence

At a time when public health guidelines severely restricted in-person contact, digital communications media enabled by the Internet became a lifeline for many. Participants commented on the positive impacts of the experience for
their older family members in addition to the learning. This theme considered increased confidence, independence, greater contact and interaction with friends and family, and potential for loneliness and isolation averted. Participants commented on their family member’s improved confidence, “they are now confidently able to use the digital devices themselves” (Participant 92) and “my grandmother is now able to use WhatsApp and writes to me regularly. She is also more confident with Skype than she was beforehand” (Participant 218). Participants referred to improved independence, “both of them are now able to use WhatsApp and Snapchat on their phones independently to keep in contact with friends and family” (Participant 129) and “they are now able to independently use the technology” (Participant 94). These quotes indicate that independence of the older family member was an important outcome for both parties in the learning exchange. With increased confidence to use the communications tools assisted by their younger family member, many older adults were then able to keep in touch with family and friends independently.

**Theme 4. The reciprocal value of connection**

The young adults also benefitted from the experience and appreciated the importance of digital communications technologies across all generations. They realized how much they take technology for granted and developed patience with their older family members as they learned how to use the technologies. This theme supported the reciprocal nature of the exchange. Reciprocal benefits from the intergenerational exchange at the center of this study focused on the importance of a two-way communications channel between younger and older family members. Some participants were surprised by this and appreciated the benefits that technology can bring when in-person contact is not possible. One participant commented, “I learned that supporting older people is rewarding for both parties: they get the benefit of learning new skills, and you get to help ensure that their generation doesn’t become forgotten” (Participant 94). More participants stressed the importance of digital communications to all generations: “it was very important to keep in touch with them during lockdown” (Participant 4) and “appreciating the importance of ensuring older generations can use modern technology” (Participant 96).

Overall, the participants were happy to help in the way that they did and for many, still do. They did not expect to gain anything from the support they offered, they were happy to help. Participants were asked what they learned from this intergenerational exchange about themselves and about their family member. Many indicated that technology can be learned at any age with suitable assistance and a willingness to learn, as participant 70 stated, “you can teach an old dog new tricks.” Other learnings included an understanding of the issues older people face including fear of making mistakes with
technology; that the opportunity to provide help can be rewarding to both the giver and the receiver; and the importance of being able to use communications technologies at all ages to combat loneliness and isolation. Variations of the phrase to “take technology for granted” were included specifically in 20 comments. Some mentioned growing up with technology, for example, “I learned how something like social media and technology can feel like second nature to me and people my age, however, it is quite difficult for older people to understand as they didn’t grow up with these devices” (Participant 147) and “I took for granted how naturally technology use comes to me and other young people. I didn’t realize how challenging it was to older people” (Participant 199). On learning about “patience” because of the experience, others stated: “to be patient with people when they’re learning a new skill, not everyone works at the same pace” (Participant 170) and “patience and understanding of issues the elderly might face in not being totally familiar with technologies” (Participant 5). These quotes indicate that direct reciprocity (Gosseryes, 2009) between two generations, albeit unintentional, was an outcome of the inter-generational exchange in several cases.

Discussion

The findings from data collected from the young adults in this study are grouped into four key themes, all of which indicate the importance and value of social connections for older adults. First, the ability to assist older family members of all ages who required assistance with their digital communications was very important to the participants. Second, the value of the learning to the older person that continued once the lockdown period had passed. Third, the increased confidence and independence of the older family member in learning and continuing to use the communications technologies. Fourth, the reciprocal value to the young adults who also benefitted from the exchange learning patience and understanding in relation to teaching older generations about communications technologies.

Communications technology has a habit of evolving quickly. Digital platforms, programs, applications, and equipment can be replaced overnight with others that are faster, have more features and so on. Unlike conventional literacy skills of reading and writing, normally retained once acquired, the same cannot be said of digital literacy skills where continuous learning is required (Olsson et al., 2019; Tatnall, 2013). During the COVID-19 pandemic lockdown period in Ireland restrictions were put in place limiting physical contact that especially impacted older adults (Ward et al., 2021). Older adults who availed of socially distanced assistance with digital communications were able to stay in closer touch with family and friends through a richer medium than the telephone.
Reciprocal giving implies benefits to both parties in an intergenerational exchange (Knight et al., 2014) and is evidenced in this study through the learnings young adults took from their experience with older family members. One of the principles of intergenerational learning refers to its reciprocal nature where “all generations involved act as learners and teachers at the same time” (Boström & Schmidt-Hertha, 2017, p. 1). Alongside other social norms, Woolcock considered norms of reciprocity to be a benefit, “nurtured in and by particular combinations of social relationship” (Woolcock, 1998, p. 185). The COVID-19 pandemic has reinforced the importance of digital technology to keep in contact with family and friends and reduce the impact of social isolation, especially for older adults.

**Limitations of this study**

These findings should be interpreted with some caution due to the following limitations: The design used a single online survey instrument to collect data from the young adults who participated. Responses to open-ended questions in the instrument were optional for the participant and may have resulted in lack of depth in responses. The limited sample of students recruited from two universities did not allow for generalizable findings. Interpretation of the data may not be exempt from the researcher’s subjectivity and other researchers may have interpreted the dataset differently.

**Future recommendations**

Future research could consider a phenomenographic approach to include data from older adults. This study focused on digital communications, the CT portion of ICT. Further research could extend beyond communications technology specifically to information technology generally. In practice the study shows that intrafamilial exchanges across generations have the potential to promote reciprocal lifelong learning opportunities. Community and neighborhood channels could provide some structure for those without family members to assist them, for example, secondary school transition year national program for students between junior and senior cycles; the Gaisce President’s Award for young people (Gaisce, 2020). Agencies funded by government to offer digital skills training through the Digital Skills for Citizens Scheme (Department of the Environment, Climate and Communications, 2020) should consider pursuing a suitable process of one-to-one teaching and learning between a volunteer and learner in the learner’s own home. Here, the digital divide that can include physical and material access can be appreciated and responded to. The outcome would be that older
adults can receive individual and personalized learning to develop and maintain their digital literacy skills and become more confident in twenty-first century digital society.

**Conclusions**

This study examined the extent to which, and how, young adults contributed to the development of digital communication skills by older family members during the months of the first COVID-19 pandemic lockdown in Ireland. The findings show that 90% of the participants in this study considered the learning exchange to be successful since their efforts facilitated independent contact with family and friends both during and after the period of the first lockdown. Further, the research found that this intergenerational learning exchange had reciprocal benefits for the young adults. These were shown through an awareness of the need to demonstrate patience and understanding with older people when supporting the development of their digital communications skills; skills that are often taken for granted by young people.

The COVID-19 pandemic offered a unique opportunity to the young adults and their older family members in this study to participate in an exchange of intergenerational learning that provided reciprocal value to both parties. Older adults developed their digital literacy skills through learning about the digital communications technology, to stay connected with family and friends during this difficult time. Young adults learned about how they take technology for granted and that a little patience can go a long way.

This research demonstrates that an age-based digital divide continues in Ireland in the third decade of the twenty-first century. The study shows that family exchanges across generations have the potential to promote reciprocal lifelong learning opportunities: learning begins at home. For those without family members to assist them, community and neighborhood channels could provide some structure for an intergenerational learning arrangement.

**Disclosure statement**

No potential conflict of interest was reported by the author(s).

**Notes on contributor**

Sandra Flynn has 20 years’ experience in managing projects and project teams in dynamic and diverse industry environments.

As a project management educator since 2004, her expertise includes module design and development for both classroom and online delivery at undergraduate and postgraduate level. Her specialist areas in project management are global virtual teams, cultural intelligence and
sustainability in project management practice. She has extensive experience in supervising MSc students on their capstone research projects across a variety of project management areas. Upon retirement from industry in 2017 Sandra’s focus has been on the changing face of education for the twenty first century. In 2018 she was awarded a postgraduate certificate in Digital Education with distinction from the University of Edinburgh and in January 2019 embarked on a PhD in Technology Enhanced Learning at Lancaster University.

This research was undertaken as part of the PhD in e-Research and Technology Enhanced Learning in the Department of Educational Research at Lancaster University. I am pleased to acknowledge the contribution of tutors and peers in supporting the development of this study and its report as an assignment paper.

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