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The Cohesiveness of Technology in Later Life: Findings from the Technology In Later Life (TILL) Project

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Key Policy Recommendations

1. Focus on the strengths & opportunities ICT can bring to older adults, communities & society
2. NISA should consider collecting data associated to ICT, wearables, Internet & publish annual reports
3. Training & Education Opportunities (age appropriate) From peers (see slide 11)
4. Create online support – targeted at Adults (different needs, terminology)
5. Engage with different age cohorts (45+ years) to ascertain ICT & Technology use, behaviour & perception for future ageing populations
6. Explore how intergenerational relationships work with older populations adopting and engaging with ICT (Olynick, Freeman, Marston, Musselwhite, Kulczycki, & Genoe (under review))
7. Explore how ICT facilitate successful and positive Age in Place across Northern Ireland

The research team would welcome further discussions from interested policy makers, organisations, academics and stakeholders to assist with these recommendations for current and future policy, and guideline/frameworks.

Introduction

Populations are aging in nations across the world. Globally, the projected number of older adults (aged 60 years and older) is set to grow from 901 million people between 2015-2030 to 1.4 billion. By 2050 the global population of older adults is projected exceed 2 billion (United Nations (UN), 2015). Moreover, the UN suggest there will be 395 million people aged 85+ years in 2050.

In 2016, the UK population was reported at 65.6 million and is projected to increase to over 74 million by 2039 (ONS, 2017). Currently, there is 18% of the UK populated aged 65+ years, and 2.4% aged 85+ years (ONS, 2017). From a Northern Ireland standpoint, the Northern Ireland Statistics Agency (NISRA) has reported the population of Northern Ireland is estimated to be 1.862 million people, with just over half (50.9%) comprising of females (946,900) compared to 915,200 males.

However, there is a growth in adults aged 85+ years occurring across NI and NISRA note this growth to be 900 people per annun, ending mid-2016 (NISA, 2017). Between 2006-2016 the population of adults residing in NI has reached 36,500, representing 2.0% of the population. The NISRA (2017) also estimate that there are 278 centenarians across NI, and 86.7% of these were female.

Information communication technology (ICT) has a great potential to assist our current and future ageing populations to age in place, in their own homes, promote independence and support opportunities for meaningful engagement through intergenerational and peer communication (Marston, Kroll, Fink, Poveda, & Gschwind, 2017). Yet there remains a gap in understanding the challenges, enablers and impact ICT has on the lives of our current and future ageing populations. In particular, adults aged 70+ years, who are residing in different geographic locations (e.g. rural, urban, city and Island) communities.

The Technology In Later Life (TILL) study aimed to address the paucity of literature by piloting a study to examine the challenges and enablers of ICTs across different geographic locations and aged 70+ years.

Executing the TILL Project:

The aims and objectives of the TILL project were to:

- Explore and understand ICT use across geographic locations (rural vs urban)
- Explore the behaviour, barriers and enablers of ICT by adults aged 70+ years
- Explore ICT impact across different locations and age
- Contribute to literature in the fields of gerontology, social sciences, and Human Computer Interaction (HCI)
- Assist with framing guidelines/frameworks with policy makers

The TILL project is an international, multi-centered exploratory project comprising of two countries: The UK and Canada, and within each country, a rural site (South Wales, McBride) and an urban site (Milton Keynes, Regina). The lead partner (OU), completed and submitted the research ethics application to HREC at The Open University, Swansea University also submitted simultaneously their respective ethics application. Once ethical clearance was granted by HREC at the OU, the Canadian partners respectively submitted their ethics applications. The duration of ethical clearance was completed over a 3-month period and data collection commenced September 2017.

Recruitment of participants across each site varied due to respective University regulations. Participants in Milton Keynes were recruited via Age UK Milton Keynes branch, an established mailing list via the Older People's forum was used by Swansea University, posters were placed around the area of Regina and University campus and UNBC used posters at the local senior's advocacy centre, monthly newsletter, and radio advertisement. A flyer and poster were created detailing the project study and aims, each were tailored to include the contact details for each study site/partner. A mailing list script was created and submitted as part of the recruitment documentation. All participants were required to complete an informed consent form prior to taking part in the focus groups, twice. A copy was kept for the project and a copy was kept by the respective participant. All participants were asked to tick their informed consent when completing the online survey.

The TILL pilot aimed to recruit 40 participants in total – 10 at each site. TILL recruited 37 participants, (McBride, Canada n=10 and Wales, UK n=10) and 17 urban participants (Regina, Canada n=6 and Milton Keynes, UK n=11).

A multi-methods approach was conducted in the TILL project, comprising of an online survey (2 versions), one for UK participants, and another for Canadian participants, created in Google (Docs)©. Previous versions of the ICT survey have been used in the EU iStoppFalls project Marston H.R., Kroll M., Fink D., Poveda R., & Gschwind Y.J. (2017), Marston, Kroll, Fink, Rosario, & Gschwind, (2016); and from a PhD thesis (Marston, 2012). Several

domains were included in the survey including: computer use/access/ownership, video game use/access/ownership, purchasing habits, digital device ownership, social media habits, Internet service provider and use, lifelogging/quantified self behaviour (e.g. logging financials, weight loss), privacy issues, sharing of information, general demography information (e.g. age, gender etc.).

Focus groups were scheduled at respective sites generally comprising of 5 or 6 participants in each group. All focus groups were recorded and transcribed verbatim by a transcription company in the West Midlands. Audio recording of the focus groups lasted between 40-100 minutes. All focus groups followed a semi-structured interview protocol, similar to the survey. In addition to this, vignettes were shown displaying how technology can and could be deployed in every-day scenarios.

Participant demographics showed two thirds of participants were female (67.6%), and most were retired or not currently working. Preliminary findings ascertained:

Data Analysis:

Quantitative data was analysed using SPSS software tools] for descriptive statistics and frequencies. Qualitative data was analysed using content and inductive analyses (Patton, 1990). Qualitative data was classified into categories/themes to ascertain how ICT plays a role in the lives of older adults in lafter life (Elo & Kyngäs, 2008).

Key Findings:

Quantitative Data

- All participants reported to use technology regularly (97.3%)
- 89.2% of participants owned a computer and 97.3% use a computer regularly
- 80.0% of participants reported to using a computer for the last 10 years
- 66.0% of participants reported their use of a computer was more than once day
- Mobile/cell phone devices were reported by all participants
- 94.0% of participants owned and access the internet in their home
- 82.0% of participants reported to use a digital device to share information
    - Typical types of information shared by participants included: photographs on devices: iPad, Tablet and smartphone
- 67.6% of participants have been sharing information for more than 10 years
- 35.1% of participants reported to have used social media platforms
    - Questions answered later on in the ICT survey from participants indicated a greater response than 35.1%
    - 75.0% of participants reported to using social media platforms for five years or more.

Quantitative survey data also highlighted that participants in the TILL project used ICT for several reasons including: email, word processing, playing games, online shopping/banking, social networking, searching and checking for information, uploading content and life-logging. Overall, the mode of communicating (i.e. instant message, making phone calls) by participants via ICT was more so than additional tasks.

Qualitative Data

Qualitative data identify a total of 12 themes – 6 positive and 6 negative perceptions of ICT/Technology by TILL participants.

Themes:

Table 1 displays the positive and negative themes from qualitative data analysis

Themes	
Positive Perceptions	**Negative Perceptions**
Health & Technology Use	Interaction, Engagement, Day-to-day Activities
Internet & Infrastructure Use	Concerns about Using Technology
Wearable Technologies	Pressures & Apprehension of Using Technology
Using Technology for Safety Reasons	Communication, Interaction with Technology
Learning & Sharing Information & Experiences relating to how to use New Technology	Social Media, Communication with Technology
Communication & Interaction with Technology	Privacy & Sharing of Information via Technology

Voices of Older Adults:

Like a picture can say a thousand words, the selected example quotations below are taken from the transcriptions to illustrate how the TILL participants perceive the use of ICT in their lives. Additional quotations and examples are given in respective publications (see reference section).

Positive Perceptions:

Health & Technology Use

Example 1:

Female: "I do use the internet to search on health subjects. You can go on, as you say, I use that too, the Mayo Clinic and I use the sites, the National Institute of Health in the US. Well that's because that's what I am familiar with, you know, when I lived there. But I wouldn't go on to some of these forums that you were talking about. They are not very reliable, and they are just people expressing their views. You want evidence to support what is being said."

Internet Use & Infrastructure

Example 2:

Participant 2: "[…] But that is it and I just basically use it as a nice portable machine that I can take with me and have lots of information and access to the internet. Because for the longest time I was on dialup and doing these daily emails until about a year and a half ago I could finally get a connection through the new cell tower they put in two years ago. So I am on high speed now. It is not really high, high high speed like you would get in the city but it is like 500 times as fast as dialup was." [McBride, Canada]

Perception of Wearable Technologies

Example 3:

Female: "Well I personally wouldn't mind one of these, where can you get the Fitbit? No I am being honest now, and I'm quite prepared to share, I do have a mobility problem and I do walk very slow. But I would like to know how many steps I am doing a day, so therefore what can I do to improve? Is it a case of getting in the pool maybe and trying to swim?" [Wales]

Negative Perceptions:

Pressure & Apprehension of Using Technology

Example 1:

Female: "People are being quite inextricably pushed towards using the internet. I mean I turned up at the doctors, only to pick up a prescription, which was unusual. And there was a notice up saying, "On December 1st…" And I had always ordered prescriptions online, through the prescription line. That was changing from December 1st it was changing to the National Health one, which is going…

Female: It's rubbish, I can't get in on it.

Female: In actual fact you had to turn over because there was no longer a telephone prescription line.

Female: But that's in your surgery, it's not in mine." [Wales]

Privacy & Sharing of Information via Technology:

Example 1:

Male 2: "Facebook I went onto for a short period, but, like a complete wally, I didn't realise that unless you set up the privacy settings properly, everything you say is broadcast to the world. I fell out with my daughter quite badly over something […] "Right, I'm coming off that," because there was so much garbage coming on." [Milton Keynes]

Example 2:

Participant 1: "Yes. I think about it and I am very careful about opening things because you can get a virus or whatever. I try to be very careful and yes I am concerned about privacy. That is one reason I do not, very seldom will I answer on Facebook. I read what goes on but I do not participate because of privacy.

Facilitator: And what are you afraid might happen?

Participant 1: Well you have to be very careful with your banking. I do do my banking online which I find very, very convenient. But I am always kind of concerned about that but I think, "Well there's so little in there that who'd be interested anyway." So I feel I am pretty safe. [McBride]

Recommendations for Policy:

1. Focus on the strengths & opportunities as opposed to focusing on simply overcoming negatives and barriers that ICT can bring to individuals, communities & society
    a. For example: mobile (Health) apps facilitating users to monitor their health and fitness (Marston, & Hall, 2015)
2. NISA should consider collecting data associated to ICT, wearables, internet & publish annual reports
    b. Similar to the ONS or the Entertainment Software Association (2017), this data should be collected by researchers/ NISRA focusing on how many people are using ICT and associated technologies.
3. Training & Education Opportunities (age appropriate), including peer to peer learning and support from peers
4. Create online support – targeted at Adults (different needs, terminology), encompassing peer (emotional) support
5. Engage with different age cohorts to ascertain ICT & Technology use, behaviour & perception for future ageing populations
6. Explore how intergenerational relationships work with older populations adopting and engaging with ICT (Olynick, Freeman, Marston, Musselwhite, Kulczycki, & Genoe (under review))
7. Explore how ICT facilitate successful and positive Age in Place across Northern Ireland

The research team welcomes further discussions from interested policy makers, organisations, academics and stakeholders to assist with integrating policy, and guideline/frameworks for current and future ageing populations.

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