

Mitigating loneliness, social isolation and enhancing wellbeing in older people through photo-sharing on social media platforms

An interim project-report



Acknowledgements

We are grateful to the **Sir Halley Stewart Trust** for the funding.

We are thankful to colleagues in the two respective institutions – Oxford Brookes University and The Open University who have helped us in many ways towards carrying out the research programme. We are indebted to our research participants in Oxfordshire, Buckinghamshire, Oxford Brookes University and The Open University who participated in our surveys, workshops and interviews. Many thanks to Catherine McNulty who has helped with the consolidation of the raw data of our empirical research.

Professor Shailey Minocha, The Open University

Dr Sarah Quinton, Oxford Brookes University

Dr Caroline Holland, The Open University

Please contact Shailey shailey.minocha@open.ac.uk if you have any queries about the project and this report.

Table of Contents

| | | |
|-------|--|----|
| 1 | Introduction | 5 |
| 2 | Research design..... | 7 |
| 3 | Initial observations from data..... | 9 |
| 3.1 | Benefits for older people | 9 |
| 3.1.1 | Physical and cognitive benefits | 9 |
| 3.1.2 | Social inclusion and alleviating loneliness | 10 |
| 3.1.3 | Gaining new experiences..... | 11 |
| 3.1.4 | Connecting with others when not well or during caring..... | 11 |
| 3.1.5 | Photography as a creative outlet..... | 12 |
| 3.1.6 | As a mode to start conversations with others | 12 |
| 3.2 | Challenges and barriers | 13 |
| 3.2.1 | Technical skills, confidence and support..... | 13 |
| 3.2.2 | Security and privacy implications | 14 |
| 4 | Recommendations..... | 15 |
| 5 | Conclusions | 17 |
| 6 | Bibliography | 19 |

1 Introduction

In this project our aim has been to investigate the value of photograph sharing through social media websites as a mitigator of loneliness and enabler of wellbeing of older people, aged 60 years and over. The project is addressing the interlinked issues of ageing, loneliness, social isolation and wellbeing in the creative activity of taking photographs and sharing them online via email, cloud-storage applications (e.g. Dropbox), photo-sharing applications (e.g. Google Photos, iCloud) and social media websites and apps (e.g. Flickr, Instagram, blipfoto).

Research commissioned by Age UK (Jan. 2017) has shown that half a million people over the age of 60 usually spend each day alone, with no interaction with others, and nearly half a million more commonly do not see or speak to anyone for five or six days a week. The UK is an ageing population, 1 in 12 of the population is projected to be aged 80 and over by 2037. Loneliness is going to become more of a problem over time. Loneliness has been associated with cognitive and functional decline and an increased risk of dementia linked to Alzheimer's.

The recent policy paper by government that outlines a strategy¹ for tackling loneliness has highlighted the importance of social relationships to people's health and wellbeing. By social wellbeing of people, they imply the personal relationships and social support networks and the way these can bring happiness, comfort and resilience, adding to overall wellbeing. The Office for National Statistics² has also highlighted the importance of social connections and relationships in its work on measuring national and personal wellbeing. The loneliness strategy stresses that people should have greater opportunities for meaningful social contact so that people feel better equipped to talk about their social wellbeing.

Social engagement, i.e. making social and emotional connections with people and the community, is the primary driver for improved wellbeing in older adults. Social engagement provides older people with resources to cope with life changes associated with ageing.

Our previous research with Age UK Milton Keynes³ has shown that online social engagement helps in alleviating social isolation and loneliness – especially if older people are able to match online interactions with their interests. We are conscious that social benefits of being online can't be utilised by all – especially, if they are incapacitated by their age, or don't have the digital skills or access to the internet. Due to continued efforts by local

¹ A connected society: a strategy for tackling loneliness (15 October 2018), <https://www.gov.uk/government/publications/a-connected-society-a-strategy-for-tackling-loneliness>

² Office for National Statistics (2018) Measures of National Well-being (Autumn 2018), <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>

³ Social isolation and loneliness in people aged 55 and over in Milton Keynes (2015), <http://oro.open.ac.uk/43925/>

charities such as Age UK and Carers UK, and by organisations such as doteveryone⁴, older people are being supported to get online through training and technical support. People who are now retiring (in late 50s or early 60s) would have gained digital skills in their workplaces.

Over the last few years, photography has become easier with cameras integrated into smart mobile phones and Tablets. Through a pilot study of the online photography journal (blipfoto.com), we found that taking photos and noticing details of life around them makes people feel less alone; and online conversations around pictures with people of all ages enhances their psychological wellbeing. Older people who are physically active have found that it gives them a reason to go out to take photographs and gives them an opportunity to see others when they are out and about. Older people who are house-bound or in care homes share photos of their surroundings, such as garden, paintings, etc. and include some narrative around the photo. Carers have found that sharing of photos have given them enhanced capacity to deal with their situations, both for their own support and as an enabler of conversations with the people they care for.

In the preliminary investigations of the project (following the pilot study described above) and which we report here, we have found that this phenomenon of online sharing of photographs on social media can provide opportunities for improved mental and physical wellbeing, inter-generational communication, maintaining relationships with the family as well as making new connections, and enhanced creativity skills.

By the end of this project, we aim to provide research-informed evidence to show how photography and online sharing can help towards social connectivity of older people. The results from this project will provide actionable insights for organisations that support older people in later life.

The project⁵ is being conducted at The Open University (OU) and at Oxford Brookes University (OBU). We have been working in close collaboration with local charities such as Age UK Milton Keynes, Silver Robin in Oxford, local camera/photography clubs and with the alumni (retired colleagues) of our individual institutions.

⁴ doteveryone, <http://doteveryone.org.uk>

⁵ Project website: <http://www.shaileyminocha.info/online-photosharing-by-people-aged-over-60-years/>

2 Research design

We have conducted three surveys to capture experiences of people aged over 60 years who are involved in online sharing of photographs:

- One for the Oxfordshire area;
- The same survey was conducted in Buckinghamshire;
- A national survey with the same questions as the other two surveys but it was not restricted to the two locations.

We used mailing lists, social media and contacts with local charities that work with older people to disseminate the surveys. The two location-specific surveys were employed to recruit participants for workshops and interviews. The final question in each of the surveys enquired if they would like to participate in a workshop (we mentioned the corresponding dates in the survey itself to help people decide and plan). Subsequent to running these surveys, we have conducted two workshops in each of the two locations and one-to-one in-depth interviews (an hour each) with a selected group of participants. We have included some photographs of the workshops in this report.

Colleagues in OBU have pioneered a method of **digital storytelling** in this project. During the two filmed workshops in Oxfordshire, volunteers were asked to show and explain how they share photographs through social media. The purpose of digital storytelling was to document actual behaviour rather than reported behaviour and to share with the other participants how photographs were shared on social media. This activity led to further discussion between participants and the exchange of tips and advice amongst the members of the focus groups.

For the researchers, 'digital storytelling' enabled the research team to see the physical movements, and the speed and dexterity of participants as the process provided a live illustration of their usual social media photo sharing behaviours. With guidance from colleagues at OBU, digital storytelling was carried out with two participants in the second workshop at the OU. We will reflect on this method in detail along with concrete examples in the final report of this project.

We have used the method of content or thematic analysis (Braun & Clark, 2006) to derive the key themes in the qualitative data captured via surveys, workshops and interviews at both the locations.



Figure 1. Example of digital storytelling from OBU's workshop in January 2018



Figure 2: Participants discussing their individual experiences in a workshop



Figure 3: Participants included people from local charities such as Age UK Milton Keynes (OU) and Silver Robin (in OBU)



Figure 4: A workshop in progress with participants from the local community

3 Initial observations from data

Devices that participants reported varied from a Tablet or mobile phone, to laptop or a desktop. Popular platforms for sharing are email or via Dropbox and social media apps such as Facebook, WhatsApp⁶, and Twitter. Social media platforms are often chosen based on being the same as those used by family or friends with whom people wish to connect with. Specialist photography-sharing sites such as Flickr, Blipfoto⁷, Instagram are used by keen photographers.

3.1 Benefits for older people

Technology has been explicitly identified as a structural enabler of assisting in managing and alleviating loneliness in older people (Hagan et al., 2014). As reported in the eInclusion Report by the European Union (2004), new media provides opportunities for learning as well as information retrieval and this can compensate for some functional limitations which occur as we age, such as reduced mobility, hearing, and eyesight. Pursuant to these cognitive aspects such as information retrieval, manual dexterity can be maintained through interaction with digital technologies (Pew Internet organisation, 2014; Xie et al., 2012) and importantly both confidence and independence can be enhanced (Lee and Coughlin, 2015). In our investigations at the two locations (OBU and OU), participants conveyed the following benefits of sharing photographs online.

3.1.1 Physical and cognitive benefits

Evidence of physical and cognitive benefits has been provided by the participants.

'I think brain function is better, because it keeps the old cells ticking over' (OBU-interview); it just makes life better, it's fun, you get to know a lot (OBU-interview);

'I am aware of my finger joints stiffening, and that's quite a problem, so using them [for taking and sharing photos] is good' (OBU-interview).

Photography makes them get out and about – which helps towards remaining physically active and the sharing of photographs gives them a reason to socialise online.

'now I am retired I am actually finding it is getting me out, making me go out but it's also about meeting people all over the world on Flickr and stuff like that. I'm talking to people I would never have dreamed of talking to at any other time' (OU, Workshop 1).

⁶ WhatsApp, a messaging App, <https://www.whatsapp.com>

⁷ Blipfoto, photography diary/journal website, <https://www.blipfoto.com>

Online sharing of photos and the repository of photos create memories which can be shared with others and referred to when one's memory fades.

'there's no reason why a memory box can't be a virtual memory box full of photos and those sorts of things, It's about remembering who we are and knowing our life story isn't it? so that maybe when our memories become a little bit confused we have still got our life story there to share with other people.' (OU-workshop 1)

3.1.2 Social inclusion and alleviating loneliness

Sharing photographs and glimpses of one's life via photographs, and by receiving and giving comments, our participants reported as feeling connected with friends, families and even with strangers:

'it's [sharing photos] much more a part of me, particularly since I've been retired... you can lose a lot of connections and when I worked I used to enjoy people' (OBU-interview).

The ability to access social support and social connections are indicators of wellbeing and social media networks can provide a low cost and accessible route to increase these social connections and mitigate social isolation for older people (Quinn et al., 2016). Photographs provide a foundation for conversations with other people, be they remote family or local friends, carers etc. (Baecker et al., 2014). Sharing photographs and video material increases the feeling of connectedness (Kim, 2013). Photographs can act as tangible artefacts and continue a feeling of connectedness between an older person and those pictured (Coelho & Duarte, 2015) even when those people are not present.

'It's like virtual company isn't it' (OBU-Workshop 2), 'it's not as good as a real hug but it is quite good you know.... the fact that you feel like you are not missing out on that particular moment in time' (OBU-Workshop 1).

Older people share photographs to nurture existing relationships:

'I maintain a connection with people who I know, who have moved away' (OBU-interview);

'When my husband was in x hospice, I took quite a few photographs of him and posted them for people who couldn't come and see him... it brought people out of the woodwork' (OBU-interview), 'it adds to the contact, it's a bit more contact you have with friends and family' (OBU-workshop 1). 'it has brought friendships to life, and you feel included in their lives' (OBU-interview).

Comments and positive affirmations from others are motivating.

'if you see on Facebook that you have lots of likes [for a photograph] you feel grateful' (Discussion group 1, man 8), 'it's nice to get likes for stuff [photographs] you send out, and that's my motivation I think' (OBU-workshop 1).

Fragmented family, living far away or in other countries were often mentioned and photographs being a medium to connect, to keep up with the family, events, etc.

'I can't see my grandchildren everyday so [my daughter] shares photographs with me on WhatsApp... and I can see how they are changing... and it's an instant thing' (OBU-workshop 2).

'I actually find it very useful to find out what the family do because they are on Blipfoto - it's like a little diary and I'm thinking oh I didn't know my granddaughter was coming home this weekend because that sort of information doesn't normally filter through' (OU-workshop 2)

'The benefits are keeping in touch with not just strangers but also family especially my extended family so my sister's children and their children and that's been wonderful' (OU-workshop 1)

In addition, participants mentioned of new relationships being formed through a common purpose or interest.

'I posted a photograph of a dormant volcano in Tenerife and someone contacted me to ask where it was as it looked familiar...and the photograph was a vehicle to start a conversation' (OBU-interview).

'I've made a couple of connections, purely online with people [owners of the same dog breed] commenting on my posts and photos, I have asked for advice on things and offered advice to others' (OBU-interview).

'I know one guy, who I have never met, who is a keen birder, went on holiday to a place where I had taken bird photos based on my sharing photos and region' (OBU-interview).

3.1.3 Gaining new experiences

Photographs are also seen as an encouragement to try new experiences

'it's made me visit some places... for instance Avebury Circle... which I possibly wouldn't have gone to... it's made me go to a different restaurant because I've been sent photographs of it... because otherwise you tend to go only to where you know' (OBU-interview).

Participants mentioned about learning new things via posting photographs. A volunteer at a local wildlife reserve who was posting photographs in social media said:

'I've learnt a lot about botany in the last 12 months [as volunteer social media poster for local wildlife reserve]' and 'I think I look at things on social media as a vicarious way of enjoying the things I used to do myself' (OBU-interview).

3.1.4 Connecting with others when not well or during caring

The use of social media and photographs to communicate during difficult periods in people's lives has been noteworthy.

'For me it is the photography out of the journal that reinforcement really, my mother was living with dementia and I started with Blipfoto and I was thinking that I would document mums progress or lack of progress if you like through her dementia but it became much more than that but I do post pictures that are related to that and it also serves as an outlet for my feelings and my emotions as well about how things are going with that so for me.' (OU-workshop 1)

'...when I put stuff up [photographs and text] when my husband was ill..., people put comments on it like 'we are with you', and it really did help me, and I carried on doing it until he died.... There were responses from all these countries and it was incredible, I think this sort of information, showing people and sharing is something that they can relate to... I wouldn't have done it by letter or over the phone... but people wanted updates, to show they cared but couldn't do anything' (OBU-Workshop 1).

'When my husband was in x hospice, I took quite a few photographs of him and posted then for people who couldn't come and see him... it brought people out of the woodwork' (OBU-interview), 'it has brought friendships to life, and you feel included in their lives' (OBU-interview).

3.1.5 Photography as a creative outlet

Participants recognise photography as a route to creative expression and social engagement (Deuze, 2006).

'photographs are engaging, I think it's an instant connection to somebody... pictures are interesting... visual things are much stronger... I think a photograph can trigger something in you' (OBU-interview).

'...when you are taking a photograph, you are giving something of yourself aren't you and they are very personal things and I think that people respond to that and they give of themselves too and I think it's that that I found so valuable really.' (OU-workshop 1)

3.1.6 As a mode to start conversations with others

As stated by Kim (2013) and Coelho and Duarte (2015), sharing photographs can mobilise memory, and build communication bridges.

'Photographs - they definitely start conversations, when I am posting a photograph I'm connecting it to something in the past and also now' (OBU-workshop 2)

'You know my aunt [in Australia] with dementia I kind of think if she started looking at photos online I could share my photos of family with her it will jog her memories for certain things and also it would give her the connection with the UK still'. (OU-workshop 1)

Intergenerational communications are also mentioned as a benefit – for mutual support and wellbeing and with digital skills.

'there's a link between teenagers and oldies because both groups are lonely, and a teenager can help with this [technical advice for using social media and photo sharing]' (OBU-workshop 1).

3.2 Challenges and barriers

'I think there is a huge need for training, there are a lot of lonely people and potentially this sharing is a partial solution, but I don't quite know how we do it...' (OBU-workshop 1)

Older people's use of technologies including social media is impacted by a complex set of factors (Lee & Coughlin, 2015; Coelho & Duarte, 2016) that extend far beyond price and performance of the technology and include relevance and usability (Turner et al., 2007). A key influencer identified by the questionnaires was that the technology for photography sharing should ideally be free to use and that transferring of photos should be easy to complete. Using the same platforms as other friends and family, which they may already be familiar to, is a frequent reason cited for starting to share photographs. In addition, the ability to make and receive comments from others is an influencer albeit a lesser one.

3.2.1 Technical skills, confidence and support

Technical challenges included access to the internet when not at home and photographs of large file sizes which caused problems in sharing. The size of the device and the screen is of concern to them.

'I'm, all excited about my new iPad because I want to be able to look at photos and maybe show them to somebody I meet, but I don't want a tiny little picture on a smart phone, I want to see them blown up' (OBU-workshop 2).

Beyond technical competence, social factors such as confidence in using technology and social support have been found to be facilitators of adoption by older people (Lee & Coughlin, 2015).

'as people get older they get more anxious, I see it with some of my friends, women of my age or older who haven't had a strong career may not have the confidence... people are quite frightened of technology....' (OBU-interview).

Other challenges included the lack of support when needed.

'there was a scheme for people going in to older people's homes to help them with computers, but it had been axed... which was a shame ... as my mum would have responded had it been 1-2-1 help.' (OBU-workshop 2).

Participants mentioned about the difficulty of keeping up with the technologies and training after leaving work, through retirement or otherwise.

'I found when I moved out of an office world my IT skills went way down because there weren't regular courses updating me and I think this is one thing in isolation it is really hard or I'm finding at the moment to keep IT updated so many things change.' (OU-workshop 2)

3.2.2 Security and privacy implications

Our participants' concerns echoed that of previous research regarding privacy and disclosure of personal details (Xie et al., 2012; Harley et al., 2014; Lang & Barton, 2015). Concerns including tagging locations or not, posting photographs after a holiday when they have returned home rather than posting them when they are away.

'I am not very keen on saying when I am away... so I don't use location tagging then... but sometimes we check in to where we are' (OBU-interview);

'No, I don't [use tagging] I am not sure I would like everybody to know where I am and who I am with...I post when I have returned I do it later' (OBU-interview);

'I do kind of worry about because I use Facebook quite a lot, they from time to time change their privacy controls and I'm not great at wading through screens pages and pages of T and Cs which these things often are in' (OU-workshop, 2)

In the next section, we outline some preliminary recommendations from the analysis thus far.

4 Recommendations

Given the benefits for older people and carers in sharing photographs in online platforms including social media, these are some of the recommendations that we have distilled from the data. These recommendations include some that the participants gave when asked how they would encourage other older people to take up online sharing of photographs.

- To start small – sharing with family and friends to start with.

‘try not to be too ambitious, something straightforward, for example helping someone keep in touch with family in Australia and get them confident in something like that’ (OBU-Workshop 1).

Older people, who may have recently retired, may have gained digital skills at work and they continue to develop them in retirement through their own initiative or with help from family, friends or local charities such as Age UK. Some may not have developed digital skills at work. The development of confidence through practice and with time has been highlighted by our research participants.

‘I think it takes knowledge and confidence... and that only comes with practice’ ... trust comes into it too; a lot of older people do not trust the security of a system’ (OBU-workshop 1). ‘you need time as well for someone who is not very confident’ (OBU-workshop 2).

- The role of intergenerational initiatives that bring together school children and older people to help with imparting digital skills to use mobile phones, uploading photographs, and online communications; for example, a competition (<http://www.silverrobin.co.uk/now-then-a-creative-collaboration-between-young-and-old/>) that our research collaborator Silver Robin⁸ in Oxford has organised.
- Sensitising them to their privacy and the privacy of the people that they photograph and share online: such as taking consent before posting photos of others such as taking the consent of parents for photos of grandchildren.

‘I would never put anything on that involved other people unless I’d actually asked them’ (OBU-interview);

‘When starting advice ‘it’s important to let people know how their ... pictures might get used, even as just a courtesy.’ (OBU-Interview)

‘I am always really really careful and I would be careful about sharing if I had grandchildren about sharing images of them publicly, I don’t mind sharing macro photos of some weird thing but I’m

⁸ Silver Robin, <http://www.silverrobin.co.uk>

very careful of family sharing and things that people might be able to identify where I live, specifically where I live I have always been a bit wary of that" (OU-workshop 2).

- Protecting themselves by not posting text or pictures that may prove controversial and raise a debate/discussion: to build the experience and resilience of posting in social media, they could share their materials only with a limited audience of their own family and friends to start with before interacting with strangers.

'explain that I don't think you should put anything of a controversial nature, I think you should protect things so only certain people can look at it'. (OBU-Interview)

5 Conclusions

Although photography and sharing photos online has several benefits for older people and particularly towards alleviating social isolation and loneliness, our investigations have shown that older people may face constraints. Our participants pointed out within their age group (60 and over), some may not have the expertise and confidence to take photographs and share them online. They may not have the skills and expertise to view photos of others in the first instance before deciding to interact online:

'benefits of looking online means you are assuming somebody has the skills to look online to begin with and, perhaps we've started from that point for a lot of us.' (OU-Workshop 1).

Older people and carers, who are willing to adopt online photo-sharing if they are already online or if they are considering becoming online, will require support to start. They will also require ongoing help and reinforcement for building confidence. They will need specific guidance about the measures for online privacy and security.

The participants in our research programme have pointed out several other constraints: cost of Wi-Fi; access to a stable network; and access to IT support such as initial set up of equipment and technical support outside of working hours of local charities such as Age UK, for example. Some older people may not have technical support from neighbours, family and friends and will be dependent on volunteers in the community or local charities that support older people.

Our participants frequently mentioned 'attitude' as influential in determining whether someone without the digital skills or experience would be open to trying to communicate and share on social media,

'I think it is far more to do with your attitude, how you cope with things' (OBU-workshop 2).

When considering trying to encourage people to engage it was pointed out:

"I think that sometimes we have to accept you can't move everybody and you won't move everybody and that's not just about the older generation" (OU-workshop 2).

Online interactions can be valuable and positive for those people with limited other social contacts, for example older people who are bereaved or don't have a family and for family carers. Photographs, as visual media, serve as a bridge for communication which in turn leads to building of trust and friendships. Examples given of use of photography in cases of dementia, terminal illness and caring situations demonstrate the value of sharing of images in difficult personal circumstances. This is both as a cathartic exercise and support

mechanism for carers, as a prompt for families dealing with dementia and as an educational tool to others online to learn about previously taboo subjects (hospices, palliative care)

However, online interactions (via photographs or otherwise) are not a substitute for face-to-face interactions. Online interactions help to bridge distances between family and friends and complement face-to-face interactions which may be less frequent due to distances and individual circumstances. Regular visits by neighbours, or by volunteers in the community, and by friends are helpful alongside online interactions for wellbeing of older people and carers. These visits could also help provide technical/IT help for online interactions.

6 Bibliography

- Ageing Better (2018). *The digital age: new approaches to supporting people in later life get online*, May 2018 report, available from <https://www.ageing-better.org.uk/publications/digital-age>, accessed 3 December, 2018.
- Age UK (2017). *Loneliness report*, available from https://www.ageuk.org.uk/oxfordshire/about-us/news/articles/2017/no_one_should_have_no_one/, accessed 3 December, 2018.
- Age UK (2011). *Technology and older people evidence review*, available at http://www.ageuk.org.uk/documents/en-gb/for-professionals/computers-and-technology/evidence_review_technology.pdf?dtrk=true, accessed 3 December, 2018.
- Baecker, R., Sellen, K., Crosskey, S., Boscart, V., & Barbosa Neves, B. (2014, October). Technology to reduce social isolation and loneliness. In *Proceedings of the 16th international ACM SIGACCESS conference on Computers & accessibility* (pp. 27-34). ACM.
- Barnard, Y., Bradley, M.B., Hodgson, F. & Lloyd, A.D. (2013). Learning to use new technologies by older adults: perceived difficulties, experimentation behaviour and usability, *Computers in Human Behavior*, 29,1715-1724.
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101. ISSN 1478-0887 Available from: <http://eprints.uwe.ac.uk/11735>, accessed 3 December, 2018.
- Campaign to end loneliness (2018). *Govt. funding announcement*, March 2018 Press release, available from <https://www.campaigntoendloneliness.org/press-release/campaign-end-loneliness-welcomes-governments-new-fund-better-ageing/> accessed 3 December, 2018.
- Coelho, J., & Duarte, C. (2016). A literature survey on older adults' use of social network services and social applications. *Computers in Human Behavior*, 58, 187-205.
- Damant, J. (2015). *We must do more to make technology accessible to older people*, available from <http://blogs.lse.ac.uk/politicsandpolicy/older-people-inclusion-in-digital-britain/> accessed 3 December, 2018.
- Design Council. (2016). <http://www.designcouncil.org.uk/news-opinion/international-day-older-persons>
[2016?utm_source=Design%20Council%20Newsletter&utm_campaign=bd763e89af-Newsletter_161005&utm_medium=email&utm_term=0_a2748d9827-bd763e89af-67455417](http://www.designcouncil.org.uk/news-opinion/international-day-older-persons)
accessed 3 December, 2018.

Deuze, M. (2006). Participation, remediation, bricolage: Considering principal components of a digital culture. *The Information Society*, 22(2), 63-75.

eInclusion@EU (2004). *Strengthening eInclusion and eAccessibility across Europe.*, European Union Report number IST-502553.

Hagan, R, Manktelow, R, Taylor, B, Mallet J. (2014) Reducing loneliness amongst older people: a systematic search and narrative review, *Aging and Mental Health*, 18:6, pp 683–693.

Harley, D., Howland, K., Harris, E., & Redlich, C. (2014, September). Online communities for older users: what can we learn from local community interactions to create social sites that work for older people. In *Proceedings of the 28th International BCS Human Computer Interaction Conference on HCI 2014-Sand, Sea and Sky-Holiday HCI* (42-51). BCS.

Jopling, K. (2015). *Promising approaches to reducing loneliness and isolation in later life*, Age UK report, available from <https://www.campaigntoendloneliness.org/wp-content/uploads/Promising-approaches-to-reducing-loneliness-and-isolation-in-later-life.pdf>, accessed 3 December, 2018.

Khosravi, P., Rezvani, A. & Wiewiora, A. (2016). The impact of technology on older adults' social isolation, *Computers in Human Behavior*, 63, 594-603.

Kim, H., Monk, A., Wood, G., Blythe, M., Wallace, J., & Olivier, P. (2013). Timely Present: Connecting families across continents. *International Journal of Human-Computer Studies*, 71(10), 1003-1011.

Lang, C., & Barton, H. (2015). Just untag it: Exploring the management of undesirable Facebook photos. *Computers in Human Behavior*, 43, 147-155.

Lee, C., & Coughlin, J. F. (2015). PERSPECTIVE: older adults' adoption of technology: an integrated approach to identifying determinants and barriers. *Journal of Product Innovation Management*, 32(5), 747-759.

Marston, H. R., Kroll, M., Fink, D., De Rosario, H., & Gschwind, Y. J. (2016). Technology use, adoption and behavior in older adults: Results from the iStoppFalls project. *Educational Gerontology*, 42(6), 371-387.

Melanhorst, A. S., Rogers, W. A., & Bouwhuis, D. G. (2006). Older adults motivational choice for technological innovation: evidence from benefit driven selectivity, *Psychology and Aging*, 21,1,190-195.

Ofcom (2018), *Adults' Media Use and Attitudes Report 2018*. Available from https://www.ofcom.org.uk/_data/assets/pdf_file/0011/113222/Adults-Media-Use-and-Attitudes-Report-2018.pdf, accessed 3 December, 2018.

Oxfordshire Government (2018). *Oxfordshire Population statistics*, available from https://insight.oxfordshire.gov.uk/cms/system/files/documents/2%20Population%20JSNA%202018_0.pdf, accessed 3 December, 2018.

Pew Internet Organisation (2014). *Older adults and technology*, available from <http://www.pewinternet.org/2014/04/29/older-adults-and-technology/> accessed 3 December, 2018.

Quinn, K., Smith-Ray, R., & Boulter, K. (2016, July). Concepts, Terms, and Mental Models: Everyday Challenges to Older Adult Social Media Adoption. In *International Conference on Human Aspects of IT for the Aged Population* (pp. 227-238). Springer International Publishing.

Turner, P., Turner, S., & Van de Walle, G. (2007). How older people account for their experiences with interactive technology. *Behaviour & Information Technology*, 26(4), 287-296.

Van House, N. A. (2011). Personal photography, digital technologies and the uses of the visual. *Visual Studies*, 26(2), 125-134.

Xie, B., Watkins, I., Golbeck, J., & Huang, M. (2012). Understanding and changing older adults' perceptions and learning of social media. *Educational gerontology*, 38(4), 282-296.