

DEBATE

▶ **MODULE TITLE** - LIVING WITH CARE: THE OLDER PERSON

▶ **MODULE CODE** - BMHP6009

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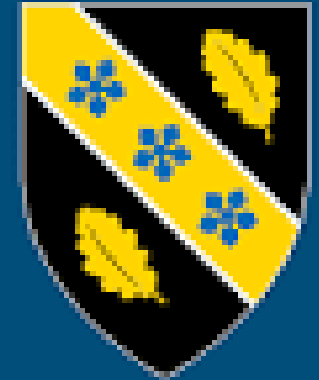
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INTRODUCTION

- ▶ Is the use of technology necessary for the elderly UK population or an older person's life?
- ▶ Yes



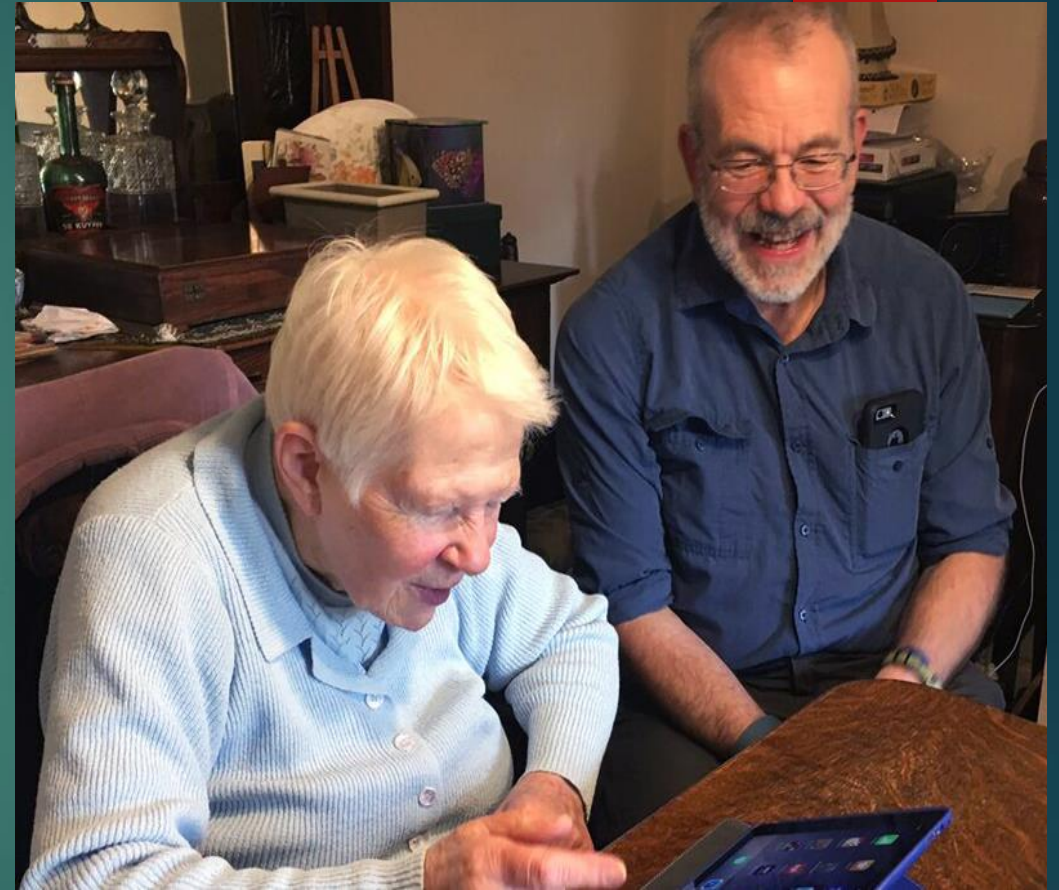
TECHNOLOGIES



- ▶ PC, Laptop & Tablets
- ▶ Smartphones
- ▶ Home Human Centred AI
- ▶ Lifeline Personal Alarm Service
- ▶ GPS Tracker
- ▶ Home Security
- ▶ Memory Aids
- ▶ Visual Aids and Screen Readers
- ▶ Communication Aids - Hearing and Speaking

PC, LAPTOP & TABLET

- ▶ Staying connected with family and friends through social media: Facebook, Skype, Zoom and WhatsApp (AgingIn Place, 2021).
- ▶ Browsing the Internet
- ▶ Online banking and shopping
- ▶ Listening to music
- ▶ By using E-mail (AgingIn Place, 2021)



Source: <https://abilitynet.org.uk/at-home/request-free-it-support-home?gclid=Cj0>

SMART PHONE



- Will the elderly be able to use touch screen phone?
- 65% of over sixty-fives are currently using smartphones (Age Co, 2021).
- Taking Photo
- Playing Games
- Video Calling (AgingIn Place, 2021).

HOME HUMAN CENTRE AI

► CarePredict

► Family care pack



Source: <https://www.google.com/url?sa=i&url=http>



Source: People Power Family
(presencefamily.com)

LIFELINE PERSONAL ALARM SERVICE

- ▶ Door sensor alarm for elderly can prevent the unwanted escape from the premises by notifying the services immediately, for people with restricted movement and mentally connected health status (Rahal. S, 2020),
- ▶ Floor Sensor Mat alarm is very helpful to monitor the small falls during the day and night , and to give an alert to the health professionals immediately in case of incident.
- ▶ Personal Alarm for falls around the neck or a bracelet is alarming the falls and automatically reporting them to the Elder Care services.



Source: <https://images.app.goo.gl/2UNDdcyXYGjiFKky7>



Source: <https://images.app.goo.gl/2UNDdcyX>

GPS TRACKER

- ▶ They are discreet, can be put around the neck, on the wrist, in their bag, on clothing etc.
- ▶ Some come with medical alert buttons in case of emergencies as well as a button to alert their caregivers.
- ▶ Some medical alert systems also have built in GPS, to make it easier for emergency responders to locate the elderly in cases they are unable to get to the phone, e.g., if they suffer a fall.
- ▶ Prices range from £5.99 to over £300. The GPS tracker market has also risen in the past 12-18 months having the pandemic play a role in high demand (SeniorLink , 2021).



Source: https://sc01.alicdn.com/kf/Hc441ae68622149b1a2e6636dc6c688975/229763568/Hc441ae68622149b1a2e6636dc6c688975.jpg_.w ebp

HOME SECURITY

- ▶ Will the elderly be able to feel safe living by themselves?
- ▶ Intercom systems , gadgets that alert a call centre, small devices that uses GPS to tell people their current location
- ▶ Home security systems range from £40 to £300 (NHS , 2021)
- ▶ Tele-care systems use technology to help people in later life continue to live independently (NHS, 2021)



Source: <https://allsecuresecurity.co.uk>



Source: <https://www.ageuk.org.uk/information-advice/care/housing-options/home-safety/>

MEMORY AIDS

- Automatic pill dispenser
- Enable people with dementia remember to take their medication when the alarm clock is on.
- This device help elderly people maintain or improve their ability to do things
- Promote medication independency
- Prevention from medication overdose



Source: <https://shop.alzheimers.org.uk/helpful-products/Medelet-Mark-2-Dispenser>

COMMUNICATION AIDS - Hearing and Speaking



Source: [https://franciscanchildrens.org/blog/back-to-school-
/](https://franciscanchildrens.org/blog/back-to-school-/)



Source
: [https://www.healthyhearing.com/report/50313-
Understanding-the-various-parts-of-a-hearing-aid](https://www.healthyhearing.com/report/50313-Understanding-the-various-parts-of-a-hearing-aid)

- ▶ Hearing loss is linked with frightening health issues
- ▶ Hearing aids : improve quality of life and reduce loneliness among elderly people.
- ▶ Communication aids: help people to restore their communication and independence
- ▶ Increase the confidence and quality of life

CASE STUDY

Staying in touch

- "Social isolation and loneliness pose real risks to health. This is particularly true for older people.
- Technology can play a part in supporting social contact – seen in some of these integrated monitoring schemes which allow older people to stay in touch with family and friends.
- One large NIHR study is testing a web-based social networking tool. This is supported by trained facilitators who help people identified as being at risk of loneliness to map their existing social networks and identify interests and preferences
- . Facilitators then use online resources to match individuals to relevant activities and community groups in their area. The ambitious trial should deliver useful evidence for those planning services. (Study 28), (NIHR, 2020)".



Conclusion

- ▶ The debate concludes by arguing that technology is beneficial, necessary and useful in advancing and enhancing older people's lifestyle and wellbeing in this twenty-first century. Old and modern technologies were discussed, giving detailed explanations on how it has evolved and can help improve independence for the elderly. A case study was presented about staying in touch, also showing how technology is used to combat loneliness, social isolation and mental health conditions. Technology also plays an important role in helping the elderly connect with like-minded people and activity groups (NIHR, 2020). It is evidence that technology is an advancing process which is considered necessary for older people.



Thank You

Thank You – lossul.com

Do you have any questions?

REFERENCES:

- ▶ Abilitynet.org.uk. (2021). *An introduction to screen readers* | Ability Net. [online] Available at: <https://abilitynet.org.uk/factsheets/introduction-screen-readers> (Accessed 16th Nov,2021).
- ▶ Age Co, (2021) 'Health and lifestyle', *A review of the best mobile phone for the elderly*. Available at: <https://www.ageco.co.uk/viewpoint/health-and-life/> (Accessed: 12 November 2021).
- ▶ Age UK, (2021) *Crime Prevention* [online] Available at : <https://www.ageuk.org.uk/information-advice/care/housing-options/home-safety/crime-prevention/> (Accessed: 17 November 2021)
- ▶ AgingIn Place, (2021) *How to become Tech Savvy Seniors in 10 Days*. Available at: <https://aginginplace.org/how-to-become-tech-savvy-for-seniors-in-10-days/> (Accessed: 16 November 2021).
- ▶ Evans, J.R., Fletcher, A.E., Wormald, R.P.L., Ng, E.S.-W. ., Stirling, S., Smeeth, L., Breeze, E., Bulpitt, C.J., Nunes, M., Jones, D. and Tulloch, A. (2002). Prevalence of visual impairment in people aged 75 years and older in Britain: results from the MRC trial of assessment and management of older people in the community. *British Journal of Ophthalmology*, 86(7), pp.795–800.(Accessed: 15 Nov 2021).
- ▶ Healthy Hearing, (2021) *Health benefits of hearing aids*. Available at : <https://www.healthyhearing.com/help/hearing-aids/health-benefits> (Accessed : 14th November 2021).
- ▶ NHS, (2021) *Personal alarms, security systems(telecare) and keysafes* [online] Available at : <https://www.nhs.uk/conditions/social-care-and-support-guide/care-services-equipment-and-care-homes/personal-alarms-security-systems-and-keysafes/>(Accessed : 17 November 2021).
- ▶ NIHR, (2020) Case Study .Staying in touch. Available at: <https://evidence.nihr.ac.uk/themedreview/help-at-home-use-of-assistive-tech/>(Accessed: 20 November 2021).
- ▶ Oxford Dictionary, (2021) *technology noun - Definition, pictures, pronunciation and usage notes* | Oxford Advanced Learner's Dictionary. Available at:<https://www.OxfordLearnersDictionaries.co/>(Accessed: 20 Nov 2021).
- ▶ Rahal, M. (2020) *Safty-in-dementia-door-alarms*. Available at: <https://www.verywellhealth.com/safety-in-dementia-door-alarms-98172/> [Accessed on 16th Nov 2021).
- ▶ SENSE (2021)*Communication aids and support* Available at : <https://www.sense.org.uk/get-support/information-and-advice/communication/communication-aids-and-support/> (Accessed: 14th November 2021).
- ▶ Webster, M. (2021) Webster's dictionary . *Essential Meaning of technology*. Available at: www.webstersdictionaries.com/(Accessed/(20 November 2021).

PICTURE SOURCES:

- ▶ Available at: <https://www.ageuk.org.uk/information-advice/care/housing-options/home-safety/> (Accessed 17th November 2021).
- ▶ Available at: <https://allsecuresecurity.co.uk> (Accessed 17th November 2021).
- ▶ Available at: [https://Assistive Technology | Center for Inclusive Design and Innovation \(gatech.edu/](https://Assistive Technology | Center for Inclusive Design and Innovation (gatech.edu/) (Accessed: 20 Nov 2021).
- ▶ Available at: <https://www.ccmalta.com> (Accessed: 16 Nov 2021).
- ▶ Available at: <https://franciscanchildrens.org/blog/back-to-school/> (Accessed: 17 Nov 2021).
- ▶ Available at: <https://www.healthcaredirect.co.uk/floor-sensor-mats/> (Accessed on 16th Nov 2021).
- ▶ Available at: <https://images.app.goo.gl/2UNDdcyXYGjiFKky7/> (Accessed on 16th Nov 2021).
- ▶ Available at: <https://www.Linkedin.com/> (Accessed: 15 Nov 2021).
- ▶ Available at: <https://www.nhs.uk/conditions/social-care-and-support-guide/care-services-equipment-and-care-homes/personal-alarms-security-systems-and-keysafes/> (Accessed on 16th Nov 2021).
- ▶ Available at: <https://www.PeoplePowerfamily.com/.presencefamily.com/> (Accessed: 17 Nov 2021).
- ▶ Available at: https://sc01.alicdn.com/kf/Hc441ae68622149b1a2e6636dc6c688975/229763568/Hc441ae68622149b1a2e6636dc6c688975.jpg_.webp/ (Accessed on 21st Nov 2021).
- ▶ Available at: <https://www.seniorlink.com/blog/the-50-best-gps-trackers-for-seniors/> [Accessed on 16th Nov 2021).
- ▶ Available at: <https://www.Source: https://shop.alzheimers.org.uk/helpful-products/Medelet-Mark-2-Dispenser/> (Accesses: 15 Nov 2021).
- ▶ Available at: <https://shop.rnib.org.uk/reading/reading-device/> (Accessed: 15 Nov 2021)
- ▶ Available at: <https://Thank You – lossul.com/> (Accessed: 20 Nov 2021).
- ▶ Available at: <https://www.verywellhealth.com/safety-in-dementia-door-alarms-98172/> [Accessed on 16th Nov 2021).

Living With Care: The Older Person

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Introduction

The Use of Technology is Not Necessary for the Older UK Population

- Persons 65 years and above.
- 19% in 2019 and 24% in 2043 (UK Parliament, 2021).
- Technology is fast, connects people and makes tasks easier (Age UK, 2020).
- It is not necessary for the older UK population.



Slphotography (2015)

The image shows the cover of a book titled 'Disconnect & Reconnect' by Rosemary M. Widdom. The cover has a bright blue background. At the top, the word 'DISCONNECT' is written in large, bold, black capital letters, with 'FROM TECHNOLOGY' in smaller black capital letters below it. In the center, there is a large white ampersand (&) that has a stylized human figure inside it, with arms and legs outstretched. Below the ampersand, the word 'RECONNECT' is written in large, bold, black capital letters, with 'WITH EACH OTHER' in smaller black capital letters below it. At the very bottom, the author's name 'ROSEMARY M. WIDDOM' is written in small black capital letters.

DISCONNECT
FROM TECHNOLOGY

RECONNECT
WITH EACH OTHER

ROSEMARY M. WIDDOM

Social Disconnect

- ▶ Limits face to face interaction
- ▶ Over reliance in use
- ▶ Social Isolation
- ▶ Health problems obesity, loneliness and mental illness

(Goodman, 2021).

Gap Between Technology and the Elderly



GREW UP WITH
LITTLE OR NO
TECHNOLOGY



DEVELOPED HABIT



TECHNOLOGY USE
IS COMPLEX AND
SOPHISTICATED



CHALLENGING OR
IMPOSSIBLE TO
CATCH UP

Cost of Technology



Technology is not cheap



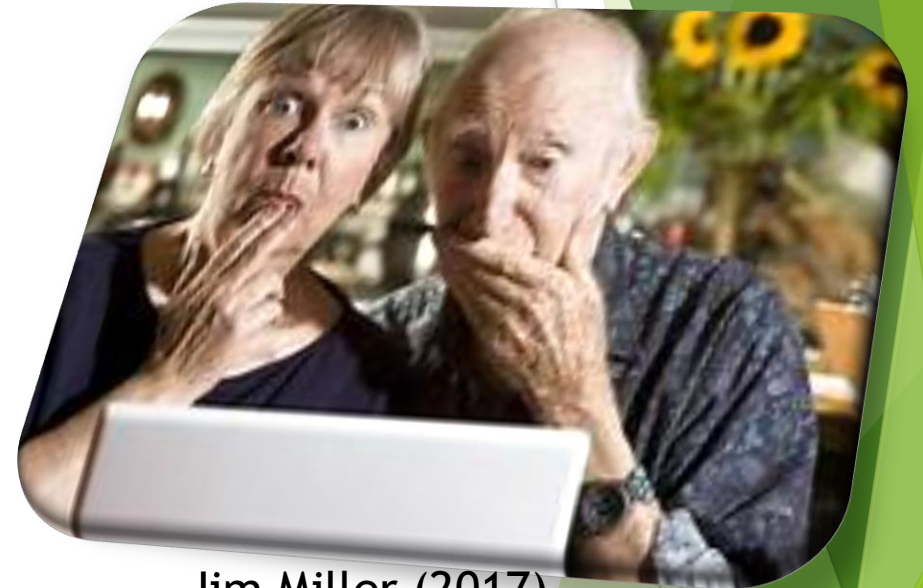
Maintaining it could be a financial burden



Time and patience

Low Self-Confidence/Self-Esteem

- ▶ Trauma of lack of independence
- ▶ Loneliness/no technical support
- ▶ Fear of damaging the device/equipment
- ▶ Victim of internet scams (Age UK, 2015).



Jim Miller (2017)

Technology Undermines Personal Centred-Care

Reliance on device or
equipment

Devoid of physical assessment,
engagement or interaction

Wrong diagnosis and
treatments

Data Protection/Privacy Concerns



PERSONAL/MEDICAL
INFORMATION



NO GUARANTEE OF
SECURITY



DATA PROTECTION
ACT 2018

Technology Could be Faulty and Unreliable

- ▶ Misused (not following manufacturers instruction)
- ▶ Technical
- ▶ Misleading results and outcomes

Ongoing Physical and Mental Health Conditions

- ▶ Cognitive decline (Dementia)
- ▶ Vision/hearing loss
- ▶ Physical impairment (Frailty)
- ▶ Wrist problems associated with arthritis

(Elefteria, Clausen & Gow, 2017)

Conclusion

- ▶ **Technology is not necessary for the older UK population.**

References

- ▶ Age UK (2019) 'Later Life in the UK factsheet'. *Age UK*. Available at: <https://www.ageuk.org.uk/> (Accessed: 21 November 2021).
- ▶ Age UK (2015) 'Only the Tip of the Iceberg: Fraud against Older people'. *Age UK*. Available at: https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/safe-at-home/rb_april15_only_the_tip_of_the_iceberg.pdf (Accessed: 20 November 2021).
- ▶ Elefteria, V., Clausen, M.G. & Gow, A.J. (2017) 'Older Adults Perceptions of technology and Barriers to Interacting with Tablet Computers: Focus Group Study'. *Frontiers in Psychology*. 8, (1687) doi: [10.3389/fpsyg.2017.01687](https://doi.org/10.3389/fpsyg.2017.01687)
- ▶ Goodman, P., 2021. '17 Disadvantages-of-Digital -Technology'. *Turbo Future*. [blog] Available at: <https://turbofuture.com/misc/Disadvantages-of-Digital-Technology> (Accessed: 20 November 2021).
- ▶ Horton, T. & Hardie, T. (2021) 'Patients and Machines: Does Technology Help or Hinder Empathy and Person-Centred Care?' *The Health Foundation*. Available at: <https://www.health.org.uk/news-and-comment/charts-and-infographics/patients-and-machines-does-technology-help-or-hinder-empathy> (Accessed: 23 November 2021).
- ▶ Miller, J.T. (2017). 'How to Help Seniors with Their Computer Issues from Far Away', *Huff Post*. [blog]. 6 December. Available at: https://www.huffpost.com/entry/how-to-help-seniors-with_b_5343015 (Accessed: 17 November 2021).
- ▶ Slphotography (2015) Depositphotos. Available at: <https://depositphotos.com/86963078/stock-photo-frustrated-elderly-old-man-using.html> (Accessed: 15 November 2021).
- ▶ UK Parliament (2021) 'Housing an ageing population: A reading list'. *House of Commons Library*. Available at: <https://commonslibrary.parliament.uk/research-briefings/cbp-9239/> (Accessed: 19 November 2021).
- ▶ Vaportzis, E., Giatsi Clausen, M. and Gow, A. J. (2017) "Older Adults Perceptions of Technology and Barriers to Interacting with Tablet computers: a Focus Group Study," *Frontiers in Psychology*, vol. 8, no. 1687. DOI: 10.3389/fpsyg.2017.01687. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5649151/>
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IS THE USE OF TECHNOLOGY NECESSARY FOR THE ELDERLY IN UK POPULATION OR AN OLDER PERSON LIFE?

Introduction

In the rapidly changing social metrics, it is evident that more people will enter the old age. (Khan, 2018) explains that with the aging population and technological advancement. It is beneficial for the elderly to adopt a system of technology that will help them adopt to the modern problems. This brings to question, why are the elderly population reluctant to adopt to technology? (Pollack, 2015) answers the concerns by addressing the fact that the elderly individuals demonstrate a low adjustment to new technologies especially when compared to the younger generation. The correlation is based on the idea that the elderly is less exposed to technological experience, or their current health status prevents them from having a full experience with the modern technologies. Despite the growing aging population, (Lousado and Antunes, 2020). Technology helps to support the elderly while lowering the cost of medication.

The table below demonstrate the positive and negative used of Technology among the elderly population base on the debate.

➤ **TABLE**

Technology is necessary for the elderly

Technology is not necessary for the elderly

Devices, smartphone, GPS Tracker	Social disconnection
PC, laptop, Tablet	Gap between technology and elderly
Memory aids	Cost of technology
Human Centre	Low self confidence
Home security	Trauma of lack of confidence
Lifeline, personal Alarm	Technology undermined personal Centre -care
Communication	Physical mental Health condition

Use of Technology by the Elderly

Technology among the elderly is increasing massively. (Gitlow, 2014) adds that it is of no doubt that technological manufacturers and inventors are scrambling to find a place in society. There is increased competition for the elderly as a niche market for technological inventions. The resultant scramble for the elderly is attributed to the idea that technology is beneficial and supportive to aging. Adoption of technology among the elderly has been discussed by (Pal, 2018) where they explore perception of the elderly aged 65 and above.

The study indicates that the aged who are educated tend to lean towards the younger generation and have a better adoption to technology. The results are skewed providing a two-tier discussion. Technology is beneficial to the elderly and the aging population its

adoption is dependent on the liability to use them. (Pollack, 2016) suggested that Americas of all ages go online to access information and data specific to their lifestyles. To this accord, internet and technology offers American's news, information, health services, government resources and opportunities for social support. The adoption of technology can be discussed based on the advantages it offers to the elderly, connection to society, health services and connecting friends and family.

Smart Life

The use of automatic drivers and online shopping are some of the approaches used to reinstate a smart life of technology, (Valera Román et al., 2021) indicates that by 2050 more than 80 million of the United Kingdom's population will be 65 years and above. It develops the necessity to adopt technology that will serve the interest of the elderly.

Internet of Things

Internet of things has achieved substantial advancement with sensor technology, tele health, safe caregiving, and advanced built environment. Example the use of sensors helps the aged to avoid falling which accounts for about 85 percent of elderly complications. (Jacobson et al., 2017), Smart life and internet recognizes several challenges faced by limited technology. It integrates the modern research and evidence to provide the elderly with a patient centered and superior integrated systems. The events of covid-19 pandemic mandate the nursing and care for the elderly to develop a patient focused treatment plan. (Toh et al., 2016) explains about a conducive environment for the elderly.

It equips domestic appliances to health monitoring equipment to automobiles. (Tan et al., 2021).

Internet play a significant role in enabling the elderly to age in place. IoT discussion, in this paper, will be limited to smart gadgets and applications that are fitted into the living experiences of the elderly. The devices and gadgets relate to managing tasks at home, overseeing living experiences and making reminders of activities.

Ageing in place is a concept where the old can continue living in their homes as they age despite the changes in their morbidity and function. However, to ensure the old are comfortable, safe, and healthy, technology allow the aged to focus on their spaces, humanity, and activities. As the aged people are bound to be slow and encounter challenges with their memories the use of smart phones helps them to recall doctor's appointment, The use of smart watches has been elaborated by (Jacobson et al., 2017) to instigate the application of internet of things to monitoring vital body processes, record temperature, blood pressure and monitoring physical exercise.

Benefits of Technology to the Elderly

One of the major challenges faced by the elderly is the higher risk in health complications, neglect by society, low morbidity and keeping up with current trends. As such, technology allows the elderly to keep up with the changes that are present in society. (Anderson & Perrin, 2017) explains that in the 21st century, the family structure has changed, and the elderly are no longer living with their extended families. As such, they must keep up with society. According to (McMurtrey et al., 2011).

Socialization

Technology can connect people from different parts of the world. In relation to socialization (Graham & Jones, 2020) argues that it allows the seniors to connect to

like-minded individuals giving them a more satisfied. The use of Skype allows the elderly to take video conferences with their extended family, in the case where distance is of concern. Technological devices allow the elderly to personalize their user interface and encourage adoption of technology. For instance, the use of emails can be personalized to have a sense of traditional letters.

In addition, technology allows the elderly to share thoughts, pictures, and news with a few clicks.

These includes, setting their devices with the right lighting based on the comfort of the elderly. The elderly can choose between the numerous apps and websites that are also inexpensive if not free. Availability of the seniors to communicate and share their thoughts and experiences allows the elderly to deal with feelings of isolation and depression that are common with old age.

Safety

Internet help to process information and data with precision thus, eliminating risks while advancement of technology has made it possible for the seniors to evade the fear of being alone while their families have no reason to worry about their family member from wandering. Personal monitoring devices can perform different functionalities such as monitoring wearers position, sleeping patterns, location, and care patterns (Juznic et al., 2016).

These technologies devices can send alerts and notification to other family members if change is noticeable. The wireless security links to family members so that abled family can make changes and rectification to the built environment of the elderly. Safety as

maintained, allows the elderly to call for help through a button, ask for assistance, and maintain contact with the outside world.

Entertainment

Alongside with the sad advantages of being old, a senior can feel excluded and detached with life. Technology can smoothen the experience and offer entertaining platforms for the senior by downloading numerous games and stream thousands of movies, documentaries and series that will captivate the senior. Technology is quite easy to use and direct in that it does not require technical expertise in its use. An elder can easily make keystrokes that would lead them to their favorite TV shows and entertainment.

Convenience

People can make shopping, drive to the store, and access personalized services such as bank payments. Technology allows not only the elderly but the whole society to make their shopping and get it delivered to their doorsteps. As such, through an apps and careful selection an elderly is allowed to purchase online. Several apps allow the elderly to order for their medical refill, quick transportation services and meals delivered to the doorstep.

Providing Mental Stimulation

Study by (Quan-Haase et al., 2014) suggests that learning and experiencing new things helps to stimulate the mind and avoid mental complications. To this accord, technology devices allow the elderly to learn and experience new activities that challenges their brain offering protection from dementia. Basically, as one learns a new technology they

are motivated to practice and find new challenges that provides mental stimulation, coordinate the muscles and brains thus, improving the motor skills and coordination.

Summary of Advantages of Technology

Aging is an inevitable process in the process of living. However, its advancement limits the human body developing categories that challenges the elderly from reaching the capacity they attained while in their youth. Coupled with the challenges of aging, the elderly is isolated due to their ailment and physical barriers to socialization. (Tyrer et al., 2016). For instance, monitoring services can remind the options that they have not fulfilled. Therefore, technology offers the elderly with numerous advantages to their living experiences.

List of references

- Anderson, M., & Perrin, A. 2017. Technology use among seniors. *Washington, DC: Pew Research Center for Internet & Technology.*
- Fischer, S. H., David, D., Crotty, B. H., Dierks, M., & Safran, C. 2014. Acceptance and use of health information technology by community-dwelling elders. *International journal of medical informatics*, 83(9), 624-635.
- Gitlow, L. 2014. Technology use by older adults and barriers to using technology. *Physical & Occupational Therapy in Geriatrics*, 32(3), 271-280.
- Graham, C. M., & Jones, N. 2020. Impact of IoT on geriatric telehealth. *Working with Older People.*
- Jacobson, J., Lin, C. Z., & McEwen, R. 2017. Aging with technology: Seniors and mobile connections. *Canadian Journal of Communication*, 42(2), 331-357.

- Juznic, P., Blazic, M., Mercun, T., Plestenjak, B., & Majcenovic, D. 2016. Who says that old dogs cannot learn new tricks? A survey of internet/web usage among seniors. *New Library World*.
- Khan, A., Al-Zahrani, A., Al-Harbi, S., Al-Nashri, S., & Khan, I. A. 2018, February. Design of an IoT smart home system. In *2018 15th Learning and Technology Conference (L&T)* (pp. 1-5). IEEE.
- Lousado, J. P., & Antunes, S. 2020. Monitoring and support for elderly people using LoRa communication technologies: IoT concepts and applications. *Future Internet*, 12(11), 206.
- McMurtrey, M. E., Zeltmann, S. M., Downey, J. P., & McGaughey, R. E. 2011. Seniors and technology: Results from a field study. *Journal of Computer Information Systems*, 51(4), 22-30.
- Pal, D., Funilkul, S., Charoenkitkarn, N., & Kanthamanon, P. 2018. Internet-of-things and smart homes for elderly healthcare: An end user perspective. *IEEE Access*, 6, 10483-10496.
- Pollack, M. 2016. Autominder: A case study of assistive technology for elders with cognitive impairment. *Generations*, 30(2), 67-69.
- Pollack, M. E. 2015. Intelligent technology for an aging population: The use of AI to assist elders with cognitive impairment. *AI magazine*, 26(2), 9-9.