The reliance and impact of digital technologies on the social and emotional wellbeing of citizens during the Covid-19 pandemic

Overview of Institutions
The Open University, Swansea University and Northumbria University are leading the way in innovative and contemporary research surrounding the use and impact of digital technology by citizens in society.

Contributors of this evidence collaboratively work together and with stakeholders (e.g. Age Northern Ireland, Age Cymru, Age UK, Campaign to End Loneliness, War Widows Association, Digital Communities - Wales) which ensures the research conducted and executed takes an inclusive approach through co-production and participatory design workshops; ensuring the voice(s) of the citizens is heard. All contributors are leading authorities in their respective area(s) and are the next generation of gerontologists/gerontechnologists at their respective institutions. All contributors work across both national and international landscapes, through networks, membership organisations and by leading inter/national research projects.

Why we are submitting this research
The evidence presented here is representative of marginalised communities and citizens, who at times are misrepresented and disconnected from regional and national initiatives. We believe the work that we conduct enables greater understanding of diverse communities which is integral for ensuring contemporary and future ageing cohort needs are met. This evidence is pivotal to progress the narrative of understanding the impact of digital technology on diverse communities.

This evidence is integral in moving forward beyond the Covid-19 pandemic and to ensure a lasting legacy. This research is agile (as demonstrated below) which in turn illustrates how technology can be flexible for younger cohorts (Gen X, Millennials etc.) who are and will be the future ageing population(s). Learning to understand the needs, barriers, challenges, and benefits experienced by different cohorts now, will provide gerontologists/gerontechnologists a baseline for the future. This, in turn will facilitate and afford the next generation of researchers the
opportunity to dig deeper into matters arising and continue to move debates and narratives forward.

**Body of evidence**

The evidence presented forthwith will focus primarily on 1. *Social interaction*, and 2. *Ownership of digital technology*. We will also draw upon existing knowledge and scholarly research to highlight the impact digital technologies have on *Mental health*.

**Social interaction**

The Covid-19 pandemic has highlighted the important role in which technology can and does play in the lives of citizens across various sectors, domains and cohorts in society (Marston, et al., 2020a). Since the first UK lockdown (25th March, 2020), society has metamorphose towards agile approaches, through identifying alternative ways of delivering information, and continuing a form of social, emotional, sexual and intimate interaction(s) and connectedness in an attempt to reduce loneliness and isolation (Marston, Musslewhite, & Hadley, 2020a; Marston & Morgan, 2020a; Wilson, 2020).

Within days of the lockdown a rapid response research project organically expanded and commenced recruiting international scholars from across Europe, Asia and the Middle East (Marston et al., 2020b;) to capture the unravelling societal issues and impacts of the pandemic upon respective citizen’s and to understand how technology was playing a pivotal role in their lives and communities. The COVID-19: Technology, Social Connections, Loneliness and Leisure Activities project includes 9 countries, 10 languages and a recent blog '2020 is the year of (forced) digital socialability' details initial insights by Consortium members from Spain noting significant changes in their communication patterns associated to their social networks, resulting in a strong predictor of change relating to digital technology use. Overall positive changes were reported relating to familial, social and employment networks, and this particular data from Spain (including Spanish and Catalan languages) note “it is more about frequency of contact rather than existence or lack of communication that predicts changes in digital practices.” (Blanche, & Fernández-Ardèvol, 2020).

To date, existing national and international (Marston et al., 2020b; Marston, Genoe, Freeman, Kulczycki, & Musselwhite, 2019; Wilson, Gates, Vijaykumar, & Morgan, 2020) research highlights the various enablers and challenges that older adults and young people such as Millennials (Marston, 2019) face when using technology in their daily lives. Findings from the Technology In Later Life study identified the relationship that technology played in leisure activities and routine (Genoe,
Moreover, intergenerational relationships play both favourable (e.g. safety, security) and challenging factors (e.g. apprehension, learning to use software/updates, privacy issues, cultural perceptions etc.) for adults aged 65+ years, especially when technology is at the forefront of citizens residing in rural and urban environments (Freeman, Marston, Olynick, Musselwhite, Kulczycki, Genoe, Xiong, 2020). Furthermore, technology and communication platforms have played a key role in bridging the disconnect and geographically displaced citizens (Freeman, et al., 2020). Particularly video communication technologies, such as FaceTime, Skype, and Zoom (Wilson, et al., 2020). However, whilst technology is a supplementary tool for social connection, it is rarely considered as being a replacement for face-to-face communication. Indeed, the evidence demonstrates that technology has no functional or emotional equivalence for face-to-face contact with family members for older people (Burholt, et al., 2020; Wilson, et al., 2020).

However, a cohort that is under-represented in research, and Government policy, and has only recently come to the forefront of discussions (ONS, 2020) is older adults who are ageing without children (AWOC) (Hadley, 2019; 2018; 2015). This sub-population, in conjunction with future generations who do not have children (for whatever reason(s)) within our society are and will continue to AWOC. While this current narrative is connected to informal care delivery and the implication(s) this has for the future; it is important to note that citizens old and young who are AWOC are at a greater risk of experiencing social isolation and loneliness (Morgan, 2015). This is because their respective social networks are smaller, and they are more reliant on various technologies (Marston, Musslewhite, & Hadley, 2020a; Marston & Kowert, 2020; Marston, Shore, & White, 2020) and social interactions/engagements through different community organisations (Marston, et al., 2020).

This pandemic has highlighted the disparities within our society, at community, local, regional, and national levels. For citizens and families alike, access and ownership to digital technology is imperative not only for social engagement, but for online grocery shopping, education, and access to information. What is needed is the affordance to access and/or purchase digital technologies via a myriad of channels including community libraries, affordable reconditioned hardware, and education institutes (e.g. schools, colleges, universities, training centres etc.).

However, the cost of accessing the Internet is not cheap and can range between £25-55 per month with various national companies. The socio-economic status...
(SES) of citizens and families plays a key factor when deciding whether to own technology and pay for a monthly internet subscription. For citizens and families who are on low incomes, it is impossible to afford a service that for many would be perceived as a luxury.

Digital poverty (OfS, 2020; Holmes & Burgess, 2020; PSE, 2020; Kelly, 2020;) does not start and stop with older people, as purported by Yates, 2020. Digital poverty can and does affect many citizens across the population and age cohorts. For some citizens and families, they may not fully understand and recognize the benefits and positives of accessing the Internet and owning digital technologies. Without understanding these perceptions and behaviours the digital divide (Marston, 2019; Selwyn, 2012; Srinuan, et al., 2011; Livingston & et al., 2004; 2007; van Dijk, 2005; Negroponte, 1995; Rheingold, 1993) narrative that has been ongoing for ~30-years will not advance.

Digital poverty/divide is a culmination of factors, circumstances, and experiences, and without fully understanding these factors coupled with behaviours and perceptions from a sociological and social science standpoint; providing suitable and attainable recommendations and policies will not be achieved.

In parallel greater research and understanding of digital literacy skills is needed, because this too interweaves, and interconnects with the digital divide/poverty narratives and debates. Conducting multi-and-interdisciplinary research with scholars, community stakeholders, policy makers and organisations has the potential to reduce working in silos, and instead increase the opportunities for the next generation of scholars alongside colleagues who have existing experiences of collaboration and practice.

Furthermore, online social interaction and engagement cannot happen without the ownership of digital technologies and the Internet. In the following section we discuss evidence relating to digital technology ownership.

**Ownership of digital technology**

*To what extent is the impact that digital technology has on our wellbeing affected by who owns. And therefore controls access to, that technology?*

Mental health is a theme that intersects and interconnects the areas of *social interaction* and *ownership of digital technology* alongside peripheral platforms and communications tools playing an integral role in bridging and supporting social connections between friends, family, community organisations and members.
However, access and use of social media platforms such as Twitter and Facebook can afford all citizens in society the opportunity (if they have the financial means for hardware, and an Internet connection) to be digitally connected to existing networks, friends, and family members. This in turn may also reduce the feeling of loneliness and social isolation, by affording individuals a form of emotional and social connectedness (Marston & Morgan, 2020a; 2020b).

Evidence illustrates that many rely on their social network, for example, children, grandchildren, or friends, to initiate use of digital devices and social media (Wilson, et al., 2020). Furthermore, the importance of an individual’s social network does not end at technology initiation, but individuals also rely on this social capital to support them when learning something new, or if there was a technical issue. However, with COVID comes social distancing measures limiting this social contact. For some citizens who are ageing without children, and/or being socially isolated means that there is a reliance on and therefore may not have this support in initiating or maintaining technology use.

As previously noted, digital poverty/divide is not new. Yet, it has received greater recognition because of the Covid-19 pandemic. Citizens and families who are categorised as low income, coupled with other SES inequalities these varying factors play a crucial role in the decision and burden that is placed on individual ecosystems by digital technology and Internet ownership, or lack of. For those citizens in society whose lives are impacted by their SES, the myriad of factors bestowed upon them are not an easy or a quick fix. Being digitally disconnected and displaced not only has significant implications for one’s mental health, but those who do not have the financial means, knowledge or understanding associated with the importance of being digitally skilled, can lead to, or emphasize being digitally disconnected and has greater implications for themselves, and/or family members. Ensuring the needs of citizens from SES communities is key, and implementing a ‘digital by choice’ (Ferguson & Damodaran, 2018a) as opposed to the ‘technology-push’ (Ferguson & Damodaran, 2018c) to triumph over the digital strategy, and more so over a long-term impact.

**Technology and social interaction in a post-pandemic society**

Moving forward through the lens to a post-pandemic society, accessible technology and Internet requires appropriate access and infrastructure installed to ensure all citizens, regardless of SES and geographic location have access, reduce isolation and social exclusion and overall reduce social inequalities and disadvantages (Ferguson & Damodaran, 2018b). Achieving this recommendation would require appropriate investment from business, industry and governments to enable a myriad of citizens (i.e., older adults, younger adults, dependent adults, carers, health practitioners, homeless etc.) public accessible Internet and community
groups (Marston & Samuels, 2019; Ferguson & Damodaran, 2018c) to afford peer support and communication (Marston, et al., 2019).

Conversely, implementing smart technologies into housing ecosystems via new construction projects and retrofitting initiatives (Marston, Shore, & White, 2020; Marston & van Hoof, 2019) can afford citizens greater opportunities to become digitally connected, as well offering tech savvy citizens the opportunity to manage and self-learn digital skills.

To date and in this evidence, scholarly research has illustrated the various but similar concerns of citizens residing across different areas of the UK (Ferguson & Damodaran, 2018a/b/c), encompassing first-hand experiences via stakeholders and citizens alike to the barriers, challenges, enablers and impacts technology brings to the lives of citizens (Wilson, et al., 2020; Burholt, et al., 2020).

To move this narrative forward, a co-production approach in conjunction with a living testbed/living lab is needed (Marston, Shore, & White, 2020; Shin, 2019; 2014). This notion could take reference from theoretical proposals and frameworks purported by inter-and-multidisciplinary scholars (Marston, Shore, & White, 2020; Marston & van Hoof, 2019) who have extended the WHO age-friendly framework (2007), originally published in 2007.

Yet, excluding technology as a domain was complacent given the phenomenal development(s) at the time. While looking to the future, digital technology cannot and should not be ignored if we wish to “ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest” (Gov, 2019). The pandemic has illustrated the important role that digital technology has and is continuing to play for citizens who can afford to own digital technology and the Internet from both a positive (e.g. working from home, social connections) and negative (e.g. limited social connections/engagement if a citizen cannot afford hardware and supporting infrastructure – the Internet; closure of libraries and other public spaces).

Taking a participatory, co-creation, co-design approach as highlighted by Marston et al., (2020) and Shin (2019) in conjunction with regional councils, devolved and national governments, education institutions, and more importantly citizens; will in turn facilitate greater understanding and learning to the exact needs, issues, adoption and attrition by citizens from diverse, marginalised SES communities from across the UK, including those areas which are also the richest and the poorest. Thus will feed into the Government strategy of meeting the ‘Ageing society - Grand Challenge Mission’ (Gov, 2019).
Taking a real-life implementation approach, while utilizing the expertise of scholars/contributors, will provide communities of various sizes the opportunity to collegiately work together, and provide a transfer of knowledge, a shared understanding to implement existing theoretical standpoints into practice (Marston, Shore, & White, 2020). This will provide a myriad of actors (e.g. business, stakeholders, researchers, citizens, SME's, planners, urban developers, educational institutions etc.), to understand the impact as well as the role technology can and will have in the future associated with positive smart age-friendly ecosystems (Marston & van Hoof, 2019).

It is key to ascertain and understand how citizens from diverse communities choose to engage and implement technology into their lives, what concerns they have, and benefits do citizens perceive and want to relate to the various rollouts of technology. Finally, future rollouts of technology need to understand how citizens who are currently and possibly digitally disconnected, can also have their voices heard in such a setup. By understanding the various factors which are interconnected and intersected both positively and negatively perceived by citizens, it is anticipated that appropriate route plan(s), and framework(s) can be co-created and implemented to ensure there is not a lost level of citizens in our society - be-it now, in 5-years, 10-years and 20-years from now.

This evidence has provided a succinct and comprehensive insight into existing research outcomes, findings, and pathways to impact, through various proposed recommendations and route plan(s) for future decades.

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