

Professor Monideepa Tarafdar - Written Evidence (LOL0016)

Summary: I provide research evidence to examine the effects of Digital Technology (DT) on - (1) mental health; (2) social interaction; (3) quality of life. These criteria are mentioned in the call for evidence. DT refers broadly to set of information technologies that includes personal computers, laptops, tablets, smartphones, and the attendant applications and their functionalities.

Motivation: My motivation for providing this evidence is that I have conducted research and published widely in these topics and would like to share my research insights with the Committee.

(1) Mental health

#1. How will any long-term trend towards increased reliance on digital technology affect mental health?

The dark side of the use of digital technology (DT) can trigger a number of issues relating to mental health – namely, **technology related stress (technostress), burnout** and **addiction**.

DT users experience **technostress** because they perceive the demands made by DT as threatening to their wellbeing. Such demands can come from the very characteristics of DT that are perceived as beneficial, such as, anywhere-anytime connectivity, availability, reliability, and constant novelty and newness of features and functionalities. Envisaged and intended to be useful, these characteristics, when taken to the extreme, can cause conditions that DT users perceive as stressful.

There are many aspects of technostress. Individuals feel techno-invasion in situations where they can be reached anytime and anywhere. Because there are no physical interactions during the usual nine-to-five workday, they may feel the need to be constantly 'online', either checking email or reporting their presence on applications such as Teams. They are tethered to work and it is easy to get to a situation where the workday never ends. Another aspect is techno-overload. DT forces the pace of work - co-workers can engage in quick virtual interactions and response, such as answering emails and text messages quickly and in real time, leading to relentless and rapid back and forth of work-related communication and a corresponding increase in the pace of work. Worse, even with all the synchronous video-conferencing, the other communication does not reduce; there is always the next email to answer before calling it a day. Email overload, information overload and communication overload are fall outs. Further DT users have to understand and learn about the features of the applications, without which they cannot get the job done. They are forced to spend time and effort in figuring out how to do this, especially if their colleagues are using them. This sort of hidden work is never accounted for in the employee's regular work tasks. It places the demand on the employee to learn complex things that are not directly part of their actual work and which they do not get credit for, in their performance evaluations. Thus, they experience techno-complexity. Further, organisations keep buying new software and

upgrade existing versions, which can be unsettling because users have to be on the alert for installing updates, especially security related patches and upgrades; not doing so can lead to lack of compliance and policy violation. As a result, they experience techno-uncertainty. With virtual work also exists the possibility of digital monitoring and surveillance – of emails, and Internet and social media use. Such monitoring can create stress because of fears of job insecurity, loss of privacy, and infringement of personal space. Another stressful aspect is social overload, typically from use of social media, wherein individuals feel compelled to respond to social media posts and requests for suggestions of friends, to the extent that not doing so causes stress. Further, people might experience – envy, worry, depression – when they see friends post pictures of where they've travelled, new houses they've bought and how well their children are doing.

DT users commonly experience **addiction to DT** such as email and social media. Addicted DT users engage in pathological and compulsive DT use, and DT use to the detriment of other important activities and things. Addiction to email happens when inboxes and devices are compulsively monitored by employees; ironically, the more ambitious and engaged the employee, the greater the chances of compulsive use of as email. Addiction to social media happens because of social-demographics, personality traits and technology characteristics. Those with higher levels of addiction to a particular application consider that application to be more useful, easier to use and more fun to use, than non-addicts. Ironically and paradoxically, it is common to find the more DT users are stressed by social media the more they get addicted to the same social media.

Consequences of technostress and technology addiction are detrimental to the DT user's physical health. They can include lack of concentration, lack of sleep, never ending cycles of use and **burnout**, and lack of job satisfaction and job commitment at work.

#2. What steps can be taken to mitigate some of the negative consequences of any increasing reliance on digital technology on mental health? What can be done by Government, employers and other organisations to mitigate any negative impact that an increased reliance on digital technology will have on mental health?

Tackling the effects of DT requires a multi-pronged and joined up effort by the **government, employers, employees, technology companies** and **social and outreach organizations**.

Technology companies should be accountable for informing users of their technology of the mental health pitfalls. They can frame cautions for healthy use of common DT such as social media and the Internet. An example of such a cautionary note: *If friends frequently ask for advice on various things on social media, be selective about the posts you respond to. If a friend is posting 100 times a day you don't have to respond to all or any of them.* Another note could be: *No matter how many times you check your social medial feed, there will always be something you miss. Therefore FOMO (fear of missing out) is pointless.* For example, Google's Digital Wellbeing app provides users with information about which apps they use and how frequently, with the aim of

helping them develop habits for 'unplugging'.

Social and outreach organizations should step in and guide people in their use of DT. For example, they can develop guidelines for use. An example of such a guideline could be – *Your friends' posts can be misleading because they present the best parts of their lives. Don't compare your "behind-the-scenes" with everyone else's "highlight reel"*. Another guideline could be – *Actively seek ways to interact with your friends away from social media – meet up in person or call them. Go for a walk or a run, have a meal, watch a movie*. Yet another example could be – *Set time limits for how long you'll spend on your laptop, tablet or phone. Discipline yourself to get up every time you hit your limit, walk around, stretch, talk to someone, go into another room*.

Employers should make users of DT aware that it is not the DT alone that causes technostress and technology addiction, but DT users' actions as well. They should make employees aware of harmful ways to use as well as provide resources to help them. Employers should frame explicit guidelines and policies for DT use. Such policies can encourage employees to reflect on the consequences of their DT use and figure out what works for each. Companies so far, have not been proactive enough about developing such guidelines. To make it worse, they have often mandate how DT 'should' be used, completely disregarding both the flexibility offered by DT and the individual's productive appropriation of their features. Policies that, for example, prohibit or limit the use of email during certain times of the day are less helpful than those that suggest to employees, various ways of reducing email overload, leaving them to decide what works best for them. The presence of reliable IT helpdesk support helps, although that is not always available. Indeed the Covid crisis has exposed the gaps between the bigger firms, who can invest in technology and training their workforce, and the smaller ones who cannot.

It is telling that **employees** are taking matters into their own hands and shaping their own coping responses in absence of employer initiatives. For example, one often sees email signatures such as – *Please note that whilst I may choose to correspond by email during evenings and weekends as it fits best with my preferred working pattern, I do not expect responses during these times*. Employees are finding ways to cope by venting their frustration, or temporarily stepping away from the technology when they experience too much technostress. They are also developing capacity to use DT better by self-attending training programs or helping one another out. They are developing boundaries with respect to the use of IT, such as checking email at designated times, demarcating work and non-work use at specific times, and taking breaks when using IT.

Currently, there is no onus on employers to inform and warn employees of the 'dark side' of DT use. The **Government** can help by providing legislative guidance that helps employees to do so.

#3. Does an increase in reliance on digital technology provide an opportunity to offer innovative treatments for mental health conditions? Is it also an opportunity to reach those who would usually be unwilling or unable to seek medical advice and support?

Support groups, tele medicine, apps are all there. So is information searching on apps. But there needs to be more connected-ness between NHS, social organizations and the individual. Also, misinformation needs to be countered.

2. Social interaction

#4. Will any increasing reliance on digital technology affect the social interactions of different groups – older people, children, people with disabilities, ethnic minorities, home-workers – in different ways? What are the particular social implications for those who cannot, or choose not to, use the internet?

It is obvious that the onset of Covid 19 has dramatically brought to the fore the potential for DT for social interaction and provision of commercial services such as online shopping. While people generally had a choice pre-Covid, whether and to what extent they wanted their lives to play out in the digital realm, during (and after) Covid, that choice is being (will continue to be) significantly curtailed. The use of DT such as the Internet is seen as desirable in a progressive society. However, when essential human interaction, essential life activities such as grocery and clothes shopping, and entertainment such as movies, all are conducted digitally, then three things happen – which we expect to occur at scale in society. One is that those who cannot or choose not to are dispossessed of the choice. They become 'othered', almost deviant. Such people may include the elderly who may not want to use new technology. Eventually as we know, they would give in, and conduct their activities online even if they do not want to. An example is the hastened demise of cash transactions. It is known that the UK is seeing a decrease in the number of cash machine – the current pandemic will decrease it further. The second is that the rest that do (and indeed they are the majority) will be subject to what is known as surveillance capitalism. Put simply, all their digital moves on all websites they visit (grocery, banks, utility, government services (e.g. pension, council services websites) will be recorded and the data mined for patterns based on which commercial offerings such as advertising and products will be placed before them. This is a particularly intrusive aspect, particularly for the vulnerable sections of society. And the third thing is that small business holders or individual persons such as farmers and local artisans/bakeries, who traditionally prefer case based transactions, will be forced to scramble to a completely new medium, the Internet, even if they do not want to, in a kind of digital enforcement drive as it were.

#5. What role could digital technology play in increasing opportunities for social interactions? Does an increase in reliance on digital technology provide an opportunity to develop more innovative ways of developing relationships and interacting? Is it also an opportunity to reach out to those who have been left lonely and isolated by more traditional methods of social interaction?

The use of DT can increase societal resilience as we have seen since the pandemic hit. Universities and schools have attempted to minimize the disruption from COVID-19 by moving to online teaching platforms. Physicians are engaging in telemedicine to continue to serve their patients. Individuals

themselves are engaging with a mind-boggling variety of online platforms to access health care related information and to take care of their mental health by staying in touch with loved ones. The vulnerable are able to buy food and essential things online. Across thousands of pubs and village halls in the UK, quizzes and events are being held on Zoom. What is interesting is how the elderly, segments that are not given to use DT too much, have taken to this. Clearly, while we have known that DT are imperative in regular times, what is now forcefully evident is that they are indispensable for the resilience of communities and individuals, during unexpected disruptions. DT help societies to develop and practice resilience, not only during major disruptions, but also as an ongoing focus of organizing and living.

However, it is also clear that the pandemic has exposed the loneliness of those that are frail and vulnerable. The design of DT platforms and devices should take their needs into account, which it often does not, simply because they are not 'mainstream' customers.

3. Work

#6. How will any long-term trend towards increased reliance on digital technology affect job opportunities and working conditions? What sectors are likely to see the biggest changes? What impact might these changes have on job satisfaction? Do workers have the digital skills that will be needed as jobs change? What additional training is required to ensure that the workforce is equipped with digital skills?

Will greater investment and faster roll-out of broadband help?

A lot is made of training DT users, but efforts are mostly focused on technical training and access. As the above evidence show, there are other issues that users need to be trained for, such as laying down boundaries and healthy use with respect to not getting stressed and addicted. Enabling facilitating conditions include faster broadband, for sure. However, it is not just about knowing how to use the technology but about using it in a healthy way. DT users should be trained not just on the technical aspects of use, but also made aware of possible effects on mental health and mitigations.

#7. How will any long-term increase in working from home affect both social and economic wellbeing? How will it affect individuals and how will it affect communities and wider society? What do we know about how working from home can affect our physical and mental health, and what do employers and Government need to do to protect workers?

Working from home results in people doing what is known as virtual work, that is, work that is made possible by the use of DT, across geographical and temporal boundaries. Virtual work is not accomplished in the physical office and is only made possible through a range of DT (computers, smartphones, email, video-conferencing tools). Every single task that does not require the actual manipulation of physical objects – problem solving, conducting meetings, communicating with customers and suppliers – is mediated through DT. 'Working' means getting tasks done by looking into a screen to make sense of

text, voices, faces and people.

Virtual work can reduce the stress from work relationships by offering respite from office politics and unexpected/unwanted interruptions. However, such relentless dependence on DT causes stress. 'Zoom fatigue' is now a familiar expression. Virtual work also can be an isolating experience when employees are left out of important email threads or information. Electronic communication makes it possible for individuals to 'hide' behind things like email – they can be rude, known as 'electronic' incivility and bullying, or ignore colleagues by simply not replying to their email and texts.

Bringing work home is perceived as a work benefit. Employees often negotiate 'flexible work hours' to be able to work from home, balancing work and personal demands. However, the capacity to work anytime, anywhere, also tethers employees, and creates difficulties for them to disengage from work, like catching up on work in the evening. Work interferes with personal and family time and vice versa. Virtual work also makes it easier to be interrupted and 'tapped on the shoulder virtually', through email and instant messages which disrupt employees' workflows.

All of this is stressful and can affect mental health.

#8. Will a reliance on digital interactions and home-working impact on informal interactions and exchanges of information and, in turn, impact on innovation and creativity?

Serendipitous interactions between co-workers and colleagues will become less prevalent if work is done virtually. It is difficult to run into someone in the corridor if there is no corridor to be walking in! Research has shown that creativity and innovation depend on spontaneous and organic interaction among diverse people. Chance of these happening will reduce. Those with existing strong social networks will benefit more from DT and virtual work than those who are trying to develop the networks.

#9. Who will be disadvantaged by any long-term trend towards home working? How will it affect people without adequate broadband or people who lack an appropriate workspace at home?

Individuals should train themselves not only how to use DT, but on issues surrounding its healthy use, such as laying down boundaries, not working longer hours etc. Facilitating conditions such as faster broadband are beneficial for sure. However, everyone cannot have a home office, and inequalities of access and infrastructure further exacerbate the difficulties described above.

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