



HHS Public Access

Author manuscript

J Am Geriatr Soc. Author manuscript; available in PMC 2024 October 01.

Published in final edited form as:

J Am Geriatr Soc. 2023 October ; 71(10): 3331–3333. doi:10.1111/jgs.18545.

Reply to: Associations of use of smartphone and internet technologies with loneliness

Mfon Umoh, MD ,PhD¹, Thomas K.M. Cudjoe, MD,MPH¹

¹Department of Medicine, Division of Geriatric Medicine and 7 Gerontology, Johns Hopkins School of Medicine, Baltimore, MD, USA

To the Editor:

We thank Knuutila and colleagues for highlighting our recent article and for their interest in our work.¹ Social isolation is a major public health concern associated with many negative consequences.² As discussed in our recent article, technology access is associated with a lower incidence of social isolation.¹ In adjusted longitudinal regression analyses we found that incidence of social isolation was lower for older adults that reported access to working cell phone technology and use of email or text.¹ Additionally, we found that access to a computer significantly reduced risk of social isolation.¹ Examining the relationship between technology access and use is critical to understanding pathways that may mediate the negative consequences of social isolation and may help to identify valuable interventions to combat this detrimental phenomenon.

Knuutila et al. examine associations of use of smartphone and internet technologies with loneliness, which is a different but adjacent topic to our previous work.³ As they appropriately highlight loneliness is a distinct concept that describes a subjective distressing experience of perceived isolation, it is positively correlated with social isolation, objectively having fewer relationships, as both are constructs of social disconnectedness.⁴⁻⁶ Understanding how technology influences both circumstances is important. Our work was limited by the measures of technology use and frequency of use within the NHATS data, presented in supplemental table 2; so must be interpreted cautiously.¹ A comprehensive understanding of how technology is used by those with access would be helpful to understand the complex relationship between these factors with social isolation and

Corresponding Author: Thomas K.M. Cudjoe, MD, MPH, 5200 Eastern Avenue, Mason F. Lord Building, Center Tower, 7th Floor, Baltimore, MD, USA, 410-550-3420, tcudjoe2@jhmi.edu, [@tkmcudjoe](https://twitter.com/tkmcudjoe). Alternate Corresponding Author: Mfon Umoh, MD ,PhD, 5200 Eastern Avenue, Mason F. Lord Building, Center Tower, 5th Floor, Baltimore, MD, USA, 410-550-7162, Mumoh3@jhmi.edu, [@MEUmohMDPHD](https://twitter.com/MEUmohMDPHD).

Author Contributions

Drafting of the manuscript: ME Umoh. Critical revision of the manuscript for important intellectual content: ME Umoh and TKM Cudjoe.

Financial Disclosure

Dr Umoh has no financial disclosures to report.

Dr Cudjoe reported receiving consulting fees from Edenbridge Healthcare outside the submitted work.

Conflict of Interest

Authors of this article have no relevant conflict of interest.

Sponsor's Role

None.

additionally with loneliness, which the Knuutila et al study aims to evaluate. Studies like this are needed to clarify the relationships and impact on practice, research, and policy.

In this research letter Knuutila et al. use data from a survey of the Helsinki Aging study 2019 cohort.³ Social networks are the collection of socially meaningful ties that an individual recognizes and maintains.⁷ In this study social network of the participants included children and friends and satisfaction with social relationship. Their study included binary responses (i.e. “yes/no” responses) to evaluate internet and smartphone use.³ Access to basic technologies like a telephone, if it was not a smartphone, were not evaluated. This is particularly relevant considering the heterogeneity of older adults as well as the rapid development, deployment and availability of technology alongside persistent technologic barriers or inequities that exist for older adults. Studies that evaluate technology access and use should include an evaluation of diverse forms of technology use, including basic and advanced forms, and their potential effect on social connectedness.

The authors present that their findings are contradictory to what other studies have found during the COVID-19 pandemic with technology and risk of social isolation or loneliness. The Holaday et al. article found internet access was associated with more loneliness in Medicare beneficiaries that lived alone but not those who did not.⁸ Another study that examined technology use and loneliness found that individuals who used technology to communicate with their healthcare providers reported higher levels of loneliness.⁹ The question surrounding the differences between sole dependence on technology for connection to replace in person contacts versus integrating digital technologies along with in person social connections is fertile ground for future research. One limitation that should be highlighted is that cross-sectional data hinders investigations that seek to move towards causation.

Loneliness in the Knuutila et al. study was assessed from one survey question, with respondents selecting from “seldom/never, sometimes/often, or always”.³ This is similar to the measure described in Kotwal et al. That study showed that the ability to assess loneliness in older adults during the COVID-19 pandemic may be assessed using one question, however in that work they report that by using that method false negatives were present more frequently in pre-pandemic data than COVID-19 data, which suggests that it may not be applicable to a 2019 survey.¹⁰ Others have also suggested potential issues with using a single item loneliness question, especially that it may lead to underreporting due to social shame.^{6,10}

Examining the distinct roles of both access and use of technology in older adults with social isolation and loneliness offers important insights that advance approaches to identify at risk individuals. This effort also aids with design of interventions that focus on this important population. Studying interventions that impact both access and use are worthwhile. We concur with Knuutila et al. that it is critical for clinicians to ask patients about loneliness and access to digital technologies. Also, it is important to obtain information about living arrangements and core discussion network size. Loneliness, like social isolation, is a problem that significantly affects older adults and the contribution of technology in these processes are important to understand.

An interesting concept that was not fully explained in this work was that computer, internet or smartphone use were all significantly associated with having friends, which was significantly related to loneliness.³ This connection is a possible confounding factor that requires cautious interpretation. Interestingly they found that technology use was not associated with being satisfied in relationships but without specific data on how technology (i.e social vs nonsocial purposes) is used it is difficult to interpret its influence. The overlap of each of these important issues deserves further discussion and study.

Funding sources:

Dr. Umoh has no funding sources to disclose. Dr. Cudjoe was supported by the National Institutes of Health K23 award (AG075191-01) and the Robert and Jane Meyerhoff Endowed Professorship.

References

1. Umoh ME, Prichett L, Boyd CM, Cudjoe TKM. Impact of technology on social isolation: Longitudinal analysis from the national health aging trends study. *J Am Geriatr Soc.* 2023;71(4):1117–1123. doi: 10.1111/jgs.18179. [PubMed: 36519748]
2. Cudjoe TKM, Roth DL, Szanton SL, Wolff JL, Boyd CM, Thorpe RJ. The epidemiology of social isolation: National health and aging trends study. *J Gerontol B Psychol Sci Soc Sci.* 2020;75(1):107–113. doi: 10.1093/geronb/gby037. [PubMed: 29590462]
3. Knuutila M, Jansson A, Rautiainen L, Pitkala K. Associations of use of smartphone and internet technologies with loneliness. *Journal of the American Geriatrics Society.* in press.
4. Balki E, Hayes N, Holland C. Effectiveness of technology interventions in addressing social isolation, connectedness, and loneliness in older adults: Systematic umbrella review. *JMIR Aging.* 2022;5(4):e40125. doi: 10.2196/40125. [PubMed: 36279155]
5. Holt-Lunstad J, Smith TB, Baker M, Harris T, Stephenson D. Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspect Psychol Sci.* 2015;10(2):227–237. doi: 10.1177/1745691614568352. [PubMed: 25910392]
6. National Academies of Sciences, Engineering, and Medicine, Division of Behavioral and Social Sciences and Education, Health and Medicine Division, Board on Behavioral, Cognitive, and Sensory Sciences, Board on Health Sciences Policy, Committee on the Health and Medical Dimensions of Social Isolation and Loneliness in Older Adults. 2020.
7. Cornwell B, Schumm LP, Laumann EO, Graber J. Social networks in the NSHAP study: Rationale, measurement, and preliminary findings. *J Gerontol B Psychol Sci Soc Sci.* 2009;64 Suppl 1(Suppl 1):47. doi: 10.1093/geronb/gbp042.
8. Holaday LW, Oladele CR, Miller SM, Dueñas MI, Roy B, Ross JS. Loneliness, sadness, and feelings of social disconnection in older adults during the COVID-19 pandemic. *J Am Geriatr Soc.* 2022;70(2):329–340. doi: 10.1111/jgs.17599. [PubMed: 34850379]
9. Robbins R, DiClemente RJ, Baig N, Johnson A, Chou A, Van den Bulck J. Digital communications technology use and feelings of anxiety, depression, and loneliness among older adults during the COVID-19 pandemic. *J Appl Gerontol.* 2023;7334648231169086. doi: 10.1177/07334648231169086.
10. Kotwal AA, Cenzer IS, Waite LJ, Smith AK, Perissinotto CM, Hawkey LC. A single question assessment of loneliness in older adults during the COVID-19 pandemic: A nationally-representative study. *J Am Geriatr Soc.* 2022;70(5):1342–1345. doi: 10.1111/jgs.17700. [PubMed: 35141875]