

This is an Accepted Manuscript for *International Psychogeriatrics*.

This version may be subject to change during the production process.

DOI: 10.1017/S1041610224000371

Social Media Use is an Understated Social Determinant of Mental Health

Dylan J. Jester, Ph.D., M.P.H.¹, Kexin Yu, Ph.D., M.S.W.²

¹Women's Operational Military Exposure Network (WOMEN), VA Palo Alto Health Care System, Palo Alto, CA, USA

²NIA-Layton Aging & Alzheimer's Disease Research Center, Oregon Health & Science University, Portland, OR, USA

Corresponding Author: Dylan Jester, Ph.D., M.P.H., Women's Operational Military Exposure Network (WOMEN), VA Palo Alto Health Care System, 3801 Miranda Ave, Mail Code 151Y Palo Alto, CA 94304-1290, Email: Dylan.Jester@va.gov

Commentary on The Relationship between Social Media Use and Psychosocial Outcomes in Older Adults: A Systematic Review by Lei et al

Source of Funding: This commentary was not funded.

Description of Authors' Roles: D. Jester and K. Yu wrote the manuscript.

Conflict of Interest: None.

Acknowledgements: The contents do not represent the views of the U.S. Department of Veterans Affairs or the United States Government.

In this issue of *International Psychogeriatrics*, Lei and colleagues (2024) conducted a systematic review on the relationships between social media use and different psychosocial outcomes in older adults. The majority of papers were cross-sectional (59%) and many found positive associations between social media use and improved mental and social health, though study quality was questionable. Longitudinal and interventional studies found mixed results that differed by outcome. While cross-sectional papers generally found that less loneliness was associated with greater social media use, longitudinal studies were mixed (n = 1 of 2 were positive) as were interventional studies (n = 4 of 7 were positive). A similar trend was found for depression, where cross-sectional studies showed a strong association yet longitudinal (n = 2 of 4 were positive) and interventional studies (n = 4 of 6 were positive) revealed mixed findings. Fewer meaningful results were found for quality of life, anxiety, and social connectedness due to the low number of longitudinal studies and interventions on the topics. Importantly, the most successful social media interventions relied on video chatting/videoconferencing with family and friends to mimic face-to-face communication.

This review adds nuance to the literature that has long-focused on problematic social media use and its negative effects before and during the COVID-19 pandemic. Problematic social media use transiently increased during the COVID-19 pandemic due to restrictions in social activities (Casale *et al.*, 2023), and has historically been a source of anxiety and depression in adolescents and young adults (Lee *et al.*, 2022). Some studies report a dose-response relationship between problematic social media use and affective symptomatology, with a larger effect among girls and young women (Liu *et al.*, 2022). However, a recent umbrella review on adolescent social media use and mental health found that some meta-analyses and systematic reviews reported weak and inconsistent findings while others reported substantial and deleterious effects, though most papers had concern with study design and heterogeneity (Valkenburg *et al.*, 2022). These themes mirror what Lei and colleagues (2024) found in the older adult population.

Lei and colleagues (2024) found that longitudinal and interventional studies focused on the review topic were scarce. Contrary to cross-sectional empirical findings, where social media use was often found to be a protective factor of adverse mental health outcomes, longitudinal studies suggest there could be null or even negative impacts. Although causal inference could not be achieved, longitudinal data compares changes within-person over time, while cross-sectional data contrasts the associations of social media use and psychosocial outcomes at the between-

person level (user vs. non-users or more frequent users vs. less frequent users). Older adults who choose to learn and use social media could have better mental health status originally. Future longitudinal and interventional studies could examine baseline differences in psychosocial wellbeing and potential bidirectional longitudinal relationships with social media use. Furthermore, Lei and colleagues (2024) found that social contact and competence mediated the associations between social media use and psychosocial outcomes in older adults, suggesting that social media use could enhance psychosocial wellbeing by promoting interpersonal relationships and improving self-efficacy. The underlying mechanisms are worth further exploration and can inform the development of social media facilitated mental health interventions.

While heterogeneity is most often due to differences in study design, scales used, and populations sampled, it may also represent issues with combining several homogeneous effects from latent subgroups. In other words, the effect of social media use on mental health may not be consistent across groups (e.g., young adults vs older adults; men vs women; those environmentally or genetically predisposed to mental illness vs those without a predisposition) or across outcomes (e.g., depression vs anxiety vs loneliness), leading to inconsistency within the literature. This heterogeneity may be complicated by the fact that social media is used in different ways (e.g., self-comparison vs entertainment vs maintaining social connection), which may characteristically lead to different outcomes. For example, looking at pictures and watching videos on social media may lead to an adverse impact on one's self-esteem (Saiphoo *et al.*, 2020) and an increase in risk-taking behaviors (Vannucci *et al.*, 2020), as users increasingly seek social acceptance and validation from their peers (Liu *et al.*, 2016a). However, using social media to connect with existing friends/family by posting and videoconferencing may be beneficial for one's social connectedness (Balki *et al.*, 2024; Liu *et al.*, 2016b; Lei *et al.*, 2024).

Social media use is a unique social determinant of mental health (SDoMH) because of its ubiquitousness (Allen *et al.*, 2014). It is accessible in every country, it comes in every language, it is increasingly available across economic and social classes, and it allows for individuals to construct their identities and jumpstart their careers. However, it diverges from most SDoMHs (e.g., childhood adversities, domestic violence and intimate partner violence, environmental inequities and exposure to natural disasters, housing and food insecurity, incarceration, migration, poverty, etc.) due to its inconsistent and sometimes unexpected effects on mental health. Most SDoMHs affect mental health uniformly across domains and demographic groups

(e.g., adverse impact of poverty on anxiety and depression is considerable, regardless of demographic characteristics) with little divergence. In addition, how one engages with social media is constantly changing - from posting text on public forums decades ago to uploading videos and live-streaming in present day.

As clinicians and researchers continue to grapple with an ever-changing digital world, work will be urgently needed to characterize the many nuanced effects of social media use on mental health, and importantly, how these effects may change by group, by utilization type, and over time.

References

- Allen, J., Balfour, R., Bell, R., and Marmot, M.** (2014). Social determinants of mental health. *International review of psychiatry*, 26(4), 392-407.
- Balki, E., Hayes, N., and Holland, C.** (2022). Effectiveness of technology interventions in addressing social isolation, connectedness, and loneliness in older adults: Systematic umbrella review. *JMIR aging*, 5(4), e40125.
- Casale, S., Akbari, M., Seydavi, M., Benucci, S. B., and Fioravanti, G.** (2023). Has the Prevalence of Problematic Social Media Use Increased Over the Past Six Years and Since the start of the COVID-19 Pandemic? A Meta-Analysis of the Studies Published Since the Development of the Bergen Social Media Addiction Scale. *Addictive Behaviors*, 107838.
- Lei, X., Matovic, D., Leung, W-Y., Viju A., Wuthrich, V.M** (2023). The Relationship between Social Media Use and Psychosocial Outcomes in Older Adults: A Systematic Review. *International Psychogeriatrics* (to be published).
- Lee, Y., Jeon, Y. J., Kang, S., Shin, J. I., Jung, Y. C., and Jung, S. J.** (2022). Social media use and mental health during the COVID-19 pandemic in young adults: a meta-analysis of 14 cross-sectional studies. *BMC Public Health*, 22(1), 995.
- Liu, M., Kamper-DeMarco, K. E., Zhang, J., Xiao, J., Dong, D., and Xue, P.** (2022). Time Spent on Social Media and Risk of Depression in Adolescents: A Dose-Response Meta-Analysis. *International journal of environmental research and public health*, 19(9), 5164.
- Liu, D. and Baumeister, R. F.** (2016a). Social networking online and personality of self-worth: A meta-analysis. *Journal of Research in Personality*, 64, 79-89

- Liu, D., Ainsworth, S. E., and Baumeister, R. F.** (2016b). A meta-analysis of social networking online and social capital. *Review of General Psychology*, 20(4), 369-391.
- Valkenburg, P. M., Meier, A., and Beyens, I.** (2022). Social media use and its impact on adolescent mental health: An umbrella review of the evidence. *Current opinion in psychology*, 44, 58-68.
- Vannucci, A., Simpson, E. G., Gagnon, S., and Ohannessian, C. M.** (2020). Social media use and risky behaviors in adolescents: A meta-analysis. *Journal of adolescence*, 79, 258-274.
- Saiphoo, A. N., Halevi, L. D., and Vahedi, Z.** (2020). Social networking site use and self-esteem: A meta-analytic review. *Personality and Individual Differences*, 153, 109639