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Letter to the Editor

Loneliness: A signature mental health concern in the era of COVID-19

ABSTRACT

In response to the COVID-19 pandemic, most communities in the United States imposed stay-at-home orders to mitigate the spread of the novel coronavirus, potentially leading to chronic social isolation. During the third week of shelter-in-place guidelines, 1,013 U.S. adults completed the UCLA Loneliness Scale-3 and Public Health Questionnaire (PHQ-9). Loneliness was elevated, with 43% of respondents scoring above published cutoffs, and was strongly associated with greater depression and suicidal ideation. Loneliness is a critical public health concern that must be considered during the social isolation efforts to combat the pandemic.

Dear Editor,

The rapid emergence of COVID-19 and the collective efforts to minimize its spread have severely disrupted the normal lives of much of the world's population. To contain the spread of COVID-19, most people living in the United States have been advised to stay at home and shelter-in-place since the middle of March, 2020. Throughout this "lockdown" period, most people have been encouraged to work from home if possible, and avoid leaving their residence except for necessities. If it is essential to venture outside, people have been urged to wear face masks, avoid gatherings of people, and maintain physical distance of 6-feet or more from others. Even more severe social isolation and quarantine restrictions have been imposed for those who have potentially come into contact with the virus, with such individuals advised to completely self-isolate for at least two weeks. For the first time in many people's lives, they are experiencing an unwanted and prolonged separation from a vital, and deeply human, aspect of their existence. They are alone—with no certain end to the isolation in view. We hypothesized that the prolonged social isolation enacted during the COVID-19 pandemic may increase feelings of loneliness, a key contributor to mental health problems such as depression and suicide (Stickley and Koyanagi, 2016).

To assess the impact of current social isolation on loneliness and mental health, we administered the UCLA Loneliness Scale-3 (Russell, 1996), a validated metric of the construct of loneliness, and the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001), a widely used screening measure for depression, to a nationally representative sample of 1,013 (18-35 years old; 567 females; 446 males) English speaking U.S. adults. The scales were administered during the third week of the National Emergency concerning the novel coronavirus and the stay-at-home orders enacted by most states (i.e., April 9-10, 2020). Participants were sampled from all 50 states, proportional to state population. Written informed consent was obtained prior to participation and the study protocol was approved by the Institutional Review Board of the University of Arizona. For loneliness, mean scores were compared with prior published data to evaluate severity, and were further dichotomized into loneliness groups based on the published cutoff score of ≥ 47 (Morahan-Martin and Schumacher, 2003). For the PHQ-9, mean depression scores were calculated according to the standard instructions. Depression scores and the score from the single suicidal ideation item (item 9) were compared between loneliness groups using analysis of covariance (ANCOVA), with age and sex as covariates.

Overall, 93.6% of the sample reported that, at the time of the assessment, they were "sheltering-in-place", and 61.5% endorsed feeling "socially isolated much of the time." The mean Loneliness Scale score in the current sample ($M = 43.8 \pm 13.5$) was significantly higher than reported in prior work ($M = 38.4 \pm 13.5$; $t_{1287} = 6.31$, $p < .0001$; $d = 0.48$), with 43% of respondents exceeding the cutoff for high loneliness (Morahan-Martin and Schumacher, 2003). Lonely individuals ($M = 10.47 \pm 6.40$) were significantly more depressed than the non-lonely ($M = 4.45 \pm 4.74$; $F_{1,997} = 299.49$, $p < .00001$, partial $\eta^2 = .23$), with 54.7% of lonely participants meeting clinically significant criteria for moderate to severe depression compared to 15.3% of non-lonely participants (OR: 6.90, 95% CI: 5.10-9.33; $p < .00001$). Moreover, lonely individuals ($M = 0.55 \pm 0.88$) scored significantly higher than non-lonely ($M = 0.07 \pm 0.36$) respondents on the PHQ-9 suicidal ideation item ($F_{1,997} = 138.13$, $p < .00001$, partial $\eta^2 = .12$), with 34.9% of lonely respondents endorsing some level of suicidal ideation compared to 4.5% of non-lonely participants (OR: 10.97, 95% CI: 7.04-17.11; $p < .00001$).

In the midst of the mandates to self-isolate during the COVID-19 pandemic, a large proportion of the population is experiencing a significant surge in self-reported loneliness. While causation cannot be inferred from cross-sectional data, the present findings are consistent with the notion that the prolonged stay-at-home efforts enacted during the pandemic are likely severely increasing loneliness and social disconnection among many people. This is concerning, as loneliness has been associated with a wide range of mental health problems, interpersonal issues, substance use, and physical health conditions, including cognitive decline, and significantly elevated morbidity and mortality (Ingram et al., 2020).

We found that greater loneliness in the present sample was associated with elevated depression and higher suicidal ideation on a standard clinical screening instrument. The observed effect sizes are large, suggesting that they are likely to have a tangible and meaningful impact when considered at the population level. The potential for elevated suicide risk during the pandemic should be taken seriously by healthcare providers, particularly given the huge economic stresses produced by recent job losses and furloughs.

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Awareness of the problem is the first step. The public needs to understand that increased loneliness is an expected and probable consequence of current self-isolation measures, and efforts need to be directed at minimizing stigma that may surround those who admit they feel lonely. We recommend that loneliness and perceived social isolation be routinely assessed during clinical encounters. Further, greater considerations of the mental health needs of the populace (including perceived social isolation and loneliness) must be incorporated into longer-term public health responses to COVID-19. Efforts need to be directed toward finding novel and creative approaches for maintaining social connectedness while still following public health guidelines for minimizing virus transmission.

CRediT authorship contribution statement

William D.S. Killgore: Conceptualization, Formal analysis, Resources, Data curation, Writing - original draft, Supervision, Funding acquisition. **Sara A. Cloonan:** Investigation, Writing - review & editing. **Emily C. Taylor:** Project administration, Writing - review & editing. **Natalie S. Dailey:** Conceptualization, Writing - review & editing.

Declaration of Competing Interests

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