Editorial

Lost Connections: Why the Growing Crisis of Loneliness Matters for Planetary Health

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1. Introduction: An Epidemic of Loneliness

Healthy social connections—belongingness and relatedness to others—are considered to be basic human needs [1]. Yet, many societies are plagued with growing levels of isolation and loneliness, polarization, and growing distrust of others. In the years immediately preceding the COVID-19 pandemic, there was much discussion in popular media about a "loneliness epidemic". The United States Surgeon General, Vivek H. Murthy, helped spark the discussion in 2017 when he declared loneliness as an epidemic in several mainstream media articles [2,3]. Although labelling this as an "epidemic" might have seemed hyperbolic, a recent meta-analysis and systematic review supports the conclusion that loneliness has been increasing over time [4] (Figure 1). The COVID-19 pandemic appears to have compounded loneliness, worsening an already-bad situation [5,6].

Figure 1. Living in crowded isolation: the decline in meaningful in-person interactions due to addictive smartphone technology is another factor influencing isolation and loneliness, as "social" media promotes anti-social behavior. (Artwork created by the author, S.L.P.).

Loneliness is a subjective emotional experience of psychological pain associated with a mismatch between the actual and desired level of personal social relationships. In addition to the considerable emotional impact, there are growing concerns that social isolation and loneliness are undervalued risk factors for disease and mortality [7]. Thus, while we might debate the adjectives that best describe loneliness at scale, it is a serious affliction linked to premature death from both mental and physical ill-health [7–14]. This includes insomnia, depression, suicidal ideation, and many chronic diseases associated with inflammation, oxidative stress, and even alterations in the gut microbiome, which mediate many physiological effects [7–14].

In other words, loneliness is implicated in many aspects of the growing personal, social, and economic burden of chronic disease threatening many societies, and this requires coordinated efforts to understand the interconnected web of causation and consequences. It is therefore an issue of great concern and relevance to the *Challenges* journal as we seek interdisciplinary solutions to complex interdependent problems affecting "people, places, and planet".

The negative relationship between human flourishing and loneliness appears to be to be bidirectional, and therefore potentially self-perpetuating [15]. In other words, the physical and emotional consequences of loneliness add to social withdrawal, further magnifying community disintegration, lack of support, resentment, fear, and isolation. This culture of separation is implicated in declining altruism and environmental concern, increasing individualism, apathy, and hopelessness, as discussed below.

At scale, this is highly relevant to the transdisciplinary planetary health agenda, which is concerned with promoting flourishing across all systems—from the personal to the global level [16]. Planetary health calls for an expansive view of all factors that threaten human flourishing, and integrated approaches to addressing threats to sustainability and our relationship with the natural systems [17]. In this context, isolationism and social fragmentation undermine collective efforts to address the global challenges to flourishing.

Effective actions to promote flourishing depend on pro-social attitudes and pro-environmental attitudes for meaningful change. Efforts to engage individuals, strengthen communities, and improve social cohesion are therefore essential to the planetary health agenda—with clear benefits for individuals and local environments.

2. Lost Connections: Causes, Pathways, and Wider Implications

If loneliness is rising in populations, what might be driving that increase? Some have pointed at increases in screen time and social media use as a displacement factor relevant to lower in-person social interaction. For example, in one cohort study, adolescents' feelings of loneliness increased sharply after 2011 [18]. Those with low in-person social interaction and high social media use reported the most loneliness. This is not a uniquely American problem. The increase in adolescent loneliness appears to be a worldwide phenomenon [19]. This is also a factor in the rising incidence of "nature-deficit" disorder [20,21]—displacing meaningful relationships with nature as well as traditional social relationships. Problematic smartphone use among youth is a significant concern, with rising global trends for additive behaviors [22]. However, this is unlikely to be the sole, or even the most significant, factor in the crisis of loneliness.

Although loneliness is often studied at the level of individual behavior and perception, it is a reflection of wider community conditions, social structures, and even physical conditions. For example, neighborhoods that are devoid of green spaces, community facilities, and public transport are associated with higher rates of loneliness and a perceived shortage of social support [23,24]. This may mediate the well-described relationship between green space and health [23,25]. It is also consistent with how community safety, crime, and fear are influenced by green space, or a lack thereof [26,27].

In this context, it is clear why loneliness does not sit on a level socioeconomic field. A lower socioeconomic position predicts a higher probability of reporting loneliness [28]. Specifically, zip codes known to have higher unemployment, poor access to healthcare, lower income, poor transportation, and disproportional numbers of marginalized persons are the very locations where mean loneliness scores are higher [29]. These are also the neighborhoods with less access to green spaces, lower social cohesion, poor health, and shorter life expectancy [30–32].

At a deeper level, "lonely societies" appear to those permeated with loss of trust [33]. Distrust is associated with social withdrawal and loneliness [34]. Declining trust in politicians, governments, and other authorities is correlated with interpersonal distrust—greater distrust of other people in general [35]. This has been amplified following the COVID-19 pandemic [36]. Growing suspicion of institutions reduces trust between strangers, within-

group cooperation, commitment, and pro-social behavior [36]. This erodes the fabric of society and sets the stage for increasing prejudice, conflict, polarization, and extremism [36]. This "spiritual crisis"—the loss of deeper meaning and shared purpose—may now present one of the greatest threats to humanity.

These tandem "lost connections" to community and to nature are implicated in the rising challenges to both human health and that of the natural environment. As community cohesion declines, people are less likely to engage in activities that promote a sense of connection, belonging, and purpose in life [37,38]—all of which are important for health and longevity [39]. Similarly, as people grow less connected to nature and pessimistic about the environment, they are less likely to engage in actions to protect it [38].

3. Loneliness from a Planetary Health Perspective

In one sense, planetary health is concerned with ensuring the basic needs of humanity in a sustainable way—nourishment through sustainable sources of quality food, sustainable water needs, and safety through an environment without war and violence. Since belonging is a need rather than a luxury [40], addressing loneliness and social connections can be considered a transdisciplinary concern, central to planetary health.

Like most matters in planetary health, loneliness is steeped in complexity. The socioeconomic drivers and biopsychosocial variables related to loneliness are many, and a deeper understanding of these interconnected factors will be an important step in developing policies and practices aimed at reducing loneliness [41]. As just one example, food insecurity is associated with significantly higher odds of loneliness in youth [42]. At the same time, loneliness is also a distinct social determinant of health, which suggests that measures addressing loneliness have the potential to reduce socioeconomic health inequalities [43]. For now, evidence-informed interventions aimed at reducing loneliness at larger community scales remain limited [44].

Even small increases in loneliness at population levels can have a significant ripple effect. Loneliness is a sign that individuals have disengaged; therefore, it represents a health problem to the individual and to society as a whole. Since loneliness, especially chronic loneliness, is associated with withdrawal from pro-social behavior [45,46], it represents the loss of pro-social, and arguably pro-environmental, behaviors at scale. This underscores the wide-ranging value of promoting positive, meaningful social connections for the benefits of individuals, communities, and global systems—and the importance of transgenerational approaches (Figure 2).

Figure 2. Wide-ranging personal and collective benefits of promoting positive connections in early life: cultivating a sense of connection to "people, places and planet" in early life has long-term implications for future well-being, including physical and emotional health, positive relationships, and pro-social and pro-environmental attitudes as adults.

4. Social Prescribing Has Benefits for People, Place, and Planet

More than 100 years have passed since an Editorial in the *Pennsylvania Medical Journal* argued that loneliness is a factor in the development of "psychoneuroses", and that it is "high time" that physicians consider loneliness in clinical care [47]. Despite the increased awareness of loneliness, a recent study of patients attending a primary care clinic in an underserved urban area found that over 40% experience significant loneliness—two times the already-high prevalence estimates previously reported in USA primary care [48].

In 2022, experts called for enhanced screening of loneliness in primary care to cope with the mounting "Pandemic of Loneliness" [49], and encouraged social prescribing by healthcare providers, including nature-based interventions, as a potentially effective way to reduce loneliness [50–52]. In this context, strategies for individuals, such as mindfulness and pro-social behavioral interventions, have been proposed [53–55]. However, at the community level, social prescribing, art, and nature-based solutions also have wider benefits for social cohesion and the health of societies more generally [56]. It is encouraging to see government-funded initiatives, such as the UK Growing Health Together (GHT) place-based health creation program, which focus on health, equity, and sustainability through social relationships, creativity, and nature connectedness. This initiative, led by our colleague Gill Orrow in Surrey, takes an ecological approach to health and models how we can cultivate personal, population, and planetary health through grassroots approaches [57].

This also calls for infrastructure policies to create healthier neighborhoods that are highly walkable, with equitable access to gardens, community services, and creative social spaces [24]. In a recent Australian study, a lower cumulative incidence of loneliness was observed among people with more green space within 1600 m of their home, especially for people living alone; the results of this nationally representative cohort study suggest that achieving urban greening targets of 30% of the total area could lower the odds of cumulative incident loneliness by up to 26% among adults in general, and by 52% among adults who live alone [58]. Notably, stronger relationships with nature through contact with green space also increases pro-environmental attitudes and actions [59,60]. Restoring these crucial connections may therefore provide a critical common pathway to mitigate adversity and promote the physical [61–64] and spiritual well-being of individuals [62,65–67] and communities [27,68]. It also enhances personal (and collective) social and environmental responsibility [69–71].

5. Conclusions: The Need to Prioritize Belonging and Spiritual Well-Being

Loneliness is just one of many manifestations of the social crisis facing many societies. It is another signpost pointing to the urgency of prioritizing the spiritual well-being of individuals and communities to tackle the many threats to health at all scales [72]. *Challenges* is committed to encouraging research, advocacy, and actions to address these complex social challenges through transdisciplinary dialogue and collaboration. We welcome diverse contributions that explore ways of improving social cohesion and belonging, and of strengthening interpersonal relationships and connections with the natural world. Not only will these efforts provide tangible avenues for creating solutions, but they will also help restore optimism—a powerful positive influence motivating engagement and social cohesion in shared efforts towards meaningful change [73,74].

Conflicts of Interest: The author declares no conflict of interest.

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