Abstract
The internet and related media play key roles in education, work, and leisure. It could be argued that people have better interpersonal interactions because of social media, which could reduce loneliness. But documented internet use patterns suggest that the internet increases loneliness. Studies conducted prior to and during the COVID-19 pandemic demonstrate an association between what’s called “internet addiction” and loneliness, although findings vary with participant demographics and frequency and types of internet use. There is a need to conduct longitudinal research to determine the direction of causality and whether what we define as “balanced” internet behavior positively affects well-being.

Loneliness and Media
Loneliness can be defined as the feeling we get when our need for rewarding social contact and relationships is not met. There are many factors that can increase loneliness, a recent example being the reduced social contact caused by the COVID pandemic. Loneliness is associated with poor health; it elevates stress, which can cause mental health problems that in turn can influence physical health. One factor associated with loneliness is internet use. Internet use covers various behaviors, with some being considered positive (eg, the use of the internet in education and work) and others (eg, social media use, gambling, viewing pornography)—especially when excessive—being associated with addiction that can undermine well-being. Internet addiction is compulsive internet use, which manifests as addiction symptoms and withdrawal signs when the user is not connected to the internet, as well as impairment of life activities, including those performed at work and at home. Problematic internet use is more common and is defined as internet misuse, which has a general negative impact on the internet user’s life.

Debate about whether the internet improves or harms participation in community life and social relationships started in the 1990s. An early study of the internet and psychological well-being found that greater internet use was associated with a decline in participants’ communication with family members, a decrease in their social circle, and an increase in depression and loneliness. Subsequent studies have reported similar results. An early review of research on this topic by Morahan-Martin supported 2 opposing hypotheses about the causal relation between internet use and loneliness.
First, loneliness may be a product of excessive internet use because users invest in online relationships at the expense of real-life ones. Alternatively, lonely individuals may be drawn to online activities because they offer connectedness, companionship, and community membership. The present article aims to review the literature on the internet and loneliness to answer the question: What role does the modern internet play in alleviating or exacerbating loneliness?

Loneliness and the Internet

Cause and effect. Similar to Morahan-Martin, a 2009 study suggested that loneliness can be both the cause and the effect of problematic internet use. A 2021 systematic review and meta-analysis found a moderate association between internet addiction and loneliness, although most of the studies included in the review were carried out prior to the start of the COVID-19 pandemic. Based on a review of the literature on the relationship between internet use and loneliness, Nowland et al concluded that when the internet is used to enhance existing social relationships and develop new social connections it is a valuable tool for reducing loneliness (the “stimulation hypothesis”), but when it is used to escape from the social world and withdraw from social interactions it will increase feelings of loneliness (the “displacement hypothesis”). On the displacement hypothesis, lonely people who use the internet to escape from social interaction may reduce the time they spend on offline social interaction, suggesting that they need psychological support in managing their internet use to enhance existing relationships and create new ones.

Specific groups. Several review articles published after 2010 focus on specific groups, such as the elderly, children, or adolescents. In the case of the elderly, results show that internet communication technology may be appropriate for some individuals (eg, those with good computer literacy) but not for everyone. Future research should aim to identify those who would gain the most benefit.

Isolation induced by the COVID-19 pandemic. Internet use significantly increased during the pandemic due to the lockdown and people having to work and interact from home, with significant detrimental effects on people’s mental health. During periods of social isolation, social media identity bubbles may provide substantial social resources. However, these resources cannot shield people who are lonely from increased psychological discomfort, and virtual friendships have been shown to predict greater loneliness among adolescents with learning disabilities. Even if virtual friendships ease the emotional loneliness that comes from a lack of intimate, physical relationships for some, there is reason to believe that many of the relationships made online are little more than virtual friendships. How we use the internet may contribute to feelings of isolation, and perceived social isolation is positively related to problematic social media use. Although in-person interactions are still the most effective strategy to combat feelings of isolation, people may sometimes find the support they need in virtual communities.
Research has shown that loneliness increased during the pandemic. In one survey of Italian adults, respondents of all ages reported that they spent more hours using social media during the lockdown than before, with perceived loneliness being associated with both excessive social media use and anxiety, consistent with the findings of a survey on Chinese adults’ WeChat use. However, a study of middle-aged and older English adults found that those who used the internet more than once a day and for communication purposes felt less lonely than those who used the internet once a week during the quarantine, indicating that frequency of internet use is related to subjective sense of well-being.

During the pandemic, loneliness increased among the elderly, and, in particular, among elderly adults with physical impairments or lack of ability to use or access technology to socialize online. Feelings of loneliness increase with age, and, among older adults, loneliness and social isolation are associated with anxiety, depression, mortality risk, and cognitive decline. Although internet use was shown to mitigate loneliness among the elderly in an “age-friendly” city in Taiwan during the pandemic, a study of internet addiction among the elderly in China during the pandemic conversely found that internet addiction can be mitigated by increasing real-life social support that lessens the feeling of loneliness among the elderly.

There was also a rise in loneliness and mental health-related effects among children and adolescents during the COVID-19 pandemic, with loneliness both contributing to and exacerbating depression and anxiety in children and adolescents with preexisting mental health conditions. Lonely adolescents were more likely to use social media as a strategy for coping with restricted social contacts in real life. A study of Turkish adolescents during the pandemic showed that loneliness increases internet addiction, and other studies showed that internet-based addictive behaviors increased during the pandemic, negatively impacting young and adolescent internet users. Within this group, internet use, loneliness, and social isolation have been found to be correlated with mental health issues such as anxiety, stress, and depression.

Our and our colleagues’ research confirms that the association between internet use and loneliness depends on the characteristics of the sample. In a survey of over 500 participants from Kuwait and Saudi Arabia, loneliness was found to be associated with both problematic internet use and the number of hours spent online, with younger participants reporting greater loneliness than older ones and those who reported greater loneliness frequently obtaining news about the pandemic from social media. The quality of the relationship with the person(s) with whom participants were spending their lockdown was also correlated with loneliness. In summary, the literature shows that the association between internet use and loneliness depends on the nature of the internet use and the characteristics of the user.

**Next Questions**

Despite the large literature on internet use and loneliness, there are many issues that require further study. For example, are there differences in the loneliness-producing effects of different internet activities? Does internet literacy have an effect on loneliness? Are cultural differences important because of differences in the availability of and attitudes toward different internet resources? What is it about online relationships that makes them less satisfying than in-person interactions? And does loneliness cause internet use or vice versa? Most studies do not show a causal relationship between internet use and loneliness but rather an association that could be
bidirectional. Moreover, in research conducted during the COVID-19 pandemic, social isolation may be confounding the association between internet use and loneliness.

From an ethical perspective, one can argue that both the prevention of loneliness and appropriate use of the internet are important topics that require appropriate guidance. The specific form of this information depends on the findings from the research, and it is apparent that there are many issues to resolve before appropriate guidance can be given.

References


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