

Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age

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ABSTRACT

The social interaction between the students has been changed due to the rapid growth of digital technologies. Despite the benefits that digital mediums suggested in terms of connectivity, there has been a growing trend that shows that loneliness is actually increasing among student populations. The current article is based on the secondary sources in order to investigate the connection between digital connectivity and loneliness among students. Systematic review of peer-reviewed articles published after 2022 was carried out, the sample of problems of social media use, addiction to the internet, self-esteem, online social support, and media literacy. The review indicates that an overabundance and maladaptive digital interaction is always linked with high levels of loneliness that are mediated by psychological variables that include dissociation, decreased self-worth, and withdrawal. Meaningful online social support and digital literacy were, however, identified to reduce loneliness. The results point to the significance of a balanced digital practice and institutional responses to facilitate student mental health in the digital era.

Keywords: *Digital Connectivity, Loneliness, Students, Social Media, Psychological Well-Being*

Digital technologies transformed interpersonal communication, learning and social interactions. Smart phones, social networking and instant messaging have become part and parcel of the life of the students. Although they have allowed the establishment of always connectedness, these technologies have been associated with the increased cases of loneliness in the youth (Bakry et al., 2022; Wu, Feng, and Zhang, 2024). The reason is that loneliness is a subjective emotional experience that occurs when a person believes that there is a gap between the wanted and the real social relationships (Luo, Huang, and Wu, 2022).

The spread of the digital world has had a significant effect on social, academic, and emotional lives of students in all parts of the world. The use of Smartphones, social networking sites, and instant messaging applications has done this, bringing students to an environment where they are constantly in touch with the online networks. Although these technologies were initially created to enhance communication and improve the quality of interpersonal interactions, the growing amount of evidence indicates that their mass and

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Received: February 01, 2026; Revision Received: March 02, 2026; Accepted: March 06, 2026

frequent uncontrolled usage has led to a paradoxical rise in loneliness and psychological discomfort among the young population (Nowland, Necka, and Cacioppo, 2018; Twenge, 2019).

Loneliness is understood as the subjective feeling of social isolation that arises when one sees a gap between the preferred and the social relationship he or she wants (Perlman and Peplau, 1981). Modern studies show that the student population is one of the most susceptible groups to loneliness during the period of digitalization. Bu, Steptoe, and Fancourt (2020) showed that young adults described being lonelier by a significant margin when social restriction was in place, and digital communication had both protective and harmful effects based on the patterns of use. These results bring to the fore the intricacy of the digital connectivity/emotional well-being complex.

Empirical examinations have constantly associated problematic use of digital media with high loneliness. In a study among medical students, Bakry et al. (2022) established that heavy use of social media was substantially linked with a high score on loneliness. In much the same manner, Li et al. (2022) found that problematic smartphone use in the students of the university predicted loneliness, with self-esteem acting as a mediator. These findings indicate that obsessive online behaviours could be a way of compromising the psychological resources of students, hence making them more susceptible to the risk of social isolation.

Mechanisms that drive this association psychologically have also been examined scholarly. Luo, Huang, and Wu (2022) found that the preference to use the internet forecasted loneliness with a chain of mediation with less online social support and lower self-esteem. Similarly, Marino et al. (2023) linked the effect of social comparison processes to social networking sites, demonstrating that the upward comparison was linked with emotional distress and subjective social inadequacy. Elhai et al. (2022) also reported the fear of missing out (FoMO) as the influential predictor of problematic smartphone use and adverse emotional outcomes, which supports the opinion that emotional dysregulation and maladaptive cognitions facilitate digital-age loneliness.

The longitudinal data supports the claim that unhealthy digital use leads to loneliness and does not just portray it. Wu, Feng, and Zhang (2024) found that problematic use of social media in the past predicted problematic social media use in the future, which led to problematic loneliness among Chinese university students. The results were expanded by Matiz et al. (2024), who showed the relationship between problematic internet use and loneliness among adolescents was mediated by dissociation, which proves that more profound psychological disturbances were related to excessive internet-immersion.

However, not every kind of digital involvement is negative. Verduyn et al. (2017) made a distinction between active and passive use of social media and discovered that active use, which included direct communication and the ability to share content, was linked to a better well-being, whereas passive consumption was linked to loneliness. Wedadiati et al. (2024) also highlighted a protective media literacy role as students who possessed higher digital literacy levels were better placed to cope with their online behaviours and reported reduced cases of digital loneliness. The same argument was presented by Perea (2020), who stated that the skills of self-regulation are critical in preventing the development of an addictive smartphone behaviour.

Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age

To conclude, the current literature offers a delicate concept of digital connectivity and loneliness in students. Although digital technologies present unparalleled access to the possibilities of communication, anti-adaptive trends of their use are always linked to emotional isolation, low self-esteem, and withdrawal. The current research aims at conducting a systematic review of recent secondary data to clarify the intricate psychological processes between the use of digital media and loneliness among students and to determine any protective factors that can be used to inform education and mental health interventions.

Digital loneliness is the expression of this paradox of being physically close but emotionally distant. The empirical data prove that social media overuse, internet addiction, and passivity of engagement patterns can negatively affect psychological health, which leads to increased loneliness and social isolation (Matiz et al., 2024; Wedadjati et al., 2024). The current paper is an overview of the available literature to explicate the role of digital connectivity in creating loneliness among students.

Objectives

1. To examine the commonality on loneliness among students in the digital age.
2. To test relationships between the use of digital technologies and loneliness.
3. To determine psychological intermediates that affect this association.
4. To make implications regarding educational and mental health interventions.

METHODOLOGY

The research design that will be applied in the present study is a systematic secondary research design. Scopus, PubMed, Frontiers, BMC, MDPI and other peer-reviewed journals were searched and articles retrieved. These keywords were loneliness, digital connectivity, social media use, problematic internet use and students. Inclusion criteria were:

- a) publication between 2022–2024,
- b) groups of students or adolescents, and
- c) focus on loneliness and digital behavior.

The selected and critically analyzed six good studies that met these criteria were identified.

REVIEW OF LITERATURE

Online Media and Loneliness in Students

Technology-related loneliness is explained theoretically basing on the displacement hypothesis according to which the overuse of online communication substitutes the face-to-face relationships and makes people more socially isolated (Nowland, Necka, and Cacioppo, 2018). On the contrary, online communication may improve social connectedness through the stimulation hypothesis which proposes that under constructive use it can have beneficial effects (Verduyn et al., 2017). Modern evidence suggests that the two processes work concomitantly, based on the pattern and the intention of using digital media.

In a massive cross-sectional study, Keles, McCrae, and Grealish (2020) analysed the use of social media among adolescents and identified that emotional investment in social media was a significant predictor of loneliness and depressive symptoms. The authors stressed that problematic engagement was the risk factor, and not the time spent online.

In line with this, Li et al. (2022) have examined problematic smartphone use in Chinese university students and found that there is a positive and significant correlation between smartphone addiction and loneliness. The structural equation modelling revealed that this

Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age

relationship was mediated partially by self-esteem that high phone use impaired self-concept thus contributing to loneliness.

Role of Social Comparison and Self-Esteem

Digital platforms are very visual and performance-driven thus making people compare objects all the time. As illustrated by Marino et al. (2023), upward social comparison on social networking platforms was considerably linked to the feeling of inadequacy and loneliness. Students that constantly contrasted their lives with the idealised online images had lower self-esteem and withdrawal.

Equally, Elhai et al. (2022) established that the association between the social media addiction and the emotional distress was mediated by fear of missing out (FoMO). Students with high FoMO said they had compulsive checking behaviours, which worsened the experience of being socially rejected in cases where offline communication was restricted. Longitudinal Digital Addiction and Loneliness Evidence.

Longitudinal studies are more evidence based on causality. A two-year follow-up study by Wu, Feng, and Zhang (2024) of Chinese university students revealed that the growth in problematic social media use was correlated with the growth in loneliness even after controlling other baseline mental health variables. This observation indicates that digital overuse is not a mere coping mechanism in the face of loneliness but can also be a cause of it. On the same note, Bakry et al. (2022) studied Saudi Arabia medical students and discovered that the use of high levels of social media was a significant predictor of loneliness.

Protective Role of Digital Literacy and Online Social Support

The digital engagement is not necessarily bad. Verduyn et al. (2017) emphasized that social media use, including direct correspondence and sharing of content, increased the sense of social support and decreased loneliness. Similarly, it was mentioned by Pera (2020) that students, who were highly digitally literate, were in a better position to control their online behaviour and have a healthy offline relationship.

Throughout the lockdown phase during the COVID-19 pandemic, Bu, Steptoe, and Fancourt (2020) noted that the students who utilized digital platforms to keep emotionally relevant relationships felt less lonely compared to those who behaved passively. The results support the value of quality of online communication instead of volume.

Psychological Mediators and Internet Use

The study by Luo et al. (2022) reported that the use of internet preference mediated the effect of loneliness via online social support and self-esteem. High digital dependence students who had low perceived social support were more exposed to loneliness.

According to Matiz et al. (2024), dissociation mediated the association between problematic internet use and adolescents, which showed that psychological disengagement exacerbates the effects of digital loneliness among adolescents.

DISCUSSION

The current review has revealed that digital connectivity is not in itself protective of loneliness but the psychological impacts will vary according to the nature, purpose, and intensity of technology use. As Bakry et al. (2022) and Li et al. (2022) also find, the students

Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age

with addiction-like social media and smartphone usage report much greater loneliness. These patterns tend to be accompanied by the compulsive checking, fear of missing out, and the condition of dependence on virtual communication through the sacrifice of the engaging relationship in real life (Elhai et al., 2022; Marino et al., 2023).

The mediating mechanisms in the literature point at the psychological vulnerability in digital loneliness. Luo et al. (2022) established that preference to use internet predicts loneliness with a chain mediation of lower online social support and lower self-esteem, indicating that all online interactions are not social nourishing. In a similar manner, Matiz et al. (2024) discovered a mediation effect between problematic internet use and loneliness by dissociation, suggesting that over immersion in the digital world can make individuals emotionally withdrawn regarding living in the real world.

Longitudinal evidence also supports this meaning. Wu, Feng, and Zhang (2024) found that problematic social media use gains had predictive relationships with problematic social media use gains, and, accordingly, loneliness was also associated with the gains in digital overuse, which increased loneliness in turn. These results align with the hypothesis of displacement advanced by Nowland et al. (2018) where the excessive use of the Internet will be gradually substituting the direct interpersonal interaction, undermining the social connections in the long term.

Nevertheless, the possibilities of adaptive digital engagement are also highlighted in this review. Online communication is an active and meaningful process that can be useful in providing emotional support and alleviating loneliness when students have sufficient self-regulation and media literacy skills (Verduyn et al., 2017; Wedadiati et al., 2024). Therefore, digital technology cannot be viewed merely as a threat factor but as a two-sided phenomenon the impact of which is determined by the behaviour of the users and the supports of the context.

Implications

This review has serious implications on the educational institutions, mental health professionals, and policymakers.

Learning institutions ought to incorporate digital well-being and media literacy courses in the school curriculum to give students the knowledge they need to cope with online behaviour skills (Wedadiati et al., 2024). These programs can be used to raise awareness regarding bad digital behaviors, help to critically analyze the information people find online, and teach to use technology in a balanced manner.

The focus of psychological interventions must be on self-esteem, emotional regulation, and coping skills to cope with the vulnerability factors, i.e., FoMO, dissociation, and social comparison (Elhai et al., 2022; Marino et al., 2023). Psychoeducational seminars and counselling services would help students to have healthier relationships with digital media. The institutions should also facilitate offline possibilities of peer interactions such as clubs of students, learning environments and campus social activities to enhance the real world social networks. Enhancement of inter-personal relationships in the physical places can potentially replace the displacement effects of the over-interaction on the Internet.

CONCLUSION

The current systematic review supports the fact that digital connectivity is a two-sided phenomenon in the lives of the students. Despite the fact that digital technologies provide

opportunities to communicate and gain access to social networks, there are always maladaptive patterns of use, the main feature of which are compulsive involvement, emotional dysregulation, and lack of offline interaction, which are inevitably combined with increased loneliness. This relationship is exacerbated by such psychological processes as low self-esteem, the fear of missing out, dissociation, and reduced perceived social support.

On the flipside, however, the evidence shows that the feeling of loneliness can be alleviated through meaningful online engagement with the help of high levels of media literacy and self-regulation skills. Consequently, the most effective strategies to counteract the threat of digital-era loneliness are the moderation of using technologies, constructing psychological resilience, and empowering the social system in the offline environment. Further studies on longitudinal and culturally diverse views on student well-being during the digital age should proceed to inform evidence-based interventions to facilitate student well-being.

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Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age

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Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Lamba, S. (2026). Virtual Crowds, Real Isolation: Understanding Loneliness Among Students in the Digital Age. *International Journal of Indian Psychology*, 14(1), 1279-1285. DIP:18.01.127.20261401, DOI:10.25215/1401.127