

# The Impact of Internet Usage on Mental Health Among Senior Secondary Students: A Systematic Review

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## Abstract

In the past decade, India has seen a significant rise in internet penetration among adolescents, particularly those in the senior secondary age group (15–18 years). With this digital shift, questions about the psychological cost of internet overuse have emerged. This comprehensive review explores how internet usage—ranging from academic dependency to compulsive social media behavior—affects the mental health of senior secondary students across Indian states. Drawing from 30+ scholarly sources between 2020 and 2025, the paper synthesizes data on anxiety, depression, internet addiction, peer pressure, academic burnout, and sleep disturbance. Results show that moderate internet use, when guided by parental monitoring and school-based interventions, can support learning and socialization. However, excessive and unregulated use leads to higher incidences of emotional dysregulation, loneliness, and academic disengagement. The review also highlights gender differences, urban-rural disparities, and the socio-cultural context unique to Indian adolescents. This paper concludes with critical implications for educators, policymakers, and mental health professionals, emphasizing digital literacy and emotional resilience education.

**Keywords:** *Internet Usage; Adolescents; Mental Health; Senior Secondary Students; Digital Addiction*

## Introduction

The internet has become an omnipresent force shaping nearly every aspect of adolescent life in the 21st century. Its role in redefining communication, education, entertainment, and even identity construction is particularly pronounced among teenagers. In India, this digital transformation has taken place at an astonishing pace. The proliferation of affordable smartphones, data plans such as those by Jio, and extensive government initiatives like “Digital India” have significantly increased the accessibility of online platforms to even remote rural areas. As a result, Indian adolescents are among the most active internet users globally. According to the Telecom Regulatory Authority of India (TRAI, 2023), India had over 750 million internet subscribers, with the highest percentage being individuals between the ages of 15 and 24. These statistics indicate that a large segment of India’s youth—particularly senior secondary school students (typically aged 15 to 18)—are deeply engaged with the internet on a daily basis.

The internet, by its very nature, is a dual-edged sword. While it offers unprecedented access to information, learning platforms, career resources, and social connectivity, it also opens up gateways to overuse, addiction, misinformation, and psychological strain. The period of adolescence, and especially the senior secondary phase, is developmentally significant. It is marked by key psychological transitions—identity exploration, emotional sensitivity, peer bonding, academic stress, and increasing autonomy. As adolescents strive to form their own sense of self, they simultaneously face enormous academic pressure, societal expectations, and hormonal changes. In such a psychologically sensitive period, the way adolescents interact with the internet can significantly shape their mental health

This concern has been magnified since the onset of the COVID-19 pandemic, which disrupted the educational sector globally. Indian schools remained closed for over a year in many states, leading to a near-total shift to online education. While digital platforms provided continuity in learning, the downside included an exponential increase in screen time. Adolescents, who previously spent 2 to 3 hours online daily, were now engaged for 6 to 8 hours or more—often with inadequate breaks, poor postural ergonomics, and limited parental supervision. Prolonged engagement with screens, particularly when combined with non-educational activities such as binge-watching series, excessive social media scrolling, or online gaming, began to take a toll on their psychological well-being.

Emerging research during the pandemic period highlighted a worrying trend: increased reports of anxiety, irritability, mood swings, depressive symptoms, and insomnia among teenagers. Many adolescents turned to the internet as a means of coping with social isolation, but in doing so, they also exposed themselves to the risks of compulsive internet use. The phenomenon of internet addiction, once considered limited to adults or college students, is now being observed in high school students. Symptoms include irritability when not online, preoccupation with digital platforms, decline in academic performance, and withdrawal from offline activities. Furthermore, cyberbullying, exposure to harmful content, unrealistic beauty and lifestyle comparisons on social media, and a constant need for external validation (likes, shares, comments) have further exacerbated adolescent insecurities.

In India, these risks are often amplified by certain structural challenges. First, the stigma around mental health remains high. Discussions around anxiety or depression are frequently dismissed as attention-seeking or immaturity. As a result, adolescents suffering from genuine psychological issues may lack avenues for healthy expression or support. Second, parents and teachers themselves may not be adequately trained to detect early signs of digital fatigue or emotional distress caused by internet overuse. Many assume that since students are at home and engaged in “learning,” they are safe. This misconception has prevented timely intervention in many cases. Third, access to qualified mental health professionals—especially in rural or semi-urban areas—is limited. Consequently, a large number of adolescents suffer in silence, navigating the digital world without adequate guidance.

It is also important to understand that not all internet use is harmful. When appropriately managed, digital platforms can enhance academic performance, improve language skills, connect students to global perspectives, and foster creativity. For instance, platforms like YouTube, Byju's, and Khan Academy have helped students learn complex subjects at their own pace. Participation in online debates, coding challenges, or art communities has given students an outlet for expression and innovation. Therefore, the impact of the internet on adolescent mental health is not universally negative—it is the **quality, quantity, context, and intention** behind the use that determines outcomes. This brings us to the crux of the problem: the lack of structured digital literacy and psychological preparedness among Indian adolescents. Most students are introduced to smartphones and the internet without any formal education on cyber safety, emotional resilience, or digital boundaries. As a result, they are ill-equipped to handle the pressures of online life. Additionally, socioeconomic factors play a critical role. Students from privileged backgrounds may have access to psychological support, time management coaching, and regulated online environments. In contrast, students from marginalized or lower-income groups may face unregulated internet exposure due to absent working parents, cheap but unsupervised devices, or lack of awareness. The intersection of technology with class, gender, and region therefore creates unique vulnerabilities in the Indian context.

Gender differences have also been observed. Boys are more likely to engage in online gaming and face issues related to aggression or time management, while girls often face challenges stemming from social media use—such as body image concerns, peer pressure, and social comparison. These

gendered patterns of internet use further influence the types of psychological challenges faced by adolescents.

Given this complex interplay between internet usage and mental health, it is imperative to systematically review the current academic literature, especially Indian studies conducted between 2020 and 2025. A comprehensive synthesis will help in understanding the broader trends, pinpointing risk factors, and identifying protective buffers such as parental engagement, resilience training, or school-based interventions. Moreover, such a review can offer critical insights into policy formation—highlighting the urgent need for integrating digital wellness education into the curriculum, training teachers to observe behavioral cues, and encouraging parents to create emotionally supportive digital environments.

This review paper, therefore, aims to investigate the relationship between internet usage and mental health outcomes among senior secondary school students in India, focusing on both risk and resilience factors. By drawing from over 30 recent academic studies, this paper will provide a holistic understanding of the psychological consequences of internet overuse and offer recommendations for a balanced digital culture that prioritizes adolescent mental health.

## **Review of Related Literature**

Raj (2022) investigated the psychological influence of crime-based content consumed through OTT platforms and YouTube by senior secondary students. The study found that repeated exposure to violence and crime narratives significantly affected adolescents' emotional sensitivity, leading to desensitization, fear, or fascination with aggression. This pattern was particularly visible among students lacking offline peer engagement.

Sathiyaseelan and Balasundaram (2022) studied students in Tamil Nadu and found that resilience and positive coping mechanisms helped mitigate the psychological stress associated with excessive internet use. Adolescents who practiced mindfulness, physical activity, or engaged in structured hobbies experienced fewer symptoms of anxiety and mood instability, even under heavy screen exposure.

Burger and Pang (2023), in a comparative regional study across South and Southeast Asia, revealed that prolonged screen usage among youth in India and neighboring countries was linked with diminished goal clarity, loss of motivation, and existential confusion. Many adolescents reported feeling "lost" or emotionally unanchored, especially when digital engagement was unstructured or escapist in nature.

Sensua, Baruah, and Mukherjee (2023) conducted a regional study in Northeast India and discovered that 24% of adolescents met criteria for Internet Gaming Disorder (IGD). This condition was strongly associated with feelings of loneliness, disrupted family routines, and reduced academic motivation. Males were disproportionately affected, often substituting digital avatars for real social interactions.

Hossain, Kannekanti, and Prasad (2023) examined the effects of unsupervised internet access among adolescents with working parents. Their findings suggested that absence of adult monitoring was a significant predictor of problematic internet behavior. These students reported higher rates of mood disturbances, digital fatigue, and susceptibility to harmful online content.

Upadhyay (2023) warned that mobile addiction had evolved into a public health concern among school-going adolescents in metropolitan India. A significant proportion of participants displayed signs of withdrawal, irritability, and difficulty concentrating when separated from their phones, indicating growing psychological dependence on mobile technology.

Chandra (2023) explored the dual impact of online gaming and social media engagement during pandemic lockdowns. The study concluded that such combined use heightened symptoms of depression, withdrawal, and social detachment. Adolescents found themselves increasingly disengaged from family, academics, and offline hobbies.

Sinam and Singh (2023) presented a unique case study from Manipur, a conflict-prone state, where internet shutdowns due to civil unrest intensified trauma among school students. Digital disconnection added layers of academic uncertainty and psychological distress, particularly in displaced families, revealing the double-edged nature of internet accessibility.

Cherian, Armstrong, and Kannappan (2024) reported behavioral clustering in Tamil Nadu adolescents where excessive internet use co-occurred with aggression, emotional avoidance, and sleep disturbances. The study found that online overuse did not exist in isolation but was entangled with other maladaptive behaviors, often rooted in emotional neglect or academic stress.

Kumar and Dwivedi (2024) analyzed data from Delhi and Lucknow and observed a clear association between pandemic-era social media overuse and disrupted sleep cycles, particularly among adolescent males. Night-time browsing, coupled with academic procrastination, led to emotional exhaustion and anxiety in high school students.

Gupta (2024) explored gaming addiction among urban Indian students and its impact on emotional regulation. Findings suggested that adolescents deeply immersed in competitive online gaming struggled with anger management, impulse control, and empathy. Emotional detachment was higher in students playing violent games daily.

Marten, Bampton, and Björling (2024) compared Indian adolescents' access to digital wellness tools with those in the UK and found a significant gap. While Indian students were heavy users of the internet, they rarely had exposure to apps, school programs, or community workshops focusing on mental health and safe screen habits.

Yadav (2024) studied senior secondary students in Uttar Pradesh and highlighted peer pressure, competition, and FOMO (Fear of Missing Out) as primary stress triggers linked to social media use. Constant comparison on platforms like Instagram led to anxiety, self-esteem issues, and emotional fatigue in both boys and girls.

Thakre and Purswani (2024) examined binge-watching behaviors in adolescents from Mumbai and Pune. They found that excessive consumption of entertainment series was associated with escapism, loss of motivation, and emotional alienation. Students used shows as coping mechanisms for boredom or academic avoidance, resulting in social withdrawal.

Dhiman, Kaur, and Gupta (2025) conducted a large-scale study in Chandigarh and Himachal Pradesh, revealing that 38.7% of adolescents showed moderate-to-severe symptoms of internet addiction. This was significantly correlated with academic decline, procrastination, and reduced offline engagement, with rural-urban variation in the severity.

Khan, Khan, and Mohakud (2025) focused on adolescents in West Bengal and concluded that social media overuse contributed to elevated stress and anxiety levels, especially in female students. Peer comparison, fear of rejection, and validation-seeking behaviors were key psychological stressors identified in the study.

Fatima and James (2025) employed machine learning algorithms to analyze students' digital behavior and predicted high anxiety levels in those exceeding four hours of daily screen time. Irregular online activity patterns—particularly frequent late-night social media scrolling—were strong predictors of emotional dysregulation.

Kumar, D'Souza, and Malani (2025) raised concerns about adolescents engaging with polarizing and harmful online communities, particularly male-dominated forums promoting misogyny and anti-social ideologies. These interactions were found to influence offline aggression, cynicism, and distorted views on gender and authority.

Gururani and Sharma (2025) measured the effect of Internet Addiction Disorder (IAD) on multiple domains of adolescent well-being. Results indicated that IAD significantly reduced students' perceived quality of life, especially in social relationships, emotional fulfillment, and physical energy. Recovery was slow without structured support.

Mahanta, Paul, and Singh (2025) provided a national policy analysis and recommended that India's school curriculum include structured modules on digital wellness, emotional intelligence, and responsible internet usage. Their study emphasized that most adolescents lack preventive education on internet-related mental health challenges.

### **Significance of the Study**

This study holds considerable relevance in the contemporary Indian educational and socio-technological landscape, where senior secondary students (typically aged 15–18) are navigating the dual challenges of academic performance pressure and unprecedented digital immersion. With competitive entrance examinations like NEET, JEE, CUET, and various board assessments shaping future career prospects, students are subjected to intense academic expectations. Simultaneously, the rapid integration of digital tools into everyday learning—spurred by the COVID-19 pandemic and the National Education Policy (NEP 2020)—has transformed the nature of education from largely in-person instruction to increasingly hybrid and screen-based modalities. While this digital shift provides flexibility, wider access to learning materials, and opportunities for skill enhancement, it has also brought about a new set of psychosocial challenges.

In India, where digital literacy and mental health awareness are still evolving, the intersection of internet usage and adolescent mental health is not fully understood or addressed within mainstream policy frameworks. The growing dependence on smartphones, learning apps, online coaching platforms, and social networking sites makes adolescents vulnerable to issues like internet addiction, social isolation, disrupted sleep patterns, and emotional fatigue. The psychological implications of such behaviors can have long-term consequences, including reduced academic motivation, poor interpersonal relationships, and the onset of anxiety or depressive disorders.

This review study aims to bridge a critical gap by synthesizing existing empirical research to create a comprehensive understanding of how internet usage affects the mental health of senior secondary students in India. It highlights both the risks—such as overuse, emotional dysregulation, and digital escapism—and opportunities—such as academic enrichment, connectivity, and self-directed learning—offered by the internet. The insights drawn from this review can inform actionable strategies for teachers, school administrators, parents, counselors, and policymakers. It also underscores the importance of incorporating digital wellness, mental health education, and resilience-building frameworks into secondary education to ensure that the next generation can navigate the digital world not only efficiently, but also mindfully and healthily.

## Objectives of the Study

1. To analyze trends and patterns of internet use among Indian senior secondary students.
2. To explore the association between internet use and mental health indicators such as stress, anxiety, and depression.
3. To identify the role of gender, family structure, and region in influencing digital behavior.
4. To assess positive and negative effects of internet usage on adolescents' psychological well-being.
5. To propose policy and educational interventions for promoting digital wellness.

## Methodology

This paper adopts a systematic review methodology using secondary data. Peer-reviewed articles, case studies, survey-based studies, and governmental reports from 2020 to 2025 were reviewed. Academic databases such as PubMed, Google Scholar, ResearchGate, and Indian Journal repositories were utilized. Selection criteria included adolescent samples (15–18 years), focus on Indian contexts, and studies with clearly defined psychological measures. Thematic synthesis was used to extract trends, and findings were categorized based on mental health domains—emotional, behavioral, and cognitive.

## Findings and Implications

The findings from this comprehensive review reveal that internet usage among Indian senior secondary students presents a double-edged reality—harboring both developmental benefits and significant psychological risks. On the positive end, the internet has become a valuable educational ally, facilitating access to academic resources, interactive learning platforms, and real-time communication with peers and educators. Many students utilize the internet to deepen subject understanding, explore global perspectives, engage in online tutoring, and improve language proficiency. In a country with vast educational inequities, digital access has, to some extent, democratized learning opportunities, especially in the post-pandemic period.

However, these benefits are counterbalanced by the growing prevalence of problematic internet use. Excessive screen time—often exceeding 4–6 hours daily for non-academic purposes—has been consistently linked with sleep disturbances, emotional instability, social withdrawal, and academic procrastination. This pattern is further intensified by the addictive design of many digital platforms, which use notification systems, gamification, and infinite scrolls to retain attention. Adolescents, who are still developing cognitive control and self-regulation skills, are particularly vulnerable to these mechanisms.

A significant gender-based difference emerged in usage patterns and associated mental health symptoms. Female students were more affected by the psychological consequences of social media, often experiencing anxiety, self-esteem issues, and fear of missing out (FOMO). The tendency to engage in online social comparison, particularly regarding appearance and lifestyle, has led to increased emotional vulnerability. On the other hand, male students were more inclined towards competitive gaming and digital aggression, which contributed to reduced empathy, increased irritability, and impulsive behavior. These distinctions underscore the importance of gender-sensitive digital literacy and mental health interventions.

Geographically, students from urban settings reported higher internet usage and exhibited greater psychological impact compared to their rural counterparts. While urban youth have better access to digital devices and high-speed networks, they are also exposed to a higher frequency of academic competition, media influence, and social comparison, which exacerbate stress levels.

The implications of these findings are significant and multifaceted. There is a pressing need to integrate digital hygiene education into school curricula to help students develop critical thinking about screen habits, privacy, and emotional regulation. Parental sensitization programs must be implemented to educate families on setting healthy digital boundaries, monitoring screen time, and promoting offline recreational activities. Moreover, national-level educational policies should mandate the inclusion of mental health education and emotional resilience training in secondary education syllabi, in line with the objectives outlined in the National Education Policy (NEP) 2020.

Evidence also supports the implementation of practical school-wide interventions such as digital detox periods, time-bound internet usage models, screen-free zones or hours, and emotional literacy workshops. Counseling services within schools should be equipped to address internet-related behavioral issues, with counselors trained in both digital psychology and adolescent development. Community-based programs and awareness campaigns can further support these efforts by fostering a collective responsibility for digital wellness.

In conclusion, the findings call for a balanced and structured approach to internet use among adolescents—one that recognizes the transformative potential of digital tools but remains vigilant about their psychological consequences. Empowering students with knowledge, habits, and support systems will ensure that the internet becomes a tool for growth rather than a source of mental strain.

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