



# The Psychological Toll of Internet Addiction: A Review of Mental Health Challenges Among Adolescents and Implications for SDG-3

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## ARTICLE INFO

## ABSTRACT

As the internet has become an integral part of adolescent life, serving as a platform for generating insights on education, socialization, and entertainment, this study is an attempt towards a detailed investigation about the current scenario of internet addiction among adolescents to suggest implications towards the betterment of SDG 3 fulfillment. Undertaking a review method of investigation, the study here includes literature in the field of internet addiction among adolescents to draw a parallel association with SDG 3 requirements. With 22 detailed reviews conducted, the study found that internet addiction among adolescents is highly associated with school and family environment, personality traits like loneliness and social exclusion which eventually leads to anxiety and depression. The existence of poor relationships and lack of parental involvement can cause high contributions to developing addiction levels. Bullying victimization and childhood trauma are also significant predictors, often mediated through anxiety and poor inhibitory control. The study provides implications for the future that can help align SDG 3 requirements by developing mental health interventions to overcome internet addiction.

**Keywords** – Internet; Addiction; Adolescents; Digital; SDG

## 1. Background

The era today is comprehensively digital with every individual relying on at least one form of it for day-to-day operations (Baptista et al., 2020; Szalavetz, 2019; Windasari et al., 2022). From booking an appointment to buying medicines or groceries, the digital revolution has encompassed the majority of these avenues. It is crucial to mention here that although adults utilize the digital platforms for various important necessities, there are several uses of it that caters to adolescents as well.

The internet has become an integral part of adolescent life, serving as a platform for generating insights on education, socialization, and entertainment (Skotalczyk et al., 2024; Zewude et al., 2024). The prevalence of internet and smartphones among adolescents in the current time has also exposed them to the risk of excessive and uncontrolled internet usage (Petrovčić et al., 2018; Rahim et al., 2016; Senjam et al., 2021). The researchers in the field coined this term explaining heightened use of the internet as Internet Addiction (IA)—a behavioral disorder characterized by an inability to regulate online activity, leading to significant distress and impairment in daily life (Trumello et al., 2021; Young, 1998). The levels of physical and psychological difficulties in adolescents due to their developmental stage has been specified by every professional, whether in medicine or psychological research (Xu et al., 2021). The additional vulnerability to internet addiction increases the complexities. Studies suggest that internet addiction is often linked to various psychological and emotional challenges such as a coping mechanism to increased levels of stress, anxiety, depression, and poor academic performance (Nwanosike et al., 2022; Park & Kim, 2011; Yusuf et al., 2022a). Social isolation among adolescents often leads to increased addiction levels. The impact of internet addiction can result in disrupted sleep cycles, social withdrawal, and lower self-esteem (Ying Ying et al., 2020a).

The United Nations Sustainable Development Goals have been established to provide a better state of existence for every individual and include different parameters in their 17 goals (Giles-Corti et al., 2020). However, the Sustainable Development Goal 3 (SDG-3) aims to ensure good health and well-being for all individuals (Bartniczak et al., 2024; Mikula et al., 2024; Monaco, 2024), emphasizing the importance of mental health as

a key component of overall well-being (Ebekozi et al., 2025). As internet addiction among adolescents poses a significant threat to this goal through excessive internet use creating a series of mental health disorders such as depression, anxiety, and emotional dysregulation, it is important to understand more on the correlation between the two to address the issue further. As per the requirements of SDG-3, there are calls for improved mental health policies, increased access to psychological support, and early intervention strategies to promote well-being are sought after (Izu et al., 2024). In the similar manner, addressing internet addiction can align with SDG-3 by encouraging responsible digital habits, promoting awareness of internet-related mental health risks, and implementing targeted interventions that support healthy online behaviors and create a better digital ecosystem for adolescent usage.

Through the attempt made in this study, a detailed investigation about the current scenario of internet addiction among adolescents is made to suggest implications towards the betterment of SDG 3 fulfillment. Undertaking a review method of investigation, the study here includes literature in the field of internet addiction among adolescents to draw a parallel association with SDG 3 requirements.

The objectives hereby, established for the study are as follows –

1. To examine the prevalence and underlying causes of internet addiction among adolescents.
2. To explore the alignment of internet addiction related challenges with SDG 3, highlighting the need for global policy interventions and mental health awareness initiatives.

In the upcoming section, the detailed process followed for conducting the review has been discussed.

## **2. Materials & Method**

The study uses a strict guideline for selecting and reviewing the secondary sources of data available on internet addiction. The study here includes a structured process of literature review where the purpose is to share an overview on the different aspects of internet addiction especially among adolescents. The use of such a holistic and sound format helps the researcher to specify the findings generated from the details of the review in a very precise manner. This creates a chance towards identifying the major areas of concern in the area where implications can be extended. The main intention here however, is to implement the current status of internet addiction towards SDG 3 achievement. Here a detailed framework has been used for selecting the final papers for review. The framework used in the study is based on the suggestions provided by (Moher et al., 2009) on the approach of reviewing each paper. This detailed method is a four step process that leads to the fulfilling of objectives. These four stages can be specified as – identification, screening, eligibility measure and inclusion in the final process.

The initial stage of the four - identification begins with searching the domain which in this case is “internet addiction in adolescents” in the relevant databases. The databases majorly considered for drawing the required papers that are included for conducting the identification stage are from these journals -Taylor & Francis, Elsevier, Sage which form a part of directories such as SCOPUS, ScienceDirect and Google Scholar. The inclusion of high-quality publications is the primary goal of the study's consideration of only these particular data sources. Specific keywords such as "Internet Addiction," "Adolescent Behaviour," "Online Behaviour," and "Adolescent Internet Use" are used to find the necessary literature within these databases. The method used to choose the research articles that are being considered is described in full in the following section. Five years, from 2019 to 2024, is the time frame for which the articles were searched. 1121 items in all have been found beneath the stage.

The process of screening the articles starts in the next step. The identified articles that have reached this stage are examined by looking at their titles and determining whether the inclusion requirements are met. The existence of internet addiction in adolescents is one of the variables under consideration. 22 articles in total were deemed pertinent throughout the screening phase by incorporating the criteria. The articles that were deemed unnecessary have been eliminated, as have those that did not meet all of the study's requirements. The final list of articles to be reviewed has been carefully examined, and the existence of the inclusion criteria is confirmed at the next stage of eligibility. Finally, through a detailed content analysis, the 22 articles in the study are being reviewed to get the answers to the objectives in the study.

Since the study's research objectives were developed in accordance with the third goal in SDG that were intended for the study to accomplish, each would be taken into consideration independently during the evaluation process. The following part contains tables that depict the publications that address each of the research objectives.

## **3. Results and Discussion**

As a part of the review process, the focus in the study has been specifically about internet addiction among adolescents. In this stage of the study, the review papers shortlisted as a part of the process are provided in a tabular format. Upon reviewing the details of the papers, the summarised outcome would be generated and associated with SDG 3 for future implications. The table below represents the key points in the detailed investigation undertaken here.

**Table 1 – List of Literature Reviews**

<b>Authors</b>	<b>Objective</b>	<b>Methodology</b>	<b>Results</b>
(Islam, 2024)	To understand how internet addiction in adolescents impact on their learning behaviour	Qualitative	There is a negative impact of excessive internet use on the academic performance of the adolescent along with affects in their cognitive development. It also leads to sleep disturbances and social isolation, impacting further on learning.
(Liu, Jin, et al., 2024)	To understand the relationship between childhood trauma and internet addiction in adolescents	Qualitative	The addiction of internet in the adolescent is positively related to childhood trauma. Any deviation in mental and physical development can lead to the generation of trauma
(Liu, Xiao, et al., 2024)	To identify the relationship between physical activity and adolescent internet addiction	Quantitative	The impact of physical activity is seen to be direct and negative on internet addiction in adolescents. Anxiety and inhibitory control is seen to be related to the same
(Nwifo & Ike, 2024)	To understand the relationship between bullying and internet addiction in adolescents	Quantitative	It is seen that bullying victimisation of an adolescent can predict internet addiction through anxiety and inhibitory control
(Ye et al., 2023)	To explore internet addiction in adolescents through the role of personality traits and family functioning	Quantitative	The factors of Openness to experience, conscientiousness, extraversion, and neuroticism positively correlates itself with internet addiction in adolescents while for the factors of agreeableness, there is a negative association found
	To identify the role of anxiety and depression among adolescents leading to internet addiction	Qualitative	The adolescents who have an internet addiction are seen to stand at a higher risk of developing depressive symptoms.
(Chemnad et al., 2023)	To investigate if internet addiction in adolescents begins with the environment	Quantitative	The role of family and school environment on internet addiction in adolescents is significant and negative in nature.
(Ge et al., 2023)	To understand how loneliness in adolescents lead to internet addiction	Qualitative	There is a moderate relationship found between loneliness with smartphone addiction or internet addiction among adolescents
(Li, 2023)	To identify the factors affecting internet addiction in adolescents	Quantitative	Boys are found to likely be more internet addicted compared to girls while the addicted group score low on stability with anxiety and depression showing an influence on the addiction formation
(Lozano-Blasco et al., 2022)	To conduct a meta-analysis among adolescent screen addicts	Quantitative	Internet addiction is seen to be inversely proportional to age and geographical area of residence. There is a lack of proper measurement tools for internet addiction is found
(Rathi et al., 2022)	To depict the role of family, psychopathology and personality on internet addiction in adolescents	Quantitative	The internet addicted adolescents show high novelty seeking and low persistent behaviour, with family difficulties in communication and involvement
(Saralioğlu et al., 2022)	To understand how loneliness during Covid-19 associated with internet addiction in adolescents	Quantitative	Loneliness is found to be an impotent factor of internet addiction in adolescents. With increase in levels of loneliness, the addiction too increases.
(Yan et al., 2022)	To analyse the trend of internet addiction in adolescents in Shanghai from 2004 to 2019	Quantitative	The detailed trend analysis reveals an overall increasing trend in addiction levels of adolescents. The factors of loneliness and academic

			pressure are seen to be prominent characteristics
(Yang et al., 2022)	To determine if internet addiction in adolescents affect their interpersonal interactions	Quantitative	While internet addiction to social media indicates having more interactions in real-life, those addicted to online games have reduced levels of interactions in the real world. They communicate more on the online games rather than having actual conversations and interactions
(Yusuf et al., 2022b)	To estimate the correlation between internet addiction in adolescents and their social interaction	Quantitative	Although significant association of internet addiction in adolescents is found with interaction with parents , peers and school environment, no such association is found with social interaction
(Huang et al., 2021)	To understand parent-children relationship associated with internet addiction with a mediating role of self-concept	Quantitative	Both parent-children relationship and self-concept relates negatively to internet addiction
(Kaya & Dalgıç, 2021)	To explore how the adolescent internet addiction impact on their lifestyle	Quantitative	The students in Turkey investigated showed a moderate level of internet addiction . The scores levelled high for students with divorced parents and those having poor relationships with friends and family. A negative association with healthy lifestyle behaviour is also observed
(Siste et al., 2021)	To find out the implications of Covid-19 on adolescent internet addiction	Quantitative	The increased use of internet during the Covid-19 period, low parasocial behaviour and sleep disturbances are found to be risk factors associated with internet addiction
(Peris et al., 2020)	To predict the psychological risk factors leading to internet addiction in adolescents	Quantitative	The most influencing factors include gender of the adolescent, disinhibition, narcissism and neuroticism
(Ying Ying et al., 2020b)	To associate internet addiction among adolescents with their lifestyle	Quantitative	Lifestyle habits such as less fruits and vegetables intake, e-cigarettes, alcohol users, fast food consumption three days a week, carbonated soft drinks at least once a day are seen to relate
(Kawabe et al., 2019)	To associate sleep habits and problems with adolescent internet addiction	Quantitative	The addicted group for the study showed significantly shorter sleep duration compared to the non-addicted group. There is delayed in bedtimes observed throughout the week in the addicted group

The above table shows the various studies investigating internet addiction among adolescents. Internet addiction among adolescents is majorly seen to be influenced by factors based on psychological, social, and behavioral aspects. Mental health issues, including anxiety, depression, and loneliness show a strong association with IA which leads to causing further impact on the addiction levels (Ge et al., 2023; Kawabe et al., 2019; Peris et al., 2020). The role of family and school environments are found to be very crucial (Chemnad et al., 2023; Huang et al., 2021; Yang et al., 2022). The existence of poor relationships and lack of parental involvement can cause high contributions to developing addiction levels. Bullying victimization and childhood trauma are also significant predictors, often mediated through anxiety and poor inhibitory control (Liu, Jin, et al., 2024). It is also important to pay attention to the lifestyle habits of the adolescents, including lack of physical activity, unhealthy dietary patterns, and poor sleep hygiene (Liu, Xiao, et al., 2024; Siste et al., 2021). The overall analysis of the potential effects and the preceding conditions leading towards internet addiction among adolescents can be seen causing an impact on the achievement of SDG 3 due to its direct impact on their well-being. In order to overcome this situation and lead towards the fulfilment of SDG 3, the following implications from the results generated here can be undertaken in the future.

It is evident from the investigation that there is a need for multifaceted interventions to mitigate internet addiction among adolescents. The role played by schools and parents must be in the form of developing healthy

digital habits by promoting structured screen time regulations, encouraging physical activities on a day to day basis, and establishing a strong parent-child communication to reduce feelings of isolation. With the direct impact in the form of anxiety, depression, integrating mental health support services in educational settings, such as counseling and peer support programs, can help adolescents develop coping mechanisms. Schools must also focus on bullying prevention initiatives, as victimization is seen to be a significant predictor of IA. The impact of a balanced lifestyle, including proper sleep hygiene, healthy nutrition, and reduced consumption of fast food and carbonated drinks, can indirectly curb addiction tendencies. Policymakers should develop age-appropriate digital literacy programs in order to educate students at their own pace and level to take on responsible internet usage, especially concerning online gaming habits. Given the role of geographical and demographic factors, there can be customised interventions for rural and urban adolescents, ensuring their accessibility to mental health resources. Lastly, parents and educators should work collaboratively to create supportive home and school environments, emphasizing open communication, emotional support, and structured routines, ultimately leading towards the development of a balanced approach to technology use while promoting psychological well-being.

By using these interventions, the purpose of SDG 3 which is Good Health and Well-being can be achieved. For instance, by implementing a structured screen time principle by the parents, promoting physical activities, and strengthening parent-child communication, adolescents can develop healthier digital habits, reducing the risk of internet addiction. This is directly associated with mental health consequences. This leads to the encouragement towards opting for physical activities and leading a balanced lifestyle that addresses both mental and physical well-being. It will eventually lead to reducing the prevalence of anxiety and depression all of which are key concerns under SDG 3.

#### 4. Conclusion and Future Research Directions

The presence of internet addiction among adolescents across the world has been established through this review undertaken here. It can be stated that adolescents today stand at a very high risk of developing internet addiction and a collaborative effort from primary stakeholders are expected. From parental communication betterment to a more inclusive structure at schools, the issue of internet addiction must be addressed appropriately. The implications provided above would help to bring SDG 3 fulfilment to a certain extent but future studies in the area are required.

The design of standardised assessment tools for internet addiction measurement in adolescents is highly required. Longitudinal studies in the future can help determine the long-term consequences of adolescent internet addiction on adult mental health, career prospects, and interpersonal relationships. Additionally, the demographic role has intrigued in the necessity for more studies to be specially designed on gender-specific interventions, as boys are found to be more prone to addiction than girls. Investigating the role of emerging digital platforms, such as AI-driven social media and the metaverse, in adolescent addiction patterns can provide valuable insights. Finally, integrating neuroscientific approaches to understand the cognitive and neural mechanisms underlying internet addiction could lead to personalized treatment strategies and policy recommendations for healthier digital engagement.

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