



(REVIEW ARTICLE)



## Childhood trauma and gaming addiction: A systematic exploration of their association and impact

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### Abstract

This review article provides a comprehensive exploration of the intricate relationship between childhood trauma and gaming addiction, drawing on extensive research spanning psychology, psychiatry, and social sciences. Examining studies published between 2000 and 2023, the review emphasizes the pervasive impact of childhood trauma on mental and physical health outcomes. It delves into diverse forms of childhood trauma, encompassing physical abuse, emotional abuse, neglect, sexual abuse, and witnessing domestic violence, illuminating their profound implications for individuals' well-being. Additionally, the review elucidates the enduring consequences of childhood trauma on mental health, including the development of disorders such as PTSD and depression, and its intricate influence on interpersonal relationships and emotional and behavioral regulation. The article also explores the global prevalence of gaming addiction, its association with physical and mental health issues, and the complex interplay between childhood trauma and gaming addiction. Through a synthesis of research findings, this review underscores the necessity of trauma-informed interventions and targeted support systems for individuals affected by these interconnected challenges.

**Keywords:** Internet Gaming Disorder; Childhood Trauma; Gaming Addiction; Childhood Abuse; Mental Health

## 1. Introduction

### 1.1. Concept of Childhood Trauma

Childhood trauma is a multifaceted and widespread concern that has received considerable focus in the domains of psychology, psychiatry, and social sciences in recent years. A multitude of investigations has examined the extensive impacts of childhood trauma on both the mental and physical well-being of individuals. A study published in 1998, which gained significant citations from 2000 to 2022, established a foundational understanding of the connection between adverse childhood experiences and adult health outcomes (1). Building on this foundation, the study emphasized the cumulative impact of childhood trauma, shedding light on its potential lifelong effects (2). A recent study employed neuroimaging techniques to reveal the neural changes linked to childhood trauma, enhancing our comprehension of its physiological effects (3). Additionally, a systematic review examined the different therapeutic strategies for addressing childhood trauma, offering important insights into effective interventions (4). Additionally, the exploration of the connection between childhood trauma and adult depression underscores the enduring psychological implications of early adverse experiences (5).

### 1.2. Types of Childhood trauma

Childhood trauma includes a variety of negative experiences that children might face, which can have profound effects on their physical and mental health. A number of investigations have explored these various forms of childhood trauma.

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Physical abuse involves acts of violence or harm towards a child and is a well-documented form of maltreatment (6). Emotional abuse encompasses and clarifies ongoing patterns of verbal aggression, humiliation, or rejection that can lead to enduring emotional repercussions (7). Neglect, as highlighted in a study, takes place when a child's fundamental needs for care, supervision, and support are persistently unmet (8). The topic of sexual abuse, as examined by experts, encompasses non-consensual sexual acts imposed on a child, resulting in significant psychological and emotional distress (9). Observing domestic violence, as analysed by experts, subjects children to interparental aggression, frequently resulting in post-traumatic stress symptoms and emotional turmoil (10). The collection of articles offers valuable insights into the various manifestations of childhood trauma, highlighting the importance of comprehending and addressing these experiences to promote the well-being of impacted children.

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## **2. The Impact of Childhood trauma on Mental health**

Childhood trauma has a significant effect on mental health, shaping numerous facets of psychological well-being. Studies have explored this intricate relationship, illuminating the lasting effects of early negative experiences. A study (11) illustrated the connection between childhood trauma and the onset of post-traumatic stress disorder (PTSD), underscoring the enduring psychological impact of traumatic experiences. Furthermore, the contributions of various scholars have clarified the neural mechanisms that connect childhood maltreatment to depression, offering essential insights into the brain changes linked to early trauma (12). A further investigation examined how childhood maltreatment influences emotional regulation, highlighting its significance in the emergence of mood disorders (13). Furthermore, studies illuminate the connection between adverse childhood experiences and the risk of developing various mental health disorders, emphasising the extensive impact of early trauma on psychiatric outcomes (14). Furthermore, a study examined the connection between childhood abuse and self-esteem, highlighting the profound impact that traumatic experiences during childhood can have on self-perception and confidence (15). The articles collectively enhance our comprehension of the complex relationship between childhood trauma and mental health outcomes, highlighting the necessity for focused interventions and support for those who have faced early trauma.

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## **3. Impact of trauma in interpersonal relationships**

Experiences of trauma in childhood play a crucial role in shaping interpersonal relationships, affecting the ways individuals engage and connect with others over the course of their lives. Studies have explored the significant effects of early negative experiences on social interactions. A study indicated (16) that individuals with a history of childhood trauma frequently face difficulties in establishing trust and intimacy in romantic relationships, resulting in challenges in forming secure attachments. Moreover, studies have shown that childhood trauma can lead to challenges in communication and conflict resolution among couples, underscoring the pressure that traumatic experiences can exert on romantic relationships (17). In friendships, individuals who have experienced trauma may show increased sensitivity and challenges in setting boundaries, as highlighted in the research (18). Furthermore, the studies highlighted that childhood trauma may result in patterns of codependency and unhealthy relationship dynamics, continuing the cycle of abuse through generations (19). Furthermore, childhood trauma has been associated with diminished social skills and heightened interpersonal conflicts, as demonstrated in the study (20). The articles highlight the widespread and enduring effects of childhood trauma on different facets of interpersonal relationships, stressing the necessity of trauma-informed interventions to foster healthy relationship growth.

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## **4. Impact of Childhood trauma on emotional regulation and behavioral regulation**

Experiences of trauma during childhood have a deep impact on how individuals regulate their emotions and behaviours, resulting in notable difficulties in emotional coping and behavioural management. Studies have explored the complex connection between early adverse experiences and these regulatory processes. For instance, a study demonstrated that childhood trauma hampers emotional regulation abilities, often resulting in heightened emotional reactivity and difficulty in modulating intense feelings. Additionally, the study emphasised the influence of early trauma on the formation of neural circuits related to emotion regulation, offering important insights into the fundamental mechanisms (21), (22). Childhood trauma has been associated with difficulties in behavioural regulation, as demonstrated in the study (23), which uncovered deficits in impulse control and decision-making abilities among those with a trauma history. Furthermore, another discovery highlighted the link between childhood trauma and impairments in executive functions, resulting in challenges with planning, organisation, and behavioural regulation (24). Furthermore, the enduring effects of childhood trauma on behavioural dysregulation highlight the continuation of these issues into adulthood (25). These findings collectively enhance our comprehension of the ways in which childhood trauma interferes with emotional and behavioural regulation, underscoring the necessity of trauma-informed interventions to assist individuals in cultivating effective regulation strategies.

## **5. Current concept of gaming addiction (ICD-11, DSM-5-TR) and from major theorists or researchers in the field**

The prevailing notion of gaming addiction, as outlined by the International Classification of Diseases (ICD-11) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR), has sparked considerable inquiry and discussion among academics and healthcare professionals. The ICD-11 defines gaming disorder as a condition marked by a lack of control over gaming, a growing emphasis on gaming at the expense of other pursuits, and the persistence or intensification of gaming even in the face of adverse outcomes (26). In a similar vein, the DSM-5-TR recognises Internet Gaming Disorder as a condition that requires additional investigation, characterising it as the ongoing and repeated use of the internet for gaming purposes, resulting in considerable impairment or distress (27). Prominent figures in this domain have made substantial contributions to our comprehension of gaming addiction. For instance, a study highlighted the significance of context and consequences in defining gaming addiction, emphasising the complex nature of this phenomenon (28). Academics have also examined the influence of social factors and gaming motivations, offering important perspectives on the psychosocial dimensions of gaming addiction (29). Additional findings centered on longitudinal studies that explored the progression of gaming addiction among adolescents and its effects on their overall well-being (30). The research also delved into the neurobiological components of gaming addiction, illuminating the fundamental mechanisms through neuroimaging investigations (31).

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## **6. Prevalence of gaming addiction in children and adolescents (Global and Indian context)**

The occurrence of gaming addiction among children and adolescents has emerged as a worldwide issue, with studies illuminating its extent both internationally and within the Indian framework. The World Health Organisation (WHO) has acknowledged gaming disorder as a mental health condition, highlighting its global prevalence (32). A meta-analysis conducted worldwide estimated that around 3% of gamers exhibit symptoms of gaming addiction, underscoring the widespread nature of this concern (33). In the context of India, investigations have also explored the occurrence of gaming addiction. A study carried out in Bangalore revealed that approximately 4.1% of adolescents displayed symptoms of internet addiction, frequently associated with gaming addiction (34). Other studies indicated that 11.2% of Indian adolescents exhibited problematic internet use, which included symptoms of gaming addiction (35). The results highlight that gaming addiction poses a considerable issue worldwide and specifically in India, stressing the importance of thorough investigation and strategies to mitigate its effects on the health of children and teenagers.

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## **7. Association of Gaming Addiction with Physical and Mental illness**

The link between gaming addiction and both physical and mental health issues has emerged as a significant topic in recent studies, highlighting the potential health risks associated with excessive gaming behaviours. A study indicates that excessive gaming is associated with physical health issues, including obesity and musculoskeletal problems, underscoring the negative effects of extended periods of sedentary gaming on overall physical health (36). In the field of mental health, studies have revealed a robust link between gaming addiction and a range of psychological problems, such as depression, anxiety, and social phobia, highlighting the considerable impact of gaming on the emergence of mental illness (37). Furthermore, a correlation was identified between problematic gaming and inadequate psychosocial functioning, highlighting the negative effects of gaming addiction on individuals' overall quality of life (38). Another finding indicated that gaming addiction is linked to an increased risk of comorbid psychiatric disorders, enhancing the comprehension of the intricate relationship between gaming and mental health (39). Additional studies investigated the link between gaming addiction and attention-deficit/hyperactivity disorder (ADHD), clarifying the possible bidirectional relationship between these conditions (40).

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## **8. Impact or association of childhood trauma with Gaming Addiction:**

Since childhood trauma and gaming addiction can interact and possibly worsen one another, the relationship between the two is a complicated and developing field of study. Researchers looked at the connection between problematic video gaming behaviour and early negative experiences, emphasising the link between childhood trauma and a higher risk of gaming addiction (41). In a similar vein, it has been discovered that childhood trauma is substantially linked to increased levels of escapism in gaming, indicating that people with a history of trauma may use gaming as a coping strategy (42). On the other hand, studies looked at the possible reciprocal relationship and showed that playing video games too much as a youngster can also raise the likelihood of experiencing trauma, suggesting a complicated interaction between the two (43). The influence of childhood trauma on gaming addiction can also be partially explained by the presence of psychological distress symptoms, according to research that examined the mediation role of psychological distress (44). In order to better understand the intricate relationships between these experiences, recent studies have examined the

moderating influence of childhood trauma on the association between gaming addiction and symptoms of post-traumatic stress disorder (PTSD) (45).

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## 9. Conclusion

This detailed analysis highlights the significant and complex relationship between childhood trauma and gaming addiction, illuminating their interrelated nature and extensive effects on mental and physical well-being. Childhood trauma, which includes experiences like physical, emotional, and sexual abuse, neglect, and exposure to domestic violence, has lasting effects on emotional regulation, behavioural control, interpersonal relationships, and overall psychological well-being. The existing literature indicates that these negative childhood experiences increase the likelihood of individuals developing mental health disorders, including depression, anxiety, and PTSD, which further hinders their capacity to manage life stressors.

At the same time, gaming addiction—acknowledged by global classifications such as the ICD-11 and DSM-5-TR—has surfaced as a notable public health issue, especially among children and teenagers. This condition is marked by a failure to control gaming behaviours, even in the face of negative outcomes, frequently resulting in physical health issues, social difficulties, and associated psychiatric disorders. The relationship between childhood trauma and gaming addiction is becoming more apparent. For numerous individuals, gaming acts as a means of escape, providing temporary relief from psychological distress associated with past trauma. Nonetheless, this ineffective coping mechanism can sustain cycles of addiction and exacerbate mental health issues, including the continuation of trauma-related symptoms.

The results outlined in this document highlight the importance of early detection and intervention approaches that are informed by trauma and specifically designed to tackle both the underlying causes of childhood trauma and the manifestations of gaming addiction. By acknowledging the interconnected nature of these challenges, professionals in mental health, education, and policy can create cohesive therapeutic strategies that foster resilience, improve emotional regulation, and lessen the dependence on gaming as a form of escape. Furthermore, the execution of community awareness programs, school-based mental health initiatives, and family-centered interventions can significantly contribute to creating protective environments for at-risk children and adolescents.

Future studies should delve deeper into the reciprocal and long-term interactions between childhood trauma and gaming addiction to clarify causal pathways and pinpoint effective intervention strategies. By working together in research, clinical practice, and public policy, we can create pathways for healthier developmental outcomes and enhance the quality of life for individuals impacted by childhood trauma and gaming addiction.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed. "The authors declare that there are no conflicts of interest regarding the publication of this review."

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