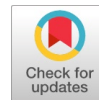


Study of Online Gaming on Adolescent through the Lens of G. Stanley Hall's "Storm and Stress"

B. Chibby Muthu, Archana Hajong



Abstract: *This study examines the impact of online gaming on adolescent development through G. Stanley Hall's "storm and stress" framework, highlighting emotional turbulence, risk-taking behaviours, and identity confusion among youth. Adolescence, as described by Hall, is marked by heightened emotional sensitivity, impulsivity, and identity struggles, traits that contemporary online gaming environments significantly amplify. Analysis of detailed case studies involving individuals aged 13 to 28 demonstrates that excessive gaming can provoke emotional extremes, notably "gamer rage," triggered by immediate factors like in-game failures and broader contextual stressors, including parental restrictions and daily life frustrations. This emotional turbulence often manifests as irritability, aggression, and strained family relationships, intensified by the immersive and competitive nature of gaming. The rapid reward systems embedded in online games reinforce adolescent impulsivity, leading to increased experimentation and risky behaviours both virtually and in real life, such as academic neglect and susceptibility to peer-driven behaviours, including substance use. The study also identifies the complex dynamics of identity formation as adolescents navigate multiple virtual personas and social hierarchies online, thereby complicating their real-world self-concept. While temporarily boosting self-esteem, virtual achievements can dangerously blur distinctions between digital validation and genuine personal worth. To mitigate these risks, the research emphasises the need for collaborative strategies that involve families, educational institutions, policymakers, and mental health professionals. Effective interventions should cultivate adolescents' self-regulation, balanced gaming habits, and clear boundary-setting to enhance emotional resilience, responsible decision-making, and stable identity formation. Recognising gaming's potential as a developmental risk and a constructive exploration tool is essential for fostering healthier adolescent development.*

Keywords: Online Gaming, Emotional Turbulence, Risk-taking Behaviour, Identity Formation, Virtual Identity, Adolescent Development.

Abbreviations:

LCA: Latent Class Analysis

MMORPG: Massively Multiplayer Online Role-Playing Game

DOTA: Defence of the Ancients

GTA: Grand Theft Auto

Manuscript received on 05 April 2025 | First Revised Manuscript received on 12 April 2025 | Second Revised Manuscript received on 20 May 2025 | Manuscript Accepted on 15 June 2025 | Manuscript published on 30 June 2025.

*Correspondence Author(s)

B Chibby Muthu*, Scholar, Department of Sociology and Social Work, Annamalai University, Chidambaram (Tamil Nadu), India. Email ID: chibbi432@gmail.com, ORCID ID: [0009-0008-2528-4069](https://orcid.org/0009-0008-2528-4069)

Archana Hajong, Scholar, Department of Education, Annamalai University, Chidambaram (Tamil Nadu), India. Email ID: chibbymuthu310@gmail.com

© The Authors. Published by Lattice Science Publication (LSP). This is an open access article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

I. INTRODUCTION

"I've missed more than 9000 shots in my career. I have lost almost 300 games. Twenty-six times, I have been trusted to take the game-winning shot and missed it. I have failed repeatedly in my life. And that is why I succeed," said famous basketball player Michael Jordan. [1]. However, in the modern digital era, the concept of games has undergone significant evolution, extending far beyond traditional physical activities. Today, millions of young people worldwide engage extensively in online gaming, which has become an integral and influential part of their lives. This growing phenomenon has attracted considerable attention to the potential consequences of prolonged gaming on children's daily routines and achievements. Specifically, the primary demographic targeted by the video game industry is school-aged children and teenagers, who increasingly devote their leisure hours to online gaming, diminishing their involvement in academic pursuits and other leisure activities. Recent trends have highlighted a sharp rise in the popularity of computer and online games among younger demographics, sparking widespread concern about the adverse impacts on their academic performance, social interactions, and overall quality of life. Addressing these concerns requires comprehensive efforts to educate and guide children toward balanced lifestyles, thereby mitigating the detrimental effects of excessive gaming. This multifaceted challenge necessitates collaboration among governments, educational institutions, and families to implement effective strategies and policies. Understanding students' perceptions of their peers who are heavily involved in gaming provides valuable insights into the social dynamics and attitudes influencing gaming behaviours. Therefore, this study aims to investigate students' views on their peers with high gaming engagement, seeking to establish a clearer picture from the perspective of those directly affected. [2].

Recapitulation theory, historically rooted in developmental biology, posits that an individual's embryonic development (ontogeny) mirrors the evolutionary progression of its species (phylogeny). This concept, encapsulated in the phrase "ontogeny recapitulates phylogeny," suggests that the stages an embryo undergoes during development resemble the sequential evolutionary stages of its species' ancestors [3]. Expanding this biological framework into developmental psychology, G. Stanley Hall proposed that children's psychological growth similarly recapitulates human evolutionary history. Hall argued that specific developmental stages, notably children's play behaviours, parallel primitive human activities, thereby reflecting a broader evolutionary trajectory in psychological terms [4].

Further expanding on developmental stages, Hall (1904) described adolescence as a distinctive period of development characterised by "storm and stress." According to Hall, this phase is marked by significant emotional turbulence, including mood swings, heightened sensitivity, and increased conflict with parents. Adolescents also exhibit elevated risk-taking behaviours, characterised by impulsivity and experimentation, alongside considerable struggles with identity formation and role confusion. Hall's conceptualisation of adolescence laid foundational groundwork for recognising adolescence as a distinct and critical stage within developmental psychology [5].

II. EMOTIONAL TURBULENCE

Heightened Sensitivity: Adolescents often experience strong emotional swings, which G. Stanley Hall believed stem from the rapid psychological and physiological changes that occur during this stage. [6]. **Online gaming can intensify these feelings.** For instance, winning and losing in virtual arenas can spark elation or frustration, amplifying emotional extremes. [7]. **Conflict with Parents:** Tensions may arise when parents try to limit gaming time or question the value of digital leisure. These restrictions, though well-intentioned, can collide with an adolescent's growing need for autonomy, leading to arguments and strained relationships. **Mood Swings:** The immersive nature of online gaming, where teens spend hours intensely focused on virtual quests and interacting with online communities, can make the transition back to offline responsibilities (like chores, homework, or family events) abrupt and jarring. This sudden shift can contribute to moodiness and heightened reactivity in day-to-day life. **Gamer rage** Children's perspective on issues impacting losing one's temper while playing digital games in this research study provides a nuanced, child-cantered analysis of "gamer rage" the intense frustration and anger children sometimes experience while playing digital games by examining both immediate triggers (in-game failures, other players' actions, technical problems, and out-of-game interruptions) and broader, predisposing factors (choice of game, gaming environment, and daily life troubles). Through interviews and essays with Finnish children in grades six and nine, the authors detail how gamer rage is expressed verbally (through yelling or swearing), physically (by throwing controllers or slamming tables), or by quitting altogether. Significantly, the findings illustrate that children's emotions are influenced by a confluence of social (toxic online communities, parental interruptions), technological (lagging connections, faulty hardware), and personal (preexisting irritation, fatigue, or hunger) factors, rather than solely by game content, such as violence. This holistic perspective underscores the importance of viewing children as active agents in regulating their gaming experiences. It highlights how self-regulatory skills, social contexts, and individual daily life factors influence the occurrence and intensity of gamer rage. [8]. **Online gaming, as shown in both G. Stanley Hall's "storm and stress" framework and recent child-centred research, can intensify the inherent emotional turbulence of adolescence by creating a dynamic interplay between rapid psychological shifts and the digital environment. Through Hall's lens, heightened sensitivity, conflicts with parents, and**

abrupt mood swings are magnified when adolescents immerse themselves in virtual worlds, where even minor triggers, such as losing a match, can provoke disproportionate frustration or "gamer rage." This rage, according to a study involving Finnish children, emerges from immediate triggers (like in-game failures or toxic player interactions) and broader contextual factors (including daily life stressors, fatigue, and parental interruptions), leading to verbal outbursts, physical aggression (e.g., throwing controllers), and even abrupt quitting. Crucially, these findings emphasize adolescents' need for self-regulation skills, given that their emotional states are neither solely defined by the games' violent content nor by offline strains alone. Instead, gaming environments, peer dynamics, and individual vulnerabilities converge, underscoring that how adolescents manage online interactions and respond to parental limits can either mitigate or exacerbate the inherent "storm and stress" of this developmental stage.

III. RISK-TAKING BEHAVIOUR

Increased Impulsivity: Hall's theory suggests adolescents are biologically and psychologically primed for novel experiences and sensations [9]. With its quick rewards and adrenaline-pumping challenges, online gaming caters directly to this inclination. **Rapid decision-making is often rewarded in-game, which can reinforce impulsive tendencies outside gaming contexts.** **Experimentation:** Many games allow role-playing where teens experiment with different characters and behaviours, some heroic, others destructive. While this can be a benign or beneficial form of exploration, it can also desensitize them to reckless or aggressive behaviour if not balanced with real-world perspectives and guidance. **Peer Influence:** In multiplayer online games, peer pressure can encourage risk-taking actions—whether it's staying up late to continue a quest, spending money on in-game items, or engaging in competitive "dares." This digital form of social pressure can be potent, often eclipsing parental guidance or personal limits.

The adolescents and young adults are biologically and psychologically primed for novelty. The findings from this Iranian university student sample illuminate how online gaming can intersect with other forms of risk-taking, most notably smoking (cigarettes and hookah), alcohol consumption, illicit drug use, and even self-injury. By using latent class analysis (LCA), researchers identified three subgroups ("low-risk," "tobacco smoker," and "high-risk"), suggesting that increased impulsivity, reinforced by instant rewards in digital gaming, contributes to heightened susceptibility to these behaviours. The social dimension of gaming likewise fosters experimentation, as adolescents explore diverse online identities or respond to peer pressure in multiplayer settings, potentially reinforcing behaviours that range from late-night gaming sessions to riskier acts like substance use. These results underscore that such peer influence, coupled with the quick gratification mechanics in many games, can amplify impulsive tendencies and form clusters of risky activities. From Hall's perspective, balancing the drive for novelty with real-world boundaries and



guidance, remains key, highlighting the need for tailored interventions that address gaming-related behaviours and broader psychosocial vulnerabilities in emerging adults [10].

IV. IDENTITY CONFUSION

Struggles with Self-Concept: Adolescents are in a critical phase of figuring out who they are. G. Stanley Hall emphasized that this confusion is a regular part of transitioning to adulthood. Online gaming presents numerous virtual identities, avatars, screen names, and guild associations, making searching for a “true self” even more complex. **Social Roles:** Gaming communities often have established norms and hierarchies, allowing teens to assume roles that may differ from their everyday lives. While this can be a space for healthy exploration, it may also blur the boundaries between their virtual persona and real-world identity. **Validation and Self-Esteem:** Many online games incorporate leaderboards, rankings, or social feedback mechanisms (likes, comments, follower counts). Achieving status in these domains can boost self-esteem, but it may become tangled with one’s sense of self-worth, leading to confusion about how genuine achievements in the virtual realm translate to real-life value.

Online Gaming and the Interactional Self: Identity Interplay in Situated Practice, a Research Study (Chee, F., et al., 2006). Employing the Schutzian framework, adolescents in MMORPGs, such as EverQuest, exemplify how the quest for identity—a developmental norm highlighted by G. Stanley Hall—can intersect with the complexities of online “work” and virtual community membership. As teens create multiple avatars and align themselves with guilds, they exercise the “working self,” engaging in forward-looking, purposeful acts that shape their in-game and offline personas. Yet their “partial self”, that reflective layer informed by personal and cultural biography, must reconcile contrasting social norms and hierarchies across these spheres. In effect, achievements in a virtual realm, where leaderboards and guild status confer rapid peer validation, can bolster self-esteem in ways that both mirror and magnify real-life concerns. The virtual identities formed here thus become intersubjective “projects,” shaped by collaboration and community recognition, potentially complicating the adolescent’s broader sense of self. Consequently, by creating an environment where digital personae, social feedback loops, and offline expectations converge, MMORPGs deepen the challenges and opportunities for self-concept formation, demonstrating how youths’ online actions and offline identities fluidly co-constitute one another.

V. OBJECTIVE OF THE STUDY

A. Examine Emotional Turbulence and “Gamer Rage.”

Investigate how adolescents’ involvement in online gaming intensifies emotional reactivity—particularly “gamer rage”—and assess how factors such as game mechanics, peer interactions, and parental oversight intersect with G. Stanley Hall’s concepts of heightened sensitivity and mood swings.

B. Explore Risk-Taking Behaviours in Gaming and Beyond.

Determine how impulsivity and experimentation in online gaming environments may correlate with or predict other real-world risk-taking behaviours (e.g., substance use) among

adolescents, thereby highlighting the interplay between virtual actions and broader psychosocial vulnerabilities.

C. Assess Identity Formation and Role Confusion

Evaluate how creating and maintaining virtual identities in gaming communities influences adolescents’ self-concept, drawing connections to Hall’s notion of identity confusion during adolescence. Specifically, examine how in-game achievements and social hierarchies may bolster or complicate the process of identity formation.

VI. CASE STUDY

A. Psychodynamic Psychotherapy Intervention in a 14-Year-Old Exhibiting Aggressive Behaviour was done by Piliotis-Dimitris Stavrou in 2018 [11].

i. Background

Michael, a 14-year-old male, was referred to our psychotherapy practice by his parents, Helen and John, due to aggressive behaviour directed towards family members, particularly his parents and younger sister. This behaviour had persisted and intensified over the preceding six months. Michael’s parents reported a noticeable escalation in aggressive incidents, characterised by frequent arguments, shouting episodes directed at parents, and physical aggression toward his younger sister, specifically pushing her during conflicts.

ii. Presenting Problem

Initially, Michael’s parents attributed his aggressive outbursts to an increase in his engagement with violent computer games. While Michael had previously enjoyed gaming, his parents noted a marked increase in the duration and frequency of his gaming sessions, accompanied by a decline in his interest in academic responsibilities and homework completion.

iii. Treatment and Methodology

Michael participated in weekly psychodynamic psychotherapy sessions for two and a half years. The initial session included comprehensive intake discussions with both Michael and his parents, focusing on recent behavioural changes and potential triggers. Therapeutic sessions involved exploring underlying emotional conflicts, family dynamics, coping mechanisms, and the psychological functions served by his aggression and gaming behaviours. The psychodynamic approach emphasized understanding unconscious motivations and fostering self-awareness.

iv. Observations and Analysis

Throughout therapy, it became apparent that Michael’s increased gaming was both an escape mechanism and a channel for expressing underlying frustration and emotional distress. Analysis of family interactions revealed specific relational dynamics that contributed to Michael’s aggressive behaviours, notably feelings of neglect and rivalry concerning his younger sister. As therapy progressed, Michael demonstrated increased insight into his emotions and could better articulate his frustrations verbally rather than physically.



B. Internet Gaming Disorder: A Study Reported by Javed Ather Siddiqui in 2018 [12].

i. Background

A 20-year-old university student was referred for psychiatric evaluation by his family physician. With no past or family history of psychiatric illness, he was nonetheless exhibiting a range of problematic behaviours associated with excessive online gaming.

ii. Presenting Problem

Family reports indicated a steady decline in academic performance, increased neglect of personal and social responsibilities, and irritability when access to online gaming was restricted. The student's excessive gaming habit began at around seven years old, gradually intensifying to the point of playing ten hours a day, particularly on weekends or holidays. Over time, he developed emotional distress, interpersonal conflicts, and physical symptoms (e.g., disrupted sleep, irregular eating habits, eye strain, and weight gain). He also reported an inability to quit gaming voluntarily, feeling that the internet was essential to his daily functioning.

iii. Psychosocial Context

- **Family Expectations:** The student was praised for his computer skills, leading to high parental expectations and pressure to maintain academic excellence.
- **Social Isolation:** He had few friends offline, focusing primarily on online interactions. Over time, he distanced himself from his family and dropped out of university.
- **Emotional Distress:** Symptoms included irritability, anger, and low mood when unable to access gaming. Eventually, he developed low self-confidence, feelings of inferiority, and sadness due to declining academic performance and strained family relationships.

C. Case Study: A 28-Year-Old with Internet Gaming Disorder by Fachrul A. Nasution et al in 2019 [13].

i. Background

Mr. A, a 28-year-old Javanese man, married and the father of two children (ages five and one), presented with significant impairments in social and occupational functioning due to excessive internet gaming.

ii. Presenting Problem

Mr. A has been excessively gaming for at least one year, devoting over ten hours each day to online games such as Dota 2 and Grand Theft Auto: San Andreas. This prolonged and intense focus on gaming has led him to neglect vital responsibilities, including self-care routines like eating and bathing, as well as his obligations to his family. Over the past twelve months, he has also experienced severe insomnia, often going with little or no sleep for extended periods. This lack of rest, combined with constant preoccupation with gaming, has contributed to his feelings of worthlessness and guilt, as well as marked difficulties in concentration and decision-making. Mr. A becomes especially anxious and irritable whenever he is away from his games. Although he has attempted numerous times to curtail or discontinue his gaming habit, these efforts have been unsuccessful.

Mr. A's excessive gaming has had a significant impact on his family life. According to his wife, his persistent preoccupation with online gaming has led to a marked decline in his financial contributions and involvement in childcare responsibilities. His gaming habit initially began during middle school when friends introduced him to online games, but over time, this pastime evolved into a severe dependency. Additionally, the cultural expectations inherent in Javanese society, which emphasise familial responsibility and societal roles, may exacerbate Mr. A's feelings of guilt, inadequacy, and personal failure, further complicating his emotional well-being and the dynamics of his family relationships.

iii. Clinical Examination

Upon mental status examination, Mr. A displayed a dysphoric mood accompanied by heightened anxiety, particularly when unable to engage in online gaming. His speech was of normal rate, rhythm, and volume, without signs of disorganized thought patterns. However, he exhibited a pronounced, obsessive preoccupation with gaming. Cognitive assessment revealed mild concentration difficulties and disruption of short-term memory, although immediate, medium, and long-term memories remained intact. Insight into his condition was partial, with judgment notably impaired by his compulsive gaming behaviours.

A physical examination revealed sunken eyes, likely due to prolonged sleep deprivation. Nevertheless, his vital signs, including blood pressure, pulse, temperature, and respiratory rate, were within normal ranges. Laboratory tests showed a random blood glucose level of 126 mg/dL, while all other laboratory results were unremarkable.

D. Case Study: A 13-Year-Old Boy with Internet Gaming Disorder by Kasireddy Sravanthi et al in 2024 [14].

i. Background

A 13-year-old boy, an only child living in a nuclear family with two working parents, presented with issues related to excessive online gaming. Historically, his temperament was easy-going, but he experienced significant behavioural changes over the past year.

ii. Presenting Problem

Initially allowed access to a cell phone for leisure during his parents' working hours, the boy progressively increased his gaming duration from one to two hours daily to six to eight hours per day. Consequently, his academic performance markedly declined, prompting parental concern. Attempts to reduce gaming resulted in stubbornness, irritability, refusal to attend school, and increasing argumentativeness.

iii. Psychosocial Context

Due to excessive gaming, the boy exhibited diminished self-confidence, social detachment, and feelings of inferiority, which negatively impacted his interactions with peers and teachers. Social engagement with family members and relatives also deteriorated, eventually leading him to abandon school activities to focus on gaming.

VII. METHODOLOGY

This study employs a qualitative content analysis methodology to explore the impacts of online gaming on adolescent development, framed through G. Stanley Hall's "Storm and



Stress" theory. The analysis explicitly investigates emotional turbulence, risk-taking behaviours, and identity formation as core themes, further divided into distinct subcategories derived from existing Internet Gaming Disorder case studies. Data from multiple cases exhibiting varying degrees of emotional sensitivity, impulsivity, parental conflict, peer influences, and identity struggles were systematically analysed to uncover patterns, relationships, and nuanced insights into adolescents' gaming experiences. By critically examining these detailed narratives, the study aims to elucidate how immersive gaming environments can amplify adolescent developmental challenges, contributing to broader discourses on psychological well-being, behavioural regulation, and identity confusion associated with excessive online gaming.

A. Theme for Content Analysis.

Central Theme: Impacts of Online Gaming on Adolescent Development through the Lens of G. Stanley Hall's "Storm and Stress" Framework

B. Sub-themes and Categories:

i. Emotional Turbulence and "Gamer Rage"

- **Heightened Sensitivity:** Emotional extremes triggered by online gaming experiences, Influence of game outcomes (winning/losing) on emotional reactions, Amplification of mood swings through immersive gaming environments.
- **Conflict with Parents:** The impact of parental restrictions on adolescent autonomy and the role of parental oversight in exacerbating emotional tension.
- **Mood Swings and Gamer Rage:** Immediate triggers (in-game failures, peer interactions, technical issues), Broader contextual influences (daily stressors, fatigue, hunger), Behavioural manifestations (verbal aggression, physical reactions, quitting).

ii. Risk-Taking Behaviours Enhanced by Online Gaming.

- **Increased Impulsivity:** The influence of rapid reward mechanisms on impulsive behaviours, and the Relationship between impulsivity in-game and real-life decision-making.
- **Experimentation with Identity and Behaviour:** Role-playing and experimentation within virtual gaming worlds, Potential desensitization to reckless behaviours.
- **Peer Influence and Social Dynamics:** Digital peer pressure and its effects on adolescent decision-making, Interconnection between gaming habits and other high-risk behaviours (substance use, self-harm).

iii. Identity Formation and Role Confusion within Online Gaming.

- **Struggles with Self-Concept:** Complexities arising from managing multiple virtual identities, Influence of virtual identities on real-world self-perception.
- **Social Roles and Community Norms:** Interaction between gaming community norms and adolescent identity, Exploration versus confusion in managing offline and online personas.
- **Validation, Achievement, and Self-Esteem:** The impact of virtual achievements on adolescents' self-

worth and the risks of conflating virtual status with personal value.

iv. Content Analysis of Case Studies on Internet Gaming Disorder.

Theme 1: Emotional Turbulence and "Gamer Rage" Heightened Sensitivity

- Case 1 (Michael, 14): Clear emotional extremes triggered by gaming; amplified mood swings due to immersive gaming experiences.
- Case 2 (20-year-old student): Significant irritability, anger, and mood deterioration when gaming access was restricted.
- Case 3 (Mr. A, 28): Experienced heightened anxiety and irritability when unable to game, demonstrating emotional dependency on gaming.
- Case 4 (13-year-old boy): Irritability, stubbornness, and refusal to attend school when gaming restrictions were implemented.

v. Conflict with Parents

- Case 1: Aggression primarily directed at family due to parental restrictions, notably pushing the younger sister.
- Case 2: Strained family relationships exacerbated by declining academic performance and irritability related to gaming.
- Case 4: Increasing arguments and resistance against parental control measures.

vi. Mood Swings and Gamer Rage

- Case 1: Aggression triggered by immediate gaming failures and broader daily stressors, expressing emotional distress physically.
- Case 2: Emotional distress manifesting through anger and irritability during gaming restriction periods.
- Case 3: Persistent anxiety and agitation without gaming access, indicating emotional dysregulation.
- Case 4: Stubbornness, argumentativeness, and irritability are linked to gaming access restrictions.

Theme 2: Risk-Taking Behaviours Enhanced by Online Gaming

vii. Increased Impulsivity

- Case 1: Exhibited impulsivity through aggressive reactions toward family members following in-game frustrations.
- Case 2: Impulsive decision-making reflected in academic neglect and disengagement from university.
- Case 3: Chronic neglect of personal and familial responsibilities demonstrates impaired impulse control.
- Case 4: Impulsive escalation from moderate to excessive gaming, disregarding academic obligations.

viii. Experimentation with Identity and Behaviour

- Case 1: Gaming provided an escape from family dynamics and possibly experimentation with assertiveness through aggression.
- Case 1: Identity strongly tied to online gaming skills and achievements, leading to social isolation offline.
- Case 2: Demonstrated severe dependency, reflecting potential desensitization to real-life consequences of neglect.

ix. *Peer Influence and Social Dynamics*

- Case 1: Social isolation offline, predominant social interactions online, increased susceptibility to digital peer pressure.
- Case 2: Initial peer introduction led to excessive gaming, reflecting enduring influence on life choices.

Theme 3: Identity Formation and Role Confusion within Online Gaming

Struggles with Self-Concept

- Case 1: Developed feelings of inferiority, low self-confidence, and sadness due to declining academic performance.
- Case 2: Experienced feelings of worthlessness and guilt due to failure in family and societal roles.
- Case 3: Displayed diminished self-confidence and social detachment, negatively impacting identity formation.

x. *Social Roles and Community Norms*

- Case 1: Conflict between familial expectations and aggressive behaviours indicative of confusion between virtual and real-world roles.
- Case 2: Cultural pressures from Javanese society intensified guilt and inadequacy linked to failing familial roles due to excessive gaming.
- Case 3: Detachment from social and academic communities due to prioritizing gaming identity.

xi. *Validation, Achievement, and Self-Esteem*

- Case 1: Validation heavily tied to virtual achievements; decline in offline success severely impacted self-worth.
- Case 2: Dependence on virtual gaming achievements overshadowed personal responsibilities, amplifying self-esteem struggles related to familial and societal expectations.
- Case 3: Self-worth became increasingly reliant on gaming achievements, negatively affecting social and academic identity.

VIII. DISCUSSION

The modern digital era has significantly transformed the concept of games from traditional physical activities to immersive online experiences. This shift has notably impacted school-aged children and teenagers, the primary demographic targeted by the gaming industry, leading to growing concerns about the influence of excessive online gaming on their academic performance, social interactions, and overall quality of life. As Michael Jordan insightfully highlighted, repeated failure often paves the path to success; however, the context of online gaming introduces unique dynamics that complicate this perspective. Excessive gaming can lead adolescents not to constructive persistence but to emotional turbulence, risk-taking behaviours, and identity confusion, each requiring nuanced examination and targeted interventions. G. Stanley Hall's "storm and stress" theory highlights adolescence as a period of heightened sensitivity, mood swings, and increased parental conflict—traits that are amplified within immersive online gaming environments. For instance, emotional extremes and "gamer rage" observed in the case studies of Michael (14 years old) and Mr. A (28 years

old) illustrate how online gaming can magnify adolescent vulnerabilities, resulting in significant irritability, anger, and emotional dependency. Similarly, conflicts with parents due to gaming restrictions, as observed in multiple cases, reveal how adolescents' emerging autonomy and desire for independence conflict sharply with parental oversight, exacerbating familial tensions. The Finnish study's findings further support this phenomenon by emphasising how immediate gaming triggers and broader contextual factors collectively intensify emotional reactions, reflecting Hall's conceptualisation of adolescent emotional instability. Risk-taking behaviours, another hallmark of adolescence according to Hall, find reinforcement through the impulsivity encouraged by online gaming's reward mechanisms. The rapid feedback and gratification provided by gaming environments reinforce impulsive decision-making, leading to behaviours like neglecting academic responsibilities, as demonstrated by the 20-year-old student and the 13-year-old boy. Peer influences within digital communities also amplify these risks by introducing digital peer pressure, thus increasing susceptibility to further high-risk behaviours, including substance use or self-injury. Such behaviours reveal the potential negative spill-over of gaming-induced impulsivity into real-world contexts, necessitating a deeper understanding of the interconnectedness between online experiences and broader psychosocial vulnerabilities. The complexity of identity formation during adolescence, characterized by role confusion and exploration, becomes particularly salient within virtual gaming spaces. Adolescents often manage multiple virtual identities, which can complicate their self-concept and exacerbate identity confusion. For instance, the 20-year-old student's reliance on gaming achievements to maintain self-worth highlights the risks of conflating virtual success with real-world validation. Similarly, Mr. A's experience highlights how cultural expectations can exacerbate feelings of inadequacy when online gaming habits conflict with familial and societal responsibilities. Moreover, adolescents' engagement with gaming community norms and social hierarchies often leads to blurred boundaries between their online personas and real-world identities, complicating their ability to clearly define their self-concepts.

IX. CONCLUSION

The modern digital era has redefined gaming, making it a powerful force shaping adolescents' developmental experiences. Excessive online gaming amplifies the inherent challenges of adolescence described by G. Stanley Hall's "storm and stress" theory, intensifying emotional turbulence, risk-taking behaviours, and identity confusion. As evidenced by multiple case studies, prolonged gaming escalates emotional sensitivity, leading to heightened irritability, mood swings, and significant conflicts with parents, especially around restrictions on gaming

activities. Furthermore, the rapid reward structures embedded in online games reinforce impulsivity and experimentation, increasing adolescents' susceptibility to risk-taking behaviours that extend beyond virtual interactions into real life. World contexts such as academic neglect and substance use. Additionally, identity formation becomes increasingly complex in virtual environments, where adolescents navigate multiple identities and social hierarchies. While temporarily boosting self-esteem, virtual achievements can dangerously blur the distinction between digital validation and genuine self-worth, exacerbating confusion regarding self-concept and social roles. Addressing these multifaceted impacts requires collaborative strategies involving parents, educators, policymakers, and mental health professionals. Effective interventions should prioritise developing adolescents' self-regulation skills, fostering healthier gaming habits, and providing clear guidelines to mitigate adverse outcomes. Crucially, recognising online gaming's dual potential as both a risk factor and a tool for positive exploration is essential. Thus, balanced approaches that acknowledge gaming's significance while guiding adolescents toward emotional resilience, responsible decision-making, and stable identity formation are vital. Ultimately, comprehensive understanding and proactive management of these dynamics can transform gaming into a constructive developmental force, rather than a source of ongoing adolescent distress.

DECLARATION STATEMENT

After aggregating input from all authors, I must verify the accuracy of the following information as the article's author.

- **Conflicts of Interest/ Competing Interests:** Based on my understanding, this article has no conflicts of interest.
- **Funding Support:** This article has not been funded by any organizations or agencies. This independence ensures that the research is conducted objectively and without external influence.
- **Ethical Approval and Consent to Participate:** The content of this article does not necessitate ethical approval or consent to participate with supporting documentation.
- **Data Access Statement and Material Availability:** The adequate resources of this article are publicly accessible.
- **Author's Contributions:** The authorship of this article is contributed equally to all participating individuals.

REFERENCE

1. Reshma Patel, 'I've missed more than 9000 shots in my career...', Impact Network. Accessed: Mar. 26, 2025. [Online]. Available: <https://www.impactnetwork.org/latest-news/ive-missed-more-than-9000-shots-in-my-career>
2. Eyüp Yılmaz, Selma Yel, and Mark D. Griffiths, 'The Impact of Heavy (Excessive) Video Gaming on Peers and Teachers in the School Environment: A Qualitative Study', *Addicta Turk. J. Addict.*, vol. 5, no. 2, Aug. 2018, DOI: <http://doi.org/10.15805/addicta.2018.5.2.0035>
3. Nick Hopwood, *Haeckel's Embryos: Images, Evolution, and Fraud*. Chicago, IL: University of Chicago Press, 2015. Accessed: Mar. 25, 2025. [Online]. Available: <https://press.uchicago.edu/ucp/books/book/chicago/H/bo18785800.html>

4. Christopher D. Green, 'Hall's developmental theory and Haeckel's recapitulationism', *Eur. J. Dev. Psychol.*, vol. 12, no. 6, pp. 656–665, Nov. 2015, DOI: <http://doi.org/10.1080/17405629.2015.1074069>
5. Jeffrey Jensen Arnett, 'Adolescent storm and stress, reconsidered', *Am. Psychol.*, vol. 54, no. 5, pp. 317–326, 1999, DOI: <http://doi.org/10.1037/0003-066X.54.5.317>
6. Tom Hollenstein and Jessica P. Loughheed, 'Beyond storm and stress: Typicality, transactions, timing, and temperament to account for adolescent change', *Am. Psychol.*, vol. 68, no. 6, pp. 444–454, 2013, DOI: <http://doi.org/10.1037/a0033586>
7. Martin Rupf, 'When your child loses the game – and their temper along with it', *Galaxus*. Accessed: Mar. 25, 2025. [Online]. Available: <https://www.galaxus.it/en/page/when-your-child-loses-the-game-and-their-temper-along-with-it-22890>
8. Juho Kahila, Jaana Viljaranta, Sanni Kahila, Satu Piispa-Hakala, and Henriikka Vartiainen, 'Gamer rage—Children's perspective on issues impacting losing one's temper while playing digital games', *Int. J. Child-Comput. Interact.*, vol. 33, p. 100513, Sep. 2022, DOI: <http://doi.org/10.1016/j.ijcci.2022.100513>
9. Jeffrey Jensen Arnett, 'G. Stanley Hall's Adolescence: Brilliance and Nonsense', *Hist. Psychol.*, vol. 9, no. 3, pp. 186–197, 2006, DOI: <http://doi.org/10.1037/1093-4510.9.3.186>
10. Faeze Ghasemi Seproo, Leila Janani, Seyed Abbas Motevalian, Abbas Abbasi-Ghahramanloo, Hamed Fattahi, and Shahnaz Rimaz, 'Risk-taking behaviours about Internet Gaming Disorder in Iranian university students: a latent class analysis', *J. Res. Health Sci.*, vol. 22, no. 3, Art. no. 3, Oct. 2022, DOI: <http://doi.org/10.34172/jrhs.2022.91>
11. Pilios-Dimitris Stavrou, 'Addiction to Video Games: A Case Study on the Effectiveness of Psychodynamic Psychotherapy on a Teenage Addict Struggling with Low Self-Esteem and Aggression Issues', *Psychology*, vol. 9, no. 10, Art. no. 10, Sep. 2018, DOI: <http://doi.org/10.4236/psych.2018.910140>
12. Javed Ather Siddiqui, 'Internet gaming disorder: A case report', *J. Behav. Health*, vol. 7, no. 1, pp. 43–46, Jan. 2018, DOI: <https://doi.org/10.5455/jbh.20170928054951>
13. Fachrul A. Nasution, Elmeida Effendy, and Mustafa M. Amin, 'Internet Gaming Disorder (IGD): A Case Report of Social Anxiety', *Open Access Maced. J. Med. Sci.*, vol. 7, no. 16, pp. 2664–2666, Aug. 2019, DOI: <http://doi.org/10.3889/oamjms.2019.398>
14. Kasireddy Sravanthi, N. G. Nihal, N. N. Raju, and Shailaja Mane, 'A Case Report of Internet Gaming Disorder Treated With Bupropion and Cognitive Behavioral Therapy', *Cureus*, vol. 16, no. 6, p. e63013, Jun. 2024, DOI: <http://doi.org/10.7759/cureus.63013>

AUTHOR'S PROFILE



B. Chibby Muthu is a PhD Research Scholar in the Department of Sociology at Annamalai University, Chidambaram. He served as a Guest Lecturer in the Department of Sociology at Tamil Nadu Government Arts and Science College, Sankarankovil, during the academic year 2022–2023. He holds a Master's Degree in Sociology and a Post Graduate Diploma in Human Resource Management from Indira Gandhi National Open University (IGNOU). His research interests focus on labour studies, automation, education policy, and contemporary social challenges. He has published several research articles and book chapters in reputed journals and edited volumes. His notable works include *Disabled Workers in the Era of Automation (Nanotechnology Perceptions)*, (2024), *A Sociological Analysis of Durkheim's Anomie: Stock Market Investors (IJMRA)*, (2025), a book chapter on NEP 2020 (Rawat Publications, 2025), and *Challenges in Field Data Collection (Nirmala Niketan)*, (2024).



Archana Hajong is a PhD Research Scholar (NET qualified) in the Department of Education at Annamalai University, Chidambaram. She has teaching experience as a visiting faculty member in the Department of Education at ICAFI University, Tura, Meghalaya, during the academic year 2020–2021. She completed her M.A. in Education at Northeastern Hill University (NEHU), Tura, in 2019, securing a second division. She holds a B.A. in Education from Don Bosco College, Tura, under NEHU (2017), and completed her Higher Secondary and Secondary Schooling under the Meghalaya Board of School Education (MBOSE). Her research interests focus on education, pedagogy, and contemporary issues in teaching and learning.



Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the Lattice Science Publication (LSP)/ journal and/ or the editor(s). The Lattice Science Publication (LSP)/ journal and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.