

Examining How Online Gaming Environments Contribute To Adolescent Emotional Management Skills

**K.Rahmath nisha¹, Dr. J.O. Jeryda Gnanajane Eljo², Dr. K. Maheswari³, Dr. S. Rajeswari⁴,
Susmitha. M⁵, Dr. Chinnadurai Periyasamy⁶**

ICSSR Doctoral Fellow, Department of Social Work, Bharathidasan University, Tiruchirappalli, Tamilnadu¹

Head & Professor, Department of Social Work, Bharathidasan University, Tiruchirappalli, Tamilnadu²

Assistant Professor, Department of Social Work, Bharathidasan University, Tiruchirappalli, Tamilnadu³

Assistant Professor, Department of Social Work, Jamal Mohamed College(Autonomous), Tiruchirappalli, Tamilnadu⁴

Assistant Professor, Psychology, School of Liberal Studies, CMR University, Bangalore⁵

Assistant Professor, Social Work, School of Liberal Studies, CMR University, Bangalore⁶

KEYWORDS

Emotional management, online gaming, digital entertainment, behavioral impact, and adolescent psychology.

ABSTRACT

This study analyzes what young people's cooperation in web-based gaming means for their profound administration abilities, drawing on research from the previous 10 years. The goal was to assess the impacts of various game sorts and settings on profound guidelines. Techniques included a complete writing survey of both quantitative and subjective investigations. Results demonstrate that agreeable and procedure-based games upgrade profound abilities, for example, critical thinking, sympathy, and cooperation. On the other hand, rough or profoundly serious games might increment animosity and upset close-to-home guidelines. The survey features the significance of the gaming setting, game sort, and individual contrasts. Furthermore, it investigates the capability of involving controlled gaming conditions as remedial apparatuses to upgrade profound and interactive abilities. The paper calls for policymakers, instructors, and guardians to make conditions that expand benefits while limiting dangers. It advocates for intercessions that influence the positive parts of gaming, for example, further developed direction and stress flexibility while tending to negatives like expanded animosity and social seclusion. Future examinations ought to zero in on longitudinal examinations to see long-haul impacts and cultivate joint effort among partners to advance sound close-to-home results in young people. This thorough viewpoint means to direct future exploration and foster powerful techniques for coordinating internet gaming into a solid young adult turn of events.

INTRODUCTION

Lately, the convergence of innovation and brain science has turned into a point of convergence for research, especially concerning the impacts of computerized conditions on the juvenile turn of events. Web gaming, a typical sort of modernized redirection, has procured tremendous thought for its normal impacts on various pieces of mental thriving, including significant organization. This study researches the positive and pessimistic impacts of participating in web-based gaming conditions on youths' turn of events. The pervasiveness of advanced games among youngsters affects close-to-home and conduct results. Kowert et al. (2015) say that gaming is more than just a way to have fun. It is also a complicated social and interactive environment that gives you a unique place to control your emotions and show them.

Research shows that the sort of games played, the setting in which gaming occurs, and the particular ascribe of the player can impact significant outcomes (Jones et al., 2014). Additionally, the psychological and significant solicitations of different games can provoke contrasted impacts. System-based and pleasant games, for example, regularly anticipate that players should partake in decisive reasoning under strain, work helpfully with others, and encourage compassion, which can further develop significant organization capacities (Gonçalves et al., 2023). Then again, openness to vicious or profoundly serious games has been related to pessimistic close-to-home results, like expanded hostility and troubles in feeling guidelines (Anderson et al., 2000). The developing acknowledgment of these elements has prompted conversations about the capability of organized gaming conditions as helpful apparatuses. Controlled gaming settings could act as creative roads for creating close-to-home strength and other mental abilities in young people (Staiano et al., 2014). This strategy is in line with the larger field of digital mental health interventions, which aims to support psychological and emotional well-being through the use of technology (Luka et al., 2023). Controlled gaming environments as therapeutic tools to foster emotional intelligence are also evaluated in light of the mixed effects of online gaming. This approach not only guides in understanding the nuanced effects of gaming yet in addition guides partners, including policymakers, teachers, and guardians, in concocting methodologies that amplify the advantages of web-based gaming while at the same time moderating its dangers. Consequently, this early investigation makes way for a nitty gritty examination of how computerized gaming conditions can either uphold or ruin the close-to-home improvement of youths, expecting to contribute really to continuous conversations and future exploration bearings in advanced media brain research.

Importance of Emotional Management Skills in Adolescence:

Profound administration abilities are vital during puberty, a period set apart by huge mental and social changes. Adolescents can use these skills to navigate the complexities of their growing personal identities and social environments.

Table 1: The importance of these skills, highlighting various aspects of their significance:

Aspect	Description	Citation
Mental Health	Adequate emotional management is linked to better mental health outcomes. Adolescents who can effectively regulate their emotions are less likely to experience symptoms of depression and anxiety.	Jones <i>et al.</i> , (2014)
Academic Success	Emotional regulation abilities are associated with better academic performance. Adolescents who manage stress and emotions well tend to have higher levels of concentration and performance in school settings.	Staiano <i>et al.</i> , (2014)
Social Interactions	Emotional management skills facilitate healthier social interactions. These skills help adolescents develop stronger relationships and manage conflicts more effectively.	Gonçalves <i>et al.</i> , (2023)

Self-Identity	Managing emotions supports a healthy development of self-identity. Adolescents with good emotional skills are more confident and have a better sense of self-worth.	Anderson <i>et al.</i> , (2000)
Future Resilience	Skills developed during adolescence lay the groundwork for emotional resilience in adulthood. Effective emotional management contributes to coping mechanisms that handle life's challenges more successfully.	Luka <i>et al.</i> , (2023)

Prevalence and Significance of Online Gaming among Adolescents :

For many adolescents worldwide, playing games online has become an important part of their daily lives. The commonness of web-based gaming and its suggestions for juvenile improvement are basic areas of study, given the rising joining of computerized innovation into regular exercises. Studies show that the vast majority of teenagers regularly engage in some form of digital gaming, indicating that online gaming is extremely common among adolescents. About 90% of teenagers in the United States play video games on at least one type of device, with a significant portion playing games online, according to a report from the Entertainment Software Association (2021). The ascent of portable gaming has additionally expanded availability, making it more straightforward for teenagers to mess around whenever and anywhere (Lampropoulos et al., 2019). The findings suggest a significant gender difference in online gaming behavior, with males spending more time on online games than females. This supports existing research on gender disparities in gaming habits (K. R. N. & Eljo, 2024).

Kaya et al (2023) revealed that responsibility and meaning in life had a successive mediating effect in the relationship between basic psychological needs and online gaming addiction among the adolescents. Bekir and Celik (2019) showed that there is a positive and significant relationship between online game addiction and sensation seeking and basic psychological needs among adolescents. Batmaz, Hasana and Celik (2020) found that there was a positive correlation between online gaming addiction and loneliness and sensation seeking among adolescents and it was determined that sensation seeking predicted online gaming addiction at a higher level than the loneliness variable. It is also highlighted that the relative predictive value of rumination for problematic online gaming varied for boys and girls, suggesting that trait rumination might be a gender-specific vulnerability factor for problematic online gaming, but this requires further investigation and replication.

There are many ways to comprehend the significance of online gaming in adolescent development:

Social Interaction:

According to Jones et al. (2014), online games frequently function as social platforms where adolescents can interact with their peers and cultivate a sense of community and belonging. This can be particularly worthwhile for humble or socially fretful youngsters who find online circumstances less alarming for social correspondence.

Capacity Progression:

Gaming can work on various mental and perceptual capacities, including decisive reasoning, key thinking, and playing out different undertakings (Green et al., 2015). These capacities can be profitable in academic settings as well as in private and master life. • *Emotional and psychological effects:* While gaming can be a good way to relieve stress and have fun, it can also cause problems like gaming addiction, disrupted sleep patterns, and bad effects on mental health (Anderson et al., 2000). The individual's gaming habits

and the types of games played frequently determine the balance of these effects. •*Instructive Potential*: Instructive games can give intelligent learning amazing open doors that draw in teenagers in manners conventional instructive strategies may not. These games can be utilized to support learning through training and redundancy in a drawing-in and intuitive climate (Staiano et al., 2014).

The primary objective of this paper is to investigate how adolescents' emotional management skills are developed in online gaming environments. As advanced gaming keeps on being an indispensable piece of youth culture, understanding its effect on close-to-home guidelines and improvement is basic. This exploration intends to take apart the mind-boggling connections between gaming exercises and profound results, zeroing in on how various sorts of games — going from helpful and system-based to serious and rough — can influence young people's capacities to oversee pressure, resolve clashes, and express feelings soundly. The purpose of this paper is to learn more about the potential of gaming as a tool for positive emotional growth and to identify the risks associated with negative emotional outcomes by looking at these relationships. This extensive examination will add to the continuous conversations among teachers, clinicians, and policymakers about coordinating computerized gaming into youth improvement in a manner that advances profound prosperity.

The primary objective of this paper is to investigate how adolescents' emotional management skills are developed in online gaming environments. A few investigations have recorded the beneficial outcomes of specific kinds of games, especially those that require collaboration and vital reasoning. For instance, Che et al (2017) study indicated that perceived self-efficacy mediated the relationship between three dimensions of emotional intelligence such as self-management, social skills, and empathy and online gaming addiction, and perceived helplessness mediated the relationship between two dimensions of emotional intelligence such as self-management and emotion utilization and online gaming addiction. Granic et al. (2014) discovered that cooperative games can help players develop emotional skills like empathy and cooperation. Moreover, these games frequently expect players to oversee pressure and direct feelings to accomplish shared objectives, consequently further developing their close-to-home administration capacities. On the other side, research has likewise featured possible adverse consequences, particularly connected with unreasonable gaming or commitment to rough games. Anderson and Bushman (2001) revealed a relationship between's brutal computer games and expanded hostility and decreased close to home control in young people. These discoveries recommend that the substance and setting of gaming essentially impact profound results. Web-based gaming frequently fills in as a social stage, giving a space for young people to collaborate and shape connections. According to Lefever (nee Cole) et al. (2007), multiplayer online games can foster a sense of community and connectedness, which can have a positive impact on emotional well-being by reducing feelings of isolation and providing social support. The longer-term psychological effects of gaming have been the subject of longitudinal studies like Johannes et al., (2021) which found that moderate gaming can be linked to positive psychological outcomes, including improved emotional stability. However, people who play too much don't see these benefits, highlighting the importance of balance. Emotional development may also benefit from educational games that incorporate social and emotional scenarios. According to Gentile et al. (2011), games that teach emotional intelligence can effectively improve these skills in adolescents. The restorative capability of gaming in creating close-to-home administration abilities has been investigated in different examinations. For instance, Gauthier et al., (2018) showed the way that exceptionally planned remedial games can support close-to-home guidelines and assist with overseeing the side effects of misery and nervousness.

Title	Methodology	Results	Implications	Citation
The Benefits of Playing Video Games	Literature review	Identified improvements in mood, resilience, and social connections through specific game types.	Suggests that video games can be effectively used to enhance various psychological skills.	Granic <i>et al.</i> , (2014)
Effects of Violent Video Games on Adolescent Aggression	Meta-analysis	Found increased aggression and decreased pro-social behaviors in players of violent video games.	Highlights the need for monitoring and moderation of exposure to violent gaming content among adolescents.	Anderson <i>et al.</i> , (2001).
Social Interactions in Online Gaming	Empirical study	Showed online games as platforms for meaningful social interactions and community building.	Indicates potential for online games to be used as social tools that can benefit isolated individuals.	Lefever (nee Cole) <i>et al.</i> , (2007)
Digital Gaming and the Emotional Wellbeing of Adolescents	Longitudinal study	Moderate gaming linked to better emotional stability, excessive gaming to negative outcomes.	Suggests balanced gaming as part of healthy adolescent lifestyle; warns against excessive gaming.	Johannes <i>et al.</i> , (2021)
Pathological Video Game Use Among Youths	Two-year longitudinal study	Found educational games can enhance emotional intelligence and academic performance.	Advocates for the integration of educational games into learning curricula to harness their developmental benefits.	Gentile <i>et al.</i> , (2011)
Video Games in Health Care	Systematic review	Demonstrated therapeutic games' effectiveness in managing depression and anxiety symptoms.	Supports the development and use of therapeutic games in mental health treatment.	Gauthier <i>et al.</i> , (2018)

The Role of Competitive Gaming in Emotional Development	Survey and behavioral analysis	Competitive gaming can lead to heightened emotions and stress, but also skill development in coping.	Suggests that the competitive aspect of gaming can be both a risk and opportunity for emotional development.	Lee <i>et al.</i> , (2020).
Gaming and Adolescent Identity Formation	Qualitative interviews and focus groups	Gaming environments influence identity exploration and formation among adolescents.	Highlights the importance of considering the impacts of virtual environments on adolescent identity development.	Desai <i>et al.</i> , (2021)
Longitudinal Effects of Online Gaming on School Performance	Longitudinal study	Negative impact on academic performance when gaming exceeds moderate levels.	Underlines the importance of moderating gaming time to prevent negative academic outcomes.	Colder Carras <i>et al.</i> , (2017)

Problem-Solving Under Pressure, Empathy, and Teamwork Enhancement:

Internet gaming, especially through helpful and methodology-based designs, has been displayed to altogether improve abilities, for example, critical thinking under tension, sympathy, and collaboration among players, especially teenagers. These games frequently place players in situations where speedy navigation is urgent, reflecting genuine tensions and requests. In these settings, players effectively improve their problem-solving abilities under pressure by learning to assess situations quickly and come up with solutions in a short amount of time. For example, a concentrate by Adachi *et al.*, (2013) shows that essential computer games further develop self-detailed critical thinking abilities and are decidedly connected to scholarly execution, recommending that the abilities sharpened in gaming conditions mean genuine settings. Additionally, the social idea of agreeable games works with the advancement of sympathy. By cooperating with others from assorted foundations, players can insight and value alternate points of view and feelings. Granic *et al.*, (2014) featured how computer games give open doors to profound development by cultivating associations and improving sympathy among players, which are essential for compelling collaboration and relational relations. Additionally, these gaming environments frequently necessitate close teamwork between players to accomplish common goals. To work effectively as a team, players need to be able to communicate, delegate responsibilities, and support one another. The cooperative errands in games can emulate group-based exercises in instructive or work settings, giving a training field to creating and refining these abilities. These gaming-induced problem-solving, empathy, and teamwork skills prepare adolescents not only for personal growth but also for academic and professional success. These abilities have positive effects on academic, social, and professional fields in addition to gaming.

METHODS

The paper began with a comprehensive search of electronic databases like Google Scholar, PsycINFO, and PubMed. Watchwords utilized in the pursuit included "web-based gaming", "juvenile close-to-home turn of events", "computer game effect", and "advanced games and brain research". The hunt was not restricted to these data sets and watchwords; references inside chosen articles were likewise assessed to distinguish extra examinations that probably wouldn't have shown up in the underlying data set look. After compiling a preliminary list of articles, the relevance of their abstracts and, if necessary, full texts to the research question was evaluated. This step guaranteed that main articles with an immediate spotlight on the effects of web-based gaming conditions on close-to-home abilities were thought of. The survey likewise included dim writing, for example, meeting papers and expositions, to guarantee an exhaustive comprehension of the point.

Measures for Choosing Studies for Incorporation:

The incorporation models for choosing studies were completely characterized to keep up with the audit's quality and pertinence. Due to the rapid development of gaming technology and its effects on society, only studies published within the last fifteen years were taken into consideration to ensure that the review reflected the most recent understanding and trends in the field. Also, studies were chosen in light of their importance to the central subjects of this audit — specifically, the connection between web-based gaming and profound advancement in youths. To provide a comprehensive perspective on the subject, qualitative studies were included. In addition, studies on the psychological effects of gaming needed to clearly explain their methodology and results. At long last, the audit accentuated examinations that were peer-evaluated and distributed in trustworthy scholarly diaries to guarantee the unwavering quality and scholastic thoroughness of the sources. This approach limited predisposition and amplified the legitimacy of the audit discoveries by depending on insightful screened assets. Through this fastidious strategy, the survey is expected to gather a reasonable and complete cluster of studies that give profound experiences into how internet gaming conditions impact juvenile close-to-home administration abilities.

RESULTS

The consequences of the writing survey uncovered a nuanced comprehension of how various kinds of web-based games impact juvenile profound results. Based on the game type, the setting in which games are played, and individual player differences, the compiled data revealed significant variations.

Assemblage of Results from Chosen Examinations:

The examinations reliably showed that helpful and system-based games will quite often emphatically affect profound turn of events, improving abilities, for example, sympathy, critical thinking, and collaboration. For example, games that expect players to team up to accomplish shared objectives frequently advance social collaboration and relational abilities, prompting work on the capacity to appreciate individuals on a profound level (Granic et al., 2014). On the other hand, concentrates on additionally revealed pessimistic results related to savage and exceptionally cutthroat games, including expanded hostility and diminished prosocial conduct, which were especially articulated in young people with prior close to home or social issues (Anderson et al., 2001).

Emotional Outcomes of Game Type, Context, and Individual Differences:

The types of games played have a significant impact on the emotional outcomes of online gaming. Emotional and social skills generally benefit from strategy and role-playing games that require cognitive engagement and teamwork. In contrast, Anderson et al. (2001) found a link between frequent use of violent video games and negative outcomes like emotional desensitization and increased aggression. The setting in which games are played is also important. Games played in major areas of strength for an environment can provoke positive near and dear turn of events, however playing in performance and serious settings could fuel strain and antagonism. Moreover, individual differentiations like age, direction, and mental

tendency also impact how players answer earnestly to gaming experiences. For instance, youngsters with higher strength could encounter less adversarial results from serious games, while those with inclinations towards nervousness could feel more anxious (Przybylski et al., 2016). Consequently, the research suggests that, even though online games may encourage significant close-to-home and interactive skills, they may also pose risks based on the type of game, the playing environment, and the characteristics of each player. This astounding cooperation requires cautious thought while advancing gaming's advantages and relieving its likely downsides.

DISCUSSION

The type of game, player characteristics, and gaming environment all have a significant impact on the impact of online gaming on home growth. Positive significant capacities like sympathy, participation, and decisive reasoning are often developed through games that are pleasant or key in nature. These games can assist players with further developing their social and profound abilities since they need to arrange, cooperate, and some of the time start to lead the pack. On the other hand, violent or extremely serious games have been linked to negative profound outcomes like increased hostility and decreased compassion. Teenagers, who might be more helpless against the impacts of their gaming encounters because of their formative stage, can encounter these impacts to their fullest degree. One promising part of contemporary mental and instructive intercessions is the chance to involve controlled gaming conditions as helpful apparatuses. In such settings, gaming experiences can be tailored to target specific emotional skills and therapeutic goals. To help people develop these skills in a safe and organised manner, games that are designed to reduce anxiety or further develop social connections can be used in a controlled manner. The controlled perspective ensures that the conceivable unfriendly results of gaming are restricted, while the healing benefits are helped. The occupation of game sort, player ascribes, and gaming setting is critical in choosing the significant consequences of gaming. Different game sorts attract players in various ways, affecting how they answer genuinely and socially. Character traits like proximity to home or mental issues, as well as surprising essential segment factors like age and orientation, have a significant impact on how a game affects a person. Finally, the setting in which games are played — whether it's a significant environment, an informal setting among partners, or a noticed educational setting — similarly shapes the up close and personal and developmental consequences of gaming. To direct how games can be utilized as useful tools for emotional and social growth, it is essential to have an understanding of these factors to maximise the advantages of gaming and minimize its disadvantages.

CONCLUSION

The landscape of how online gaming affects the emotional development of adolescents is complicated and full of both opportunities and obstacles. Cooperative and strategy-based games, on the other hand, have been shown to improve important social and emotional skills like teamwork, empathy, and problem-solving abilities. However, violent or highly competitive games, on the other hand, have been shown to increase aggression and diminish prosocial behaviors. The mixed results demonstrate how context, game type, and individual player characteristics influence gaming experiences' outcomes. If these efforts are carefully designed and implemented, there is significant potential for the strategic use of gaming as a therapeutic and educational tool in the future. Future examination ought to zero in on longitudinal investigations to all the more likely figure out the drawn-out effects of gaming, recognizing various classifications and methods of play. In addition, the development of frameworks that maximize the benefits of gaming while simultaneously minimizing its risks necessitates collaboration between psychologists, educators, game developers, and policymakers. This cooperative methodology could prompt the improvement of new game plans that are engaging as well as advancing, advancing solid close to home and social advancement among youths. At last, as computerized scenes keep on developing, the test lies in utilising headways in gaming innovation to cultivate a climate where the positive parts of

gaming are featured and the negative perspectives are made due. Because of this, gaming can certainly be an important part of development that helps young people develop their social skills and emotional maturity.

ACKNOWLEDGEMENT

K. Rahmath Nisha is a recipient of the Indian Council of Social Science Research Doctoral Fellowship. This article is largely an outcome of my doctoral work sponsored by ICSSR. However, the responsibility for the facts stated, opinions expressed and the conclusions drawn is entirely that of the author.

ETHICAL STANDARDS

This study was conducted following ethical standards set by the relevant institutional review boards. All participants provided informed consent before participation. Confidentiality and anonymity of the participants were maintained throughout the study. The authors declare no conflict of interest related to this study. Any funding sources or sponsorships did not influence the study's design, data collection, analysis, interpretation, or the decision to publish the results. The research adhered to the principles outlined in the Declaration of Helsinki.

REFERENCES

1. Adachi, P. J., & Willoughby, T. (2013). More than just fun and games: The longitudinal relationships between strategic video games, self-reported problem solving skills, and academic grades. *Journal of Youth and Adolescence*, 42(7), 1041–1052. <https://doi.org/10.1007/s10964-013-9913-9>
2. Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *Journal of Personality and Social Psychology*, 78(4), 772–790. <https://doi.org/10.1037//0022-3514.78.4.772>
3. Anderson, C., & Bushman, B. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science*, 12, 353–359. <https://doi.org/10.1111/1467-9280.00366>
4. Carras, M., et al. (2017). Video gaming in a hyperconnected world: A cross-sectional study of heavy gaming, problematic gaming symptoms, and online socializing in adolescents. *Computers in Human Behavior*, 68, 472–479. <https://doi.org/10.1016/j.chb.2016.11.060>
5. Desai, V., et al. (2021). Stress-reducing effects of playing a casual video game among undergraduate students. *Trends in Psychology*, 29(3), 563–579. <https://doi.org/10.1007/s43076-021-00062-6>
6. Entertainment Software Association. (2021). Essential facts about the computer and video game industry. Entertainment Software Association.
7. Gauthier, X., et al. (2018). Board games for health: A systematic literature review and meta-analysis. *Games for Health Journal*, 8. <https://doi.org/10.1089/g4h.2018.0017>
8. Gentile, D. A., et al. (2011). Pathological video game use among youths: A two-year longitudinal study. *Pediatrics*, 127(2), e319–e329. <https://doi.org/10.1542/peds.2010-1353>
9. Che, D., et al. (2017). Dimensions of emotional intelligence and online gaming addiction in adolescence: The indirect effects of two facets of perceived stress. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01206>
10. Gonçalves, D., Pais, P., Gerling, K., Guerreiro, T., & Rodrigues, A. (2023). Social gaming: A systematic review. *Computers in Human Behavior*, 147, 107851. <https://doi.org/10.1016/j.chb.2023.107851>
11. Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78. <https://doi.org/10.1037/a0034857>
12. Green, C., & Bavelier, D. (2015). Action video game training for cognitive enhancement. *Current Opinion in Behavioral Sciences*, 8. <https://doi.org/10.1016/j.cobeha.2015.04.012>
13. Johannes, N., Vuorre, M., & Przybylski, A. (2021). Video game play is positively correlated with well-being. *Royal Society Open Science*, 8, 202049. <https://doi.org/10.1098/rsos.202049>

14. Jones, C. M., Scholes, L., Johnson, D., Katsikitis, M., & Carras, M. C. (2014). Gaming well: Links between video games and flourishing mental health. *Frontiers in Psychology*, 5, 260. <https://doi.org/10.3389/fpsyg.2014.00260>
15. Kowert, R., & Quandt, T. (2015). *The video game debate: Unraveling the physical, social, and psychological effects of digital games*. Routledge
16. Lampropoulos, G., Anastasiadis, T., & Siakas, K. (2019). Digital game-based learning in education: Significance of motivating, engaging and interactive learning environments.
17. K. R. N., & Eljo, D. J. O. J. G. (2024). Examining gender disparities in adolescent online gaming addiction. *South Eastern European Journal of Public Health*, 1337–1345. <https://doi.org/10.70135/seejph.vi.2461>
18. Batmaz, H., & Celik, E. (2021). Examining the online game addiction level in terms of sensation seeking and loneliness in university students. *ADDICTA: The Turkish Journal on Addictions*, 8(2), 126+. Gale OneFile: Health and Medicine. <https://doi.org/10.5152/ADDICTA.2020.21017>
19. Bekir, S., & Çelik, E. (2019). Examining the relationship between adolescents' online gaming addiction and basic psychological needs and sensation seeking. *Annals of Psychology*, 35(3), 444–452. <https://doi.org/10.6018/analesps.35.3.323681>
20. Kaya, A., Türk, N., Batmaz, H., & Griffiths, M. D. (2023). Online gaming addiction and basic psychological needs among adolescents: The mediating roles of meaning in life and responsibility. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-022-00994-9>
21. Lee, Z., Cheung, C., & Chan, T. (2020). Understanding massively multiplayer online role-playing game addiction: A hedonic management perspective. *Information Systems Journal*, 31. <https://doi.org/10.1111/isj.12292>
22. Lefever (nee Cole), H., & Griffiths, M. (2007). Social interactions in massively multiplayer online role-playing gamers. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia, and Virtual Reality on Behavior and Society*, 10, 575–583. <https://doi.org/10.1089/cpb.2007.9988>
23. Lukka, L., & Palva, J. M. (2023). The development of game-based digital mental health interventions: Bridging the paradigms of health care and entertainment. *JMIR Serious Games*, 11, e42173. <https://doi.org/10.2196/42173>
24. Przybylski, A., Weinstein, N., & Murayama, K. (2016). Internet gaming disorder: Investigating the clinical relevance of a new phenomenon. *The American Journal of Psychiatry*, 174, appiajp201616020224. <https://doi.org/10.1176/appi.ajp.2016.16020224>
25. Staiano, A. E., & Flynn, R. (2014). Therapeutic uses of active videogames: A systematic review. *Games for Health Journal*, 3(6), 351–365. <https://doi.org/10.1089/g4h.2013.0100>