KLASICS
Kendari Journal of Maritime and Holistic Nursing
https://stikesks-kendari.e-journal.id/K
Volume 6 | Number 02 | July | 2026
E- ISSN: 2774-6577

Relationship between the Level of Online Game Addiction and Emotional Problems and Aggressive Behavior Among Adolescents

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Keywords**:** Gaming Addiction; Emotional Problems; Aggressive Behavior; Adolescents;

Abstract. The increasing use of online games among adolescents has raised concerns about their psychological well-being. Excessive gaming may lead to addiction, which is associated with emotional problems and aggressive behavior. This study aimed to analyze the relationship between the level of online game addiction and emotional problems and aggressive behavior among adolescents through a literature review. Articles published between 2016 and 2025 were systematically reviewed, resulting in 15 studieses that met the inclusion criteria. The findings consistently showed that higher levels of online game addiction were significantly associated with increased emotional problems, including anxiety, depression, stress, and difficulties in emotional regulation, as well as aggressive behavior among adolescents. Several studieses also suggested that emotional problems may strengthen the relationship between online game addiction and aggression, although variations in findings were influenced by differences in study design and participant characteristics. In conclusion, online game addiction is closely associated with emotional problems and aggressive behavior among adolescents. Preventive efforts through digital literacy, parental supervision, school counseling, and mental health promotion are recommended.

Introduction

The World Health Organization recognized Gaming Disorder as a behavioral disorder associated with persistent and excessive gaming that can negatively affect mental health. Previous research has shown that adolescents with Internet Gaming Disorder are more likely to experience psychological problems, including stress, anxiety, and depression.[1] Excessive online gaming is associated with emotional dysregulation and increased aggressive behavior among adolescents.[2]

Adolescence is a critical developmental period characterized by significant biological, psychological, and social changes. During this stage, emotional regulation and social adjustment are still developing, making adolescents more vulnerable to environmental influences, including excessive engagement in online gaming. Previous studieses have demonstrated that adolescents who frequently play online games tend to exhibit higher levels of verbal, physical, and destructive aggression

than those who play less frequently.[3] These findings suggest that excessive online gaming may influence both emotional regulation and behavioral outcomes. Recent evidence has consistently demonstrated a significant relationship between online game addiction and aggressive behavior. low self-control and narcissistic traits strengthened the association between gaming addiction and aggression among adolescents.[4] Similarly, in a meta-analysis, reported that higher levels of Internet Gaming Disorder were positively associated with aggressive behavior in adolescents and young adults.[5] These findings indicate that excessive online gaming may contribute to emotional disturbances and increase the likelihood of aggressive behavior.

Although numerous studieses have examined the psychological consequences of online game addiction, the findings remain heterogeneous because of differences in study design, participant characteristics, and assessment instruments. Therefore, a comprehensive synthesis of the available evidence is needed. This literature review aimed to analyze the relationship between the level of online game addiction and emotional problems and aggressive behavior among adolescents, providing evidence that may support the development of effective prevention and intervention strategies.

Method

This study employed a literature review approach using the Population, Exposure, Comparison, Outcomes, and Study Design framework. The eligibility criteria were established based on the following Population, Exposure, Comparison, Outcomes, and Study Design components:

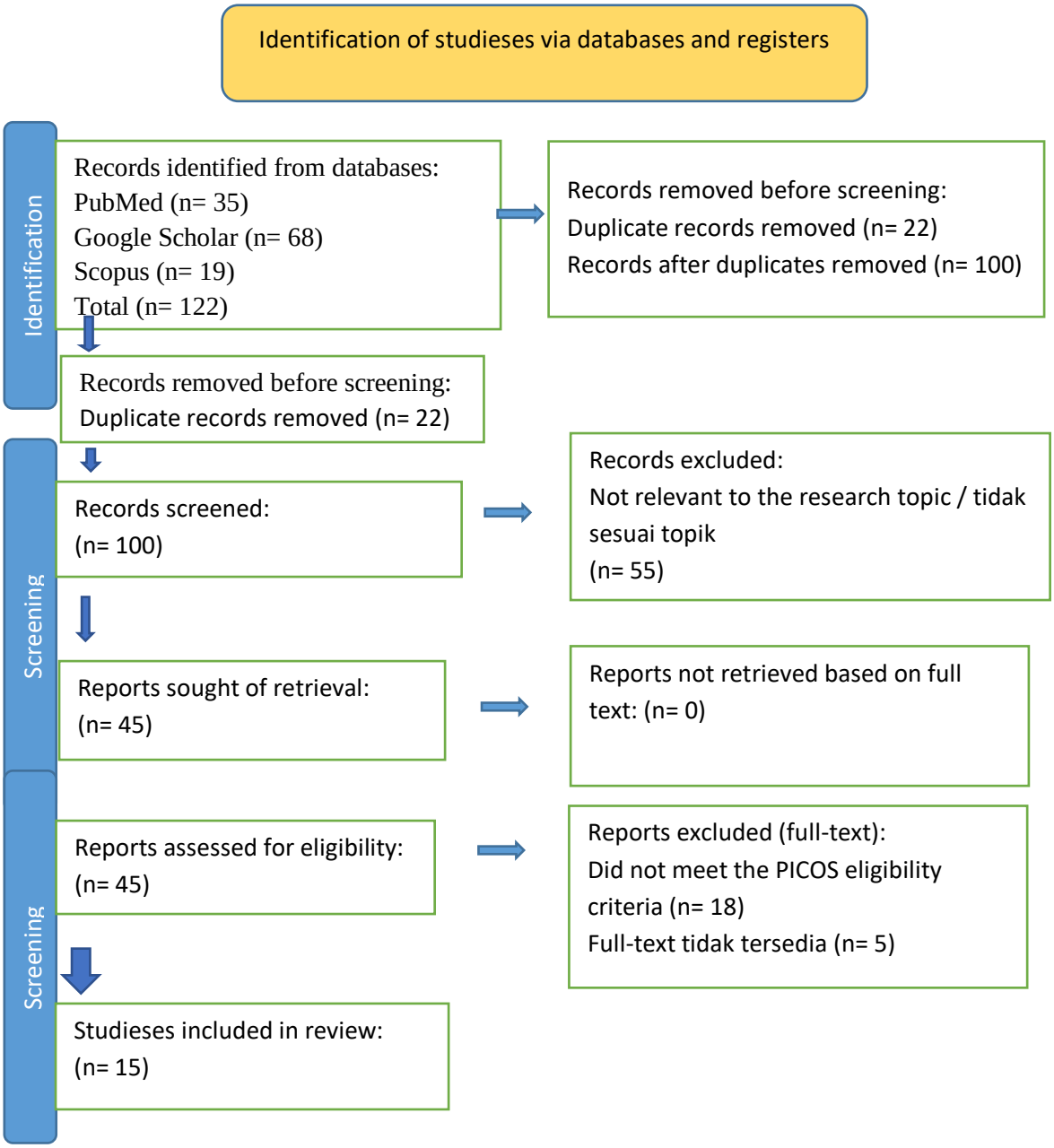
Table 1. *PICOS Eligibility Criteria for the Literature Review*

Component	Description
P (Population)	Adolescents aged 12–18 years.
E (Exposure)	Level of online game addiction.
C (Comparison)	Adolescents without online game addiction or with a low level of online game addiction.
O (Outcome)	Emotional problems and aggressive behavior among adolescents.
S (Study Design)	Quantitative studieses, primarily cross-sectional studieses.

The literature search was conducted using the following keywords: "online game addiction," "Internet Gaming Disorder," "emotional problems," "aggressive behavior," and "adolescents." Articles were retrieved from PubMed, Google Scholar, and Scopus and were limited to publications from 2016 to 2025. The inclusion criteria comprised studieses involving children or adolescents with online game addiction, examining the relationship between online game addiction and emotional problems and/or aggressive behavior, employing quantitative study designs such as cross-sectional, correlational, or survey studieses, published in accredited national or reputable international journals, written in English or Indonesian, and available in full text for comprehensive review.

The article selection process was conducted systematically following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. The process included identification, title and abstract screening, full-text eligibility assessment, and final study inclusion. Data from the 15 eligible studieses were extracted, including the authors, publication year, country, study design, population, instruments, and main findings. The extracted data were then synthesized and analyzed using a narrative approach.

Figure 1. PRISMA 2020 Flow Diagram for Study Selection



Results and Discussion

Based on the literature search conducted in PubMed, Google Scholar, and Scopus, 15 studieses met the eligibility criteria and were included in this review. Most studieses employed a quantitative cross-sectional design involving adolescents aged 12–18 years. The instruments used to assess online game addiction primarily included the Internet Addiction Test and the Internet Gaming Disorder Scale, while emotional problems and aggressive behavior were commonly measured using the Depression, Anxiety, and Stress Scale and the Aggression Questionnaire. Most studieses reported a significant association between online game addiction and emotional problems as well as aggressive behavior among adolescents ($p < 0.05$). Adolescents with higher levels of online game addiction were more likely to experience anxiety, depression, stress, and difficulties in emotional regulation, in addition to exhibiting higher levels of verbal, physical, and destructive aggression. Several studieses also suggested that emotional problems may mediate the relationship between

online game addiction and aggressive behavior. Overall, the findings indicate that higher levels of online game addiction are associated with an increased risk of emotional disturbances and aggressive behavior among adolescents.

Table2. Characteristics of Included Studieses Examining the Relationship Between Online Game Addiction, Emotional Problems, and Aggressive Behavior Among Adolescents (n = 15)

No	Author (Year)	Country	Study Design and Sample	Main Findings
1	Rajab *et al.* (2020)	Saudi Arabia	*Cross-sectional* survey, 2.675 students secondary school students	Adolescents with online game addiction had a significantly higher risk of experiencing moderate-to-high levels of stress than those without online game addiction.
2	Wartberg *et al.* (2017)	Germany	*Cross-sectional*; n= 1.095 adolescents 12–14 thn	Adolescents with Internet Gaming Disorder (IGD) exhibited higher levels of emotional problems than adolescents without IGD.
3	Li *et al.* (2023)	China	*Meta-analysis*; 20 studies	Internet Gaming Disorder (IGD) was positively and significantly associated with aggressive behavior, indicating that higher levels of IGD were associated with a greater likelihood of aggressive behavior among adolescents and young adults.
4	Deng *et al.* (2024)	China	*Cross- sectional*; n=9.306 students	Adolescents with symptoms of Internet Gaming Disorder (IGD) exhibited higher levels of psychological distress and aggressive behavior than those without IGD symptoms, indicating that excessive gaming is associated with difficulties in emotional regulation and increased aggression.
5	Koanda *et al.* (2024)	Indonesia	descriptive qualitative	Violent content in online games may increase aggressive behavior among adolescents, manifested through physical aggression, verbal aggression, and property-destructive behavior.
6	Winarsi (2022)	Indonesia	*Cross-sectional*; n= not reported	Chi-square analysis demonstrated a significant association between online game addiction and children's emotional regulation ($p = 0.001$, $p < 0.05$).
7	Nuradi *et al.* (2025)	Indonesia	*Cross-sectional*; n= not reported	A statistically significant association was found between the level of online game addiction and adolescents' emotional health ($p < 0.05$).
8	Yuna *et al.* (2023)	Indonesia	*Cross-sectional*; n=149 students	Most students exhibited a high level of online game addiction (79.9%), while the majority maintained good social personality characteristics (71.8%).

No	Author (Year)	Country	Study Design and Sample	Main Findings
9	Kaya *et al.* (2023)	Turkey	*Cross-sectional*; n=546 adolescents	Online game addiction among adolescents was significantly associated with unmet psychological needs and adverse mental health outcomes, including depression, anxiety, and social dysfunction.
10	Alhamoud *et al.* (2022)	Saudi Arabia	*Cross-sectional*; n=546 high school students	Internet Gaming Disorder (IGD) was identified among students and was significantly associated with higher levels of depression and anxiety. Among adolescents with IGD, 21.7% experienced moderate-to-severe depression and 11.4% experienced severe anxiety.
11	Zubaidah *et al.* (2025)	Indonesia	Descriptive; n=128 parent-child pairs	Most participants had mild online game addiction (65.6%), and higher levels of online game addiction were significantly associated with an increased risk of attention-deficit/hyperactivity disorder symptoms ($p < 0.05$; $r = 0.448$).
12	Suryawan *et al.* (2025)	Indonesia	Qualitative qualitative phenomenological approach; 25 students	A significant negative association was found between the level of online game addiction and adolescents' emotional intelligence ($p < 0.05$), indicating that higher levels of online game addiction were associated with lower emotional intelligence.
13	Shrestha *et al.* (2024)	Nepal	*cross-sectional, descriptive, and causal-comparative research design*; n= 207 students	Online game addiction was significantly associated with depression, anxiety, and loneliness, indicating its negative impact on adolescents' mental health.
14	Wiyono *et al.* (2023)	Indonesia	*Cross-sectional*; n=52 high school students	A significant association was found between online game addiction and aggressive behavior ($p < 0.05$), indicating that higher levels of online game addiction were associated with greater aggressive behavior among students.
15	Misnawati *et al.* (2016)	Indonesia	*Cross-sectional*; n=56 students	No significant association was found between emotional intelligence and online game addiction among students ($r = -0.170$, $p = 0.210$), indicating that emotional intelligence was not significantly related to the level of online game addiction in this sample.

Table 2: Most of the 15 included studieses employed a cross-sectional design (Studieses (1), (6), (2), (8)–(12), and (15)–(17)), while a few used descriptive or qualitative

approaches (Studieses (3), (13), and (14)). Overall, the evidence consistently demonstrated a significant association between online game addiction and emotional problems as well as aggressive behavior among adolescents ($p < 0.05$). The strongest associations were reported in studieses by Rajab et al.1 and Alhamoud et al.[12], which found increased levels of stress and anxiety among adolescents with Internet Gaming Disorder. Similarly, Li et al.[5] and Wiyono & Ellisiya.[18] reported higher levels of aggressive behavior among adolescents with greater online game addiction. Across different countries and study designs, the findings consistently indicated that online game addiction was associated with psychological distress, impaired emotional regulation, aggressive behavior, an increased risk of attention-deficit/hyperactivity disorder symptoms, and lower emotional intelligence. However, one study by Misnawati.[17] found no significant association between online game addiction and emotional intelligence.

This literature review demonstrates that online game addiction is consistently associated with emotional problems and aggressive behavior among adolescents. Most included studieses reported that higher levels of online game addiction were related to increased stress, anxiety, depression, emotional dysregulation, and aggressive behavior. In addition, several studieses identified emotional problems as a potential factor that may strengthen the relationship between online game addiction and aggressive behavior. These findings highlight the importance of early prevention and intervention through digital literacy education, parental supervision, school-based counseling services, and mental health promotion programs to reduce excessive online game use and its negative psychological consequences among adolescents.

References

1. Rajab AM, Zaghloul MS, Enabi S, Rajab TM, Al-Khani AM, Basalah A, et al. Gaming addiction and perceived stress among Saudi adolescents. Addict Behav Reports [Internet]. 2020 Jun 1 [cited 2026 Mar 13];11. Available from: https://pubmed.ncbi.nlm.nih.gov/32467850/
2. Deng X, Hu YB, Liu CY, Li Q, Yang N, Zhang QY, et al. Psychological distress and aggression among adolescents with internet gaming disorder symptoms. Psychiatry Res [Internet]. 2024 Jan 1 [cited 2026 Mar 6];331. Available from: https://pubmed.ncbi.nlm.nih.gov/38039647/
3. Koanda[1] N, Rahayu[2] P, Zainuddin[3] NI. Overview of Aggressiveness in Early Adolescents Who Play Online Games. Int J Educ Soc Stud Manag [Internet]. 2024 Jul 26 [cited 2026 Mar 13];4(2):689–99. Available from: https://lpppipublishing.com/index.php/ijessm/article/view/342
4. Pan Y, Motevalli S, Yu L. The Relationship between Game Addiction and Aggression among Adolescents with Mediating Role of Narcissism and Self-Control. Iran J Psychiatry [Internet]. 2024 [cited 2026 Mar 13];19(3):274–84. Available from: https://pubmed.ncbi.nlm.nih.gov/39055523/
5. S L, Z W, Y Z, M X, X W, X M. Internet gaming disorder and aggression: A meta-analysis of teenagers and young adults. Front Public Heal. 2023;
6. Wartberg L, Kriston L, Kramer M, Schwedler A, Lincoln TM, Kammerl R. Internet gaming disorder in early adolescence: Associations with parental and adolescent mental health. Eur Psychiatry [Internet]. 2017 Jun 1 [cited 2026 Mar 13];43:14–8. Available from: https://www.cambridge.org/core/journals/european-psychiatry/article/internet-gaming-disorder-in-early-adolescence-associations-with-parental-and-adolescent-mental-health/C3D728E51FDEA563E1C0A094BA2E56DC
7. Li S, Wu Z, Zhang Y, Xu M, Wang X, Ma

X. Internet gaming disorder and aggression: A meta-analysis of teenagers and young adults. Front Public Heal [Internet]. 2023 Apr 6 [cited 2026 Mar 13];11:1111889. Available from: https://www.crd.york.ac.uk/prospero/display_

8. Winarsi Molintao jlft. Hubungan kecanduan game online dengan kemampuan pengendalian emosional pada agregat anak usia (6-12 year) di desa kabaruan kepulauan talaud. j ilm kesehat manad [internet]. 2022 jun 24 [cited 2026 feb 20];1(1). available from: https://jurnal.jikma.net/index.php/jikma/article/view/24
9. Nuradi EP, Daniel Hasibuan MT. Hubungan Kecanduan Bermain Game Online Dengan Kesehatan Emosional Anak Di Kota Medan. Indones Trust Heal J. 2025;8(1):24–31.
10. Yuna Triana A, Ilah Padhila N, Keperawatan I, Kesehatan Masyarakat F. Kecanduan Bermain Game Online terhadap Kepribadian Sosial pada Anak. Wind Nurs J [Internet]. 2023 Dec 30 [cited 2026 Feb 23];4(2):126–32. Available from: https://jurnal.fkm.umi.ac.id/index.php/won/article/view/596
11. Kaya A, Türk N, Batmaz H, Griffiths MD. Online Gaming Addiction and Basic Psychological Needs Among Adolescents: The Mediating Roles of Meaning in Life and Responsibility. Int J Ment Health Addict [Internet]. 2023 Aug 1 [cited 2026 Feb 23];22(4):1. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9831379/
12. Alhamoud MA, Alkhalifah AA, Althunyan AK, Mustafa T, Alqahtani HA, Al Awad FA. Internet gaming disorder: Its prevalence and associated gaming behavior, anxiety, and depression among high school male students, Dammam, Saudi Arabia. J Family Community Med [Internet]. 2022 May 1 [cited 2026 Feb 23];29(2):93–101. Available from: https://pubmed.ncbi.nlm.nih.gov/35754755/
13. Zubaidah Z, Arsila I. Hubungan Game Addiction dengan Risiko Attention Deficit Hyperactivity Disorder (ADHD) pada Anak Usia Sekolah. Holist Nurs Heal Sci [Internet]. 2025 Jun 30 [cited 2026 Feb 23];8(1):1–13. Available from: https://ejournal2.undip.ac.id/index.php/hnhs/article/view/24893
14. Suryawan AF, Hazim. Emotional Intelligence of Teenagers Addicted to Online Games: Kecerdasan Emosional Remaja yang Kecanduan Permainan Online. Indones J Educ Methods Dev [Internet]. 2025 Aug 21 [cited 2026 Feb 23];20(1):10.21070/ijemd.v20i1.921-10.21070/ijemd.v20i1.921. Available from: https://ijemd.umsida.ac.id/index.php/ijemd/article/view/921
15. Shrestha I, Pun D, Basnet I, Bhandari J, Koirala K, Mahat D. Adolescents in the Gaming Zone: A Study on Depression, Anxiety, Loneliness. Int J Appl Educ Res [Internet]. 2024 [cited 2026 Feb 23];2(6):439–54. Available from: https://jurnalinternasional.com/index.php/ijaer/article/view/55
16. Wiyono H, Ellisiya E. Hubungan Kecanduan Game Online dengan Perilaku Agresif pada Siswa Secondary school students Pertama. J Keperawatan Jiwa [Internet]. 2023 Dec 7 [cited 2026 Feb 20];12(1):117–24. Available from: https://jurnal.unimus.ac.id/index.php/JKJ/article/view/13428
17. Misnawati. Hubungan Kecerdasan Emosi Dengan Kecanduan Game Online Pada Siswa-Siswi. Psikoborneo J Ilm Psikol [Internet]. 2016 Jun 30 [cited 2026 Mar 13];4(2):217–23. Available from: https://e-journals.unmul.ac.id/index.php/psikoneo/article/view/4004
18. Wiyono H, Ellisiya E. Hubungan Kecanduan Game Online dengan Perilaku Agresif pada Siswa Secondary school students Pertama. J Keperawatan Jiwa

[Internet]. 2023 Dec 7 [cited 2026 Feb 23];12(1):117–24. Available from: https://jurnal.unimus.ac.id/index.php/JKJ/article/view/13428