

The Prevalence of Online Gaming Addiction Among Senior High School Students

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Abstrak

Background: Online games have become one of the most popular forms of entertainment among adolescents, offering social and emotional engagement. However, excessive gaming can lead to addiction, especially during the developmental stage of adolescence. **Objective:** This study aims to examine the prevalence of online game addiction among senior high school students. **Methods:** This research employed a descriptive quantitative method with a cross-sectional design. The population included all students in grades X and XI at Government Senior High School 1 Kertasari during the 2024–2025 academic year. A total sampling technique was used, involving 452 students who actively play online games. Data were collected using the POGQ (Problematic Online Gaming Questionnaire). **Results:** The majority of respondents were male (62.8%) with an average age of 17 years. Most played Mobile Legends (66.7%), used smartphones as their primary gaming device (97.6%), had been playing online games for ≥ 3 months (88.5%), played for ≤ 3 hours per session (65.5%), and played games daily (93.1%). Regarding addiction levels, 57.3% were categorized as moderate, 42.5% as high, and only 0.2% as low. The domain with the highest average score was social interaction ($M = 10.78$, $SD = 2.064$), indicating that peer engagement and the need for social connection play a significant role in adolescents' gaming behaviours. **Conclusion:** The majority of students exhibited a moderate level of online game addiction, indicating a pattern of frequent gaming driven by psychological and social needs, particularly the desire for peer interaction and acceptance. **Recommendations:** Schools, parents, and mental health professionals should collaborate in developing structured interventions and providing healthy social alternatives to help adolescents achieve a balanced lifestyle and prevent gaming-related problems.

INTRODUCTION

According to data from the World Health Organization (WHO, 2018. Gaming disorder: A growing concern for adolescents), approximately 3% of the global adolescent population exhibit symptoms of gaming addiction. This addiction not only affects adolescents' psychological well-being, but is also associated with the emergence of aggressive behavior, social difficulties, and a decline in academic performance (Kuss & Griffiths, 2017). Research by Gentile et al. (2010) stated that the phenomenon of gaming addiction among adolescents in Asian countries can have serious impacts on mental,

social, and academic health. Surveys conducted by Gentile et al. (2010) and Kuss & Griffiths (2012) revealed that gaming addiction—especially involving excessive time spent—can lead to various mental health issues and aggressive behavior, particularly among adolescents. Approximately 30% of adolescents in Indonesia are at risk of experiencing online gaming addiction. According to research conducted by We Are Social and Hootsuite in 2020 (as cited in Pramesty, 2021), mobile online games attract both male and female users. The popularity of mobile online games in Indonesia is reflected in the user demographics, with 49% being female users and 51% male users. In a study conducted by Zhang & Zhou (2019), which examined the phenomenon of online gaming addiction in Asian countries, several contributing factors were discussed. One significant factor identified was culture. Cultural elements, such as a highly competitive environment and strong social pressure in many Asian countries—where adolescents are expected to excel—often lead to escapism into the digital world. The time spent on gaming often reduces the time that should be allocated to other productive activities, such as studying, engaging in face-to-face social interactions, or participating in physical activities. Adolescents who spend excessive time playing games frequently show a decline in academic performance (Kuss & Griffiths, 2017).

Adolescents who frequently engage in gaming also show signs of social isolation. They tend to avoid social interactions with their peers, preferring the virtual world over the real one, which can lead to feelings of loneliness and depression (Riyadi & Kurniawan, 2018). Excessive gaming, especially during nighttime, can disrupt an individual's sleep patterns. According to Beleid (2023), lack of sleep can worsen mood, increase anxiety, and impair cognitive abilities and concentration. The inability to achieve in-game goals or repeated losses can also lead to intense frustration (Pratiwi, 2018). According to Gentle (2009), the impact of games can cause individuals to react impulsively and often prioritize violence as a solution, potentially altering how they cope with stress or conflict in daily life. This perspective is also supported by Bandura's Social Learning Theory (2023), which suggests that individuals tend to imitate behaviors they observe, including aggressive actions portrayed in games. Beleid (2023) further emphasizes that online games played by individuals who are not yet mentally and emotionally mature may negatively influence their mental state and behavior, especially when the games are not appropriate for their age group or genre classification.

A survey conducted by Sucipto & Fathurohman (2021) revealed that 60.9% of individuals spend approximately 10 consecutive hours engaged in online gaming. On average, participants spent around 40 hours per week playing online games. Research by Samaha et al. (2020) on elementary school children in Yogyakarta found that 26% of participants were reported to frequently play online games. Another study conducted by Sarwono (2021) among adolescents at Muhammadiyah University of Gombong showed that 56% of the respondents were classified as having a high level of online gaming addiction. Satria's (2019) research found that 40% of students at SMA Negeri Banda Aceh experienced online game addiction. Furthermore, a study by Sihombing (2023) conducted at SMA Deli Murni Delitua, Medan, revealed that 74% of respondents suffered from severe online gaming addiction. Research by Ikbali (2021) on 10th-grade students at MA Plus Al Mujammil Garut indicated that 46% of adolescents were addicted to online games. Based on the five studies mentioned above, the research was conducted in Yogyakarta, Gombong, Aceh, Medan, and Garut. The sample sizes in each study were as follows: Yogyakarta had 35 respondents, Gombong had 106 respondents, Aceh had 67 respondents, Medan had 148 respondents, and Garut only had 26 respondents.

METHODS

The study was a descriptive quantitative study using a cross-sectional approach. This study was conducted at Senior High School (SMA Negeri 1 Kertasari), Bandung, West Java, from January 21 to 23, 2025. Population in this study consists of all X and XI-grade students, with a total population of 482 students. Total sampling was employed to select the participants. The instrument used was a questionnaire adapted from a previously established instrument developed by Lisnawati (2021). The questionnaire focuses on factors related to online gaming addiction and has undergone validity and reliability testing, with a Cronbach's Alpha reliability score of 0.937. Each favorable and unfavorable item in the questionnaire has a different scoring system. The scale used in this study is a 5-point Likert scale for online gaming addiction, consisting of the following response options: SA (Strongly Agree); S (Agree); SD (Somewhat Disagree); D (Disagree); SD (Strongly Disagree). This instrument consists of 24 favorable items. Overall, the online gaming addiction questionnaire has a minimum possible score of 24

and a maximum score of 120. A higher score indicates a stronger tendency toward online gaming addiction among students, while a lower score reflects a very low level of online gaming addiction behavior. The categorization of addiction behavior based on the questionnaire scores is as follows: Score 24–69: Low; Score 70–86: Moderate; Score 87–120: High. Descriptive analysis was employed to analysis the data.

RESULTS

Table 1 Demographic Data of the Respondent (n=452)

Characteristic	Mean ± SD (Range)	F (%)
Age	17.12 (± 0.87) (15 – 18)	
Gender		
Male		284 (62.8%)
Female		168 (32.2 %)
Types of Online Games		
Mobile Legends		301 (66.6%)
PUBG		91 (20.1%)
Others		60 (13.3%)
Device Used to Play Online Games		
PC/Laptop		11(2.4%)
Handphone		441(97.6%)
How long been playing online games		
≥ 1 month		5 (1.1%)
1 - 3 months		47 (10.4%)
≥ 3 months		400 (88.5%)
Duration Plying Online Games per Session		
≤ 3 hours		296 (65.5 %)
3 - 6 hours		79 (17.5 %)
≥ 6 hours		77 (17.0%)
Frequency Plying Online Games		
2 - 3 times a week		31(6.9%)
Everyday		421(93.1%)

Based on Table 1. the majority of respondents were male (62.8%). The average age of the respondents was 17 years. More than half of the respondents reported playing Mobile Legends (66.7%). Nearly all respondents used a mobile phone to play games (97.6%), and most had been playing online games for ≥ 3 months (88.5%). More than half of the respondents reported playing online games for ≤ 3 hours in a single session

(65.5%), and almost all respondents indicated that they played online games every day (93.1%).

Table. 2 Online Games Addiction (n=452)

Games Online Addiction	F (%)
Low	1 (0.2 %)
Moderate	259 (57.3 %)
High	192 (42.5 %)

Based on Table 4.2, more than half of the respondents fell into the moderate category of online game addiction (57.3%), followed by the high category (42.5%), and a very small proportion in the low category (0.2%).

Table 3. Domains of Online Games Addiction (n=452)

Domain of Online Games Addiction	Mean ($\pm$ SD)	Range
Value of Experience	10.73 ($\pm$ 2.005)	4-15
Social Interaction	10.78 ($\pm$ 2.064)	3-15
Sense of Involvement	10.68 ($\pm$ 2.172)	4-15
Empathy and Escapism	10.65 ($\pm$ 2.143)	3-15
Economic Value	10.63 ($\pm$ 2.187)	3-15
Pursuit of Speed and Excessive Use	10.53 ($\pm$ 2.138)	4-15
Lifestyle	10.72 ($\pm$ 2.111)	3-15
Pursuit of Recreation and Life Experience	10.65 ($\pm$ 2.172)	4-15

Table 3. showed that the highest mean score was found in the Social Interaction domain (M = 10.78, SD = 2.064; range = 3–15), suggesting that online game addiction among students tends to be primarily driven by the need for social interaction. This was followed by the domains of Value of Experience (M = 10.73, SD = 2.005), Lifestyle (M = 10.72, SD = 2.111), Sense of Involvement (M = 10.68, SD = 2.172), Empathy and Escapism (M = 10.65, SD = 2.143), Pursuit of Recreation and Life Experience (M = 10.65, SD = 2.172), Economic Value (M = 10.63, SD = 2.187), and Pursuit of Speed and Excessive Use (M = 10.53, SD = 2.138), all of which had score ranges between 3 and 15 or 4 and 15.

Table 4. Respondents' responses to the questionnaire statements/items (n=452)

No	Item Statement	SA %	S %	SWD %	D %	SD %
1	Even when I am deeply engaged in playing, I will take a break when I start to feel tired	6.9	69.0	9.1	7.3	7.7
2	I make time to play games even when I have other activities to do	11.5	60.0	11.5	6.9	10.0

No	Item Statement	SA %	S %	SWD %	D %	SD %
3	I am likely to imitate violent actions from online games in real life	16.6	53.8	11.3	7.1	11.3
4	I have visited a game center (a place to play online games) and I want to go there again	22.3	47.1	9.1	10.4	11.1
5	I cannot stop playing until I win or successfully complete the game mission	22.3	45.1	11.3	8.8	12.4
6	I often lie to my parents in order to play online games	19.2	47.6	9.1	10.4	13.7
7	Since the emergence of online games, I find it difficult to concentrate on studying, especially if I have not accessed an online game during the day	20.1	46.5	11.9	9.3	12.2
8	Since I started enjoying online games, I rarely spend time with friends outside of those who also play online games	18.1	49.6	12.2	7.3	12.8
9	I often spend a significant amount of time playing online games	19.9	49.8	11.3	7.7	11.3
10	I prefer playing online games over doing my assignments	19.9	49.6	10.0	10.8	9.7
11	I feel lonely if I don't play online games for a day.	19.0	49.3	10.8	8.8	11.9
12	I prefer playing online games that offer profit or advantages for my virtual character	21.5	43.4	11.1	9.7	14.4
13	I often extend my online gaming time to reach higher levels and scores.	22.8	44.9	10.4	9.5	12.4
14	I often take time away from studying to play online games	20.8	47.6	12.8	8.4	10.4
15	My academic performance has declined due to excessive online gaming	21.0	49.3	10.0	9.1	10.6
16	I have been teased by my friends because I rarely spend time with them anymore, as I prefer playing online games.	18.4	52.0	8.6	9.1	11.9
17	I find it difficult to reduce the amount of time I spend playing online games	16.6	54.4	9.1	8.6	11.3
18	I am willing to spend long periods staring at my phone to play online games	19.7	52.7	8.6	8.6	10.4
19	I get angry when I am interrupted while playing online games	17.7	54.0	8.4	7.3	12.6
20	Since I started frequently playing online games, I have become more financially careless	18.6	50.4	10.4	11.5	9.1
21	I am willing to stay up late at night just to play online games	18.6	50.7	11.5	10.2	9.1
22	It takes me a long time to complete my homework because I get distracted by playing online games	18.6	45.1	12.2	11.7	12.4
23	I often have difficulty concentrating on studying because I have not yet completed a mission in an online game	17.9	54.9	10.8	3.4	12.6
24	My friends have complained that I rarely spend time with them anymore because I prefer playing online games	14.8	62.6	6.4	8.0	8.2

*Note : : SA (Strongly Agree); S (Agree); SWD (Somewhat Disagree); D (Disagree); SD (Strongly Disagree)

DISCUSSION

The findings of this study reveal that the majority of students identified as moderate category of online game addiction, indicating a tendency to allocate a significant portion of their time to gaming activities. A total of 60.0% of students admitted that they still make time to play games even when other responsibilities or activities are present. Additionally, 62.6% of the respondents reported that their friends complained about their decreased social interactions, as they preferred engaging in online games. These results are consistent with previous research conducted by Lisnawati et al. (2021) and Fajar et al. (2024), which similarly found that more than half of respondents were categorized as moderately addicted to online games. One of the key contributing factors to online game addiction is the ease of access to gaming platforms. As stated by Sholihah (2019), the availability of gaming devices and internet access at home facilitates the development of dependency. Adolescents who experience loneliness often turn to online gaming as a coping strategy. This is supported by the findings of Lebho et al. (2020), who found that loneliness and the need for affiliation significantly contribute to online game addiction behaviors among adolescents. Those with a high need for affiliation are more susceptible to developing gaming addiction compared to individuals with lower affiliative needs.

The study also identified that the average age of respondents was 17 years, aligning with the findings of Indrayati & Pratiwi (2019), who reported that adolescent gadget users were typically aged 12–20 years. This finding is also supported by the theoretical framework proposed by Jordan and Andersen (2020), who emphasized that adolescents are more vulnerable to online gaming addiction than older age groups. Adolescents are in a developmental phase marked by emotional instability and a strong attraction to novel, trendy, and challenging activities, making them more prone to risky or compulsive behaviors. In addition to social and developmental factors, psychological needs and motivations also play a significant role in the development of gaming addiction. Lebho et al. (2020) identified seven psychological motives associated with gaming addiction, including: (1) entertainment and recreation; (2) emotional coping (e.g., escaping loneliness, boredom, stress, or frustration); (3) escapism from reality; (4) interpersonal and social needs (e.g., friendships, belongingness, recognition); (5) achievement needs; (6) enjoyment and challenge; and (7) the desire for empowerment (e.g., control, superiority, self-confidence). The predominance of male respondents (62.8%) is

consistent with findings by Febriandari et al. (2020), which reported that male adolescents are more likely to engage in online games due to their preference for varied levels of difficulty and competitive multiplayer environments. These games offer the opportunity to interact and compete with peers, even remotely, which makes them particularly attractive to male players.

According to the American Society of Addiction Medicine (ASAM, 2011), as cited by Bahagia (2019), addiction is characterized by the inability to consistently abstain, reduced behavioral control, and an intense craving to engage in the addictive behavior. Individuals with gaming addiction are often preoccupied with gaming and reluctant to participate in other activities, prioritizing gaming above all else. Among the domains of online game addiction assessed in this study, the Social Interaction domain had the highest mean score ($M = 10.78$, $SD = 2.064$; range = 5–15). A higher score in this domain suggests that online gaming significantly impacts students' social interactions. This reflects the adolescent need for peer engagement and social recognition. Their active participation in gaming is often fueled by peer invitations and the desire to be socially connected. As stated by Beranuy, Carbonell, & Griffiths (2023), adolescents are influenced by peer pressure and possess a strong drive to form and maintain social relationships. The presence and approval of peers are critical during this stage of psychological development, as it contributes to the formation of personal identity and social competence.

CONCLUSION

This study concludes that the majority of students who engage in online gaming fall within the moderate category of addiction, suggesting that they exhibit problematic but not yet severe gaming behaviors. Male students were found to be more susceptible to online game addiction due to their higher engagement with competitive and interactive game formats. The findings highlight the importance of considering social and psychological dimensions when addressing online game addiction among adolescents.

Given that gaming fulfills many social and emotional needs, interventions should not only aim to reduce screen time but also provide healthy alternatives for peer interaction and emotional regulation. Schools, parents, and mental health professionals

must work collaboratively to monitor gaming behaviors and support adolescents in developing balanced routines, social skills, and self-regulation strategies.

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