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An Overview Of The Effect Of Online Gaming On The Grade Point Average (GPA) Of Faculty Of Medicine Students At YARSI University, Class Of 2023–2024, And Its Review From An Islamic Perspective

Devin Aurelia Sugiasti[1)], Ferryal Basbeth[2)], Aryenti[3)]
[1,2,3)] Medical Study Program, Faculty of Medicine, Universitas YASRI

*Corresponding Author
Email : devinaureliasugias08@gmail.com

Abstract

The development of online gaming potentially triggers addictive behaviors that could disrupt time management and decrease the Cumulative Grade Point Average (GPA) of medical students under a rigorous curriculum. In Islam, gaming is permissible (mubah) as long as it is beneficial and does not neglect academic or religious duties. This study aims to determine the influence of online gaming on the GPA of Medical Students at YARSI University Class of 2023–2024 and its review from an Islamic perspective. This quantitative study with a survey design utilized a total sampling technique on active medical students of YARSI University Class of 2023–2024. A total of 272 respondents were obtained via an anonymous online questionnaire. Data were analyzed using the non-parametric Spearman Rank Correlation test. About 61.8% (168 students) of respondents were online gamers and 38.2% (104 students) were non-gamers. The average GPA was high (3.44 ± 0.29). The Spearman correlation test showed a correlation coefficient (r) = -0.053 with a significance value (p) = 0.496 (p>0.05). No significant difference was found in religious discipline between gamers and non-gamers. There is no statistically significant relationship between online gaming activities and the GPA of YARSI University medical students Class of 2023–2024 due to good self-regulation and time management. Based on the Islamic review, online gaming among respondents is categorized as mubah because it causes no harm or negligence (al-laghwu).

Keywords: Online Games, Cumulative Grade Point Average (GPA), Medical Students, YARSI University, Islamic Review.

INTRODUCTION

"Science and Technology" (IPTEK) is an acronym for "Ilmu Pengetahuan dan Teknologi" (Science and Technology). Along with the development of the modern era, science and technology have become increasingly advanced and have supported the creation of new technologies. Technological advancement has significantly influenced human life and has become unavoidable, as science and technology offer numerous benefits and facilitate various forms of work. Technological progress has also led to modernity, characterized by economic growth, social mobility, and cultural expansion. Communication technology plays an essential role because it has become more sophisticated and affordable, enabling developed countries to interact with developing countries that possess lower levels of production technology (Mulyani & Haliza, 2021).

The emergence of online games is one clear example of the rapid development of science and technology. According to the *Kamus Besar Bahasa Indonesia* (KBBI), a "game" is defined as a recreational activity intended to provide entertainment and enjoyment, in which players attempt to achieve victory. Online games are a form of electronic gaming that offers visually engaging experiences through three-dimensional graphics and appealing visual effects (Budhiman & Purnomo, 2022).

In recent years, online games have become increasingly popular, particularly among university students and younger generations. In Indonesia, the number of online game players continues to rise, with more than 60% of users falling within the 18–24 age group (Asosiasi Game Indonesia, 2022).

In the academic environment, especially within medical faculties, students are often faced with a dilemma between the enjoyment of playing online games and the high demands of academic responsibilities. As is widely recognized, the curriculum in medical schools is highly intensive, requiring students to remain consistently productive in their studies. Although online gaming can serve

as a source of entertainment and stress relief from academic pressure, excessive gaming may disrupt the learning process and negatively affect academic achievement. This issue becomes even more relevant considering that medical faculties implement the Active Student-Centered Learning (ASCL) approach, which differs from learning systems in many other faculties. One of the primary methods in ASCL is Problem-Based Learning (PBL), which requires students to actively participate in the learning process, possess strong motivation, and strive to achieve predetermined competencies. In such circumstances, online gaming may become a factor that potentially decreases students' productivity and academic performance (Arif et al., 2019).

Several studies have shown that online gaming has both positive and negative impacts on academic achievement. On the one hand, online games may enhance cognitive skills such as problem-solving abilities and teamwork, which are also relevant in academic settings (Sari, 2021). On the other hand, excessive gaming can reduce study time and negatively affect academic performance (Putri, 2022).

Online gaming not only has academic implications but also involves interesting economic aspects, one of which is the purchase of virtual items within games. Online game players are not only able to play games but may also purchase various virtual items available in the gaming environment. Virtual items are digital assets, such as character equipment or in-game currency, which can be purchased and utilized within online communities or within the games themselves. Many individuals purchase these items using real money, which unfortunately also increases the risk of fraud. In addition, most online games are competitive in nature, requiring players to compete against one another. Consequently, many players are motivated to purchase additional items in order to improve their gaming performance (Pratama & Kusuma, 2024).

From an Islamic perspective, online games can generally be categorized into two forms: *al-laghwu* (activities considered futile) and *al-mubah* (permissible activities), provided that they do not contain elements that contradict Islamic law (*sharia*). A game may be considered beneficial if it educates, trains thinking abilities, or simply functions as a means of relaxation after studying. Nevertheless, gaming activities may become problematic if they involve elements of gambling (*maysir*), extreme violence, or violations of moral and ethical norms. According to Islamic jurisprudential principles, if a form of entertainment produces more harmful effects on students' psychological and spiritual well-being than benefits, then such activities should be restricted in order to preserve intellectual and temporal welfare (Anwar & Solikhah, 2021).

One evident risk of online gaming is the potential for addiction, which may lead students into unproductive activities. This is reflected in the Qur'anic verse QS. Al-Mu'minun (23:3):

وَالَّذِيْنَ هُمْ عَنِ اللَّغْوِ مُعْرِضُوْنَۙ ﴿٣﴾

It means :
"And those who turn away from useless speech and activities." (QS. Al- Mu'minun/ 23: 3)

This verse emphasizes that one characteristic of successful and faithful believers is their ability to avoid *al-laghwu*, namely activities that provide no benefit for worldly life or the hereafter. In the educational context, spending excessive hours playing online games while neglecting lectures and academic responsibilities represents a concrete example of futile activities that may undermine students' academic integrity (Fauzi & Rohman, 2021).

Furthermore, the negative impact of neglecting worship and learning responsibilities is also highlighted in a hadith of the Prophet Muhammad SAW:

مِنْ حُسْنِ إِسْلَمِ الْمَرْءِ تَرْكُهُ مَا لَ يَعْنِيهِ

It means :
"Part of the excellence of a person's Islam is leaving that which does not benefit him." (HR. Tirmidzi)

This hadith serves as an ethical foundation for Muslim students to be selective and wise in utilizing technology. If online gaming leads to problems such as decreased concentration, mental health disturbances, and declining GPA performance, then limiting or abandoning such activities becomes part of practicing faith. Blessings in learning may help students remain focused on matters that are relevant to the noble objectives of education (Zulkifli, 2024).

RESEARCH METHODS

This study employed a quantitative research approach using a survey design to examine the effect of online gaming on the Grade Point Average (GPA) of students from the Faculty of Medicine, YARSI University, class of 2023–2024. The population of the study consisted of active medical students from the 2023 and 2024 cohorts, while the sample was determined using a non-probability sampling technique with a total sampling approach, in which all accessible population members meeting the inclusion criteria were selected as respondents. Primary data were collected through anonymous questionnaires distributed online using Google Forms. The questionnaire utilized a Likert scale (1–5) and measured variables including online gaming duration, the influence of online gaming on GPA, financial expenditures related to gaming activities, and respondents' worship practices such as reading the Qur'an and performing the five daily prayers. The research instrument consisted of closed-ended questions and was tested for validity and reliability prior to distribution to ensure clarity and consistency of measurement.

RESULTS AND DISCUSSION

Research Findings

Respondent Characteristics (n = 272)

Table 1. Respondent Characteristics

Variable	Mean ± SD (Min–Max)	Frequency (n)	Percentage (%)
Gender			
Male		118	43.4
Female		154	56.6
Batch Year			
2023		140	51.5
2024		132	48.5
Playing Online Games			
Yes		168	61.8
No		104	38.2
Grade Point Average (GPA)	3.44 ± 0.29 (2.78–3.97)		
< 2.00		0	0
2.00–2.75		0	0
2.76–3.50		154	56.6
3.51–4.00		118	43.4

Based on the recapitulation of respondents' characteristics in this study, the total number of respondents was 272 students. Based on gender, the majority of respondents were female, accounting for 154 individuals (56.6%), while male respondents totaled 118 individuals (43.4%). Based on batch year, the distribution of respondents was relatively balanced, with 140 respondents (51.5%) from the 2023 cohort and 132 respondents (48.5%) from the 2024 cohort. Regarding online gaming habits, most respondents reported playing online games, totaling 168 individuals (61.8%), whereas 104 respondents (38.2%) stated that they did not play online games. Based on Grade Point Average (GPA),

the respondents had a mean GPA of 3.44 ± 0.29, with a range of 2.78–3.97. In terms of GPA categories, no respondents had a GPA below 2.00 or within the range of 2.00–2.75 (0%). Most respondents were categorized within the GPA range of 2.76–3.50, totaling 154 individuals (56.6%), while respondents with a GPA between 3.51–4.00 totaled 118 individuals (43.4%). Overall, the characteristics of respondents in this study were predominantly female students, from the 2023 cohort, respondents who played online games, and students with GPAs in the range of 2.76–3.50.

Respondent Characteristics Based on Groups (n = 272)

Table 2. Respondent Characteristics Based on Groups (n = 272)

Variable	Playing Online Games Mean ± SD (Min–Max)	Not Playing Online Games Mean ± SD (Min–Max)
Gaming Duration	3.24 ± 1.32 (1.00–5.00)	–
Online Gaming	3.25 ± 1.28 (1.00–5.00)	–
Game Addiction	13.10 ± 4.78 (4.00–20.00)	–
Expenditure on Gaming	22.29 ± 5.63 (6.00–30.00)	–
Time Management	18.39 ± 4.55 (6.00–25.00)	19.07 ± 4.52 (6.00–25.00)
GPA	23.13 ± 4.24 (9.00–30.00)	22.90 ± 4.50 (8.00–30.00)
Worship	11.26 ± 3.17 (3.00–15.00)	11.25 ± 2.90 (3.00–15.00)

Based on the comparison table of respondent characteristics according to online gaming status, it was found that the variables exclusively present in the group of respondents who played online games included gaming duration, online gaming involvement, game addiction, and expenditure on gaming. Among respondents who played online games, the mean score for gaming duration was 3.24 ± 1.32, with a score range of 1.00–5.00, indicating variations in playing duration among respondents. The mean score for online gaming involvement was 3.25 ± 1.28, with a range of 1.00–5.00, reflecting varying levels of engagement in online gaming activities. The game addiction variable had a mean score of 13.10 ± 4.78, with a range of 4.00–20.00, while expenditure on gaming showed a mean score of 22.29 ± 5.63, with a range of 6.00–30.00, illustrating differences in top-up spending habits among respondents.

For variables that could be compared between respondents who played and did not play online games, the mean score for time management in the non-gaming group (19.07 ± 4.52) was slightly higher than that of the gaming group (18.39 ± 4.55), suggesting a tendency toward slightly better time management abilities among respondents who did not engage in online gaming.

Regarding GPA, the mean score among respondents who played online games was 23.13 ± 4.24, while the mean score among those who did not play online games was 22.90 ± 4.50, indicating that the average GPA scores between the two groups were relatively similar. Likewise, for the worship variable, the mean score of the online gaming group (11.26 ± 3.17) was almost identical to that of the non-gaming group (11.25 ± 2.90), suggesting that descriptively there was no meaningful difference in worship activities between the two groups.

The Effect of Online Gaming on Grade Point Average (GPA)

Table 3. The Effect of Online Gaming on Grade Point Average (GPA)

Variable	r (Spearman rho)	p-value
Online Gaming and GPA	-0.053	0.496

Based on the results of the Spearman correlation test, the correlation coefficient obtained was -0.053 with a significance value of 0.496. These findings indicate that there is no statistically significant relationship between online gaming and the Grade Point Average (GPA) of students at the Faculty of Medicine, YARSI University, since the significance value exceeded the threshold for statistical significance ($p > 0.05$). The correlation coefficient, which is close to zero, further indicates that the relationship between the two variables is very weak.

Discussion

Among the group of students who played online games, the mean score for gaming duration was 3.24 ± 1.32, while the mean score for the online gaming variable was 3.25 ± 1.28. These findings

indicate that respondents demonstrated varying levels of involvement in online gaming activities. Such variation reflects differences in gaming intensity among respondents, ranging from lower to higher engagement in gaming activities. The relationship between online gaming activities and academic performance does not always demonstrate a consistent pattern. Alzahrani and Griffiths (2025) reported that negative effects on academic achievement are more frequently observed among individuals with problematic gaming behaviors, whereas among general gaming populations, the relationship is not consistently significant. These findings suggest that academic impacts are more strongly influenced by maladaptive gaming patterns rather than gaming activity itself.

Regarding the game addiction variable, students who played online games had a mean score of 13.10 ± 4.78, with scores ranging from 4.00 to 20.00. These results indicate variations in the tendency toward addictive gaming behavior among respondents. Such variation demonstrates that students' attachment to online gaming activities differs across individuals, thereby leading to different potential impacts on each respondent. This finding is consistent with the study by Sun et al. (2023), which showed that the negative effects of online gaming on academic aspects are more closely related to online game addiction, which may reduce academic achievement motivation through decreased engagement in the learning process. This indicates that it is not gaming activity in general that directly affects academic performance, but rather gaming behavior that develops into an addictive pattern.

For the variable of money spent on gaming (top-up purchases), the mean score among students who played online games was 22.29 ± 5.63, with a score range of 6.00–30.00. These findings demonstrate variation in financial expenditure among respondents in supporting online gaming activities. Spending on virtual item purchases may reflect a higher level of engagement with specific games. Zendle et al. (2020) stated that intensive involvement in gaming, including compulsive behaviors accompanying gaming activities, may be associated with disturbances in academic functioning and daily life.

Similarly, Alzahrani and Griffiths (2025) argued that intensive gaming involvement, including compulsive gaming behavior, has the potential to interfere with academic functioning and everyday activities.

A comparison of mean scores for time management revealed that students who did not play online games had a slightly higher mean score (19.07 ± 4.52) compared to students who played online games (18.39 ± 4.55). However, the difference was relatively small, suggesting descriptively that the time management abilities of both groups were relatively similar. Time management ability is an important factor in academic success, particularly among medical students who face high academic demands. Students who are capable of managing their time effectively may still balance entertainment activities with academic responsibilities, indicating that online gaming activities are not necessarily associated with impaired academic performance.

For the worship variable, the mean score among students who played online games was 11.26 ± 3.17, whereas the mean score among students who did not play online games was 11.25 ± 2.90. The similarity in mean scores between the two groups indicates that online gaming activity does not appear to be associated with differences in respondents' worship habits. These findings suggest that students who engage in online gaming are still able to maintain spiritual activities at a level relatively similar to those who do not play online games. This reflects that gaming activities do not necessarily interfere with non-academic aspects of life, including students' spiritual dimensions.

Regarding GPA, the mean score among students who played online games was 23.13 ± 4.24, while the mean score among students who did not play online games was 22.90 ± 4.50. The difference between these mean scores was relatively small, indicating descriptively that the academic achievements of both groups tended to be similar. This finding is in line with the study by Mohd Zameri and Mahmud (2024), which demonstrated that negative relationships with academic achievement are more consistently observed among individuals with problematic gaming behaviors than among gamers in general. Online gaming activities among students are not always synonymous

with decreased academic performance, as the impact is strongly influenced by gaming intensity, self-control, and the ability to balance entertainment and academic obligations.

Based on the Spearman correlation test conducted on all respondents in the online gaming group (n = 168), the correlation coefficient (r) obtained was -0.053 with a significance value (p) of 0.496. Since p > 0.05, the null hypothesis failed to be rejected, indicating that there was no statistically significant relationship between online gaming and the Grade Point Average (GPA) of medical students at YARSI University Faculty of Medicine. In terms of correlation strength, the value r = -0.053 falls into the category of a very weak correlation. The negative direction of the correlation suggests a tendency that higher involvement in online gaming is associated with lower GPA; however, this tendency was not statistically significant.

The significance value of p = 0.496, which is far above the threshold of 0.05, indicates that the likelihood of this correlation occurring merely by chance is very high (49.6%), and therefore no meaningful association between the two variables can be concluded. The correlation coefficient r = -0.053, being very close to zero, further confirms that practically there is no meaningful relationship between online gaming and GPA within the studied population.

The Spearman correlation test was appropriately selected because the data did not meet the normality assumptions required for parametric tests such as Pearson correlation, and the measurement scale used was ordinal. The use of the Spearman test is also consistent with recommendations from previous studies examining the relationship between behavioral variables, such as online gaming, and academic achievement using Likert-scale data (Alzahrani & Griffiths, 2025).

The findings of this study are consistent with several previous studies. Research by Karnadi and Pangestu (2021) among university students in Indonesia demonstrated that internet gaming disorder did not significantly affect students' academic achievement. The study indicated that academic performance is influenced by various other factors such as learning motivation, academic habits, and socioeconomic conditions, meaning that gaming activity is not the sole determinant of academic success. These findings support the present study, where students who played online games were still able to maintain relatively good academic performance.

Similar findings were also reported by Martínez-Murciano and Pérez-Jorge (2025), who evaluated the relationship between problematic gaming and academic performance among students. Although most studies showed a negative relationship, the authors emphasized that findings across studies were highly heterogeneous and not all studies identified significant relationships, particularly among general recreational gamers rather than individuals with gaming addiction. This is consistent with the present study, in which the measured variable was general online gaming involvement rather than a formal diagnosis of gaming addiction disorder.

Furthermore, research conducted by Mahmud et al. (2023) indicated that although the prevalence of internet gaming disorder among medical students is higher compared to the general population, not all students who play games experience problematic gaming behaviors. Thus, gaming activities do not automatically negatively affect academic functioning as long as they remain within controlled limits. This condition is relevant to the present study, considering that the respondents were medical students who face high academic demands and tend to possess strong adaptive learning abilities.

The absence of a significant relationship in this study may be explained by several possibilities. First, the characteristics of medical students, who experience high academic workloads, may encourage the development of stronger self-regulation and time management skills. This is supported by the findings of the present study, which demonstrated that the mean time management score among students who played online games (18.39 ± 4.55) was not substantially different from those who did not play online games (19.07 ± 4.52). These findings suggest that online gaming activities among respondents were likely still within reasonable limits and did not interfere with academic responsibilities. Second, the relatively homogeneous distribution of academic achievement among respondents may also have influenced the analytical results. The respondents' GPA mean was

relatively high at 3.44 ± 0.29, with a narrow range (2.78–3.97). Limited variation in the GPA variable may reduce the likelihood of detecting statistical relationships, even if theoretically such relationships might exist.

Nevertheless, the findings of this study differ from several previous studies that demonstrated a significant negative relationship between online gaming and academic achievement. Research by Samaha and Hawi (2020) among university students in Bangladesh found that prolonged online gaming duration was significantly associated with decreased academic performance. The study revealed that students who spent longer periods gaming, frequently missed classes, and exhibited excessive gaming behaviors tended to achieve lower academic outcomes. The differences in findings may be attributed to the higher gaming intensity observed in their study population compared to respondents in the present study.

Another study by Sun et al. (2023) also found that online gaming addiction was associated with decreased learning motivation and reduced academic engagement among university students. In that study, negative effects emerged primarily when gaming activities developed into addictive behaviors that interfered with concentration, study time, and sleep quality. This differs from the present study, which assessed general online gaming activities rather than gaming addiction specifically.

The relationship between online gaming activities and academic achievement may be explained through the Time Displacement Theory. This theory states that time allocated to entertainment activities, including gaming, has the potential to replace time that should otherwise be devoted to academic activities such as studying and completing assignments. Stokke et al. (2025) explained that the theory assumes competition in time allocation between recreational and academic activities. However, the study also demonstrated that such relationships are not always consistent, as not all gaming activities negatively affect academic achievement. These findings are in line with the present study, which found no significant relationship between online gaming and students' GPA. This suggests that gaming activities among respondents were likely still under control and did not significantly displace study time (Stokke et al., 2025).

CONCLUSIONS

Based on the results of the study regarding the influence of online gaming on the Grade Point Average (GPA) of students at the Faculty of Medicine, YARSI University, the following conclusions can be drawn:

1. There was no significant relationship between online gaming activities and the Grade Point Average (GPA) of Faculty of Medicine students from the 2023–2024 cohorts at YARSI University.
2. Students who played online games still demonstrated relatively good time management skills in balancing academic and entertainment activities. This indicates that online gaming activities among some respondents remained within controlled limits and did not significantly interfere with academic responsibilities.
3. The duration of online gaming among students varied across respondents. These differences in gaming intensity indicate that students' involvement in online gaming activities was not uniform, ranging from low to high levels of engagement.
4. Some students spent money to support their online gaming activities. This suggests that gaming activities involve not only time allocation but also financial expenditures for in-game needs and purchases.
5. Online gaming activities, in general, did not demonstrate a meaningful influence on students' academic achievement. Students who played online games were still able to maintain academic performance relatively similar to those who did not play online games, as long as the activity remained within controlled limits.

6. Students who played online games were still able to perform religious activities properly. Online gaming activities among respondents did not appear to significantly interfere with their spiritual habits or daily worship practices.
7. From an Islamic perspective, playing online games is generally permissible (mubah) as long as it does not contain elements contrary to Islamic principles, does not lead to negligence in worship, and does not interfere with the primary obligation of students to pursue knowledge. Therefore, online gaming activities should be carried out wisely in order to maintain a balance between academic, social, and spiritual responsibilities.

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