

Academic Stress and Nomophobia: Their Impact on Online Gaming Intensity on college students

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Abstract: *Online gaming is a common problem among adolescents across various countries, often serving as an escape or distraction from academic stress and nomophobia. This study aimed to investigate the relationship between academic stress, nomophobia, and the intensity of online gaming among university students. Employing a quantitative descriptive correlational design, this research involved 304 students selected through convenience sampling. Data was collected using academic stress, nomophobia, and online gaming intensity scales and analyzed using IBM SPSS 25. The results revealed a significant correlation between academic stress and nomophobia with the intensity of online gaming ($p < 0.05$). Simultaneously, both independent variables explained 95.8% of the variance in online gaming intensity. These findings indicate that both academic stress and nomophobia contribute significantly to excessive online gaming behavior among university students. Consequently, this study recommends the implementation of guidance and counseling programs in higher education institutions to prevent and address online gaming addiction among students.*

Keywords: *Academic Stress, Nomophobia, Intensity Of Playing Online Games*

Abstrak: Kecanduan game *online* telah menjadi permasalahan global di kalangan remaja, termasuk mahasiswa. Fenomena ini seringkali dikaitkan dengan upaya individu untuk mengelola stres akademik dan mengatasi kecemasan yang timbul akibat ketergantungan pada ponsel pintar (nomophobia). Penelitian ini bertujuan untuk mengidentifikasi hubungan antara stres akademik, nomophobia, dan intensitas bermain game *online* pada mahasiswa. Melalui pendekatan kuantitatif deskriptif korelasional, penelitian ini melibatkan 304 mahasiswa yang dipilih secara *convenience sampling*. Data dikumpulkan menggunakan skala stres akademik, skala nomophobia, dan skala intensitas bermain game *online*, kemudian dianalisis menggunakan IBM SPSS 25. Hasil analisis menunjukkan adanya hubungan signifikan antara stres akademik dan nomophobia dengan intensitas bermain game *online* ($p < 0.05$). Secara simultan, kedua variabel independen tersebut menjelaskan 95,8% varians intensitas bermain game *online*. Temuan ini mengindikasikan bahwa baik stres akademik maupun nomophobia berperan penting dalam mendorong perilaku bermain game *online* yang berlebihan pada mahasiswa. Sebagai implikasi, penelitian ini menyarankan perlunya pengembangan program bimbingan dan konseling di perguruan tinggi untuk mencegah dan mengatasi kecanduan game *online* di kalangan mahasiswa.

Kata Kunci: *Stress Akademik, Nomophobia, Intensitas Bermain Game Online*

Introduction

Research conducted in 2008 by an expert on video game addiction in America, Mark Griffiths of Nowingham University, found that almost a third of teenagers play online games every day, and more worryingly around 7% play at least 30 hours per week (Syahrani, 2015). How important is the long-term impact of activities that consume more than 30 hours of free time per week on adolescents' educational, health and social progress (Gurusinga, 2020). According to the American Medical Association, up to 90% of American teenagers participated in online gaming in 2007, and more than 5 million teenagers, or about 15%, were addicted (Febriandari et al., 2023). Online gaming addiction is of particular concern in public health issues in several countries in Asia, such as China, Korea, and Taiwan. About 10% of the total 30 million gamers or online

game players in China have experienced addiction (Young, 2009). Meanwhile, cases of online gaming addiction among students in Indonesia are estimated at 10-15% (Jap et al., 2013).

In Indonesia, 94.5% of internet users aged 16-64 played games as of January 2022. Moreover, data found that 1 in 10 adolescents in Indonesia is indicated to have an addiction to online games. Based on the results of interviews conducted by researchers on Tuesday, October 24, 2023 with 3 students with the initials A, F and H, researchers found the influence of the intensity of playing online games on academic stress and nomophobia in students at one of the state universities in Jambi province due to carrying too heavy a burden causing academic ability to decrease which has an impact on the achievement index and they stated that they were addicted to online games. Therefore, this research needs to be done in order to help us understand how academic stress and nomophobia affect the intensity of playing online games in students.

Technological advances are growing rapidly in this globalized world, making students increasingly involved in online gaming activities, which not only provide entertainment but also have a serious impact on their academic potential. As has been described above, students who frequently play online games have weaknesses that have an impact on triggering academic stress such as lack of interest in learning and other factors. As has been described above, students who frequently play online games have weaknesses that have an impact on triggering academic stress such as lack of interest in learning and other factors.

Academic stress is a situation that arises due to pressure or demands to achieve academic performance, such as graduating on time with increased competition in the academic environment, individuals become increasingly burdened by various demands (Pertiwi, 2020). This condition is expected to cause stress in students if they are unable to fulfill the demands that exist (Siregar & Putri., 2019; Yandri et al., 2022). Stated that sustained academic stress can also increase health risks for students (Dzokoto et al., 2007). Academic stress is a key element related to students' psychological well-being because it can affect academic achievement (Barseli et al., 2017) also states that academic stress is a form of stress that arises due to stress-inducing factors in the academic environment. This is the pressure experienced by students that comes from learning situations or other aspects related to learning activities.

Stress in students is caused by academic demands that are considered too heavy, low achievement, accumulation of tasks, and interactions in the social environment (Rahmawati, 2016). Academic stress falls into the category of distress, which is a type of negative stress. Then Barseli et al (2018) explains that academic stress experienced by students arises because there is a mismatch between their preferences for situations or environments and the biological, psychological, or social conditions they face. Academic stress also affects students' perceptions of the various knowledge concepts that need to be understood and their perceptions of the amount of time to master them (Siregar & Putri., 2019), and also students who experience stress may show symptoms such as irritability, difficulty concentrating, poor academic performance, poor relationships with others, difficulty sleeping and frequent absence from educational activities. (Aprianti et al., 2024; Kumar & Nancy, 2011).

Modern life is increasingly characterized by academic stress and nomophobia. Academic stress arises from the pressures inherent in the educational environment, while nomophobia, or the fear of being without a mobile phone, reflects our growing reliance on technology. The term "nomophobia" was coined in 2010 by YouGov, a research firm commissioned by the UK Post Office (Kanmani et al., 2017). Excessive smartphone dependence can lead to feelings of anxiety and worry when the device is unavailable (Amelisastris et al., 2024; Fadhilah et al., 2021).

No Mobile Phone Phobia (Nomophobia) is anxiety or discomfort that arises when a person is out of reach of a smartphone, reflecting the impact of an individual's interaction with technology, especially smartphones, in an increasingly sophisticated era like now (Yildirim & Correa, 2015). The dependence of individuals on smartphones or the phenomenon of no mobile phone phobia known as nomophobia is a contemporary anxiety and fear that arises due to technological advances (Mulyana & Widyastuti, 2017). According to Bragazzi & Del Puente (2014) nomophobia is considered a disorder in the modern digital and virtual society, triggering discomfort, anxiety, nervousness, or sadness due to one's inability to access a smartphone. Nomophobia or anxiety reflects the complex relationship between individuals and mobile devices. On the other hand, online gaming addiction highlights the challenges that arise from intensive engagement in virtual worlds.

Online gaming is a form of networked play, where interaction between individuals aims to achieve goals, carry out missions and score the highest score in a virtual environment, online gaming is a way to enjoy yourself and reduce fatigue arising from daily activities (Kurniawan, 2017). Next Ariantoro (2016) suggests students who often play an online game, will cause him to become addicted. His addiction to playing online games will have an impact on him, the impact on the individual is the decline in learning achievement, especially in terms of academics because he is still a student. However, online game addiction can be prevented and overcome in various ways, one of which is that parental upbringing is needed to encourage student learning success.

The intensity of online game playing can be assessed by the frequency and enthusiasm with which students engage in this activity (Febrina, 2014). Students who are addicted to online games often prioritize gaming over academic responsibilities, such as completing assignments (Sandya & Ramadhani, 2021). An initial survey conducted on October 24, 2023, involving three students revealed that excessive online game playing can lead to academic stress and nomophobia. Students may neglect their studies in favor of gaming and may also experience disrupted sleep patterns due to late-night gaming, which can negatively impact their concentration.

Existing research consistently supports the link between academic stress, nomophobia, and intensified online gaming among students. Previous studies by Armiandeni et al. (2023), Dinarti & Satwika (2022), and Laoli & Siahaan (2023) have demonstrated positive correlations between these factors and online gaming intensity. Additionally, Aini et al. (2023) found a significant relationship between self-control, social media use, and nomophobia.

Previous research has independently examined the relationship between academic stress and online gaming, as well as nomophobia (fear of missing out) and excessive gadget use. However, a comprehensive understanding of how these two factors jointly influence the intensity of online gaming among college students remains elusive. Most studies tend to explore the relationship between one variable and another in isolation, without considering the complex interplay between academic stress, nomophobia, and gaming behavior. Therefore, this study aims to fill this gap by testing the hypothesis that academic stress and nomophobia significantly contribute to the intensity of online gaming among college students, and exploring potential moderating and mediating factors in this relationship.

This research is important to understand the reasons why students prefer to play online games rather than study, as well as to explore the influence of the intensity of playing online games on the level of academic stress. The hypothesis proposed is that there is a relationship between academic stress and nomophobia on the intensity of playing online games. In other words, the more often students play online games, the higher the level of academic stress they

experience. Conversely, the less often they play online games, the lower the level of academic stress they feel.

Previous research by Setiawati et al. (2021) revealed a significant correlation between academic stress and online gaming intensity among students. Approximately 56.4% of participants reported experiencing academic stress, while 46.5% exhibited a tendency to play online games excessively. Additionally, nomophobia, or the fear of being without a smartphone, has been linked to increased online gaming behavior. Excessive smartphone use can have negative consequences, including behavioral problems in children, if not properly supervised. Parents should be mindful of their children's gaming habits to prevent the development of nomophobia.

This study investigates the relationship between academic stress, nomophobia, and online gaming intensity among college students. Its novelty lies in being the first to explore this specific combination of factors within this population. Previous research has not comprehensively examined the interplay of academic stress and nomophobia on online gaming behavior in college students.

Methods

This study employed a descriptive quantitative research methodology to investigate the relationship between academic stress, nomophobia, and the intensity of online game playing among 2000 students at IAIN Kerinci. A convenience sampling technique was utilized to select 304 participants, who completed online surveys using Google Forms application which was then distributed via WhatsApp social media. The validity and reliability of the survey instruments were established prior to data collection. Respondents were asked for their willingness to fill in the respondents, with them filling in their personal identity and answering each question item in accordance with the actual situation and answer each question item according to the actual situation.

The demographic characteristics of respondents can be seen in Table 1. The majority of respondents were dominated by 169 female students while 153 male students at IAIN Kerinci from different majors.

Table 1. Demographic Characteristics of Respondents

Variable	Category	Frequency
Gender	Man	153
	Woman	169
Major	Islamic Education Guidance and Counseling	72
	Tadris Biology	34
	Tadris Mathematics	27
	Arabic Language Education	11
	Islamic Education Management	50
	Islamic Religious Education	92
	Tadris English	18

Data collection utilized three established scales: the Academic Stress Scale (ASS), Nomophobia Scale (NS), and Intensity of Playing Online Games Scale (IOFPS). The ASS consists of 24 items assessing academic stress, with a Cronbach's alpha of 0.863, and scale items are rated on a 4-point Likert-type scale that includes 1 to 4 (1 = Very low, 2 = Low, 3 = High, 4 = Very High). The NS comprises 20 items measuring nomophobia, with a Cronbach's alpha of 0.922, and scale items are rated on a 4-point Likert-type scale that includes 1 to 4 (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree). Finally, the IOFPS includes 30 items assessing online gaming intensity, with a Cronbach's alpha of 0.969, and scale items are rated

on a 5-point Likert-type scale that includes 1 to 5 (1 = Never, 2 = rarely, 3 = Sometimes, 4 = Often, 5 = Always).

Descriptive statistics were used to calculate the mean, standard deviation, and percentage of variables (Yuliara, 2016). Multiple regression analysis was employed to test the relationship between academic stress, nomophobia, and online gaming intensity. This statistical method helps predict the dependent variable based on independent variables and provides insights into population parameters like means, standard deviations, and correlations (Ningsih & Dukalang, 2019).

The limitations of this study include its reliance solely on descriptive statistics to analyze the variables. Additionally, the research was restricted to exploring the relationship between academic stress, nomophobia, and online gaming intensity among students. Future studies could benefit from a more comprehensive approach, involving a larger sample size and longitudinal data collection to establish causality.

Results and discussion

Academic stress, a psychological response to academic challenges, can lead to increased online gaming behavior. Nomophobia, the fear of being without a smartphone, can also contribute to excessive gaming. These two factors are interrelated, as students may turn to online gaming as a coping mechanism for academic stress and become addicted due to the social and entertainment features offered by smartphones. This study aimed to investigate the impact of academic stress and nomophobia on online gaming intensity among IAIN Kerinci students.

Table 2. Frequency distribution of Academic Stress, Nomophobia and Intensity of Playing Online Games

Variable	Category	Score Range	Frequency	Percentage
Academic Stress	Low	$X < 32,53$	0	0%
	Medium	$32,53 \leq X < 50,53$	17	5,59%
	High	$50,53 \geq X$	287	94,41%
Nomophobia	Low	$X < 43,07$	84	27,63%
	Medium	$43,07 \leq X < 62,83$	187	61,51%
	High	$62,83 \geq X$	33	10,86%
Intensity of Playing Game Online	Low	$X < 47,31$	66	21,71%
	Medium	$47,31 \leq X < 99,01$	194	63,82%
	High	$99,01 \geq X$	44	14,47%

Descriptive analysis revealed that most respondents (94,41%) reported high levels of academic stress, followed by moderate (5,59%) levels. For nomophobia, 61% of respondents exhibited moderate levels, while 27,63% reported low and 10,86% high levels. Regarding online gaming intensity, 63,83% of respondents demonstrated moderate levels, followed by low (21,71%) and high (14,47%) levels.

Further, A Kolmogorov-Smirnov test was conducted to assess the normality of the data

Table 3. Normality Test Kolmogrov-Smirnov Test

	N	Unstandardized Residual
		304
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	25.51760089
Most Extreme Differences	Absolute	.067
	Positive	.066
	Negative	-.067
Test Statistic		.067
Asymp. Sig. (2-tailed)		.002 ^c

The Kolmogorov-Smirnov test revealed that the variables X1, X2, and Y were not normally distributed, as indicated by the significance level of 0.002 ($p < 0.05$). A multicollinearity test was then conducted to assess for any interdependencies among the independent variables

Table 4. Multicollinearity test coefficients

Model	Collinearity Statistics	
	Tolerance	VIF
Academic Stress	.948	1.055
Nomophobia	.948	1.055

Multicollinearity was not detected among the independent variables, as indicated by VIF values below 10 and tolerance values above 0.1. A heteroscedasticity test was conducted to assess the assumption of equal variance in the regression model. The absence of heteroscedasticity is a desirable condition for a valid regression analysis

Table 5. Glesjer Heteroscedasticity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.929	6.479		1.687	.093
Academic Stress	-.121	.088	-.079	-1.381	.168
Nomophobia	.347	.082	.243	4.223	.000

The heteroscedasticity test revealed that academic stress (X1) did not exhibit heteroscedasticity symptoms, with a p-value of 0.168. However, nomophobia (X2) did show evidence of heteroscedasticity, with a p-value of 0.000. An individual significance test, using the t-statistic, was conducted to assess the partial effect of each independent variable on the dependent variable. The decision model was then determined based on these findings and the underlying assumptions.

Table 6. Partial t test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	98.135	1.754		55.959	.000
Academic Stress	-.797	.010	-.971	-81.806	.000
Nomophobia	.530	.031	.202	17.053	.000

The hypothesis test for H1 revealed a significant negative effect of academic stress (X1) on online gaming intensity (Y), with a p-value of 0.000 and a t-value of -81.806. This indicates that higher levels of academic stress are associated with lower levels of online gaming intensity, and Similarly, the hypothesis test for H2 showed a significant positive effect of nomophobia (X2) on online gaming intensity (Y), with a p-value of 0.000 and a t-value of 17.057. This suggests that increased nomophobia is linked to higher levels of online gaming intensity.

This F test is conducted to see the independent variables involved in the model that have an overall effect on the dependent variable. The f test is used to analyze the hypothesis that the influence of academic stress (X1), and the influence of Nomophobia (X2), have an influence on the intensity of playing online games (Y) together or simultaneously.

Table 7. F Test Results

Model	Sum of Squares	df	Mean Square	F	Sig.
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Regression	193896.832	2	96948.416	3413.459	.000 ^b
Residual	8548.944	301	28.402		
Total	202445.776	303			

The simultaneous effect of X1 and X2 on Y was significant, as indicated by a p-value of 0.000 and a calculated F-value of 3413.459

Table 8. Test Determinacy R2

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979 ^a	.958	.957	5.329

The coefficient of determination (R^2) was calculated to be 0.958, indicating that 95.8% of the variance in Y can be explained by the combined effects of X1 and X2. The analysis revealed that academic stress (X1) significantly negatively impacts online gaming intensity (Y). This is evidenced by a p-value of 0.000 and a t-value of -81.806. Higher levels of academic stress are associated with lower levels of online gaming intensity among IAIN Kerinci students. Therefore, hypothesis H1 is accepted.

The results of the variable analysis indicate a significant relationship between Nomophobia and the Intensity of Playing Online Games. The significance value of 0.000 is less than 0.05, confirming that Nomophobia (X2) has a substantial effect on the Intensity of Playing Online Games (Y). Moreover, the t-value of 17.057 exceeds 1.967, suggesting a positive influence of Nomophobia on the Intensity of Playing Online Games. Therefore, the hypothesis H1, which posits a relationship between Nomophobia and the Intensity of Playing Online Games, is accepted. The analysis of academic stress and Nomophobia's influence on the Intensity of Playing Online Games revealed a significant combined effect. The coefficient of determination (R-squared) value of 0.958 indicates that 95.8% of the variance in the Intensity of Playing Online Games can be explained by these two variables. The authors acknowledge that this study has limitations and is far from perfect. The research was restricted to students at IAIN Kerinci, and it found that a significant number of these students experience academic stress and nomophobia, which influence the intensity of their online gaming. The authors hope that this research can contribute to addressing the issues of academic stress and nomophobia and their impact on online gaming behavior among IAIN Kerinci students.

The excessive consumption of online games in Indonesia can lead to addiction, causing individuals to neglect their daily responsibilities and become engrossed in gaming (Nuhan, 2016). The consequences of online game addiction include a loss of time management, self-awareness, social skills, emotional regulation, susceptibility to influence, negative mindset, a disregard for personal responsibility, and a disconnect from reality (Young, 2009). Similar to television, video, and computer games can contribute to aggressive behavior (Yandri et al., 2023). Febrina research (Febrina, 2014) demonstrates that excessive online gaming can significantly increase children's aggressiveness, creating a cycle of gaming, aggression, and stress that leads to further gaming. The stress associated with academic and non-academic responsibilities can drive individuals to seek entertainment online, increasing the prevalence of online gaming (Teng, Li, dan Liu, 2014).

Nomophobia is an uncontrollable urge to be constantly connected to one's smartphone. Individuals with high levels of nomophobia tend to engage in excessive online gaming. As Maharani et al. (2019) noted, smartphones have become an integral part of daily life, leading to the possibility of overuse and addiction. This phenomenon, known as nomophobia, resembles other technology-based addictions such as internet, gaming, and computer addiction. Even young children can operate smartphones with or without parental supervision. Smartphones are used for various purposes, including gaming, music, videos, and accessing information and social media (Zazin & Zaim, 2020). Hermawati (2013) observed that while smartphones initially focused on communication, advancements in technology have expanded their capabilities to include

various features, leading to potential addiction. Pasongli et al., (2020) research found that gender, age, residence status, smartphone ownership, and the types of features used, particularly online games, are factors associated with nomophobia among students. In Indonesia, the symptoms of nomophobia are commonly observed, with individuals becoming engrossed in their smartphones in public settings and neglecting their surroundings. Smartphones and tablets are often preferred over social interaction.

According to Adams & Rollings (2010), gender, psychological state, and game type influence the intensity of online game playing. Psychological factors, such as addiction and stress, are common among students. Yee (2006) identified similar factors, including psychological conditions, game types, relationships, manipulation, immersion, escapism, and achievement. Research by Mufflih & Santosa (2023) found that the intensity of online game playing negatively affects learning concentration, with a 15.8% impact. While enthusiasm for learning was the least affected, thoughts and feelings were significantly influenced. This suggests that even low levels of academic stress can contribute to intense online game playing. Hestia et al., (2023) research revealed that the intensity of smartphone use and nomophobia are factors influencing the duration of game playing. The ubiquity of smartphones in modern life, providing constant access to communication, information, and entertainment, can contribute to smartphone addiction.

Conclusion

The analysis revealed a significant combined effect of Academic Stress and Nomophobia on the Intensity of Playing Online Games among Students. However, the coefficient of determination (R-squared) value of 0.958 suggests that these two variables explain 95.8% of the variance in students' online gaming intensity. This indicates a possible influence of other unmeasured factors.

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