The Impact of Online Gaming on Academic Performance: A Study of JTMK, Politeknik Ungku Omar Students

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ABSTRACT – This study explores the impact of online gaming on the academic performance of students at Politeknik Ungku Omar. With the increasing prevalence of online gaming among students, understanding its effects on academic outcomes is crucial. A survey was conducted among 250 students to gather data on their gaming habits, perceived effects of gaming, and academic performance, measured by CGPA. The analysis revealed weak to moderate negative correlations between gaming effects and CGPA, particularly in areas related to academic participation and focus. The most significant gaming effects were associated with social isolation, lack of focus, and decreased class participation, which were perceived as having a higher impact on academic performance. Gender differences were also observed, with female students generally achieving slightly higher CGPAs than male students. These findings suggest that while online gaming is a popular activity, it can negatively affect academic performance if not managed properly. The study highlights the need for educational institutions to implement awareness programs and support services to help students balance gaming with academic responsibilities. Further research is recommended to explore causal relationships and develop targeted interventions to mitigate the negative effects of online gaming on academic performance.

KEYWORDS: Online Gaming, Academic Performance, Educational Impacts

1.0 INTRODUCTION

The emergence of internet gaming has completely changed how people interact with digital entertainment. While there are many advantages to playing online games, like enhanced social skills and cognitive abilities, there have been worries expressed over the possible harm they could do to academic achievement. While the proliferation of technology has opened up new avenues for entertainment and learning, the increasing popularity of online gaming among students has raised concerns about its potential impact on academic performance. This study aims to investigate the relationship between online gaming and the academic achievement of 250 Department of Information & Communication Technology (JTMK) students at Politeknik Ungku Omar (PUO).

Research has shown that the use of technology-based media, including educational games, can have a significant influence on student motivation and learning outcomes [1]. However, the existing literature also highlights the potential risks associated with excessive online gaming, such as the diversion of attention from academic pursuits and the lack of access to the necessary technology [2]. Research has shown that excessive online gaming can divert attention from academic pursuits and lead to lower academic achievements [3], [4], [5], [6], [7]

With the increasing prevalence of online gaming among youths, educators, and parents have raised concerns regarding its potential impact on students' academic achievements [3]. This research aims to investigate how gaming habits, including the amount of time spent and the types of games played, affect students' academic performance, measured by their GPA.

2.0 METHODOLOGY

2.1 Research Design

This study employs a quantitative research design to investigate the effects of online gaming on the academic performance of students at Politeknik Ungku Omar. A questionnaire-based approach was utilized to collect data from 250 JTMK, PUO students across various semesters. The survey method is appropriate for this study as it allows for the collection of a large

amount of data within a relatively short period and enables the analysis of relationships between different variables.

2.2 Participant/Respondent

The study's participants consisted of 250 JTMK students from PUO. The students were selected using a stratified random sampling method to ensure that the sample was representative of the entire student population. The strata were based on departments, semesters, and gender to ensure diversity in the sample. The final sample included students ranging from first to final-semester students.

2.3 Data Collection

Data was collected using a structured questionnaire administered online. The questionnaire was designed to gather information on students' demographics, gaming habits, and academic performance. It included both closed-ended and open-ended questions to capture a wide range of information. The questionnaire was structured into several key sections to gather comprehensive data on the students' backgrounds and experiences with online gaming. The first section focused on demographics, collecting information such as age, gender, department, and semester to ensure a diverse and representative sample of the student population. The second section, gaming habits, delved into the frequency and duration of gaming, the types of games played, and specific gaming patterns, including the time of day when students typically engaged in gaming activities. This section aimed to capture a detailed picture of students' gaming behaviors.

The third section, health impact, was designed to assess the physical effects of gaming on students. It included items that inquired about issues like headaches, sleep deprivation, and eye strain, which are common concerns associated with prolonged gaming sessions. The fourth section focused on academic performance, where students were asked to self-report their GPA and provide other relevant measures of their academic achievements. This section was crucial for correlating gaming habits with academic outcomes.

Finally, the questionnaire included a section on the perceived impact of gaming, where students were asked to reflect on and evaluate how they believed their gaming habits affected their academic performance. This section provided insights into students' awareness and perceptions of the potential consequences of their gaming behaviors on their studies.

3.0 RESULT

This section presents the findings from the analysis of data collected through the questionnaire distributed to 250 students at JTMK, PUO. The results focus on the students' gaming habits, the perceived impact of online gaming on their academic performance, and the correlation between gaming duration and academic outcomes such as CGPA.

3.1 Demographic Distribution

The demographic data reveals that the majority of respondents are actively engaged in online gaming. As shown in Figure 1, the distribution by gender indicates a balanced representation, with slight variations across different semesters.
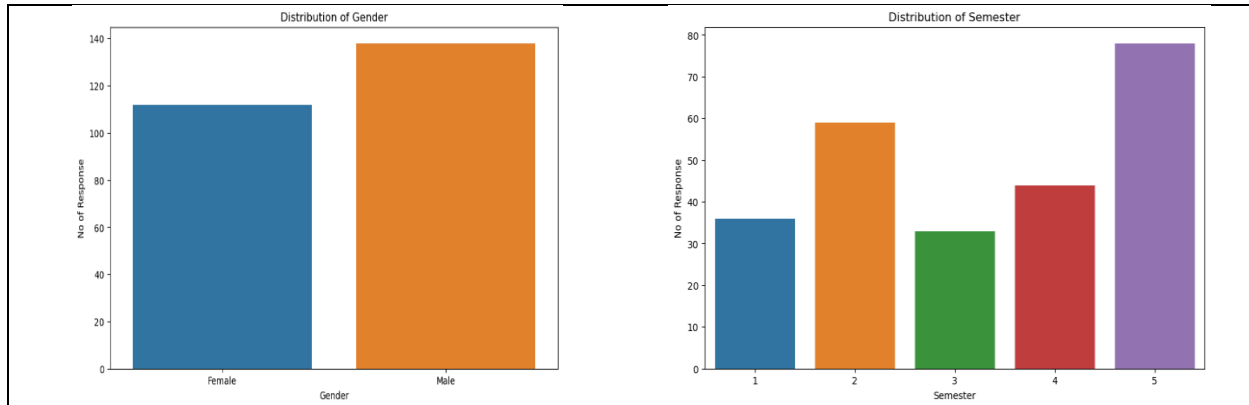
Figure 1: Distribution of Respondents by Gender and Semester

3.2 Gaming Habits

As illustrated in Figure 2, a significant proportion of students, approximately 61%, spend between 1 to 2 hours per day playing online games. The next largest group, accounting for around 30% of the respondents, plays for 3 to 5 hours daily. This indicates that online gaming is a prevalent activity among JTMK students, with most dedicating a considerable amount of their daily time to it.
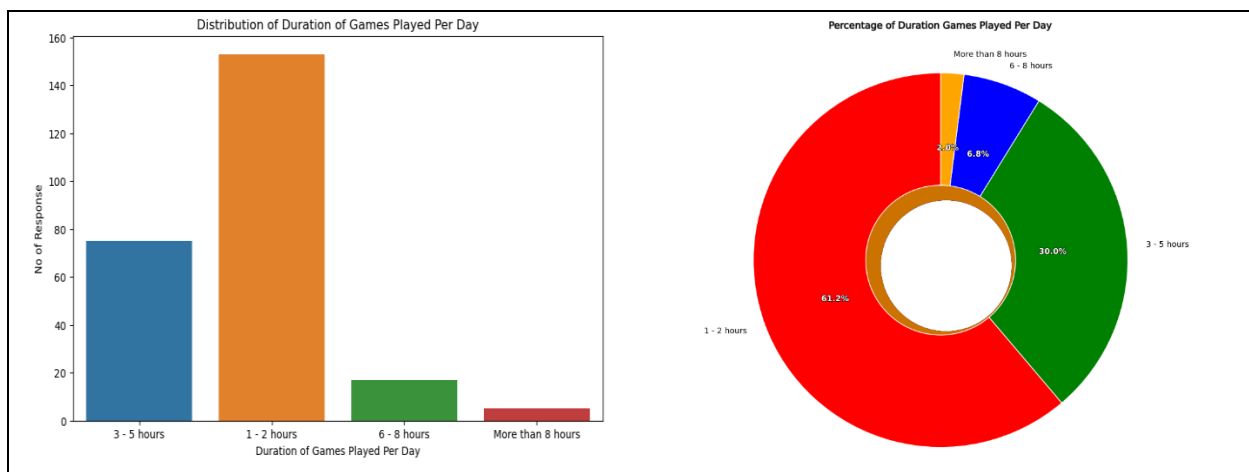

Figure 2: Distribution and Percentage of Hours Spent Gaming per Day

3.3 Perceived Impact On Academic Performance

The responses regarding the impact of online gaming on academic performance were mixed. As shown in Figure 3, while most students (around 60%) believe online gaming does not adversely affect their academic performance, a notable 30% feel gaming negatively impacts their studies. The remaining 10% were unsure or neutral on the matter. Previous studies have also highlighted similar concerns about the negative impact of online gaming on academic performance [4], [5], [6], [7].

Online gaming had varying effects on academic participation among students, with some reporting a noticeable impact. Many students felt that their responsiveness and focus during academic hours were compromised due to gaming. Additionally, some students experienced social isolation in the classroom, attributing it to their gaming habits. Furthermore, gaming was

linked to poor memorization skills and a lack of responsibility in completing course tasks for certain students.
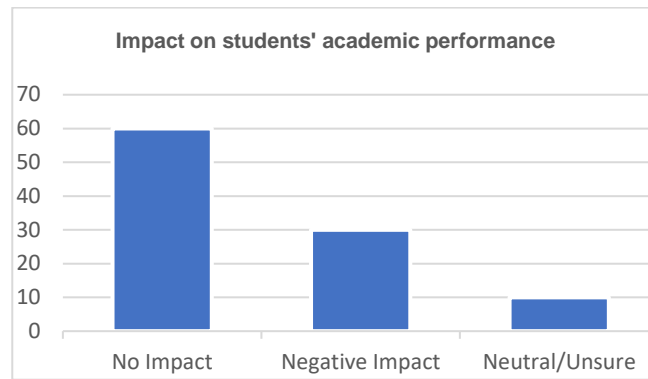

Figure 3: Impact of online gaming on academic performance

While most students believed that online gaming did not negatively impact their academic performance, many felt otherwise. Additionally, many students acknowledged that their peers played a role in influencing them to engage in online gaming.
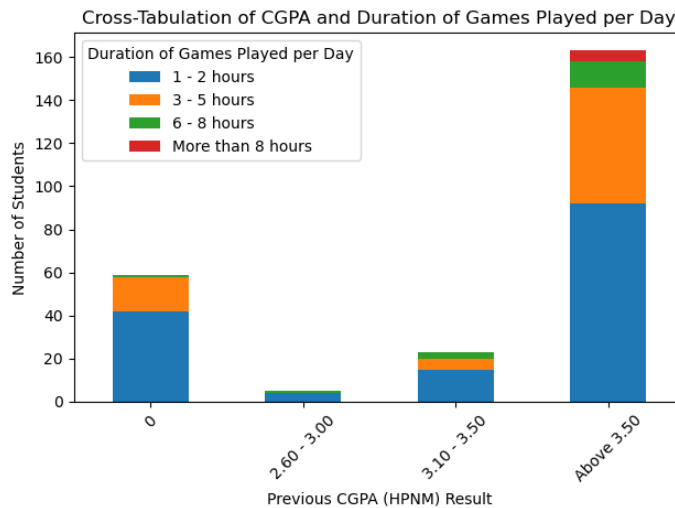

Figure 4: Cross-tab of CGPA and Duration of Games Played per day.

Figure 4 shows that students with higher CGPAs (Above 3.50) tend to play games for shorter durations (1 - 2 hours) compared to those with lower CGPAs. This suggests that these students might be better at managing their time, and balancing gaming with their academic responsibilities. Students with lower CGPAs (0) tend to have a more varied gaming duration, with some playing for longer periods (3 - 5 hours and 6 - 8 hours). This indicates that excessive gaming might be associated with lower academic performance, possibly due to poor time management and reduced study time.

3.4 Health Impact

Based on the questionnaire, students who played games for longer durations reported more frequent headaches. Additionally, increased gaming duration correlated with higher reports of physical pain. A significant number of students reported a lack of sleep, especially those who played for extended periods. Furthermore, students experienced blurry vision, particularly those who played games late at night or for long hours. This study highlights that while online gaming is a popular activity among students, it can negatively impact academic performance if not managed properly. The findings emphasize the importance of time management and the potential

risks of excessive gaming, which include health issues such as headaches, sleep deprivation, and eye strain [3], [4], [5], [6], [7].

4.0 CONCLUSION

This study explored the impact of online gaming on the academic performance of students at Politeknik Ungku Omar. The findings suggest that while online gaming is a popular activity among students, it can negatively affect academic performance if not managed properly.

The analysis revealed that a considerable number of students engage in online gaming for extensive hours each week, with a notable proportion perceiving its adverse effects on their studies. The correlations identified between gaming habits and academic outcomes underscore the importance of time management and the potential risks associated with excessive gaming.

Given the mixed perceptions among students regarding the impact of gaming on academic performance, educational institutions need to implement awareness programs and support services that help students balance gaming with academic responsibilities. Further research is recommended to explore causal relationships and develop targeted interventions to mitigate the negative effects of online gaming on academic performance.

In conclusion, while online gaming can offer recreational benefits and social interaction, students must be mindful of their gaming habits and the potential implications for their academic success.

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