IMPACT OF GAMING HABITS ON ACADEMIC PERFORMANCE AND QUALITY OF LIFE OF UNIVERSITY STUDENTS: A PERSPECTIVE FROM BANGLADESH

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APPROVAL

This thesis titled on "**Impact of Gaming Habits On Academic Performance And Quality of Life of University Students: A Perspective From Bangladesh**", submitted by **Sanjida Islam Ratree (ID: 201-35-615)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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ABSTRACT

This study explores the intricate interplay between gaming behaviors and the academic and social aspects of university students' lives in Bangladesh. Through a reflective examination of diverse elements such as demographic profiles, academic attributes, and emotional responses, we have acquired nuanced insights into the intricacies of this complex relationship. Utilizing data from an online survey of 231 participants from different academic level in various universities in Bangladesh. The study involves a comprehensive analysis of demographic profiles, academic characteristics, sleep patterns, gaming time, and the impact of gaming on academic performance. The research delves into motivations for gaming, gender-specific emotional responses, and the impact of multitasking and gaming frequency on academic engagement. Notable findings include the prevalence of gaming addiction across different academic years, suggesting potential correlations with academic progression. The study has revealed a subtle negative correlation between increased gaming time and academic performance, underscoring the significance of acknowledging the time allocated to gaming within the educational framework. There is a positive correlation between the time dedicated to studying and academic performance, signifying that allocating more time to study is associated with enhanced academic achievement. The results highlight how many different factors have significant effects on students' grade point. Through the identification of gender-specific emotional responses to gaming, this study enhances the depth of understanding in the psychological facets of gaming experiences. Furthermore, the changes in gaming addiction over the academic years suggest that there might be a connection between how far students are in their studies and the chances of getting addicted to gaming. The study highlights the evolving field of gaming studies by offering a nuanced exploration of the relationships between gaming habits, academic performance, and overall well-being among university students.

Keywords: Online gaming, Academic Performance, Bangladesh, Study habits, Addiction, Social Interaction.

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CHAPTER 1: INTRODUCTION

1.1: Introduction

In recent decades, the video game sector has emerged as an exceptionally profitable industry due to the growing desire for gaming, particularly among teenagers who constitute the primary driving force behind this escalating demand [1]. As video games continue to capture the attention and time of students, concerns have arisen about their potential impact on academic performance. At present, digital games encompass more than mere entertainment, having expanded into a broad realm of research in areas such as education, training, and understanding human behavior [13]. People engage in gambling or play video games for various reasons. Some do it to relax, feel a sense of competence, have control over their activities, or escape from their everyday worries [16]. The intersection of video games and education finds its origins in commercial video games, where the incorporation of learning principles into their designs, along with challenges and motivating elements, has been demonstrated to facilitate players in acquiring game-playing skills [10]. With video gaming being a prevalent recreational option for more than 75% of young individuals in advanced economies, it becomes essential to comprehend its impact on the significant portion of adolescents' lives dedicated to education and personal growth [3]. Students' time is increasingly divided between educational obligations and recreational activities, leading to inquiries about whether extensive video gaming could be a contributing factor to fluctuations in academic achievement. Video games have often been labeled as addictive and detrimental, particularly from the perspective of parents and teachers. Certain individuals view video games as a cause for declining academic performance and a lack of moral values among students in both school and university settings. It's evident that some students allocate a substantial amount of time to playing video games, overshadowing their study efforts. In reality, students are expected to excel academically and demonstrate accomplishment in their educational pursuits. Academic attainment frequently serves as a metric to gauge and anticipate an individual's abilities and potential [12]. An increasing body of researchers endorse the utilization of commercial video games as valuable learning opportunities [8]. Nevertheless, there are viewpoints that assert video games can offer specific advantages to players. Amidst these advantages, engaging in video games for extended periods has been linked to enhancements in visual-spatial abilities and mathematical aptitude. Additionally, playing violent games can even foster the development of prosaically skills. Conversely, there exist adverse repercussions associated with video games. An illustration of the unfavorable impact stemming from prior research reveals that students who engage in video games tend to exhibit lower GPAs compared to non-players [12]. The perspective suggesting that playing video games could have an adverse impact on academic achievements has garnered significant media coverage [7]. Consequently, it becomes imperative to undertake a more thorough investigation into the correlation between academic performance and video gaming

[7]. By shedding light on the potential interplay between gaming habits and academic performance, this study can guide the development of strategies to promote healthy leisure habits among students without compromising their educational goals [4]. In recent years, scholars have explored the diverse dimensions of video games, examining their cognitive, behavioral, and social implications. While some studies highlight the positive outcomes of gaming, such as enhanced cognitive skills and problem-solving abilities, others underscore the potential drawbacks, including addictive tendencies and negative impacts on academic performance. This study endeavors to unravel the nuanced relationships between gaming habits, academic achievement, and the overall quality of life among university students in the Bangladeshi context.

1.2: Motivation

In the contemporary landscape of higher education, the prevalence of online gaming has become a significant aspect of students' lives, raising concerns about its potential effects on academic performance and overall quality of life. Many studies have explored the positive side of playing video games, showing that there are several benefits. For instance, some researchers conducted an experiment to examine the effects of video games on the prosaically behavior of gamers [7]. The motivation behind this thesis stems from the growing significance of online gaming in the lives of university students, particularly within the context of Bangladesh. As the digital era continues to reshape the landscape of higher education, the impact of gaming habits on academic performance and the overall quality of life among students has emerged as a critical area of concern [3]. While existing literature provides insights into the multifaceted effects of video games, there is a distinct lack of comprehensive studies that address these issues specifically within the Bangladeshi setting. This research aims to bridge this gap by delving into the intricate relationships between gaming habits, academic achievement, and the holistic well-being of university students in Bangladesh. By synthesizing insights from previous studies and considering the diverse cultural and contextual factors unique to the region, this thesis aspires to contribute meaningful perspectives that can inform educational practices, policy decisions, and interventions tailored to the needs of Bangladeshi students. In doing so, it seeks to offer a nuanced understanding of the role of online gaming in the lives of university students, shedding light on both the positive and potentially detrimental aspects, and ultimately providing a foundation for future research and evidence-based strategies.

1.3: Problem Statement

a. Rising Video gaming Concerns in Bangladesh.
b. Unexplored Impact on Academic Performance.
c. Excessive video gaming impact on students' quality of life.
d. Sleeping Disorders and Parental Concerns.

The increasing prevalence of online gaming among university students in Bangladesh has prompted concerns regarding its potential impact on academic performance and overall well-being. Despite the growing popularity of video games, there is a gap in understanding how gaming habits may influence students' academic success and quality of life. Late-night gaming can cause sleeping disorders like insomnia. Parents frequently express concerns about electronic games, stating that these games, due to their addictive nature, consume a significant portion of student's time that could otherwise be dedicated to cognitive activities beneficial for their academic performance. This research aims to address this gap by examining the interplay between gaming habits, academic performance, and well-being among university students in Bangladesh. Additionally, it seeks to analyze the sociotechnical aspects of gaming behavior, providing valuable insights into the complex relationship between online gaming and students' educational and personal outcomes.

1.4: Research Objectives

The purpose of this study is to explore the relationship of online gaming and academic performance. Also To analyze the sociotechnical aspects of gaming behavior among university students and understand their interplay with academic performance and overall well-being. The specific objectives of the study are:

A) Examine the Interplay Between Gaming Habits, Academic Performance, and Well-being.
B) Analyze the Sociotechnical Aspects of Gaming Behavior

1.5: Research Questions

Based on the problem and objectives already stated in this study, the following research questions have been posed:

1. Is there any relationship between video games and academic performance?
2. How gaming habits may affect students' quality of life?
3. Can playing video games affect how well students sleep, and does this affect their academic performances?

1.6: Research Scope

This research focuses on investigating the multifaceted relationship between online gaming habits, academic performance, and the overall well-being of university students in the context of Bangladesh. The study will encompass a diverse range of gaming behaviors, considering both positive and negative aspects, and their potential impact on students' academic achievements and quality of life. The research will delve into sociotechnical aspects, exploring how the interplay between technology and social behavior influences gaming habits.

1.7: Thesis Organization

- Introduction
- Literature Review
- Methodology
- Analysis & Result
- Findings
- Discussion
- Conclusion

CHAPTER 2: LITERATURE REVIEW

2.1: Review of Literature

Engaging in video games is a prevalent source of entertainment for adolescents, particularly in developed nations [8]. An article in a newspaper titled "Startups explore beyond reality with AR and VR" highlights that virtual reality is compatible with all current PC games and movies. It also mentions the ability to live-stream from online gaming communities [14]. This study demonstrates the importance of gaming for future generations, emphasizing the need for more research in this area [10]. Most of the studies carried out on educational video- games focus on learning performance. However, some studies draw attention to their enormous motivational potential [8]. Another study indicates a negative correlation between video game playtime and GPA and SAT scores, suggesting that as the time spent playing increases, academic performance tends to decrease [5]. Another study suggests that addiction to gaming is consistently associated with negative academic performance, whereas there is no clear negative correlation between times spent playing or engagement and academic outcomes. Some studies have yielded evidence that males and females tend to prefer different types of video games [10]. Alzahrani et al. [13] Attitude reflects individuals' thoughts and beliefs about a behavior, subjective norm considers the influence of family, friends, or significant others on the individual's behavior, and perceived behavior control relates to the individual's confidence in executing the behavior. Today, video games also become an issue for the university student. Video games have been perceptually known as being addictive and destructive from parents and teachers point of view [16]. Researchers haven't done many long-term studies on gaming, making it hard to draw definite conclusions about cause and effect.

Most studies that looked at how gaming affects academic performance only looked at a specific point in time. This makes it unclear if the results are influenced by who chose to participate in the study [5]. Another issue is that different studies define academic success in different ways. Some look at grades, while others look at how well someone does in specific subjects. This makes it tricky to compare findings from various studies [4]. Many studies have found that a high percentage of children and teenagers, ranging from 83% to 97%, have video game consoles at home. They spend several hours each day interacting with these consoles [15]. According to Peracchia S. et. al. [11] the findings indicate that from 2009 to 2015, there was a 16% to 17% rise in adolescents reporting not getting enough sleep. After 2011-2013, this number increased. Using video games was linked to a higher likelihood of having shorter sleep (an increase of 44 minutes a day). The hours spent playing video games were consistently associated with not getting 7 or more hours of sleep on most nights, and this relationship held true across the years.

2.2: Comparative Analysis and Summary

Online gaming is more common among youth than among adults, and online gambling addiction is more likely among males than females [11]. In recent years, video gaming has transcended its recreational status and become a significant cultural phenomenon. Roughly 97% of adolescents aged 12 to 17 engage in video game activities. Among them, 31% report playing video games on a daily basis, while 21% partake in gaming activities for approximately 3 to 5 days each week. These statistics underscore the substantial influence of video games on the lives of adolescents [7]. In another theory, students categorized as moderate in the selective player style (devoting 11–50 hours) demonstrated notably superior GPAs compared to students with lower engagement in the selective player style (dedicating 0–10 hours) [12]. According to Anand (2007), the penetration of video games into the United States alone is huge, with at least 90% of homes having students that have played (rented or owned) video games. This is a record level that continues to increase. 55% of console players and 66% of online players are over 18.Although numerous studies have been undertaken to explore the connection between video games and students' academic performance, a considerable portion of these studies were actually conducted in Western countries. Moreover, only a limited number of these studies were conducted in Bangladesh. According to Chen et al. [7] in total, 83% of students like playing video games. In total, there are 81% respondents that agree that playing video games contributes to improving their analytical thinking, nearly 86% of them agree video game play improves logical thinking, and 77% respondents agree it can enhance creative thinking. Only 6 % of them disagree with those statements [7]. According to Nasution et al. [12] majority of male respondent has GPA “low” and “average” academic performance. Surprisingly, none of female respondents has “very low” academic performance [12]. In another investigation into the connection between video game strategies and GPA revealed a significant result: $F(11, 71) = 2.666$, $p = .006$. This indicates a meaningful relationship, and further analysis showed that five individual strategies were significantly related to GPA [19]. According to Costa, L.et. al. [10] the results indicate that the Game-based Learning Platform (GBLP) had some positive effects on mental health ($F (2,57) = 3.771$, $p = .029$) and overall health-related wellbeing ($F (2,57) = 5.231$, $p = .008$) when compared to the Computer-assisted Learning Platform (CAP).

CHAPTER 3: METHODOLOGY

3.1: Data Source

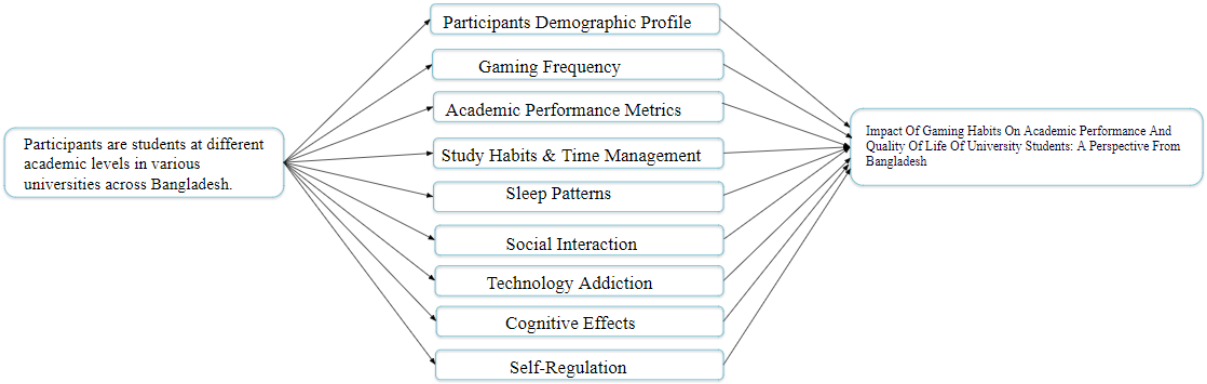

Figure 3.1: Data collection process

We formulated 40 questions for this study based on specific criteria and incorporated them into a Google Form. A total of 231 responses were collected from students at different academic levels in various universities across Bangladesh.

3.2: Statistical Methods

We have examined our dataset, taking into account various parameters, which will be detailed in the following sections to determine the impact of gaming habits on academic performance and quality of life of university students in Bangladesh.

A) Frequency Analysis

It is a statistical method employed to examine the distribution and occurrence of values within a dataset. In the context of my research, frequency analysis likely involves examining the prevalence of specific behaviors, characteristics, or responses among the surveyed university students in Bangladesh.

B) Chi-Square Test

This analysis used to analyze the association between categorical variables. In the context of my research on university students' gaming habits, academic performance, and other related factors, the Chi-Square Test has applied to examine the independence or dependence of different categorical variables.

C) Correlation Analysis

Correlation analysis is a statistical method utilized to measure the magnitude and direction of the relationship between two continuous variables. It examines how variations in one variable align with changes in another. The outcome is represented by a correlation coefficient, which spans from -1 to +1. A coefficient nearing +1 denotes a robust positive correlation, whereas a value near -1 indicates a strong negative correlation. A coefficient close to zero implies a weak or negligible connection between the variables. This analytical approach facilitates the comprehension of how variables co-vary, contributing to predictive modeling and enhancing insights into associations within the dataset.

D) Logistic Regression Analysis

Logistic regression is a statistical method used for predicting the probability of an event occurring based on one or more predictor variables. The logistic regression model is particularly useful when the dependent variable is binary, meaning it has only two possible outcomes, such as 0 and 1, true and false. To assess the significance of the predictor variables, logistic regression relies on p-values associated with each coefficient. The p-value indicates the probability of observing a result as extreme as the one obtained, assuming that the null hypothesis is true. The significance of a variable is typically determined by comparing its p-value to a chosen significance level (commonly 0.05). If the p-value is less than the significance level, the null hypothesis is rejected, suggesting that the variable is statistically significant in predicting the outcome.

E) Linear Regression Analysis:

Linear regression analysis is a statistical technique employed for modeling and scrutinizing the correlation between a dependent variable and one or more independent variables. It explores the manner in which alterations in the independent variables correspond to changes in the dependent variable. Through this analysis, a linear equation is computed to optimally forecast the value of the dependent variable contingent on the independent variables, offering a comprehensive understanding of the intensity and orientation of the connections between these variables.

F) Ordinal Regression Analysis:

Ordinal regression is a statistical method designed for analyzing relationships between ordinal variables, which are categorical variables with ordered levels or categories. Unlike linear regression, which is suitable for continuous and interval-level dependent variables, ordinal regression is particularly well-suited for situations where the outcome variable is ordinal in nature.

CHAPTER 4: ANALYSIS & RESULT

Analysis & result: Following the collection of survey responses, we organized our data within MS-Excel. Utilizing both SPSS tool functionalities and MS-Excel functions, we conducted mathematical operations to achieve the desired outcomes.

4.1. Demographic Profile of Participants

Table 4.1.1 Test Result of Demographic Profile

Variable	Categories	Frequency	Percent
Gender	Male	179	77.5
	Female	52	22.5
Current Academic Level at University	1st year	72	31.2
	2nd year	59	25.5
	3rd year	34	14.7
	4th year	66	28.6
Live With Parents	Yes	73	31.6
	No	158	68.4
Living Arrangement	Mess	90	52.6
	Hall	49	28.7
	With Relative	13	7.6
	Alone	19	11.1

Table 4.1 shows that, the survey included 231 people from several Universities students of Bangladesh. The data enclose variables such as gender, current academic level at the university, living arrangements, and the participants' residential status, the majority of participants identified as male, constituting 77.5% of the sample, while females accounted for 22.5%. The distribution across academic levels revealed that a notable portion of participants were in their fourth year (28.6%), followed by those in the first year (31.2%), second year (25.5%), and third year (14.7%). A significant proportion of participants reported living with their parents (31.6%), whereas 68.4% indicated living independently. In terms of living arrangements, more than half reside in a mess (52.6%), followed by halls (28.7%), with relatives (7.6%), and living alone (11.1%).

4.2. Gaming Intentions of Male & Female Students of University

Table 4.2.1: Frequency of Gaming Intentions of Male & Female Students

Categories	Male(Valid Percent)	Female(Valid Percent)
For relaxation and stress relief	45.5	42.3
To spend leisure time	43.8	38.5
For earning money	3.4	0.0
To socialize and connect with friends	9.0	1.9
To compete and test my skills against others	13.5	7.7
No Intention	21.3	38.5

Table 4.2.1 reveals that a significant proportion of both male and female participants engage in mobile gaming for relaxation and stress relief, with 45.5% and 42.3% respectively indicating this as their primary motivation. Additionally, a substantial number of respondents, 43.8% of males and 38.5% of females, reported playing games to spend leisure time. Interestingly, a small percentage of participants, specifically 3.4% of males, expressed the motivation to play for earning money. Social interaction was another notable factor, with 9.0% of males and 1.9% of females highlighting their intention to use mobile games as a means to socialize and connect with friends. Furthermore, a notable proportion of participants, 13.5% of males and 7.7% of females, engage in mobile gaming to compete and test their skills against others. Intriguingly, a significant subset, 21.3% of males and 38.5% of females, reported no specific intention behind their video game usage.

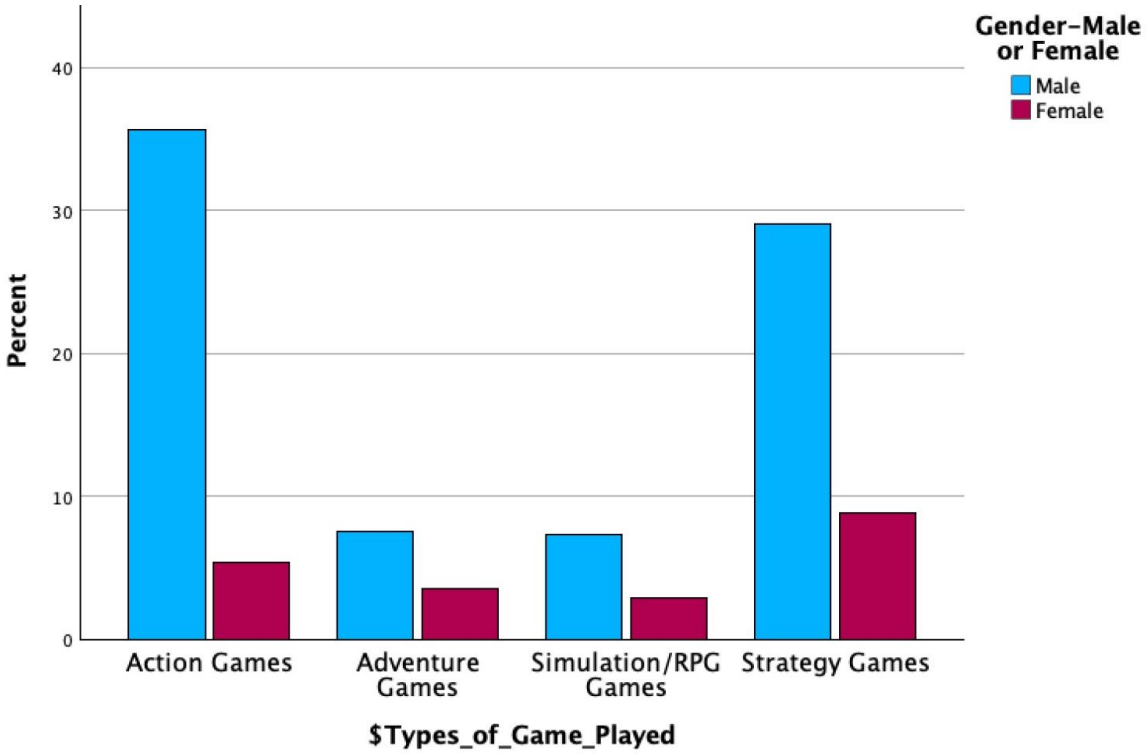

Figure 4.1.1: Gaming Preferences of Male & Female Students of University

Figure 4.1.1 presented above provides a comprehensive overview of the types of games played by individuals categorized by gender, with a particular emphasis on Action, Adventure, Strategy, and Simulation/RPG games. Analyzing the distribution of game preferences within each gender group reveals intriguing patterns. Action games are notably popular among males, constituting accounts for 35.65% of male participants. In contrast, females show a lower preference for Action games, representing 5.36%. Adventure games also exhibit gender-based variations, with 7.57% of males and 3.47% of females expressing a penchant for this genre. Strategy games, on the other hand, with 7.26% of males and 2.84% of females engaging in this category. The Simulation/RPG genre garners interest from 29.02% of males and 8.83% of females within the sample.

4.3: Exploring Correlations: Academic Performance, Gaming Habits, Study Times, and Sleep Duration in University Students

Table 4.3.1: Exploring Correlations Analysis

Variable	Grade Point	Gaming Time	Study Time	Average Sleep Time
Grade Point	1	-.101	.414	.173
Gaming Time	-0.020	1	.127	.107
Study Time	.414	.127	1	.286
Average Sleep Time	.373	.307	.486	1

Table 4.3.1 explores the relationships between Grade Point, Gaming Time, Study Time, and Average Sleep Time among University students of Bangladesh. Starting with Grade Point, it shows a significant negative correlation with Gaming Time (-.101), indicating that as gaming time increases, there is a slight decrease in academic performance. In contrast, Grade Point demonstrates a positive correlation with Study Time (.414), suggesting that dedicating more time to studying is associated with higher academic achievement. There is a moderate positive correlation between Study Time and Average Sleep Time (.286), suggesting that individuals who allocate more time to studying tend to have slightly longer sleep durations. Examining Gaming Time, it exhibits a negative correlation with both Grade Point (-.020) and Study Time (.127). While the correlation with Grade Point is relatively weak, the negative association implies that increased gaming time is marginally linked to lower academic performance. The positive correlation with Study Time suggests that individuals who spend more time gaming also tend to invest more time in their studies. Moreover, Average Sleep Time displays positive correlations with both Grade Point (.373) and Study Time (.486). These findings imply that individuals with higher academic performance and those who dedicate more time to studying tend to have longer average sleep durations.

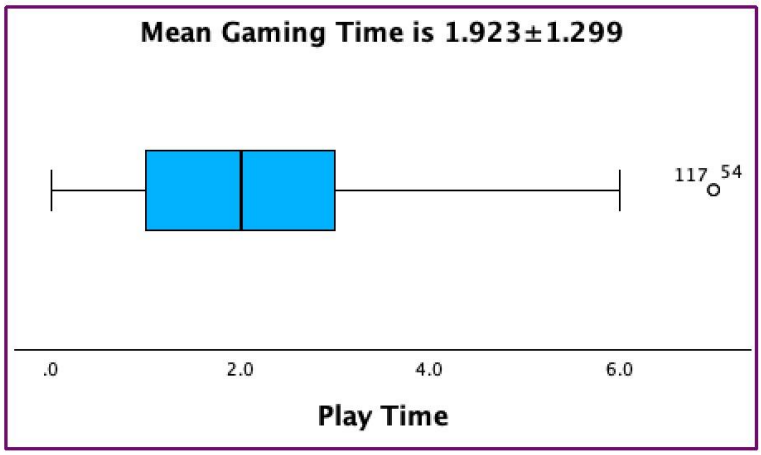

Figure 4.1.2: Average Gaming Time of University Students

4.4: Proficiency Levels received from students playing video games

Table 4.4.1: Frequency Analysis Chart

Variable	Always (Valid %)	Often (Valid %)	Sometimes (Valid %)	Rarely (Valid %)	Never (Valid %)
Study Periods Allocation	22.5	28.6	38.1	6.1	4.8
Time Management Challenges	9.1	15.6	29.0	15.6	30.7
Assignment Challenges	9.5	13.9	25.1	21.2	30.3
Engagement in Social Activities	17.0	35.2	36.5	5.7	5.7
Feelings of Loneliness	11.3	26.5	36.1	14.3	11.7
Gender Bias in Gaming	11.7	21.2	31.6	16.9	18.6
Screen Time Priority	10.4	23.8	40.7	14.7	10.4
Physical Health Issues	8.7	22.9	29.9	22.1	16.5

Proactive Steps to Balance Gaming	10.0	21.6	32.5	13.0	22.9
Lose Track of Time	7.4	19.9	36.4	19.0	17.3
Avoid Late-Night Gaming Rule	24.7	26.4	31.6	10.8	6.5
Voluntary Break From Gaming	22.9	23.4	34.6	11.7	7.4

Table 4.4.1 shows variables among university students in Bangladesh reveals insightful patterns. In terms of Study Periods Allocation, a substantial portion (38.1%) sometimes allocates study periods, while a notable 28.6% often do so. Time Management Challenges are prevalent, with 29.0% sometimes facing challenges and 30.7% experiencing them frequently. Engagement in Social Activities is common, with 35.2% often participating. Feelings of Loneliness affect a significant portion, with 36.1% sometimes experiencing loneliness. Gender Bias in Gaming is notable, as 31.6% sometimes perceive bias. Screen Time Priority is high, with 40.7% sometimes prioritizing screen time. Physical Health Issues are reported by 29.9%, with 22.9% frequently facing them. Proactive Steps to Balance Gaming are taken by 32.5% sometimes and 22.9% frequently. Losing Track of Time is a common challenge, impacting 36.4% sometimes and 17.3% frequently. Students often avoid Late-Night Gaming, with 24.7% always adhering to the rule. Voluntary Breaks from Gaming are common, with 34.6% sometimes taking breaks.

4.5: Report of making new friends through online gaming

Table 4.5.1**:** Report of making new friends through online gaming

Category	Made New Friends Through Online Gaming(Valid Percent)
Yes, Many Friends	24.7
Some Friends	34.6
A Few Acquaintances	13.0
No New Friends	27.7

Table 4.5.1 indicates that a significant portion of participants reported making new friends through online gaming. Among the respondents, 24.7% stated that they made many new

friends, while 34.6% indicated making some friends. Additionally, 13.0% reported having a few acquaintances as a result of online gaming. Notably, 27.7% of participants mentioned that they did not make new friends through online gaming. These findings suggest a diverse range of social outcomes associated with online gaming, with a substantial number of individuals forming various degrees of social connections through this medium. The results highlight the social potential and impact of online gaming on individuals' social networks, underscoring its role as a platform for building connections and relationships.

4.6: Impact of Gaming Time on Student Behavior and Challenges

Table 4.6.1: Logistic Analysis Result

Variable	Category	sig.	Exp(B)	95.0% Confidence Interval for B	
Frequency of Playing				Lower Bound	Upper Bound
	Play Frequency(1)	<0.001	9.75	3.78	25.12
	Play Frequency(2)	.214	1.86	.699	4.967
	Play Frequency(3)	.750	.750	.128	4.403
	Play Frequency(4)	.431	1.51	.539	4.254
Skip Class For Gaming	Skip Class(1)	.326	1.82	.550	6.05
	Skip Class (2)	<0.001	4.38	2.05	9.35
	Skip Class (3)	.072	1.92	.945	3.89
Skipping Social Event For Gaming	Skip Social Event(1)	.345	1.64	.586	4.611
	Skip Social Event(2)	.569	1.35	.484	3.74
	Skip Social Event(3)	.077	.429	.168	1.09
Gaming Habit Quality	Gaming Habit (1)	.051	8.96	.988	81.20
	Gaming Habit (2)	.120	2.12	.823	5.45
	Gaming Habit (3)	<0.001	2.95	1.55	5.63
	Gaming Habit (4)	.015	2.81	1.22	6.49

Time Management Challenges	Time Management(1)	.054	2.733	.983	7.59
	Time Management(2)	.019	2.733	1.18	6.32
	Time Management(3)	.006	2.614	1.311	5.21
	Time Management(4)	.541	.772	.338	1.76
Assignment Challenges	Assignment Challenges(1)	.013	3.626	1.31	10.05
	Assignment Challenges(2)	.019	2.821	1.19	6.69
	Assignment Challenges(3)	.002	3.215	1.55	6.65
	Assignment Challenges(4)	.086	1.913	.911	4.016

Table 4.6.1 unveils significant associations between various gaming-related variables and academic behaviors among participants. The frequency of playing exhibits a substantial impact, with a significant likelihood ($p < 0.001$, Exp(B) = 9.75) of higher academic risk for those who play more frequently. Skipping class for gaming also reveals a strong connection, particularly for the most severe category (Skip Class (2), $p < 0.001$, Exp(B) = 4.38), indicating a significantly increased risk of skipping classes among those with a higher frequency of such behavior. Skipping social events for gaming shows a noteworthy association as well, particularly in the moderate category (Skip Social Event(2), $p = 0.569$, Exp(B) = 1.35). The quality of gaming habits significantly impacts academic behavior, with a higher risk associated with the most severe category (Gaming Habit (3), $p < 0.001$, Exp(B) = 2.95). Time management challenges and assignment challenges also demonstrate significant relationships with academic risk, particularly in the higher severity categories. Interestingly, increased study time is associated with a decreased risk of academic challenges ($p < 0.001$, Exp(B) = 4.56). These findings underscore the intricate interplay between gaming habits, time management, and academic performance, providing valuable insights for targeted interventions and support strategies.

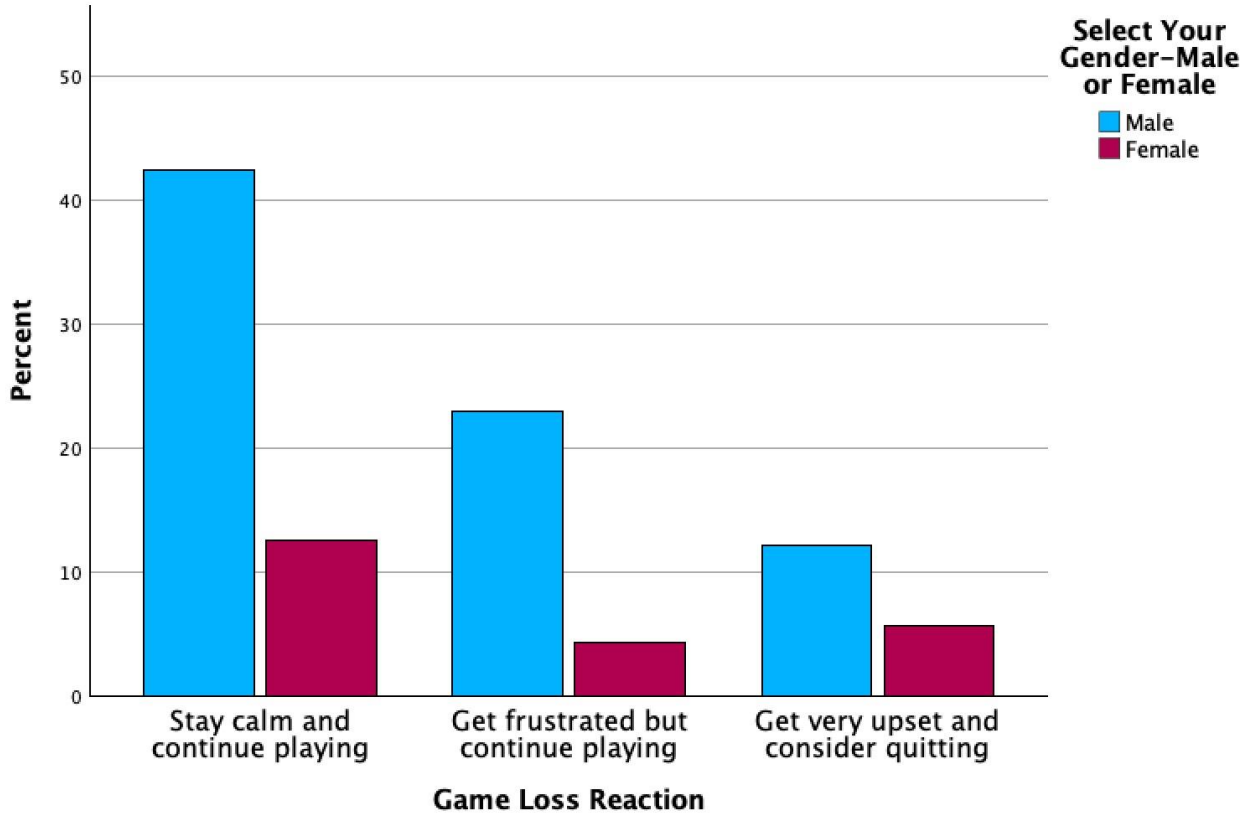

Figure 4.1.3: Count of Game Loss Reaction by Gender-Male or Female

Figure 4.1.3 shows clear differences in emotional responses between male and female gamers. A significant 42.42% of males stay calm during gameplay, while only 12.55% of females do the same. Moreover, 22.94% of males get frustrated but continue playing, compared to 4.33% of females. Interestingly, 12.12% of males consider quitting when very upset, while only 5.63% of females report a similar reaction. These findings highlight distinct emotional patterns, providing valuable insights for developing targeted support for gamers based on their gender-specific needs.

4.7: Perceived Impact of Gaming Activities on Various Aspects

Table 4.7.1: Perceived Impact of Gaming Activities on Various Aspects

Variable	No Noticeable Impact(Valid %)	Minimal Impact (Valid %)	Moderate Impact(Valid %)	Noticeable Impact (Valid %)	Significant Impact(Valid %)	Negative Impact (Valid %)
Sleep Quality Impact	19.5	27.3	28.6	11.7	6.9	6.1
Late Night Gaming Impact	14.7	26.0	32.5	13.0	5.2	8.7
Social Life Balance with Gaming Activity	24.2	30.3	27.3	10.8	2.6	4.8
Face to Face vs. Online Interactions	22.1	29.9	26.8	11.3	4.3	5.6

Table 4.7.1 revealed distinct patterns in respondents' perceptions. Regarding sleep quality, a considerable proportion (28.6%) reported a moderate impact, while late-night gaming activities exhibited a notable influence, with 32.5% indicating a moderate impact. Social life balance in relation to gaming showed a diverse range of impacts, with the majority (30.3%) perceiving minimal effects. The dynamics of face-to-face versus online interactions demonstrated a balanced distribution across impact categories, with 29.9% reporting minimal impact.

4.8: Impact of Gaming Time on Students Academic performance

Table 4.8.1**:** Impact of Gaming Time on Students Academic performance

Variable	Category	sig	Exp(B)	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
CGPA	CGPA	.216	.719	.426	1.213
Study Time	Study Time	<0.001	4.56	2.83	7.335
Academic Engagement	Academic Engagement(1)	.278	1.59	.838	3.015
	Academic Engagement(2)	.156	1.83	.766	4.36
	Academic Engagement(3)	.174	1.33	.472	3.766
	Academic Engagement(4)	.588	.503	.141	1.801
Rate Overall Academic Performance	Academic Performance(1)	.527	1.545	.401	5.958
	Academic Performance(2)	.837	1.126	.363	3.496
	Academic Performance(3)	.670	1.268	.426	3.776
	Academic Performance(4)	.023	14.06	1.434	137.9

Table 4.8.1 investigated the impact of gaming time on students' academic performance. Study time emerged as a significant predictor ($p < 0.001$), indicating that increased study time raised the odds of academic performance being affected (Exp(B) = 4.56, 95% CI: 2.83 to 7.335). Notably, the variable "Rate Overall Academic Performance" revealed a significant impact for the highest category (Academic Performance (4)) ($p = 0.023$), with students rating their overall performance higher having substantially increased odds

(Exp(B) = 14.06, 95% CI: 1.434 to 137.9). Other variables, such as CGPA and specific aspects of academic engagement, did not show a statistically significant impact. These findings provide concise insights into the complex relationship between gaming time and academic performance among students

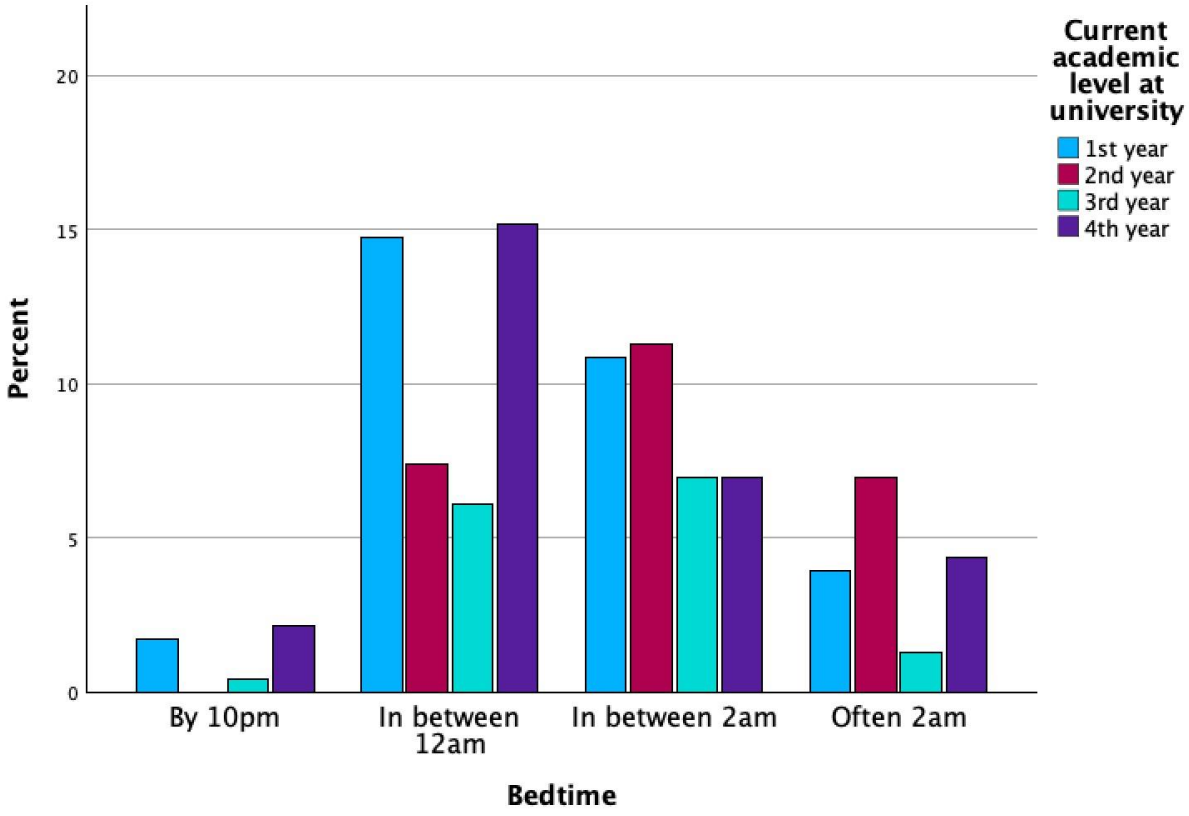

Figure 4.1.4: Students' sleep patterns across different academic years

Figure 4.1.4 shows students' sleep patterns across different academic years reveals interesting insights. Notably, a majority of 1st-year students (14.72%) and 4th-year students (15.15%) reported being awake in between 12 am and 2 am, suggesting a tendency for late-night activities. Additionally, a considerable percentage of 2nd-year students (11.26%) and 4th-year students (6.93%) reported being awake often at 2 am. On the other hand, 3rd-year students exhibited a more varied distribution, with a notable proportion (6.06%) reporting being awake in between 12 am and 2 am. These findings highlight varying sleep patterns among students across different academic years, emphasizing the need for targeted interventions and support services to promote healthier sleep habits and overall well-being throughout the academic journey.

4.9: Analyzing Predictors of Gaming Addiction

Table 4.9.1: Predictors Result of Gaming Addiction

Variable	Unstandardized Coefficients	sig	95.0% Confidence Interval for B		Collinearity Statistics	
	B		Lower Bound	Upper Bound	Tolerance	VIF
Rate Overall Academic Performance	-0.001	.974	-0.62	.060	.934	1.071
Proactive Steps to Balance Gaming	.066	.005	.020	.112	.934	1.071

Table 4.9.1 demonstrated a significant constant term ($B = 1.520$, $p < 0.001$), indicating the estimated level of gaming addiction when both predictors are zero. However, the individual coefficients for the predictors yielded notable findings. "Rate overall academic performance" exhibited a non-significant negative association with gaming addiction ($B = -0.001$, $p = 0.974$), suggesting that variations in academic performance did not significantly contribute to changes in gaming addiction levels. Conversely, "Proactive Steps to Balance Gaming" showed a significant positive association with gaming addiction ($B = 0.066$, $p = 0.005$), implying that individuals who reported taking more proactive measures to balance their gaming activities also tended to have higher levels of gaming addiction. The confidence intervals for both coefficients provided additional insight into the precision of these estimates. The collinearity statistics indicated no severe multicollinearity issues.

4.10: Effect of Gaming On students Sleep Patterns

Table 4.10.1: Effect of Gaming On students Sleep Patterns

Variable	Category	sig	Exp(B)	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Bedtime	Bedtime(1)	.295	2.182	.507	9.394
	Bedtime(2)	.232	2.490	.557	11.132
	Bedtime(3)	.163	3.064	.636	14.76
Avg. Sleep on Academic Night	Avg. Sleep on Academic Night	.772	.914	.500	1.674
Sleep Quality Impact	Sleep Quality Impact(1)	.092	1.074	.219	5.27
	Sleep Quality Impact(2)	.004	1.59	.322	7.84
	Sleep Quality Impact(3)	.527	1.65	.349	7.82
	Sleep Quality Impact(4)	.032	.963	.198	4.69
	Sleep Quality Impact(5)	-.227	.325	.053	2.00
Late Night Gaming Impact on University	Late Night Gaming(1)	.983	.984	.230	4.22
	Late Night Gaming(2)	.699	1.320	.324	5.37
	Late Night Gaming(3)	.618	1.403	.371	5.31
	Late Night Gaming(4)	.033	4.79	1.132	20.31
	Late Night Gaming(5)	.272	2.73	.455	16.37

Table 4.10.1 illuminate the impact of various sleep-related variables on the odds of the dependent variable, gaming time. Concerning "Bedtime," the odds ratios (Exp(B)) for categories 1, 2, and 3 were 2.182, 2.490, and 3.064, respectively, indicating that as bedtime categories progressed, there was an increase in the odds of the studied outcome. However, these effects were not statistically significant. "Avg. Sleep on Academic Night" exhibited a non-significant odds ratio of 0.914, suggesting that variations in average sleep on academic nights did not significantly influence the odds of gaming time. In terms of "Sleep Quality Impact," category 2 showed a significant increase in odds (Exp(B) = 1.59, p =

0.004), while category 4 had a significant decrease in odds (Exp(B) = 0.963, p = 0.032). For "Late Night Gaming Impact on University," categories 4 and 5 displayed significant odds ratios of 4.79 and 2.73, respectively, indicating a substantial increase in the odds of higher gaming time.

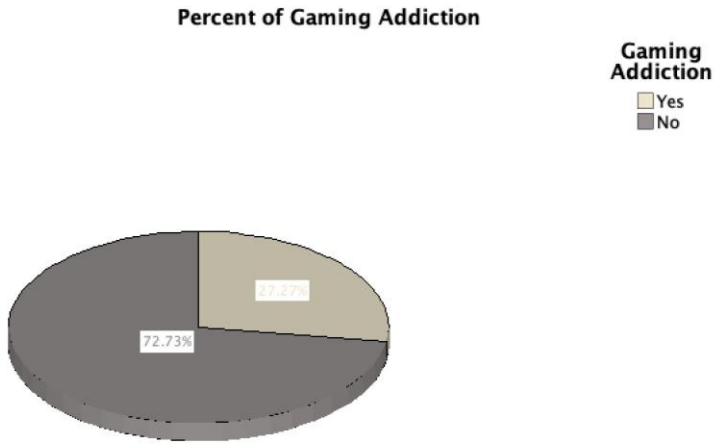

Figure 4.1.5: Percent of Gaming Addiction among University Students

Gaming addiction can affect both male and female students, although patterns and reasons may vary. In some cases, males and females may experience gaming addiction similarly, while in others, differences may emerge. Figure 4.1.5 revealing that 27.27% of the participants acknowledged experiencing gaming addiction, while the majority, comprising 72.73%, reported not being affected by such concerns.

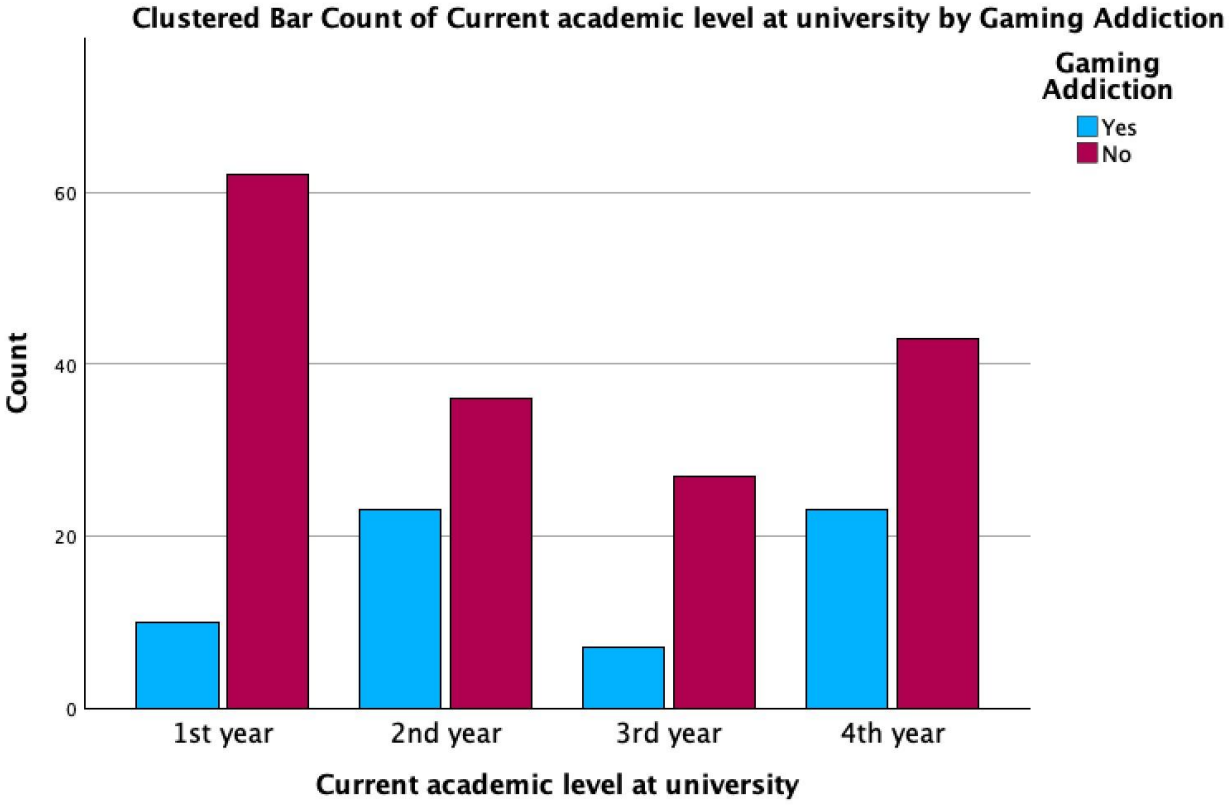

Figure 4.2.5: Gaming Addiction among University Students Academic Level

Figure 4.2.5 shows gaming addiction prevalence across different academic years yielded intriguing insights. Among 1st-year students, 10 individuals (4.33%) acknowledged experiencing gaming addiction, while 62 students (26.84%) reported not exhibiting such concerns. Moving to the 2nd year, 23 students (9.96%) admitted to gaming addiction, while 36 students (15.58%) did not manifest such tendencies. In the 3rd year, 7 students (3.03%) acknowledged gaming addiction, with 27 students (11.69%) reporting no such issues. Among 4th-year students, 23 individuals (9.96%) admitted to gaming addiction, while 43 students (18.61%) did not demonstrate such behaviors. Analyzing the data, it is evident that the prevalence of gaming addiction varies across academic years. Notably, the 2nd and 4th years exhibit higher percentages of students admitting to gaming addiction compared to the 1st and 3rd years. These findings suggest a potential correlation between academic progression and the likelihood of experiencing gaming addiction.

4.11: Impact of Gaming in Cognitive skill

Table 4.11.1: Impact of Gaming in Cognitive skill

	Variable	Category	Estimate	sig	95.0% Confidence Interval for B	
					Lower Bound	Upper Bound
Threshold	Multitasking Impact	Multitasking Impact(1)	-2.392	<0.001	-3.137	-1.65
		Multitasking Impact(2)	-.672	.057	-1.36	.019
		Multitasking Impact(3)	1.357	<0.001	.634	2.081
		Multitasking Impact(4)	2.75	<0.001	1.769	3.732
Location	Frequently playing Online Game	Frequently playing(1)	-1.15	.004	-1.926	-.377
		Frequently playing(2)	-838	.050	-1.67	.001
		Frequently playing(3)	-1.47	.037	-2.85	-.086
		Frequently playing(4)	-1.16	.010	-2.04	-.275

Table 4.11.1 for the variable "multitasking_impact_35," Category 1 exhibited a substantial negative impact on the dependent variable, with an estimate of -2.392 ($p < 0.001$). This suggests that individuals falling into this category are associated with a significantly lower likelihood of the observed outcome. Conversely, Category 3 demonstrated a positive impact with an estimate of 1.357 ($p < 0.001$), indicating a higher likelihood of the outcome for individuals in this category. Category 2, though displaying a negative impact of -0.672, showed a slightly less pronounced effect ($p = 0.057$). Category 4, with a positive impact of 2.750 ($p < 0.001$), had a substantial influence on increasing the likelihood of the outcome. In terms of the variable "Frequently_Play_Game_9," Categories 1, 2, and 3 exhibited negative impacts with estimates of -1.151 ($p = 0.004$), -0.838 ($p = 0.050$), and -1.469 ($p = 0.037$), respectively. These negative impacts suggest a decreased likelihood of the outcome for individuals in these gaming frequency categories. Category 4 also displayed a negative impact, though with a slightly lower significance level (estimate = -1.160, $p = 0.010$), indicating a notable influence on reducing the likelihood of the observed outcome.

CHAPTER 5: DISCUSSION

5. DISCUSSION

5.1 Result Interpretation

The study's comprehensive analysis of demographic profiles, academic performance characteristics, sleep pattern, gaming time, and the impact of gaming on academic performance and their social life. The findings revealed a slight negative correlation between gaming time and academic performance, indicating that increased gaming time is marginally associated with lower academic performance. Conversely, a positive correlation exists between study time and academic performance, implying that dedicating more time to studying is linked to higher academic achievement. The result demonstrates that increased study time is associated with higher academic performance. Additionally, students who rate their overall academic performance higher have substantially increased odds of spending more time studying. Proactive steps to balance gaming are positively associated with gaming addiction levels.

5.2 Theoretical Contributions

The data acquired provides unique insights into the various factors that shape student gaming habits and academic performance. The study advances our understanding of gaming motivations and preferences, revealing nuanced patterns among different genders and academic levels. By identifying gender-specific emotional responses to gaming, the research adds depth to the psychological aspects of gaming experiences. Additionally, the investigation into multitasking behaviors and gaming frequency unveils their impact on academic engagement, contributing to the broader discourse on the intricate relationship between technology use and academic performance. The exploration of the social outcomes associated with online gaming provides insights into the role of gaming in shaping social networks among students. Moreover, the temporal patterns in gaming addiction prevalence across academic years highlight a potential correlation between academic progression and the likelihood of experiencing gaming addiction. Lastly, the analysis of the impact of multitasking behaviors on the likelihood of observed outcomes contributes theoretically by uncovering associations between specific multitasking categories and their effects, offering valuable insights into the consequences of diverse multitasking patterns. Collectively, these theoretical contributions not only expand our knowledge of gaming behaviors but also provide a foundation for future research in this evolving field.

5.3 Summery

This study explores the complex relationship between online gaming habits, academic performance, and overall well-being among university students in Bangladesh. The study involves a comprehensive analysis of demographic profiles, academic characteristics, sleep patterns, gaming time, and the impact of gaming on academic performance. Key findings include a slight negative correlation between gaming time and academic performance, emphasizing that increased gaming time is marginally associated with lower academic achievement. Conversely, a positive correlation exists between study time and academic performance, indicating that dedicating more time to studying is linked to higher academic achievement. The study also delves into emotional responses, social outcomes, and the prevalence of gaming addiction across different academic years. Theoretical contributions include insights into gaming motivations, gender-specific emotional responses, multitasking behaviors, and gaming frequency. While the research provides valuable insights, limitations include a sample predominantly from Bangladesh and the cross-sectional nature of the study. Future work could explore changes in gaming habits over time, specific gaming genres, and diverse samples to enhance generalizability.

CHAPTER 6: CONCLUSION

6.1 Conclusion

This research has investigated the intricate interplay between online gaming habits, academic performance, and overall well-being among university students in Bangladesh. Through a thorough analysis of demographic profiles, academic characteristics, and gaming patterns, the study has provided valuable insights into the relationships that exist within this complex dynamic. The findings highlight diverse motivations for gaming, gender-specific emotional responses, and the impact of multitasking and gaming frequency on academic engagement.

6.2 Limitations

Despite the valuable insights gained from this research, it is crucial to acknowledge several limitations that may impact the interpretation and generalizability of the findings. The sample predominantly comprises university students from Bangladesh, limiting the generalizability of the findings to broader populations. The cross-sectional nature of the study design poses challenges in establishing causality and capturing the dynamic nature of gaming habits over time. Furthermore, the study's focus on online gaming may not fully represent the diverse landscape of gaming platforms and genres. The study does not delve into potential changes in gaming habits over time, an aspect that could be essential in capturing evolving trends. The rapidly evolving nature of technology and gaming trends may result in changes that affect the relevance of the findings over time. Recognizing these limitations is crucial for a nuanced interpretation of the research outcomes and provides a foundation for refining methodologies in future studies.

6.3 Future work

The insights gained from this research, there are several avenues for future work that could deepen our understanding of the complex interrelationships between gaming behaviors and various aspects of students' lives. Firstly, extended investigation would enable researchers to track changes in gaming habits and academic performance over an extended period, providing a more comprehensive understanding of the causal relationships and temporal dynamics involved. Future research could also delve deeper into specific gaming genres, platforms, or immersive technologies to uncover nuanced patterns and impacts on academic and social aspects. Additionally, expanding the scope of the study to include a more diverse and representative sample, encompassing different cultures, age groups, and socioeconomic backgrounds, would enhance the generalizability of findings. Exploring specific types of games or technologies could also give us more detailed information. Understanding how mental health, support from friends, and cultural differences play a role in gaming habits would add more depth to our knowledge. Lastly, because technology is always changing, it would be interesting to look into new trends in gaming and how they impact students' lives.

REFERENCES

[1] Savic Tot, Tijana, et al. "The impact of time devoted to video games on student achievement." Education and Information Technologies 28.5 (2022): 5921-5944.

[2] Slobodan Adzic, Jarrah Al-Mansour, Hasnain Naqvi, Slobodan Stambolic,The impact of video games on Students' educational outcomes,Entertainment Computing,Volume 38,(2021): 100412,ISSN 1875-9521.

[3] Simachyova, Valeriya. "Video-Gaming and Adolescent Academic Performance." (2020).

[4] Bondoc, Bren C. "Relationship of online Gaming addiction and study skills and habits of College Students." International Journal of English Literature and Social Sciences (IJELS) 5.2 (2020).

[5] Gnambs, T., Stasielowicz, L., Wolter, I., & Appel, M. (2020). Do computer games jeopardize educational outcomes? A prospective study on gaming times and academic achievement. Psychology of Popular Media, 9(1), 69–82.

[6] Akçay, Duygu, and Bülent Devrim Akçay. "The effect of computer game playing habits of university students on their sleep states." Perspectives in Psychiatric Care 56.4 (2020).

[7] Stevanović, Dejan, et al. "Assessing the symptoms of Internet Gaming Disorder among college/university students: An international validation study of a self-report." Psihologija 53.1 (2020): 43-63.

[8] Chen, Xinru. "The relationship between video games, problem-solving skills, and academic performance from IT students' perspective." (2019).

[9] Foulkes, Lucy, Dean McMillan, and Alice M. Gregory. "A bad night's sleep on campus: an interview study of first-year university students with poor sleep quality." Sleep Health 5.3 (2019): 280-287.

[10] Costa, Liliana Vale, et al. "Games for active ageing, well-being and quality of life: a pilot study." Behaviour & Information Technology 37.8 (2018): 842-854.

[11] Peracchia, Sara, and Giuseppe Curcio. "Exposure to video games: effects on sleep and on post-sleep cognitive abilities. A sistematic review of experimental evidences." Sleep Science 11.4 (2018): 302.

[12] B. Manero, J. Torrente, C. Fernández-Vara and B. Fernández-Manjón, "Investigating the Impact of Gaming Habits, Gender, and Age on the Effectiveness of an Educational Video Game: An Exploratory Study," in IEEE Transactions on Learning Technologies, vol. 10, no. 2, pp. 236-246, 1 April-June (2017).

[13] Alzahrani, A.I., Mahmud, I., Ramayah, T., Alfarraj, O., Alalwan, N., Extending the Theory of Planned Behavior (TPB) to Explain Online Game

Playing among Malaysian Undergraduate Students, Telematics and Informatics (2016).

[14] G. Arockiyasamy; G. Arockiyasamy and Sujeevan Kumar Bullard, (2016), The influence of playing video games on academic performance among graduates of Karunya University, Journal of Advances in Humanities and Social Sciences, 2, (3), 119-132.

[15] Osuagwu, T. Excessive Game-Playing and Children's Academic Performance in Port Harcourt, Nigeria. GSTF J Media Commun 2, 18 (2015)

[16] Nasution, A., M. Ashraff, and M. Fathil. "A Study on the Relationship between Video Games and Student's Academic Performance in IIUM." International Journal of Computer Science and Information Technology Research 3.4 (2015): 106-111.

[17] Ferguson, C. J. (2015). Do Angry Birds Make for Angry Children? A Meta-Analysis of Video Game Influences on Children's and Adolescents' Aggression, Mental Health, Prosocial Behavior, and Academic Performance. Perspectives on Psychological Science, 10(5), 646–666.

[18] Prot, Sara, et al. "The positive and negative effects of video game play." Media and the well-being of children and adolescents 109 (2014): 2010-2014.

[19] Hamlen, Karla R. "Video game strategies as predictors of academic achievement." Journal of Educational Computing Research 50.2 (2014): 271-284.

[20] Wright, Jancee (2011) "The effects of video game play on academic performance," Modern Psychological Studies: Vol. 17 : No. 1 , Article 6.

[21] Gentile, Douglas A., et al. "Pathological video game use among youths: A two-year longitudinal study." Pediatrics 127.2 (2011): e319-e329.