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Video Game Engagement and Academic Performance: A Correlation Analysis Approach

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ABSTRACT

Playing video games is a popular leisure activity among adolescents and youths. People's motivations for playing video games, as well as the potential benefits and drawbacks, are an issue of continual debate. Some researchers believed that playing video games negatively impacted academic achievement among students. Consequently, the purpose of this analytical paper is to identify the link between the academic performance of UiTM Pahang Branch, Jengka Campus students and the amount of time they devote to video games. A survey was distributed online in order to collect information regarding the amount of time students spend playing video games and their academic performance. The sample for the study was comprised of 103 students from UiTM Jengka, Pahang, who were chosen at random. This study indicates that there is a statistically significant correlation between the amount of time students spend playing video games and their academic performance at UiTM Jengka, Pahang. The findings reveal that gaming time accounts for 3.72 percent of the total variation in academic achievement, while the remaining 96.28 percent can be attributed to other variables. Moreover, the outcomes show that students who play video games have substantially lower CGPAs compared to students who don't engage in video games. In order to reduce the prevalence of online gaming addiction in the future, this study suggests that awareness campaigns on the adverse consequences of online gaming should be strengthened.

KEYWORDS

Video game; academic performance; students; pearson correlation analysis; normality

INTRODUCTION

In recent years, video games have gained popularity as a form of entertainment, particularly among adolescents and college students. A video game is defined as the computational model software that requires players to respond to events occurring in a simulated world (Coller and Scott, 2009). As a result of technological advancements and the proliferation of gaming platforms, an increasing percentage of young people participate in this interactive medium. In this technologically advanced era, the video game industry has become a very profitable industry due to the growing demand in the gaming industry, which is primarily driven by teenagers.

According to Ruiz et al. (2013), young people and adolescents frequently spend their free time participating in the activity of playing video games. In accordance with a study conducted in the United States, at least 90 percent of households have children who have played (rented or owned) video games. The current level exhibits a persistent upward trend. In addition, the study revealed that 66% of internet players and 55% of console players are older than 18. Due to the absence of parental supervision and their more flexible schedules,

college students appear to be the main gaming population (Anand, 2007). Furthermore, a study conducted at Swansea University in the UK discovered that over 88% of the sample students engaged with gaming in some way, with over 71% of them being frequent players (Ip et al., 2008).

Computer and video recreations have been the subject of intense scrutiny in many controversial areas since their introduction as mass-produced products in the 1970s. Due to their growing popularity and the economic importance of the gambling industry (Aoyama and Izushi, 2003; Schilling, 2003), any negative findings related to gambling addiction (Fisher, 1994), epilepsy (Badinand -Hubert et al., 1998), aggression (Bensley and Van Eenwyk, 2001) and violent content (Kirsh, 2003; Anderson, 2004) all quickly gained attention. media, frequently leading to public condemnation of these games. Game addiction, for example, is defined as the challenging engagement of players in video games. A report from a study carried out in Saudi Arabia stated that 16% of university students became addicted to video games (Saquib et al., 2017).

Nevertheless, there has been an increase in recent years in the amount of research into the potential advantages of playing video games. The capacity to promote ICT skills while playing video games additionally acts as a further motivational factor for sports preparing and indeed formal instruction (Fery and Ponserre, 2001; Rosas et al., 2003). According to Kebritchi et al. (2010), engaging in extended periods of video game play has the potential to enhance visual-spatial abilities and mathematical proficiency. A study by Fergison and Garza (2011) claims that playing violent video games might improve prosocial abilities. Additionally, participating in video games has been found to have potential benefits for individuals in the field of mechanical engineering (Coller & Scott, 2009) as well as helping to improve attention skills (Dye et al., 2009).

Within the past few a long time, video recreations have risen as a noteworthy topic of concern among university students. Video games have commonly been perceived as having addictive and detrimental qualities, as expressed by parents and educators. There is a prevailing belief that video games are responsible for the declining academic performance and moral behaviour among students in both school and university settings. Several earlier studies have explored the association between a student's video game use and academic performance. For instance, a study by Anand (2007) found a negative relationship between students' review point normal (GPA) and Scholastic Aptitude Test (SAT) scores and the time they spent playing video games. In line with the findings of Anderson and Dill's (2007) study, it was noted that video games have the potential to elicit heightened levels of aggression, a phenomenon frequently associated with academic difficulties and decreased scholastic achievement. On the other hand, Jackson et al. (2008) found that playing video games was a negative indicator of scholastic performance. The information demonstrates a negative relationship between the sum of video amusement engagement and scholarly performance, with individuals who played video games regularly exhibiting lower grades compared to those who engaged in video games less frequently. Additionally, Wack and Tantleff-Dunn (2009) declared that there is an adverse association between playing video games and performing well in their education. However, the correlation pertaining to these matters is not statistically significant.

While some researchers have claimed a negative relationship exists between the sum of time went through playing video recreations and college understudies, other considers have found no such association (Creasey and Myers, 1986; Van Schie and Wiegman, 1997; Ferguson, 2011). A number of studies have indicated that engaging video games may potentially result in enhanced academic performance. For instance, Jackson et al. (2008) have posited that the utilisation of games is causally associated with an apparent

augmentation in visual-spatial abilities, which frequently prove beneficial in the domains of science, mathematics, technology, and engineering. Also, Smyth (2007) noted that complex games can encourage academic success by allowing players to use their creativity, critical thinking, and problem-solving skills. Furthermore, Skoric et al. (2009) discovered that moderate gaming participation could enhance academic performance. A positive correlation was observed between participation in gaming activities and performance on English test evaluations, indicating that there is a potential link between gaming and improved academic outcomes.

In spite of the various ponders conducted to look at the relationship between video diversions and understudy scholarly performance, there are still limitations in the existing literature. Indeed, a large number of earlier studies have been carried out in western nations, while only a few have been conducted in Malaysia. To examine the relationship between playing video games and academic achievement, previous studies have employed a variety of research methodologies. Examples of these include surveys, questionnaires, interviews, and analyses of academic records. As a result, more research into how video games affect academic performance is needed. The objective of this analytical paper is to examine the association between students' academic achievement and their engagement in video game activities at UiTM Pahang Branch, Jengka Campus.

RESEARCH METHODS

Data Collection

A preliminary descriptive study was conducted at the Jengka Campus of Universiti Teknologi MARA (UiTM), Pahang Branch. A representative sample of 103 students pursuing diplomas and degrees was chosen from a total of eight faculties and schools. These include the School of Wood Industry (29.8%), the School of Civil Engineering (3.8%), the School of Science (12.5%), the Faculty of Accountancy (9.6%), the Faculty of Sport Science and Recreation (13.5%), the Faculty of Business and Management (11.5%), the Faculty of Plantation and Argo-technology (11.5%), and the Faculty of Administrative Science and Policy Studies (7.7%). The findings of this study show that the majority of respondents, specifically 82.7%, are enrolled as diploma students, while a minority of 17.3% are pursuing a degree. Moreover, among the 103 participants, 56.3% identified as female and 43.7% identified as male. The age demographic of the participants falls within the age range of 18 to 22 years. The data was obtained by using an online survey given through validated questionnaires. The survey comprises three distinct sections, encompassing demographic characteristics, video game engagement patterns, and the academic achievement of students as measured by their total review point normal (CGPA).

Statistical Methods

Descriptive Statistics

The present study employs descriptive statistics to elucidate and provide a concise overview of the data's characteristics. This methodology yields a concise overview of the provided data sample and corresponding measurements, along with straightforward visual representations for any quantitative data analysis. Thus, in this study, descriptive analysis was used to profile the pattern of video game behaviour and academic performance (CGPA) among students. The graphical method of percentage (%) will be used when analysing categorical data, while numerical data will be assessed using measures such as mean, standard deviation, minimum value, maximum value, and skewness. Nevertheless, it is important to note that descriptive statistics alone are insufficient for making any definitive conclusions regarding the hypotheses contributed to the study (Cox and Hinkley, 1979).

According to Fisher and Marshall (2009), descriptive statistics serve the purpose of characterising the central tendency of a distribution of scores, commonly known as the measure of central tendency, as well as the dispersion or variance of the scores. Consequently, the analysis proceeds by conducting a correlation analysis.

Test on Normality of Data

Prior to performing the correlation analysis, it is essential to check the normality of the data used in this study, as the presence of normal data is a necessary condition for parametric testing. There exist several numerical methods that can be employed to assess the normality of data, such as the Kolmogorov-Smirnov, Shapiro-Wilk test, Anderson-Darling, skewness, and other techniques (Oztuna et al., 2006). In addition, it is possible to assess the normality of the data through graphical techniques. However, it is important to note that these methods are often considered unreliable and do not provide conclusive confirmation of normal distribution. Examples of such graphical methods include the Q-Q Plot (probability-probability plot), the Q-Q Plot (quantile-quantile plot), the histogram, the box-plot, and the stem-and-leaf plot (Altman and Bland, 1995). In this study, multiple statistical techniques will be used to assess the normality of the data. These methods involve the Kolmogorov-Smirnov test, the skewness and kurtosis test, the Q-Q Plot, and the histogram. A detailed explanation of the specific procedures for each of the methods is provided in the subsequent sections.

Kolmogorov Smirnov

This method is also referred to as KS statistics, which is a subclass of the supremum course of EDF insights. This statistical class depends on the maximal the longitudinal contrast between the hypothesized dissemination and the experimental dispersion (Conover, 1999).The test statistics, as proposed by AN (1933), for a set of *n* ordered data points, $x_1 < x_2 < \ldots < x_n$, can be expressed as follows.

$$T = sup_x|F^*(x) - F_n(x)| \quad (1)$$

where 'sup' alluded to supremum, which suggests the most prominent. In the interim, F^* (x) is the hypothesized distribution work, and F_n (x) is the EDF assessed based on the irregular test. For the Komlogorov-Smirnov test of typicality, F_n (x) is taken to be a ordinary distribution with a known cruel and standard deviation. The hypothesis for Komlogorov Smirnov test of normality is shown below.

$H_0: F(x) = F^*(x)$ for all x from $-\infty$ to ∞ [The data follow a specified distribution]
$H_1: F(x) \neq F^*(x)$ for at least one value of x [The data do not follow a specified distribution]

If T exceeds the 1-α quantile as given in the quantile table for the Kolmogorov Smirnov test statistic, then H_0 will be rejected at the α level of significance.

a) Skewness and Kurtosis

Skewness could be a degree of symmetry, or more particularly the nonattendance of symmetry within the ordinary distribution. A data distribution is considered to be symmetric when the skewness value is equal to zero. A positive skewness value denotes

an asymmetrical distribution where the right tail is more extended than the left tail. On the other hand, a negative skewness value shows that the conveyance includes a longer cleared out tail compared to the correct tail (Kim, 2013). Kurtosis could be a measurable degree that evaluates the degree to which the tails of a distribution deviate from those of a normal distribution. A positive value of kurtosis indicates the presence of heavy-tailed data. In contrast, a low value of kurtosis indicates that the data have a light tail. The tail heaviness or lightness is assessed relative to the normal distribution, showing whether the data distribution deviates towards a flatter or less flat shape compared to the normal distribution. The kurtosis value for a typical normal distribution should be 3.0 (Lord et al., 2021). One can perform a normality test using skewness and kurtosis, commonly referred to as the *z*-test, by calculating the *z*-score. The following formula can be used to calculate the *z*-score for both skewness and kurtosis (Kim, 2013).

$$Z_{\text{skewness}} = \frac{\text{Skew value}}{SE_{\text{skewness}}} \tag{2}$$

$$Z_{\text{kurtosis}} = \frac{\text{Excess kurtosis}}{SE_{\text{excess kurtosis}}} \tag{3}$$

The hypothesis statement for the z-tests for normality is written as follows:

H_0: The data follow a normal distribution
H_1: The data do not follow a normal distribution

The null hypothesis above, however, tends to be easily rejected in large samples with a distribution that may not significantly deviate from normality because standard errors get smaller as sample size increases. In contrast, it is observed that the null hypothesis of normality is more easily accepted within a small sample. Therefore, it is necessary to adjust the critical values for null hypothesis rejection based on the size of the sample. Since the sample size in this study is 103 and the sample size is between 50 and 300, as stated by Kim (2013), the null hypothesis should be rejected at a z-value greater than 3.29, which corresponds to an alpha level of 0.05. This will lead to the conclusion that the data distribution is not normal.

b) Q-Q Plot

The foremost commonly used and solid demonstrative apparatus for looking at the ordinariness of the information is the typical Q-Q plot, moreover known as the quantile-quantile plot. The Q-Q plot is a graphical representation constructed by displaying two sets of quantiles, namely the observed and expected values, in the form of a scatterplot. If the data are normally distributed, then the observed data are statistically equivalent to the expected data (Bartlett and Peat, 2014).

c) Histogram

A histogram is a visual representation used to assess the distributional characteristics of a dataset. It is a representation of the probability distribution of a continuous variable. The data are expected to be normally distributed if and only if the distribution curve has a bell shape that is roughly symmetrical about the mean (Armitage and Berry, 1987).

Correlation Analysis

Correlation analysis, commonly referred to as bivariate analysis, is extensively utilized across various academic disciplines. Researchers have developed a number of different types of correlation analysis to assess how strongly two variables are related. In this study, the Spearman rank correlation is used to identify the associations between the sum of time UiTM Jengka students spend playing video games and their academic performance. This method is applicable when dealing with non-normally dispersed ceaseless information, ordinal information or data containing relevant outliers (Schober et al., 2018). According to Liebrau (1983), the Spearman's rank correlation coefficient, abbreviated as ρ, can be calculated as follows.

$$\rho = \frac{\sum_{i=1}^{n}\left[\left(r(x_i) - r(\bar{x})\right)\left(r(y_i) - r(\bar{y})\right)\right]}{\sqrt{\sum_{i=1}^{n}\left(r(x_i) - r(\bar{x})\right)^2 \sum_{i=1}^{n}\left(r(y_i) - r(\bar{y})\right)^2}} \quad (4)$$

where $r(x_i)$ and $r(y_i)$ are the ranks of the observations in the sample. The $r(\bar{x})$ and $r(\bar{y})$ are represent as the average values of corresponding variables. In general, the range of values for a correlation coefficient is typically between -1 and $+1$. The monotonic relationship between two variables is weakened as ρ approaches 0 (Liebetrau, 1983). A value of zero indicates the absence of correlation. A positive value denotes a positive correlation, which means that as one of the variables increases, the other increases as well. A negative value, on the other hand, denotes a negative correlation, whereby as one variable increases, the other decreases (Gagne, 2014). Only statistically significant correlations should be considered, where the p-value is less than the significance level. The analysis was conducted using IBM SPSS Statistics 25 software. Factual noteworthiness was decided by considering p-values that were less than 0.05.

RESULTS AND DISCUSSION

Descriptive Statistics

Figure 1 presents a visual representation in the form of a pie chart, illustrating the distribution of study hours per day. According to the pie chart below, the majority of students (45%) spent 1 to 2 hours studying, while 33% spent more than 2 hours and 22% spent less than 1 hour. Additionally, Figure 2 displays the percentage of gameplay partners that students prefer when playing video games. Based on the data analysis, it can be observed that a majority of the students (51.9%) engage in solo gaming activities. Also, a significant proportion of students (42%) reported playing games with their friends, while a smaller percentage (1.9%) reported playing games with their siblings. Furthermore, a minority of students (5.8%) reported engaging in gaming activities with people other than friends or siblings. The present findings demonstrate similarities to the prior research conducted by Salmon et al. (2017), wherein it was observed that older people showed a preference for engaging in solo gameplay as opposed to participating in gaming activities with friends.

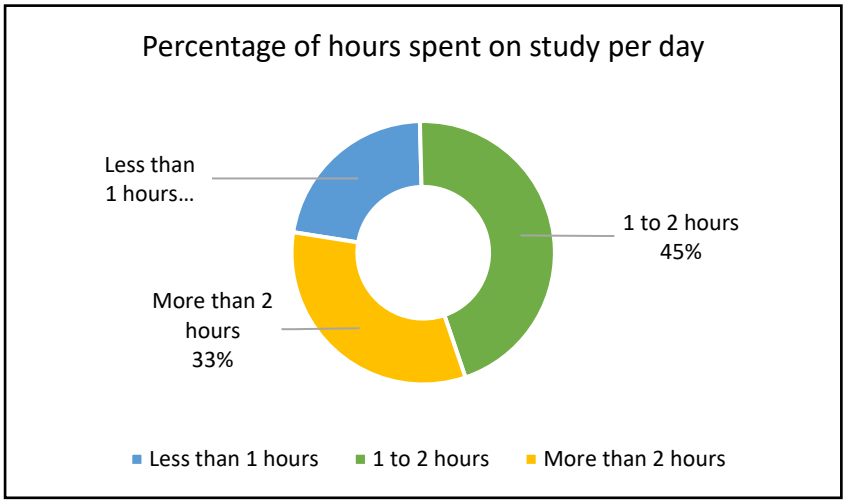

Figure 1. The percentage of hours spent on study per day

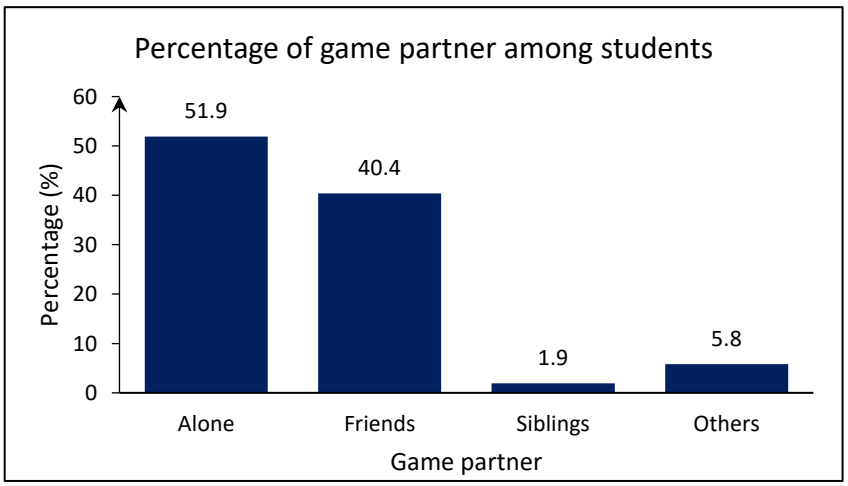

Figure 2. The percentage of game partner among students

Figure 3. illustrates a pie chart representing the allocation of cash made by students towards gaming activities. In accordance with the data gathered, 68% of students spent less than RM10 on games, while 16% spent more than RM30, and 11% spent between RM10 and RM20. Moreover, it is interesting to note that only five percent of students allocate an amount ranging from RM20 to RM30 for gaming purposes. In summary, it can be observed that a significant proportion of the participants allocated less than RM10 towards their gaming expenditure, whereas a smaller percentage reported a range of RM20 to RM30 for their gaming spending.

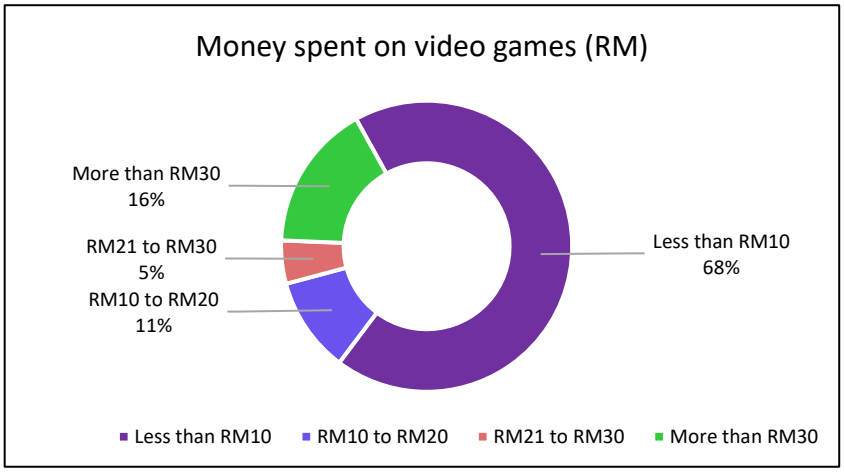

Figure 3. The percentage of money spent on video games (RM)

Furthermore, the bar graph in Figure 4 shows the percentage of respondents who agree that playing video games is a hobby. According to the graph, 58.7% of respondents agreed with the statement that playing video games as a hobby was a good idea, while 41.3% disagreed. The majority of the respondents who agreed with the question are students who continue to perform well academically despite having a hobby of playing video games, whereas the other respondents who disagreed may perform better academically when they are not influenced by games.

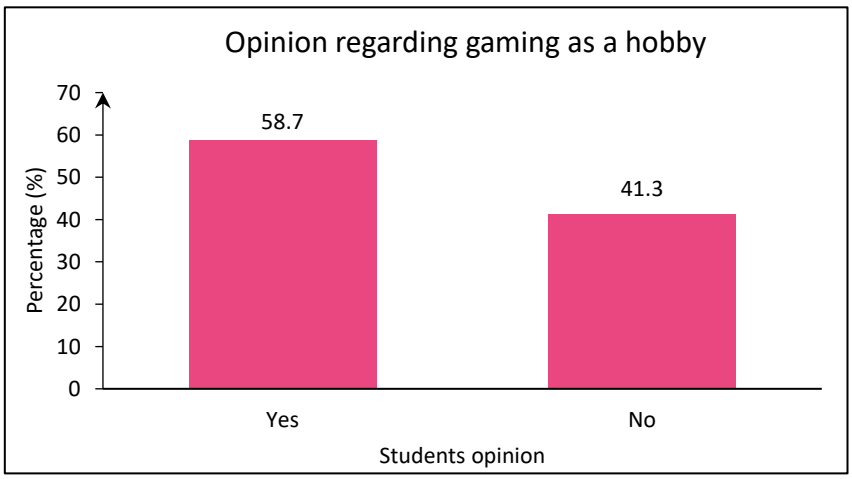

Figure 4. The opinion regarding gaming as a hobby

In addition, Figure 5 provides the outcomes related to the perception of students regarding the impact of gaming on their academic performance. The data indicates that a majority of students, specifically 51.9%, expressed agreement with the notion that playing video game activities has an apparent effect on their academic performance. Conversely, the remaining 48.1% of students held a contrary perspective, disagreeing with this claim. Nevertheless, there is a difference between the findings presented in the research conducted by Nasution et al. (2015) at the International Islamic University Malaysia (IIUM). Based on the study, a majority of students expressed a neutral opinion about the impact of video games on their academic performance, with no student reporting having an opinion that video games had an adverse effect. However, a subset of students maintained the belief that video games had beneficial effects on their academic performance.

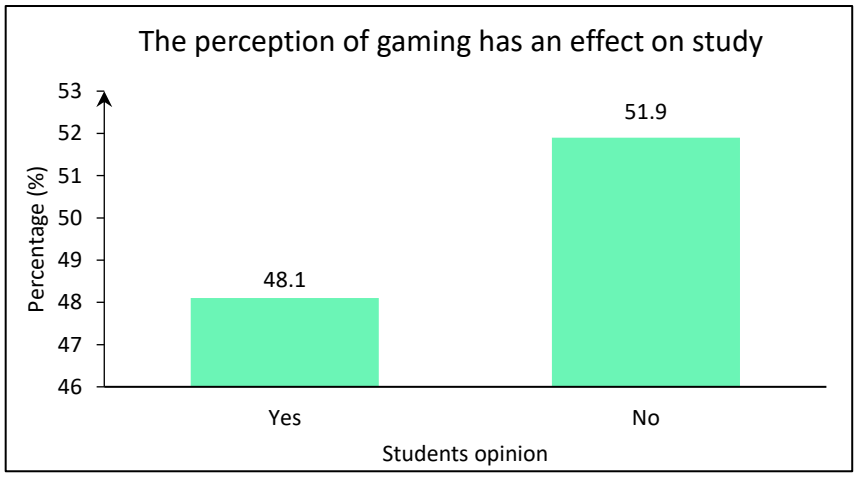

Figure 5. The perception of gaming has an effect on study

Table 1. Summary of the academic achievement and time spent on playing video games among students

Variables	Mean	Standard Deviation	Minimum	Maximum
Academic achievement, CGPA	3.3588	0.3006	2.31	4.00
Time spent on playing video games	2.1025	1.7473	0	10

Table 1, presented above, provides a comprehensive overview of the academic achievements and the duration of video game engagement among students enrolled at UiTM Jengka. From the results obtained, the mean academic performance, as measured by the Cumulative Grade Point Average (CGPA), of the student population is 3.3588, with a standard deviation of 0.3006. In the given context, it is observed that the CGPA exhibits a range of values, with the minimum value being 2.31 and the maximum value being 4.00. Moreover, it is observed that the mean duration of video game participation among students is 2.1025 hours, with a standard deviation of 1.7473. Also, the minimum and maximum duration reported are 0 and 10 hours, respectively.

Test on Normality of Data

In this ponder, both graphical and numerical strategies were utilized to evaluate the normality of the data. Both the histogram and the Q-Q plot were used for the graphical method. In the context of the numerical method, the Kolmogorov-Smirnov, skewness, and kurtosis tests were used.

a) Graphical Method of the data normality

Figure 6 shows the graphical approach employed to evaluate the normality of the datasets, encompassing the histogram and Q-Q plot. The histogram depicting the distribution of academic achievement (CGPA) data reveals a longer tail on the cleared out side of the conveyance compared to the correct side. This finding suggests that the dataset exhibits a negative skew, thereby indicating a deviation from the normal distribution. On the other hand, the histogram illustrating the distribution of time spent gaming reveals a longer tail on the correct side of the conveyance compared to the cleared out side.This indicates a positive skewness in the data, implying a deviation from normality. The normal Q-Q plot for both sets of data shows that the point is not approximately plotted on the diagonal

line. The presence of non-normality in the distribution of the data is evident.

b) Numerical Method of the data normality

In order to find the concrete findings on the normality of the data based on the graphical method in previous section, the analysis is proceed with the numerical approaches which include the skewness, kurtosis, and Kolmogorov Smirnov normality test. Table 2 shows the finding of the skewness and kurtosis normality test for academic achievement, CGPA. The $Z_{skewness}$ value for academic achievement is -3.605. $Z_{kurtosis}$, however, has a value of 3.9470. This indicates that the absolute value of both z-values exceeds 3.29. This shows that the absolute of both z-value is exceeds 3.29. Hence, it can be concluded that the dissemination of scholastic accomplishment does not take after a ordinary distribution.

Table 2. Skewness and Kurtosis Normality Test for Academic Achievement, CGPA

Test	Statistic	Standard Error	z-value
Skewness	-0.858	0.238	-3.6050
Kurtosis	1.863	0.472	3.9470

Table 3 displays the results of the skewness and kurtosis normality tests for the amount of time spent gaming. The obtained results indicate that the $Z_{skewness}$ value for the duration of gaming activities is 5.5084, whereas the $Z_{kurtosis}$ value is 6.2839. This finding also indicates that both z-values are above 3.29. Therefore, it can be stated that the distribution of time spent on gaming does not follow a normal distribution.

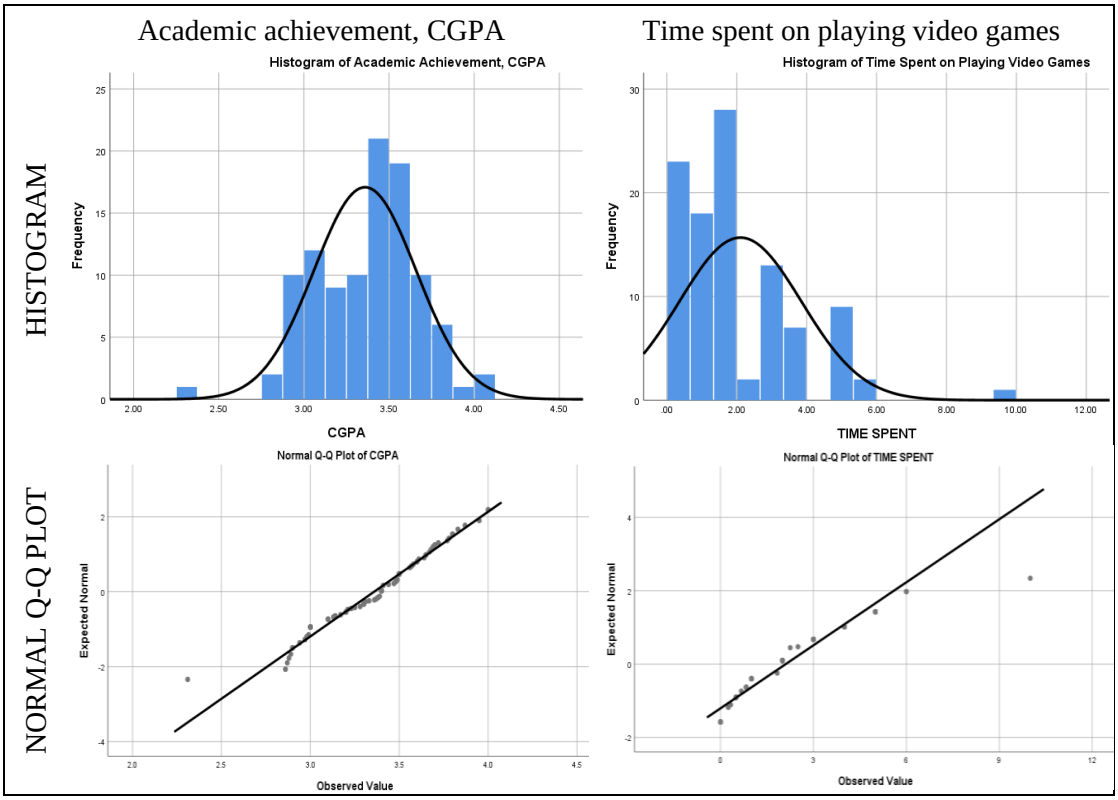

Figure 6. Graphical method for normality testing using the normal Q-Q plot

Table 3. Skewness and Kurtosis Normality Test for Time Spent on Gaming

Variables	Statistic	Standard Error	*z*-value
Skewness	1.311	0.238	5.5084
Kurtosis	2.966	0.472	6.2839

A Kolmogorov-Smirnov normality test was also conducted in this study in addition to the skewness and kurtosis tests, and the results are shown in Table 4. From the results, it is obvious that the p-value is less than the significance level of 0.05 for both datasets, indicating that the distributions of academic achievement (CGPA) and time spent on gaming are not normally distributed. As stated in the methodology section, since neither set of data is normally distributed, the Spearman rank correlation method was used to analyse the correlation between the two sets of data. This method is applicable to non-normally distributed continuous data.

Table 4. Kolmogorov Smirnov Normality Test

Variables	*T*, Statistic	Degree of freedom	*p*-value
Academic achievement, CGPA	0.101	103	0.012***
Time spent on playing video games	0.193	103	0.000***

Significant codes: 0.05 '***'

CORRELATION ANALYSIS

Association Between Time Spent on Playing Video Games and Academic Achievement of Students

The subsequent phase of the analysis included performing a correlation analysis to explore the association between the amount of time spent playing video games and the academic performance of students enrolled at UiTM Jengka, Pahang. The analysis began with the application of a scatter diagram, and the outcomes are depicted in Figure 7. The scatter diagram shows a negative pattern of the plotted point throughout the graph. This finding indicates the presence of a negative straight relationship between the sum of time went through playing video recreations and the scholastic accomplishment of students enrolled at UiTM Jengka. The next phase of analysis involves the use of Spearman rank correlation analysis to assess the significance of the connection pertaining to this matter.

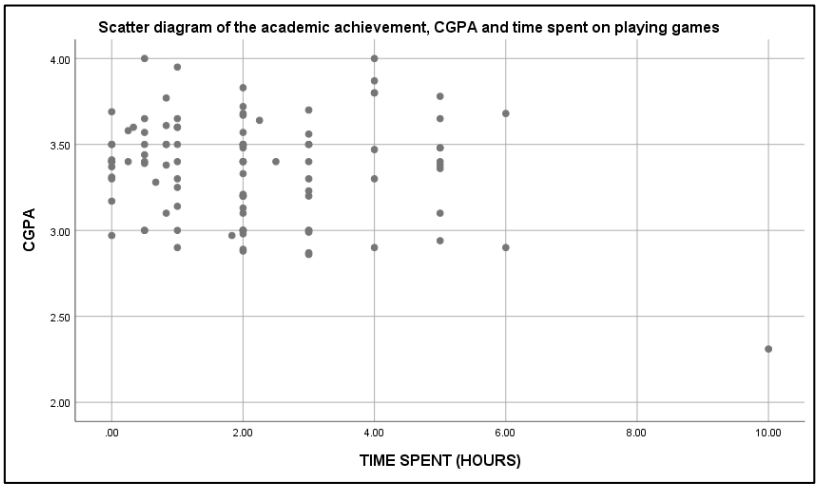

Figure 7. Scatter diagram of the academic achievement, CGPA and time spent on playing games

Table 5 displays the findings of the Spearman rank correlation between academic achievement, CGPA, and gaming time. The findings indicate that there's a measurably noteworthy affiliation between academic achievement, specifically measured by CGPA, and the amount of time spent playing games. This relationship is supported by a *p*-value of 0.043, which is less than the conventional threshold of 0.05. Additionally, the correlation coefficient, denoted as ρ, shows a value of -0.193, suggesting a weak negative correlation between the two variables.

Moreover, Table 6 shows the coefficient of determination value. The value of 0.0372 signifies that approximately 3.72% of the total variation in academic achievement (CGPA) can be explained by the amount of time spent gaming. On the other hand, the remaining 96.28% of the variation is due to various other factors such as sleep patterns, study hours, class attendance, classroom environment, learning resources, communication abilities, socioeconomic status, and other factors.

Table 5. Spearman rank correlation analysis

Variables	Values	Academic achievement, CGPA	Time spent on playing video games
Academic achievement, CGPA	Correlation Coefficient, ρ	1	-0.193
	p-value	-	0.043***
Time spent on playing video games	Correlation Coefficient, ρ	-0.193	1
	p-value	0.043***	-

Significant codes: 0.05 '***'

Table 6. Correlation coefficient and coefficient of determination

Statistical Analysis	Correlation Coefficient, ρ	Coefficient of Determination, R^2
	-0.193	0.0372

The display think about builds up that there exists a statistically critical relationship between scholarly achievements, cumulative grade point average (CGPA). Additionally, the findings of this study indicate a negative correlation between the amount of time spent on gaming and the academic achievement of students. The results of this research align with those of previous studies, such as Wright (2011), which reported a significant negative relationship between self-reported video game involvement and academic performance, specifically grade point averages (GPAs). Consistent with research done by Anand (2007), a decrease in academic performance, as indicated by both grade point average (GPA) and SAT scores, was observed among persons who engaged in video gaming activities. Furthermore, the findings of this current study align with previous research conducted by Wack and Tantleff-Dunn (2009) as well as Anderson and Dill (2007), which claimed that participation in video game play is associated with a decline in academic performance.

CONCLUSION

The worldwide acceptance of video games is steadily rising, resulting in increased levels of immersion and engagement in entertainment events. The impact of gaming on several dimensions of life holds major importance and implications. The purpose of this research is to examine the association between the time spent on video game involvement and the academic achievement of students enrolled at UiTM Jengka, Pahang. Data was obtained from a total of 103 participants using an online questionnaire. Several conclusions can be

drawn from this study. Firstly, a statistically significant association was identified with respect to the purpose of this study. The findings of this current study indicate that there is a negative association between the amount of time spent on gaming activities and the academic achievement of students, as measured by their cumulative grade point average (CGPA). Nevertheless, several limitations have been identified in the present study. Although there is information supporting a correlation between the amount of time spent gaming and overall academic achievement, it is conceivable that other factors, such as engagement in social activities, frequency of studying, and level of intellect, may also influence examination outcomes. Moreover, it should be noted that the research findings obtained from this study lack generalizability to the broader community of UiTM Jengka, Pahang, or other academic institutions. The limited sample size in this study is attributed to the uneven distribution of respondents among faculties and schools within UiTM Jengka, Pahang. It is advisable for future research attempts to employ a stratified sampling methodology in order to gather the sample, as opposed to utilising a basic random sampling approach. This will enable the study to be regarded as a longitudinal investigation, spanning the duration of the participants' lifespans. In general, there exists a considerable body of knowledge regarding the relationship between video games and academic achievement. The present study provides an example of research conducted on a small scale.

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