

Analysis in Video Game Adiction and its Effect On Romantic Relationship Among Adolescent in Batam City : A Case Study Of Mobile Legend : Bang Bang!

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Abstract

This study uses a comprehensive analysis to investigate the intricate relationship between video game addiction and romantic relationships among adolescents in Batam City, focusing on the popular mobile game "Mobile Legend: Bang Bang!" Utilizing the quantitative approach using SPSS v26 with regression method. The purpose of this research is the effects of gaming addiction in adolescent romantic partnerships, with data collected from a sample of 200 respondents. The findings unveil a compelling negative behavior association between gaming addiction and romantic relationships, shedding light on the intricate interplay between excessive gaming behavior and the quality of romantic connections in the lives of adolescents. This research significantly contributes to the existing body of knowledge, enhancing our comprehension of the far-reaching impact of video game addiction on the intricate tapestry of adolescent romantic relationships in the specific context of Batam City.

Keywords:

Video Game Addiction, Romantic Relationship, Adolescent Relationship

Introduction

The development of online games in the past decade has grown rapidly and quickly. Several studies have shown that 36 trillion Indonesian rupiahs are spent on online games each year, and this number continues to increase over time. Furthermore, the average online game player spends 6 hours per week playing games (Norton et al., 2020). In Indonesia alone, there are 44.2 million online game players, and this number continues to grow. The number of online game players in Indonesia has increased by 37% compared to other countries in Southeast Asia. With the growing number of online game players, the revenue of online gaming companies has also increased drastically from 2020 to 2021, with a 10.8% difference. In 2020, the total revenue was 1.3 billion US dollars, which increased to 1.5 billion US dollars in 2021 (Mia Chitra Dinisari, 2021)

As online games continue to develop in Indonesia with various genres, one of the most popular genres is the MOBA (Multiplayer Online Battle Arena) genre, with a game called Mobile Legends: Bang Bang! Mobile Legends: Bang Bang! was created and developed by a game developer company named Moonton from Shanghai, China. With 35 million downloads and 8 million daily active players in 2017, Mobile Legends: Bang Bang! was one of the most popular games in that year (Ketut et al., 2019). Over time, the number of Mobile Legends: Bang Bang! players in Southeast Asia has increased rapidly. In 2021, there were 35 million active users of Mobile Legends: Bang Bang! in Indonesia alone. Not only has the number of active users increased, but the game's streaming viewership has

also dramatically increased, reaching a peak of 1.83 million viewers. The majority of active Mobile Legends players are teenage boys (Ketut et al., 2019), and this demographic is more prone to gaming addiction, especially among children and teenagers (Kustiyani, 2019).

Playing online games, especially Mobile Legends: Bang Bang! is highly favored by Indonesian teenagers. Mobile Legends: Bang Bang! is an MOBA game that demands a lot of time and patience from players. In serious gameplay modes like Ranked matchmaking, players need to be 100% focused on winning. This can be dangerous if not controlled by the players, as it leads to neglecting other activities. One of the activities typically pursued during adolescence is building social relationships, such as dating or romantic relationships with the opposite sex. In a romantic relationship, time and activities for the partner are essential. However, playing online games can limit the time and activities available for the partner, which can lead to conflicts in the relationship.

In general, playing games is a normal activity at home, with friends, or even as a couple. Previous studies have shown that when both partners in a relationship play online games together, it can enhance a sense of togetherness, especially for women, compared to situations where only one partner is playing games (Hertlein & Hawkins, 2012; Norton et al., 2020). With the popularity and continued growth of Mobile Legends: Bang Bang! in Indonesia, addiction to the game can potentially affect romantic relationships (Endang Hermawan, 2019; Hestianingsih, 2019; Limke-McLean, 2018).

This research aims to investigate whether addiction to playing Mobile Legends can cause or lead to undesirable romantic problems in a relationship and whether it can enhance the closeness between partners in a dating relationship.

Literature Review

With the previously discussed research by (Norton et al., 2020), which aims to explore the acceptance or approval of romantic partners' engagement with video games in an ongoing relationship. The method used in this study is the dyadic adjustment method, which relates to one's romantic relationship. This research also employs a quantitative method to collect data from 16 different countries with over 6750 couples as respondents. The results of this study indicate that partners agree and accept their partners' involvement in playing video games.

The second study conducted by (Endang Hermawan, 2019) aims to examine whether online game addiction can influence offline and online social relationships and attitudes learned in the game in the Bandung city area. The method used in this study is quantitative, collecting data from 500 respondents with online game addiction in Bandung city. The results of this research reveal that individuals who are unable to meet their needs in offline or online relationships tend to choose alternative activities, such as playing games.

Another study conducted by (Teal, 2019) aims to understand the impact of individuals' addiction to online games on their romantic relationships and satisfaction with their partners. This research employs a quantitative method, distributing surveys to 400 respondents with the help of Profilic.ac to gather respondents who receive compensation of \$6.50/hour. Respondents also had to meet certain criteria, such as being in a relationship for at least 3 months and being fluent in English with a domicile in the United States. The results of this study indicate that the use of video games in a romantic relationship does not significantly affect satisfaction in a serious relationship.

In the next study conducted by (Ketut et al., 2019) on factors influencing players' interest in the video game called Mobile Legends: Bang Bang! This research utilizes both quantitative and qualitative methods, named game-design factors. Surveys were distributed to players of Mobile Legends: Bang Bang! who have never played other MOBA games and players of Mobile Legends: Bang Bang! who have played other MOBA games. The results from the surveyed respondents demonstrate that game-design factors are related to the number of active players in the game Mobile Legends: Bang Bang!

Furthermore, (Limke-McLean, 2018) conducted research on the impact of couples playing online games on the romantic relationship they are engaged in, using the game "Game of War: Fire Age." This research employed a Melvin and Suwarno

quantitative method, collecting data from 220 in-game players by forming alliances within the game. The results of this study, supported by regression analysis on the collected data, show that excessive online gaming significantly negatively affects one's romantic relationship.

Another study conducted by (Zatrahadi et al., 2021) explains the addiction to playing online games and its impact on social adjustment during the puberty period of adolescence. This research uses a quantitative method, collecting data from 23 teenagers in the Kampung Dalam area. The research utilizes the SPSS program for Pearson data analysis. The results of this study indicate that addiction to playing online games has a significantly negative impact on the social life of adolescents.

The next study conducted by (Alwi et al., 2018) focuses on the social relationships of adolescents entering puberty with addiction to playing online games in Surau Gadang, Nanggalo, Padang. The following study examines how parents can control the situation and frequency of their children's online gaming. The conclusion drawn from this study is that children who are addicted to playing online games tend to neglect their studies and choose not to socialize. Therefore, parents and therapy play a significant role in addressing such behaviors.

Research Methods

In this study, the author will employ a quantitative method through questionnaire distribution. The research will utilize a model based on (Norton et al., 2020).

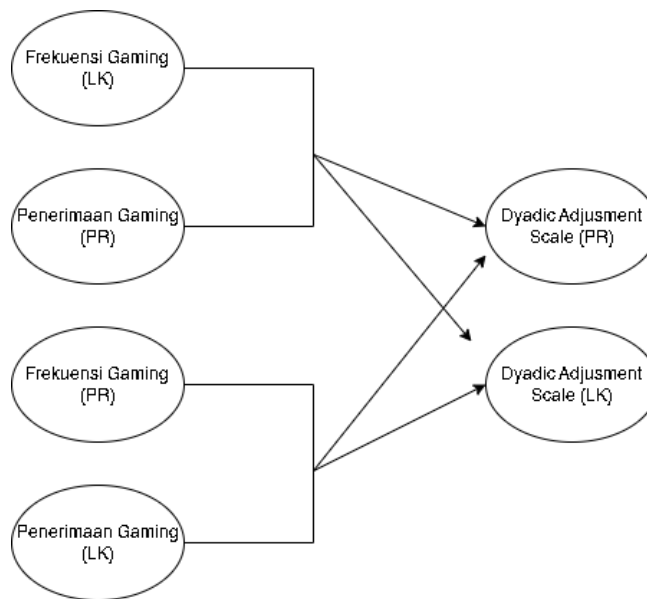


Figure 2.1 Research Model

- H1a Frekuensi bermain game (LK) and penerimaan bermain game (PR) affect dyadic adjustment scale (PR)
- H10 Frekuensi bermain game (LK) and penerimaan bermain game (PR) do not affect dyadic adjustment scale (PR)
- H2a Frekuensi bermain game (LK) and penerimaan bermain game (PR) affect dyadic adjustment scale (LK)
- H20 Frekuensi bermain game (LK) and penerimaan bermain game (PR) do not affect dyadic adjustment scale (LK)
- H3a Frekuensi bermain game (PR) and penerimaan bermain game (LK) affect dyadic adjustment scale (PR)
- H30 Frekuensi bermain game (PR) and penerimaan bermain game (LK) do not affect dyadic adjustment scale (PR)
- H4a Frekuensi bermain game (PR) and penerimaan bermain game (LK) affect dyadic adjustment scale (LK)
- H40 Frekuensi bermain game (PR) and penerimaan bermain game (LK) do not affect dyadic adjustment scale (LK)

This research uses quantitative method to acquire respondent base on the previous research norton. The media to acquire respondent is by using online questionnaire google form. A questionnaire was distributed to the teenage population aging 18-25 in Batam and obtained 200 respondents, consisting of 100 males and 100 females. The Slovin formula was used with a margin of error of 5% and a confidence level of 95% to determine the required sample size. The data obtained will be analyzed using the mean or average of each response.

Results and Discussion

1. Data collection test

In this study, 200 respondents were obtained who filled out the questionnaire through the distribution of a Google Form link. The following are the data collected from the respondents.

Table 1.1 Data Collection

Demografi Responden	Frekuensi	Persentase
Usia		
18-21	51	23.4%
22-25	149	68.3%
>25	18	8.3%
Jenis Kelamin		
Laki – Laki	109	50%
Perempuan	109	50%
Status Hubungan		
Berpacaran	200	91.7%
Menikah	18	8.3%
Pernah bermain MOBA		
Belum Pernah	36	16.5
Pernah	182	83.5
Total	218	100%

2. Data validity test

The validity of the instrument was tested using Bivariate Correlation analysis to find the correlation coefficient using Pearson's Product Moment with SPSS version 26.0. The obtained correlation coefficient was compared with the critical value from the table of r at the degrees of freedom ($df = n - 2$) to obtain the critical value. For statement items with a correlation coefficient (r-value) greater than the critical value (r-table), those items are considered valid. In this study, with a degrees of freedom (df) of 97 ($99 - 2$), the critical value (r-table) at a significance level of 0.05 or 5% is 0.1946.

3. Data reliability

Reliability testing is conducted to assess the level of consistency or reliability of each variable used. If the Cronbach's Alpha value is below 0.35, it indicates low reliability and cannot be used. If the Cronbach's Alpha value is greater than 0.60, it indicates that the reliability of the variable meets the criteria and can be used (Daud et al., 2018).

4. Data classic assumption

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a. Normality test

The P-P plot is a method for assessing normality by examining the results of a regression test. If the scattered points follow a diagonal line upward and are distributed around the diagonal line, the regression can be considered normal (Roswirman & Elazhari, 2021). In the data regression analysis results used in this study, there is a good assessment of normality because the scattered points follow the diagonal line and are not widely spread from the normal line.

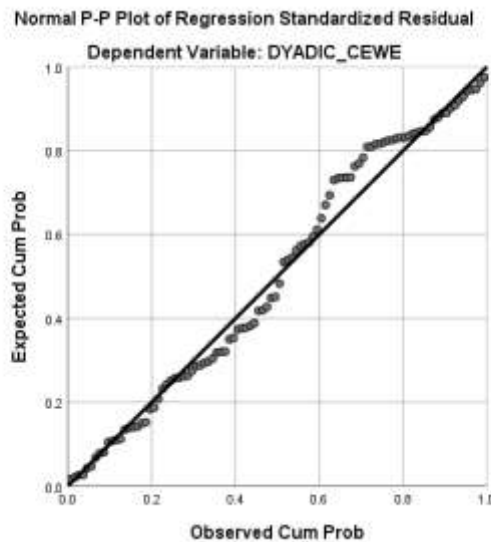


Figure 4.1 1st Normality Test

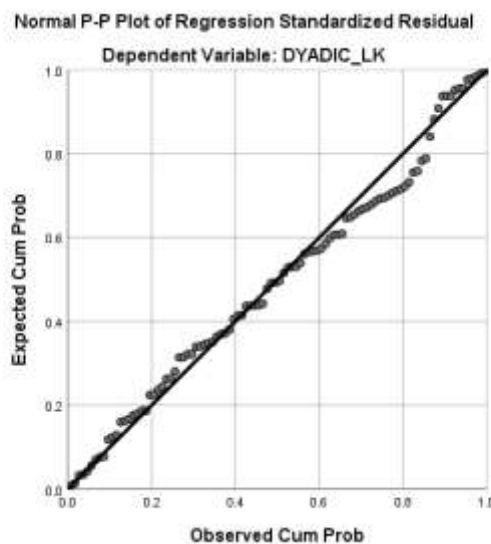


Figure 4.2 2nd Normality Test

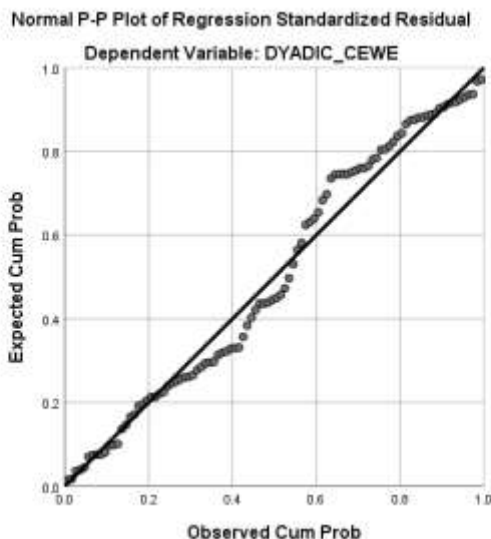


Figure 4.3 3rd Normality Test

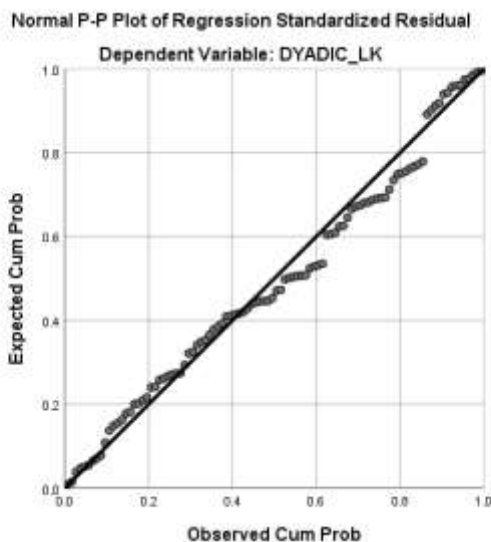


Figure 4.4 4th Normality Test

b. Multicollinearity test

The test of multicollinearity is considered as a measure of correlation among independent variables. Therefore, in the case of the independent variables used in this study, if multicollinearity is present, it is referred to as a multicollinearity problem, and it is advisable to exclude one of the independent variables from the model and then create a new regression model.

Table 4.4.1 Hasil Uji Multikolinieritas Data Kuantitatif Pertama

1. Variabel	Tolerance	VIF	Kesimpulan
Dyadic Adjusment Scale (PR)	1.000	1.000	No Multicollinearity Presense

Frekuensi bermain game (LK)	1.000	1.000	No Multicollinearity Presense
Penerimaan Gaming (PR)	1.000	1.000	No Multicollinearity Presense

Table 4.4.2 Hasil Uji Multikolinearitas Data Kuantitatif Kedua

Variabel	Tolerance	VIF	Kesimpulan
Dyadic Adjustment Scale (LK)	1.000	1.000	No Multicollinearity Presense
Frekuensi bermain game (LK)	1.000	1.000	No Multicollinearity Presense
Penerimaan Gaming (PR)	1.000	1.000	No Multicollinearity Presense

Table 4.4.3 Hasil Uji Multikolinearitas Data Kuantitatif Ketiga

Variabel	Tolerance	VIF	Kesimpulan
Dyadic Adjustment Scale (PR)	0.990	1.010	No Multicollinearity Presense
Frekuensi bermain game (PR)	0.990	1.010	No Multicollinearity Presense
Penerimaan Gaming (LK)	0.990	1.010	No Multicollinearity Presense

Table 4.4.4 Hasil Uji Multikolinearitas Data Kuantitatif Keempat

Variabel	Tolerance	VIF	Kesimpulan
Dyadic Adjustment Scale (LK)	0.990	1.010	No Multicollinearity Presense
Frekuensi bermain game (PR)	0.990	1.010	No Multicollinearity Presense
Penerimaan Gaming (LK)	0.990	1.010	No Multicollinearity Presense

Based on the range of reference for the three proposed hypotheses, there is no issue of multicollinearity. The Tolerance test should provide values above 0.10, and the VIF (Variance Inflation Factor) should not exceed 10, in order for multicollinearity to be within an acceptable range.

c. Heteroscedasticity test

Heteroskedasticity is tested using the data collected from distributed questionnaires, and the results are interpreted based on the scatter plot analysis. The conclusion is drawn from the dispersion of data points representing respondents' answers on the questionnaire. If the data points are evenly spread above and below zero, it can be concluded that the distribution of the questionnaires has been done well. A scatter plot is considered to have a poor distribution if it forms a pattern.

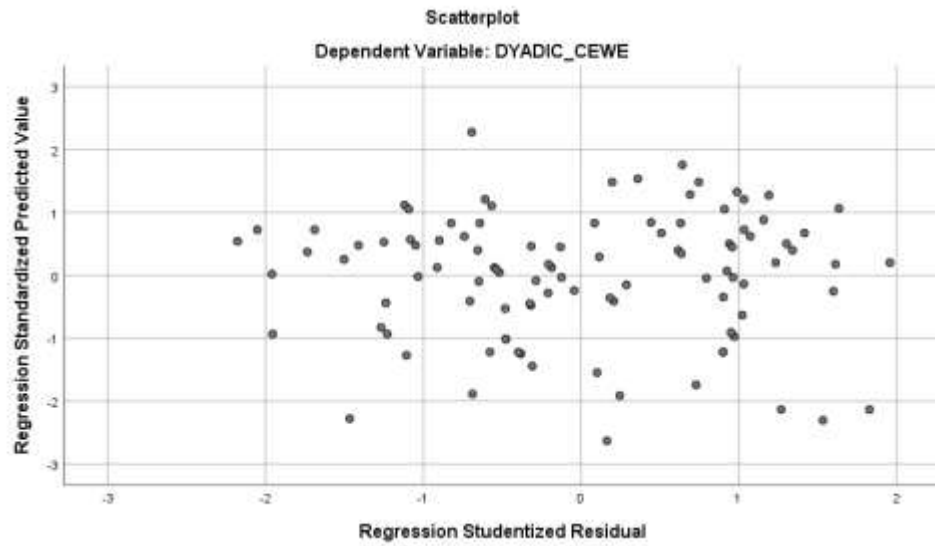


Figure 4.5 1st Heteroscedasticity Test

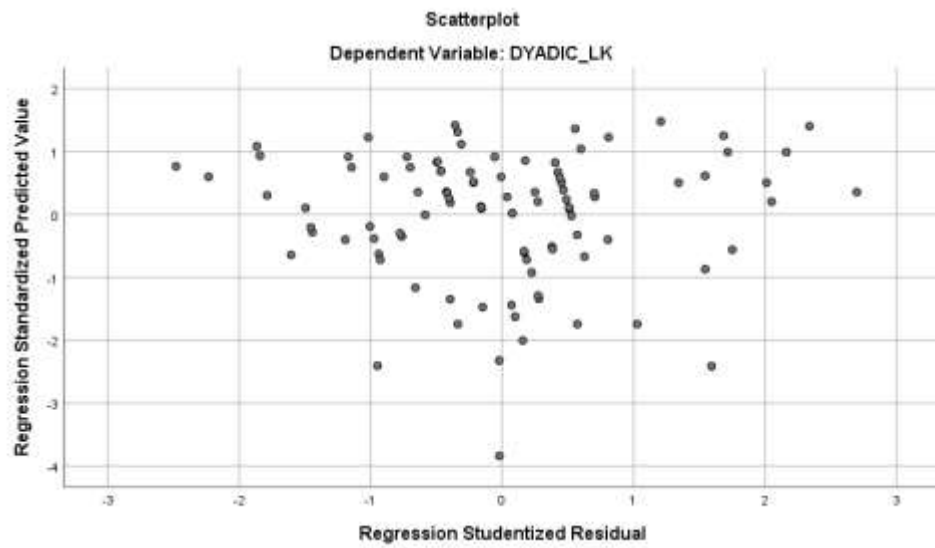


Figure 4.6 2nd Heteroscedasticity Test

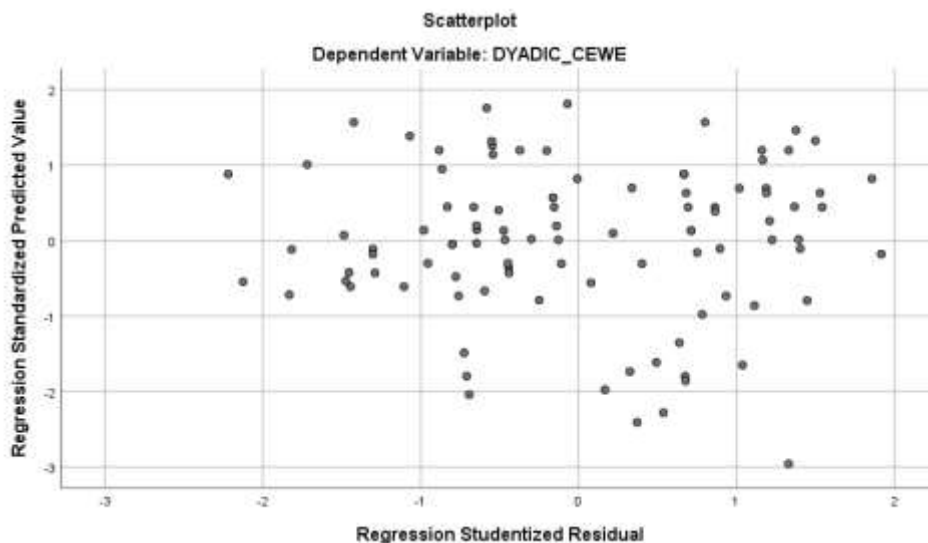


Figure 4.7 3rd Heteroscedasticity Test

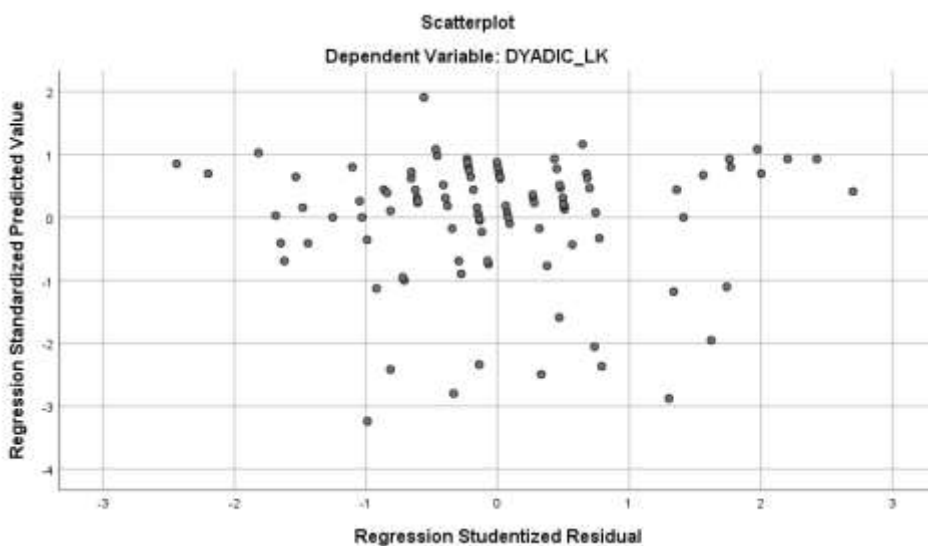


Figure 4.8 4th Heteroscedasticity Test

Based on the above figure, it can be inferred that the relationship between community engagement and the benefits for society is suitable for use. This conclusion is drawn from the scatter plot, which shows data points evenly spread above and below zero without any discernible pattern. This indicates that the questionnaire distribution was effective.

5. Hypothesis test

Hypothesis testing is a procedure that involves conducting tests such as the R-squared test and the F-test to obtain results. Here are the results of the hypothesis testing in this study:

- a. **Coefficient of determination (R-squared) test.**

The purpose of the coefficient of determination (R-squared) test is to assess the extent to which variables participate or contribute to the variation in the data. The result of the coefficient of determination (R-squared) test.

Table 5.2 2nd Coefficient of Determination Test

Model	R	R ²	R ² Disesuaikan	Estimasi Std. Error
1	0,691 ^a	0,477	0,451	1.23695

Table 5.1 1st Coefficient of determination Test

Model	R	R ²	R ² Disesuaikan	Estimasi Std. Error
1	0,474 ^a	0,224	0,206	3.08898

Table 5.3 4th Coefficient of Determination Test

Model	R	R ²	R ² Disesuaikan	Estimasi Std. Error
1	0,562 ^a	0.316	0,303	3.00561

Table 5.3 3rd Coefficient of determination Test

Model	R	R ²	R ² Disesuaikan	Estimasi Std. Error
1	0,444 ^a	0,198	0,176	4.55884

b. Hypothesis (t) Test

The t-test is conducted to determine whether the regression model's independent variables have a significant partial effect on the dependent variable. The decision criterion is that if the significance is greater than 0.05, then the null hypothesis (H0) is accepted, and if the significance is less than 0.05, then the null hypothesis (H0) is rejected. Based on the results of the test, it can be concluded that a higher level of game usage by male partners is negatively associated with a higher level of relationship adjustment. This finding is consistent with the research conducted by (Norton et al., 2020), which also indicates that a high level of game usage is linked to a higher level of relationship adjustment.

Table 5.5 1st Hypothesis (t) Test

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	5.866	3.487		15.736	0.000
	Frekuensi Gaming (LK)	-0.697	0.221	-0.298	-3.152	0.002

Penerimaan Gaming (PR)	.0112	0.053	0.129	2.116	0.037
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Table 5.6 2nd Hypothesis (t) Test

Model		<i>Unstandardized B</i>	<i>Coefficients Std. Error</i>	<i>Standardized Coefficients Beta</i>	T	Sig.
1	(Constant)	4.773	2.844		14.689	0.000
	Frekuensi Gaming (LK)	0.162	0.180	0.090	0.897	0.372
	Penerimaan Gaming (PR)	0.050	0.043	0.117	1.168	0.246

Table 5.7 3rd Hypothesis (t) Test

Model		<i>Unstandardized B</i>	<i>Coefficients Std. Error</i>	<i>Standardized Coefficients Beta</i>	T	Sig.
1	(Constant)	4.805	4.658		10.263	0.000
	Frekuensi Gaming (PR)	0.022	0.108	0.021	0.205	0.838
	Penerimaan Gaming (LK)	0.091	0.165	0.056	0.548	0.585

Table 5.8 4th Hypothesis (t) Test

Model		<i>Unstandardized B</i>	<i>Coefficients Std. Error</i>	<i>Standardized Coefficients Beta</i>	T	Sig.
1	(Constant)	4.682	3.487		11.956	0.000
	Frekuensi Gaming (PR)	0.079	0.083	0.097	0.954	0.342
	Penerimaan Gaming (LK)	-0.23	0.127	-0.018	-0.180	0.858

The decision criteria are as follows: if the significance level is greater than 0.05, then the null hypothesis (H0) is accepted; if the significance level is less than 0.05, then the null hypothesis (H0) is rejected. Based on the tested results, it can be concluded that a higher level of game usage by male partners is negatively related to a higher level of relationship adjustment. This finding aligns with the research conducted by Norton et al. (2020), which also indicates that higher levels of game usage are associated with higher levels of relationship adjustment.

6. Regression Analysis

Regression in this study was conducted four times using the variables of game playing frequency (PR) and (LK), acceptance of game playing (PR) and (LK), and dyadic adjustment scale (PR) and (LK). The results show that MOBA games have a significant relationship with the leadership variable. Based on the tested results, the regression equations in this study are as follows:

Regression equation with the first quantitative data:

$$\text{DAS1} = 5.866 - 0.697 \text{ FG2} + 0.112 \text{ PG1}$$

Regression equation with the second quantitative data:

$$\text{DAS2} = 4.773 + 1.162 \text{ FG2} + 0.050 \text{ PG1}$$

Regression equation with the third quantitative data:

$$\text{DAS1} = 4.805 + 0.022 \text{ FG1} + 0.091 \text{ PG2}$$

Regression equation with the fourth quantitative data:

$$\text{DAS2} = 4.682 + 0.079 \text{ FG1} - 0.23 \text{ PG2}$$

Where:

DAS1 = Dyadic Adjustment Scale (PR)

DAS2 = Dyadic Adjustment Scale (LK)

FG1 = Frequency of Gaming (PR)

FG2 = Frequency of Gaming (LK)

PG1 = Acceptance of Gaming (PR)

PG2 = Acceptance of Gaming (LK)

The regression results from the four quantitative data sets indicate that high game playing frequency can affect the level of compatibility among couples. These findings are supported by a study by Norton et al. (2020), which states that the frequency of game playing in couples can disrupt or undermine the level of compatibility. Specifically, higher levels of partner's acceptance of gaming relative to gaming frequency, while considering the differences between low and high reports of game usage frequency, are associated with higher dyadic adjustment reports for both participants and partners. This is due to the lack of compatibility between the two partners when one partner has excessively high gaming frequency.

In general, playing Mobile Legends: Bang Bang! too frequently or reaching the stage of game addiction can have a negative impact on the compatibility of the relationship between partners (Teal, 2019). High game playing frequency will lead to decreased communication between partners and a decline in romantic levels between partners. Therefore, romantic communication between partners is highly necessary and recommended to be developed over time to create greater compatibility and a stronger relationship for both partners (Sunarto et al., 2019; Zatrachadi et al., 2021). Not only communication, but a relationship where one party is addicted to gaming will also increase negative traits in that partner due to the toxic environment within the game Mobile Legends: Bang Bang! (Dan et al., 2023).

The acceptance of game playing frequency by partners in Mobile Legends: Bang Bang! also greatly influences a romantic relationship due to relevant thinking of one partner. It can be said that if partners respect each other's personal time and mutually accept each other, it will have a positive impact on the relationship (Sunarto et al., 2019).

Conclusion

This study aims to determine the relationship between gaming frequency and gaming acceptance on the Dyadic Adjustment Scale using a quantitative method. The study used a questionnaire with data from 200 respondents based on the calculation using the Slovin method. The questionnaire was distributed using cluster disproportional random sampling technique through a Google Form link. A qualitative approach was employed by interviewing adolescents who were in a romantic relationship and played Mobile Legends: Bang Bang! The data from the distributed questionnaire were analyzed using SPSS version 26.

The relationship between gaming frequency (LK) resulted in a negative association with the Dyadic Adjustment Scale (PR). In this case, it indicates that the more a male individual plays Mobile Legends: Bang Bang! the more it negatively affects the level of compatibility in females. This happens because addiction to gaming can significantly influence the way couples communicate in a romantic relationship. The lack of communication between partners will have a negative impact on the relationship they are involved in. With high gaming frequency, negative behaviors can also increase among individuals, such as engaging in toxic conversations and displaying toxic actions.

Mobile Legends: Bang Bang! can damage trust, intimacy, and closeness in a romantic relationship. Partners who feel neglected or not prioritized due to the gaming addiction may feel marginalized or unhappy in their relationship. This can lead to feelings of loneliness, frustration, and ultimately threaten the sustainability of the relationship.

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