

The Correlation between Online Game Addiction and Psychosocial Factors among Online Gamers: A Study in Nagaland

Kezhalhousa^{1*}, Dr. Wandashisha Myllemngap²

ABSTRACT

The rise in online gaming has raised concerns about the possibility of addiction, which might have a negative influence on mental health and everyday life. This study investigates the links between online gaming addiction and three psychological variables: self-esteem, loneliness, and life satisfaction. Using the snowball sampling method, we received 420 responses from online gamers in Nagaland. According to a regression study, loneliness and low self-esteem are strong predictors of online gaming addiction. Despite a negative link, life satisfaction has no significant influence on gaming addiction among these gamers. These findings show that tailored therapy aimed at reducing loneliness and increasing self-esteem could help reduce the likelihood of online gaming addiction.

Keywords: *Online game, Game addiction, Loneliness, Self-esteem, Life Satisfaction*

Online games have become an essential aspect of modern life, providing numerous benefits that go beyond simple enjoyment. As the digital landscape evolves, the importance of online games grows. In today's fast-paced and interconnected world, internet games have become an important and influential part of modern civilization.

With rapid technological advancements and widespread access to high-speed internet, the popularity and importance of online games have skyrocketed. This has sparked a growing interest in understanding the importance and necessity of online games, which play a critical role in defining how people interact, have fun, and learn in the digital age. The rapid expansion of online gaming has generated worries about the risk of game addiction, which can have serious consequences for people's psychological well-being and daily functioning.

A variety of mental health disorders have been associated with excessive participation in online gaming, a major form of internet entertainment. While the internet can provide a sense of social connection, excessive use may result in a cycle of social retreat and increased internet dependence. According to Saadati et al. (2021), there is a significant association between internet addiction and loneliness across different regions worldwide and posit a

¹Research Scholar, Adult & Continuing Education, North Eastern Hill University.

²Assistant Professor, Adult & Continuing Education, North Eastern Hill University.

*Corresponding Author

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connection between internet addiction and mental and social issues, suggesting that loneliness could exacerbate an excessive addiction to internet games.

The internet, a revolutionary technology, has greatly changed the globe and provided numerous benefits to its users. However, it has also had negative implications, such as internet gaming addiction among stressed-out teenagers with low self-control. Because internet use has become an important part of adolescent society, investigating its use and negative consequences is critical for promoting a healthy youth culture (Park & Kim, 2015).

The negative consequences and potentially significant difficulties of internet gaming are gradually coming to light. It can cause juvenile violence, aggression, physical health problems, skewed reality perception, social degradation, and high addiction levels (K. J. & G., 2018). Children who face significant psychological and social challenges, like school expulsion or intense loneliness, are particularly susceptible to internet addiction (Haddon L., 2008). Understanding and resolving these concerns is critical to protecting young people from the negative consequences of excessive gaming.

According to a 2019 IANS survey, 47% of Indian gamers claimed giving up sleep, 37% admitted to skipping meals, 35% lost out on socialising with friends or going on dates, and 24.4% skipped work to play games. Furthermore, 49.2% of respondents expressed interest in abandoning their employment to pursue a professional gaming career. The survey was based on feedback from 500 players aged 18 and up.

In a separate survey conducted by the Kohima Ao Baptist Arogo (KABA) in 2018, titled "Children, Adolescents, and Digital Media: Rethinking Parents," it was revealed that 83% of 1058 Sunday school students aged 12 to 19 years in Kohima used the internet on a daily basis, with 38% spending more than two hours per day playing online games. The findings highlight the relevance of treating loneliness and self-esteem in efforts to reduce online gaming addiction. Interventions that minimise feelings of loneliness and boost self-esteem may be useful in lowering the likelihood of game addiction. Despite the fact that life satisfaction has no substantial predictive value in this model, its negative connection with game addiction indicates that it is still a meaningful element in overall well-being. Previous studies have suggested that these traits might affect game addiction, but more research is necessary to understand their specific roles and connections.

METHODOLOGY

Objective

The main objective of this study is to examine the correlation and associations between online game addiction and self-esteem, loneliness, and life satisfaction.

Specifically, we aim to determine:

1. The strength and direction of the relationship between loneliness and game addiction.
2. The impact of self-esteem on game addiction.
3. Whether life satisfaction significantly predicts game addiction in the presence of loneliness and self-esteem.

The null hypotheses corresponding to the study's objectives are as follows:

1. **Null Hypothesis (H₀):** There is no significant correlation between loneliness and online game addiction.

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2. **Null Hypothesis (H₀₂):** There is no significant correlation between self-esteem and online game addiction.
3. **Null Hypothesis (H₀₃):** Life satisfaction does not significantly predict online game addiction when controlling for loneliness and self-esteem.

Research design

This study employs a mixed-methods approach, incorporating both qualitative and quantitative elements. It aims to describe the extent of online game addiction among Online gamers in Nagaland and explore the correlations between online game addiction and key psychosocial variables, including self-esteem, loneliness, and life satisfaction.

Sample

The study sample consisted of 420 participants, recruited from online gamer of Nagaland. Since the youth Online gamer in Nagaland are hidden, hence we utilised snow ball sampling to collect the sample size.

Procedure

The data collection took place from September 2023 to March 2023 in Nagaland, using a survey questionnaire. This study only includes those who have engaged in online gaming for a duration exceeding 3 years. Voluntary and anonymous participation was required for the research. The students were provided with information regarding the objective of the research in the informed consent.

Statistical technique

We conducted data analysis using the STATA software platform, a statistical tool. We used statistical techniques, such as descriptive statistics, to gain a basic understanding of the data's distribution and central tendencies. Additionally, we employed bivariate correlation analysis, specifically using the Pearson correlation coefficient, to examine the relationship between individual variables in the context of game addiction. Finally, we conducted a linear regression analysis to demonstrate the correlation between loneliness, self-esteem, and life satisfaction. In all instances, we deemed a p-value less than 0.05 to be statistically significant.

Measures

1. Online Game Addiction: developed by (Lemmens et al., 2009) ,Development and Validation of a Game Addiction Scale for Adolescents.
2. Loneliness: Gierveld, J. D. J., & Tilburg, T. V. (2006). A 6-item scale for overall, emotional, and social loneliness.
3. Self-Esteem: Evaluated using the Rosenberg Self-Esteem Scale was developed by Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.
4. Life Satisfaction: developed by Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S.(1985). The Satisfaction with Life Scale.

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RESULTS

Table 1 Descriptive Statistic

Variable	N'	Mean	Std. Dev.
Game Addiction	420	52.579	14.453
Loneliness	420	28.786	8.290
life satisfaction	420	14.050	3.696
Selfe-esteem	420	24.621	4.754

Descriptive statistics for the variables involved in the study of game addiction

Sample Quantity Continuity: Because every variable in the study has the same sample size (420), there were no missing data points for any of them. Averages: For any variable, the mean values provide a measure of central tendency. Game addiction has the highest mean score (52.578), followed by loneliness (28.785), self-esteem (24.621), and life satisfaction (14.05). Variability: The standard deviations illustrate the wide distribution or variability of the results for each variable. Game addiction (14.453) is the most variable condition, followed by life satisfaction (3.696), loneliness (8.289), and self-esteem (4.754). This suggests that, compared to other variables, people's scores on game addiction vary more significantly. (Table 1)

Table 2 Descriptive Statistic and Bivariate Correlation Analysis

Variable	Mean	Std. Dev.	1	2	3	4	VIF
Game Addiction	52.579	14.453	1	0.436**	-0.234**	-0.234**	
Loneliness	28.786	8.290	0.436**	1	-0.297**	-0.516**	1.66
life satisfaction	14.050	3.696	-0.234**	-0.297**	1	0.499**	1.37
Selfe-steem	24.621	4.754	-0.346**	-0.516**	0.499**	1	1.34

Note: * and ** denotes significance level at 5%, and 1% respectively

Relationships between variables

Strong links between game addiction and its predictors—loneliness, life satisfaction, and self-esteem—are shown by the significant correlations (p-values at 1%). Among Nagaland's online gamers, loneliness ($\beta=0.4366$, $p < 0.001$) had the strongest positive connection ($\beta = 0.4366$) with game addiction, indicating that it is a critical component in predicting higher levels of game addiction. There are strong negative relationships between game addiction and life satisfaction ($\beta = -0.2347$, $p0.001$) and self-esteem ($\beta = -0.3466$, $p0.001$), suggesting that as these variables rise, game addiction tends to fall. (Table 2)

The concept of multicollinearity Low multicollinearity between the predictors is indicated by the VIF scores. This indicates that the regression coefficients are trustworthy and that the predictors do not significantly affect one another. Reliability of the regression analysis is improved by low multicollinearity, which guarantees that the significance tests for the predictors are valid and that the estimations of the regression coefficients are not overly inflated.

The strong associations between game addiction and its predictors—which range from 1.33 to 1.66 dependence—are validated by the correlation analysis. Because of the low VIF values, which imply that multicollinearity is not a problem, the regression model is strong and the predictor estimates are trustworthy.

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Table 3 Showing the linear regression between Game Addiction and loneliness, Life Satisfaction and Self-esteem.

Game Addiction	Coef.	T-value	P-value
Loneliness	0.607	6.840	0.000**
life satisfaction	-0.251	-1.280	0.203
Self-esteem	-0.410	-2.400	0.017*
_cons	48.723	8.530	0.000**
R-squared	0.214		
F (3, 416)	37.680		0.000**
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	1.820		0.177
Shapiro-Wilk W test			0.774

*Note: * and ** denotes significance level at 5%, and 1% respectively*

The R-squared value of 0.2137 indicates that approximately 21.37% of the variance in game addiction is explained by the model, which includes loneliness, life satisfaction, and self-esteem as predictors. This suggests that while the model provides some explanatory power, a large portion of the variance in game addiction is still unexplained by these three variables alone. The F-statistic and its p-value indicate that the overall model is statistically significant, meaning that at least one of the predictors is significantly related to game addiction. The Breusch-Pagan test checks for heteroskedasticity (non-constant variance of errors). The p-value (0.17) is greater than 0.05, suggesting that there is no significant evidence of heteroskedasticity in the model. This means the assumption of homoscedasticity (constant variance of errors) is met. The Shapiro-Wilk test assesses the normality of the residuals. A W value close to 1 indicates normality. The value of 0.77 suggests a deviation from normality, indicating that the residuals may not be normally distributed. (table 3)

Regression coefficients and significance

As indicated in Table 3 there was positive coefficient for loneliness ($\beta=0.60$), indicates that an increase in loneliness is associated with an increase in game addiction. The t-value (6.84) and the very low p-value (0.000) suggest that this relationship is statistically significant at conventional levels ($p < 0.05$). Hence null hypothesis was rejected and alternated was retain. This means that loneliness is a strong and significant predictor of game addiction in this model. The negative coefficient for life satisfaction ($\beta=-0.25$) suggests that higher life satisfaction is associated with lower game addiction. However, the t-value (-1.28) and the p-value (0.203) indicate that this relationship is not statistically significant ($p > 0.05$). Therefore, we cannot conclude that life satisfaction significantly predicts game addiction based on this model. Thus, null hypothesis was accepted.

The negative coefficient for self-esteem ($\beta=-0.40$), indicates that higher self-esteem is associated with lower game addiction. The t-value (-2.4) and the p-value (0.017) show that this relationship is statistically significant ($p < 0.05$). Thus, self-esteem is a significant predictor of game addiction in this model. Hence null hypothesis was rejected and alternated was retain. The constant term represents the expected value of game addiction when all predictors are zero. The coefficient $\beta=48.72$, and its significance ($p < 0.05$) indicate that there is a baseline level of game addiction even when loneliness, life satisfaction, and self-esteem are all at their minimum levels.

DISCUSSION

The results of our study indicate that loneliness and self-esteem are significant predictors of game addiction among online gamers in Nagaland, while life satisfaction is not. Specifically, loneliness exhibits a strong positive relationship with game addiction. This suggests that Naga online gamers experiencing higher levels of loneliness are more likely to have higher levels of game addiction. The strong positive relationship between loneliness and game addiction aligns with existing research, which indicates that individuals may turn to video games as a means of escape or coping mechanism when they feel isolated or disconnected from others. Loneliness can lead to seeking social interaction in virtual environments, manifesting as an addiction to gaming. For instance, Hardie and Tee (2007) found that individuals with internet addiction reported higher levels of loneliness compared to rational internet users. This suggests that excessive internet use can lead to feelings of loneliness by isolating individuals and diminishing the quantity and quality of real-life social relationships.

Similarly, the UCLA Loneliness Scale and IGDS9-SF scores were significantly higher among those with game addiction compared to the controls (ÖNDER et al., 2022). Additionally, (Wang et al., 2019) revealed that adolescents with mobile game addiction reported higher levels of loneliness. This loneliness can lead to school rejection and increased gaming behavior. For example, lonely children may disengage from school, leading them to play more games, which in turn can worsen their feelings of loneliness (Lee et al., 2019). Overall, our study supports the notion that loneliness is a critical factor in understanding game addiction among online gamers in Nagaland, highlighting the need for interventions that address social isolation and promote real-life social connections.

Our study reveals that self-esteem has a negative relationship with game addiction among online gamers in Nagaland, suggesting that individuals with higher self-esteem are less likely to be addicted to games. This finding is consistent with psychological theories positing that individuals with higher self-esteem possess stronger internal resources and coping mechanisms, which reduce their reliance on external sources of validation or escape, such as gaming. Higher self-esteem is often associated with healthier behaviors and a greater sense of control over one's actions, potentially mitigating the risk of addictive gaming behaviors.

Supporting this, (Park & Kim, 2015) found a negative correlation between self-esteem and internet gaming addiction. This aligns with Joo's study, which identified significant relationships among internet game addiction, self-esteem, and physical health in middle school students. Specifically, the study found that the addiction risk group had lower self-esteem scores compared to the non-addiction group, suggesting that lower levels of self-esteem may be associated with a higher risk of internet game addiction among middle school students (Hyun Lee et al., 2013). Additionally, our study corroborates the findings of (Ko et al., 2005), which indicated that male adolescents with lower self-esteem are more easily addicted to playing online games. (Cudo et al., 2020) also demonstrated a significant indirect effect of self-esteem on gaming disorder, reinforcing the idea that self-esteem plays a crucial role in moderating gaming addiction.

Thus, the study underscores the importance of self-esteem in understanding and addressing game addiction among online gamers in Nagaland. Interventions aimed at enhancing self-esteem could be beneficial in reducing the risk of gaming addiction, emphasizing the need

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for comprehensive strategies that promote psychological well-being and resilience. Our study found that while life satisfaction is negatively correlated with game addiction among Naga online gamers, it does not significantly predict game addiction in this model. This suggests that although Naga online gamers with higher life satisfaction may engage in gaming less frequently or exhibit lower levels of addiction, the effect is not statistically significant when considered alongside factors such as loneliness and self-esteem.

This finding is consistent with previous research. For instance, (Lachmann et al., 2017) found a negative association between internet addiction and overall life satisfaction across both genders. Specifically, the negative association was evident in the complete sample as well as in business and private-commuter groups, though more pronounced among females. Additionally, (Phan et al., 2020) noted that higher life satisfaction makes it easier for individuals to cope with problems, suggesting that those with low life satisfaction might turn to video games as a means to increase their satisfaction.

Despite the negative correlation, life satisfaction did not emerge as a significant predictor of internet gaming disorder in our model. This could be due to other unexamined factors such as specific gaming motivations, social dynamics, or individual differences that may better explain the relationship between life satisfaction and game addiction. For instance, a study by (Filipovič et al., 2023) found that parental support mediated the relationship between perceived life satisfaction and internet gaming disorder in adolescents. (Ko et al., 2005) also noted that lower satisfaction with daily life was associated with more severe addiction. Furthermore, (Phan et al., 2020) found that symptoms of internet gaming disorder were significantly associated with decreased quality of life in male adolescents aged 15 and older, whereas no significant impact was found in female adolescents. Hence, while life satisfaction shows a negative correlation with game addiction, it does not significantly predict game addiction in our study model. This highlights the complexity of factors influencing game addiction and suggests the need for further research to explore additional variables that may better account for this relationship.

CONCLUSION

This study explores the connections between online game addiction and three key psychosocial factors: self-esteem, loneliness, and life satisfaction, based on responses from 420 active online gamers in Nagaland. The research emphasizes the significant impact of loneliness and self-esteem on predicting online game addiction among young gamers. While life satisfaction did not prove to be a significant predictor of game addiction, its role in overall well-being remains important. These findings suggest that interventions focused on addressing loneliness and enhancing self-esteem could be beneficial in reducing the risk of online game addiction. The study underscores the importance of understanding the psychosocial dimensions of game addiction, particularly how feelings of loneliness and low self-esteem contribute to this issue among youth gamers. By targeting these specific areas, strategies can be developed to help mitigate the addictive behaviors associated with online gaming. Therefore, even though life satisfaction might not directly predict game addiction, its contribution to general well-being should still be acknowledged and considered in broader interventions.

Limitation & Suggestion

The three variables of loneliness, self-esteem, and life satisfaction alone cannot explain a significant percentage of the variance in game addiction, according to our study's R-squared

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value of 0.2137. This shows that our current model does not account for all of the elements that influence game addiction. To improve the model's explanatory power, future research should investigate these correlations further, including taking into account additional characteristics that may influence game addiction in order to improve the model's explanatory power. To address residual non-normality, it may be useful to include extra predictors or apply transformation techniques. Social support, coping methods, and environmental factors may provide a more complete picture of the causes of game addiction. Furthermore, future research should consider using longitudinal designs to investigate causality and change across time. This technique would aid in understanding how the relationships between loneliness, self-esteem, life satisfaction, and game addiction grow, thereby providing more insight into the dynamics of gaming. In order to improve the model's explanatory power and lead to more successful treatments for gaming addiction, future studies should investigate these other aspects and use stronger study designs.

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Conflict of Interest

It has been stated by the author(s) that no conflict of interest exists.

Ethics Statement

The participants gave their written informed agreement to participate in this study, which ensures that their comments will remain personal and anonymous.

Author Contributions

The original manuscript was written by Kezhalhousa, Feedback was provided by W. Myllemngap, while data collection and analysis were also performed by Kezhalhousa.

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