How Does Loneliness Related To Online Gaming Addiction In Late Adolescents?

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ABSTRACT

This study aims to examine the relationship between loneliness and online gaming addiction among late adolescents. The hypothesis of this study is that there is a positive relationship between loneliness and online gaming addiction in late adolescents. The subjects in this study comprised 100 late adolescents aged 17-21 years who had been playing online games for a minimum of 12 months. The data collection method used the Internet Gaming Disorder Scale-9 Short Form to measure online gaming addiction and the De Jong Gierveld Loneliness Scale to measure loneliness. The data analysis technique used was Pearson's product-moment correlation analysis. Based on the data analysis results, a correlation coefficient of 0.663 with $p = 0.000$ ($p < 0.050$) was obtained. These results indicate that there is a significant positive relationship between loneliness and online gaming addiction in late adolescents. The coefficient of determination (R^2) between loneliness and online gaming addiction is 0.439, indicating that the loneliness variable contributes 43.9% to online gaming addiction, while the remaining 56.1% is influenced by other factors not examined in this study.

Keywords: *adolescent, online game addiction, loneliness*

Introduction

The advancement of information technology has reduced spatial and temporal limitations and has touched nearly every aspect of human life. As one of the products of information technology, the internet has also developed rapidly worldwide, influencing almost all aspects of society (Rajani & Chandio, 2004). In several countries, including Indonesia, the internet has become a primary necessity. According to data, there were around 110 million internet users in Indonesia in 2020 (Stefanny & Tiara, 2021).

One development affected by the internet is online gaming. Online games are understood as video games or visual-based games typically played via the internet or an available computer network (Adams & Rollings, 2006). The growth of online games has been supported by the development of the internet-based creative industry (Fajri, 2012). The advancement of gaming applications has been increasingly

rampant and sophisticated, resulting in some games being downloaded millions of times, such as *Subway Surfers*, which has been downloaded up to 82 million times (Koetsier, 2022).

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The growth of information technology, such as the internet and online games, also has a dark side (Tarafdar et al., 2015), including mental health issues (Bell, 2007; Lebni et al., 2020). Online gaming has become a highly popular pastime in Indonesia, replacing the popularity of traditional games in society (Royana, 2017). Currently, Indonesia ranks third globally in online game users, with a percentage of 94.7% (Dihni, 2022), with the 16-24 age group being the largest demographic of online gamers (DecisionLab, 2018). Other studies reveal that university students constitute the largest group actively playing online games (Putro & Nurjanah, 2013).

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Playing online games provides certain effects on an individual's psychological state, such as feelings of relief from pressure, comfort, peace, and happiness (Young, 2009), Even during the COVID-19 pandemic, online gaming also enhanced psychological well-being (Barr & Copeland-Stewart, 2022). These feelings of comfort, peace, happiness, and well-being are sought by online game players and serve as

positive reinforcement that increases the intensity of online gaming (Mathews et al., 2019) leading to addiction or dependency.

Online gaming addiction has been classified as a disorder known as Internet Gaming Disorder (APA, 2013) which includes nine criteria: preoccupation, tolerance, withdrawal, difficulty controlling online gaming participation, loss of interest in previous hobbies and pleasures due to online gaming, continuous and excessive play despite psychosocial issues, lying to close ones about the time spent on online gaming, turning to online games when facing life problems, and jeopardising social relationships, work, and career due to online gaming..

Online gaming addiction is influenced by several factors. According to King and Delfabbro (2018) the factors include individual differences, such as gender, age, personal traits and characteristics, self-regulation ability and decision-making, self-esteem and self-efficacy, and education level; external factors, such as environmental and peer influence; and game-related factors, such as game type and features.

According to the theory put forward by Young and De Abreu (2010) online gaming addiction has three factors: game design factors, such as game type; emotional and social factors, such as affective conditions, mood, and environment; and cognitive ability factors. Based on these theories, internal factors involving emotions, mood, and personal characteristics are critical and more easily treated compared to other factors (King & Delfabbro, 2018). One emotional and mood-related condition affected by personal characteristics is loneliness.

Loneliness is defined as the gap between the desired and achieved level of social relationships (Perlman & Peplau, 1981) or as a lack of emotional attachment to the social environment (Weiss, 1975). Loneliness is also understood as an unpleasant awareness resulting from poor quality or unsatisfactory social relationships (Myers et al., 2002). Among late adolescents and young adults, loneliness is also understood as a state of isolation from their social group (Laursen & Hartl, 2013), making loneliness an unpleasant condition. Such unpleasant loneliness is often avoided by engaging in enjoyable activities such as online gaming, which can provide a sense of comfort, happiness, and psychological well-being (Barr & Copeland-Stewart, 2022; Young, 2009). According to Qualter et al. (2015), late adolescents are more prone to loneliness due to changes in circumstances and surroundings and the exploration of identity, which renders their social relationships fragile. This feeling of loneliness drives them to play online games.

Loneliness has a strong association with online gaming addiction (Wang et al., 2019; Zeliha, 2019). Online games encourage players to engage in social interactions within the game, such as supporting each other, competing, and engaging in other interactions (Chen & Leung, 2016). These activities enhance feelings of comfort and happiness, creating positive reinforcement (Mathews et al., 2019) that players continue to pursue, thus increasing the potential for Internet Gaming Disorder (Zeliha, 2019).

Method

Participants

The subjects of this study are 100 late adolescents aged 17 to 21 years who have actively used online games within the past 12 months. Sixty-eight males and thirty-two females completed the loneliness scale developed from the De Jong Gierveld Loneliness Scale, which has been adapted into Indonesian and tested on 70 adolescents. This trial produced a Cronbach's alpha reliability coefficient of 0.843. A similar procedure was applied to the IGDS-9SF Scale, which is used to measure online gaming addiction. This IGDS-9SF Scale was translated and tested in Indonesian, resulting in a Cronbach's alpha reliability coefficient of 0.840.

The specific criteria for the study subjects are adolescents aged 17–21 years who have used online games within the last 12 months. The sampling method used in this study is convenience sampling, specifically purposive sampling, where subjects are selected based on their suitability with the research criteria.

The questionnaire was distributed to eligible subjects online via email or the WhatsApp platform. This was done because data collection took place during the COVID-19 pandemic, and Indonesia implemented strict health protocols.

The data analysis method used to test the hypothesis in this study is Pearson's product-moment correlation analysis. This analysis will reveal the direction and strength of the relationship between the two measured variables (Creswell & Creswell, 2017). The relationship between the two variables measured in this study is loneliness as the independent variable and online gaming addiction as the dependent variable. Statistical calculations were performed using the Jamovi data analysis software.

Result

The results of the normality test for loneliness and online gaming addiction data showed non-significant values (> 0.05). This indicates that both datasets passed the normality test. Additionally, both datasets underwent a linearity test with a p-score of < 0.05, indicating a linear relationship between loneliness and online gaming addiction.

Table 1.
Basic assumption and hypothesis test.

	Kesepian	Kecanduan Game Online
Uji Normalitas	0,200	0,141
Uji Linearitas	0,000	
Uji Hipotesis	0,000	

A hypothesis test was conducted to examine the relationship between loneliness and online gaming addiction. This hypothesis test used Pearson's product-moment correlation analysis, calculated with the assistance of SPSS version 25 (Statistical Product and Service Solution version 25). The rule for this correlation is as follows: if $p < 0.050$, there is a correlation between the independent and dependent variables; if $p \geq 0.050$, there is no correlation between the independent and dependent variables.

The correlation analysis result between loneliness and online gaming addiction yielded $r = 0.663$ and $p < 0.000$, indicating a significant positive correlation between loneliness and online gaming addiction. This finding supports the study hypothesis. The correlation coefficient of 0.663 indicates that the relationship between loneliness and online gaming addiction is positive, meaning that the higher the level of loneliness among late adolescents, the higher their online gaming intensity, which in turn increases their online gaming addiction. The correlation coefficient of 0.663 reflects a strong level of association between the two variables, as it falls within the interval of 0.60 – 0.799, categorized as a strong relationship (Unaradjan, 2019). Additionally, the determination coefficient (R^2) between loneliness and online gaming addiction is 0.439, showing that loneliness contributes 43.9% to online gaming addiction, while the remaining 56.1% is influenced by other factors.

Additional test

In addition to measuring the correlation between loneliness and online gaming addiction, this study also examined score differences for both variables based on gender.

Table 2.
Data based on sexual differences

	Mean male	Mean female	P significance
loneliness	36,93	36,19	0,426
Online game addiction	33,51	30,44	0,000

Data from the additional analysis showed no significant difference in the average loneliness scale scores between males and females, with $p > 0.05$. Meanwhile, the online gaming addiction scores for males were significantly higher than for females, with $p < 0.01$. This indicates that, among the subjects in this study, males exhibited a higher level of online gaming addiction compared to females, and this issue was more commonly observed in male subject.

Discussion

This indicates that loneliness can be considered one of the factors contributing to online gaming addiction among late adolescents. Consistent with previous research, loneliness is a significant factor in online gaming addiction. Lonely individuals are more vulnerable to experiencing online gaming addiction than those who are not lonely. Lonely individuals tend to play online games to fill a social and personal void in their lives. The interactive setting of games can modulate negative moods such as loneliness, enhance a sense of community, and increase feelings of togetherness with others. Thus, the social patterns seen in lonely individuals lead to an increase in online game usage (Chen & Leung, 2016). The inability to stop the increasing use of online games ultimately results in these individuals becoming addicted to online games (Prabowo & Juneman, 2012).

The social void that lonely individuals experience in real life can be filled through interpersonal communication and the interactive nature of online games, leading lonely individuals to spend more time playing online games (Wang et al., 2021). Moreover, advancements in online gaming technology enable lonely

individuals to experience positive self-evaluation and achievements they have never felt before, which in turn strengthens their dependence on online games and leads to addictive behavior (Lee et al., 2019). Previous research has stated that individuals addicted to online games are often those who feel lonely (Ekinci et al., 2019). Loneliness is a painful awareness that an individual's social relationships are qualitatively less meaningful or quantitatively fewer than desired. It involves feelings of isolation or a sense of mismatch with their social environment (Myers, 2012).

Based on additional analysis results, an independent samples t-test for the gender-based variable of online gaming addiction produced t = 5.221 with p = 0.000, indicating a significant difference between male and female online gaming addiction. Late adolescent males exhibited higher levels of online gaming addiction (Mean = 33.51) compared to late adolescent females (Mean = 30.44). This aligns with previous research which revealed that males are at greater risk of online gaming addiction than females (Li & Wang, 2013). This may occur because male players are more motivated to play online games, play more frequently, spend more time gaming, and hold a persistent perception that gaming is a male domain (Fox & Tang, 2014).

Conclusion

This study supports the initial hypothesis, indicating a highly significant relationship between the variables of loneliness and online gaming addiction among late adolescents. This suggests that individuals who feel lonely have a substantial potential for developing online gaming addiction. This finding aligns with previous research results. Additionally, this study shows that male adolescents have higher online gaming addiction scores compared to female adolescents. Lonely male adolescents are more prone to experiencing online gaming addiction.

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