



The Relationship Between Online Gambling Addiction Behavior with Anxiety Levels Among Adolescents in Madiun City

Aan Herwina Astutik¹, Riska Ratnawati², Karina Nur Ramadhanintyas^{3*}

^{1,2,3}Faculty of Public Health, STIKes Bhakti Husada Mulia Madiun*

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Abstract

Online gambling is increasingly prevalent among adolescents and may negatively affect mental health, particularly anxiety. This study aimed to examine the relationship between knowledge of online gambling risks, addictive gambling behavior, and anxiety levels among adolescents aged 17–24 years in Madiun City, Indonesia. A quantitative cross-sectional design was applied with 95 respondents selected through purposive sampling. Data were collected using validated questionnaires to assess knowledge and online gambling behavior, while anxiety was measured with the Zung Self-Anxiety Scale. Kendall's Tau test was used for analysis. Findings showed no significant association between knowledge of online gambling and anxiety ($p = 0.271$). However, addictive gambling behavior was significantly related to anxiety levels ($p = 0.001$). These results suggest that although adolescents may be aware of the dangers of online gambling, such knowledge does not necessarily influence their anxiety. In contrast, addictive behaviors contribute substantially to anxiety symptoms. This study highlights the need for interventions focusing on behavioral change through education, internet regulation, and psychosocial support for adolescents. Longitudinal studies are recommended to further explore the causal relationship between online gambling addiction and adolescent mental health.

Correspondence Address:

Aan Herwina Astutik
Faculty Of Public Health, STIKes
Bhakti Husada Mulia, Madiun City
Indonesia
E-mail:
aanherwina123@gmail.com

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Introduction

Adolescence is a transitional period between childhood and adulthood, marked by both physical and psychological changes (Sahputra et al., 2022). This stage is also characterized by identity exploration and experimentation, making adolescents highly susceptible to influence from their environment, peers, and media (Ihsanudin et al., 2023). One prevalent deviant behavior among adolescents today is involvement in online gambling, which can negatively impact various aspects of their lives, including financial stability, social relationships, self-control, engagement in criminal behavior, and mental health (Ihsanudin et al.,



2023) Mental health is crucial as it enables individuals to cope with life stress, work productively, and maintain healthy social interactions (WHO, 2022).

Poor mental health is indicated by psychological distress and emotional instability. If left unaddressed, it can adversely affect adolescent development and may evolve into more serious psychiatric disorders (Rahma et al., 2024). Anxiety is one of the most common issues, exacerbated by high curiosity and low self-regulation, leading adolescents to spend more time on online games, including gambling (Sahputra et al., 2022). Those who develop an addiction often exhibit obsessive behavior and loss of control, which can escalate into stress, depression, and in severe cases, self-harm or harming others (Arnit Kurnia Sari et al., 2024); (Addiyansyah & Roffi'ah, 2023)

Data indicate that online gambling transactions in Indonesia reached IDR 307 trillion in 2023, with 168 million transactions, reflecting the massive scale of this activity (BPS, Stop Judi Online, 2023). Young players constitute a significant portion, including 11% aged 10–20 years. East Java ranks fourth among provinces with the highest number of online gamblers (PPATK, 2024). The Indonesia National Adolescent Mental Health Survey (I-NAMHS) found that 34.9% of adolescents reported mental health problems, with anxiety being the largest contributor (25.4%) (Indonesia National Adolescent Mental Health Survey, 2022). Previous studies also reveal that most adolescents who engage in online gambling experience prolonged anxiety, stress, and depression (Wirareja & Sa'adah, 2024).

A preliminary study conducted at a coffee shop in Madiun on March 23, 2025, among adolescents aged 17–24 years using interviews found that 7 out of 10 participants experienced severe anxiety, and 3 moderate anxiety. They reported emotional disturbances, sleep issues, and negative behaviors such as debt accumulation, alcohol consumption, and violent acts. Adolescents are attracted to gambling due to financial incentives, easy access, and simple game systems. Popular platforms include Slot Pragmatic Play, Slot Habanero, Slot PG Soft, Slot Joker, Slot 88, Slot Microgaming, and parlay games (Mutiara, 2023). Additional motivating factors include economic needs, debt repayment, desire for luxury or leisure, and obtaining extra capital to continue gambling (Hidayah et al., 2024).

According to the World Health Organization's health behavior theory, individual behavior is influenced by understanding and consideration (knowledge, perception, attitude, beliefs), references from trusted individuals, available resources (money, facilities, time), and socio-cultural factors (Pakpahan, 2021). Online gambling practices are difficult for authorities to monitor due to closed and evolving digital networks. The financial and social consequences, such as debt and loss of family trust, can trigger stress, anxiety, and depression. Limited adolescent awareness of gambling risks highlights the importance of mental health education and promotion.

This study aims to provide a comprehensive understanding of online gambling behavior patterns, risk factors contributing to mental health problems, particularly anxiety, and strategies for prevention and intervention in Madiun City. The findings are expected to inform more effective mental health promotion through education, counseling, and stricter regulation of online gambling. Therefore, this research focuses on The Relationship Between Online Gambling Addiction Behavior and anxiety levels, a case study of Adolescents Aged 17–24 Years in Madiun City.

Methods

Adolescence is a transitional period from childhood to adulthood that involves both physical and psychological changes (Sahputra et al., 2022). This stage is also marked by identity exploration and self-discovery, making adolescents highly vulnerable to environmental, peer, and media influences (Ihsanudin et al., 2023). One of the deviant behaviors commonly found among adolescents today is online gambling, which negatively impacts various aspects of life, including financial stability, social relationships, self-control, involvement in criminal activities, and mental health (Ihsanudin et al., 2023). Mental health plays a crucial role by enabling individuals to cope with life's stresses, work productively, and maintain healthy social interactions (WHO, 2022).

Poor mental health is characterized by psychological distress and emotional instability. If left unaddressed, it can affect adolescent development and potentially lead to more serious psychiatric disorders (Rahma et al., 2024). Anxiety is one of the most common problems experienced by adolescents. This condition is exacerbated by high curiosity and low self-regulation, leading adolescents to spend more time on online games, including gambling (Sahputra et al., 2022). Adolescents who develop gambling addiction often exhibit obsessive behaviors and loss of self-control, which can escalate into stress, depression, and, in severe cases, self-harm or aggression toward others (Arnit Kurnia Sari et al., 2024; Addiyansyah & Roffi'ah, 2023).

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represent a significant proportion, with 11% aged 10–20 years. East Java ranks fourth among provinces with the highest number of online gamblers (PPATK, 2024). Findings from the Indonesia National Adolescent Mental Health Survey (I-NAMHS) revealed that 34.9% of adolescents experienced mental health problems, with anxiety being the largest contributor (25.4%) (I-NAMHS, 2022). Previous studies have also shown that most adolescents involved in online gambling suffer from prolonged anxiety, stress, and depression (Wirareja & Sa'adah, 2024).

A preliminary study conducted at a coffee shop in Madiun City in May 2025, involving adolescents aged 17–24 years through interviews, found that 7 out of 10 participants experienced severe anxiety and 3 experienced moderate anxiety. They reported emotional disturbances, sleep problems, and negative behaviors such as accumulating debt, alcohol consumption, and violent actions. Adolescents are attracted to online gambling due to financial rewards, easy access, and simple game systems. Popular platforms include Slot Pragmatic Play, Slot Habanero, Slot PG Soft, Slot Joker, Slot 88, Slot Microgaming, and parlay games (Mutiara, 2023). Additional driving factors include economic needs, debt repayment, desire for luxury or entertainment, and efforts to obtain additional capital to continue gambling (Hidayah et al., 2024).

According to the World Health Organization's health behavior theory, individual behavior is influenced by knowledge, perceptions, attitudes, and beliefs, as well as references from trusted individuals, available resources (money, facilities, time), and socio-cultural factors (Pakpahan, 2021). Online gambling practices are difficult for authorities to monitor as they occur within closed and continuously evolving digital networks. Financial and social consequences, such as debt and loss of family trust, can trigger stress, anxiety, and depression. The low level of adolescent awareness regarding the risks of gambling emphasizes the importance of mental health education and promotion.

Several previous studies have also discussed the relationship between online gambling and adolescents' psychological conditions. Research by Addiyansyah (2023), titled *Online Gambling Addiction Among Adolescents in Cilebut Barat Village, Sukaraja District, Bogor Regency*, which used a qualitative approach, revealed that the impacts of online gambling on adolescents are highly significant, spanning social, economic, and psychological aspects. Furthermore, a study by Dwi Fitria Sari (2024), titled *Online Gambling Addiction as a Form of Anxiety Among Adolescents*, using a quantitative correlational method, showed that male adolescents were more likely to experience online gambling addiction than females, and there was a significant relationship between gambling addiction and anxiety levels. However, these studies did not provide detailed information on respondent characteristics, such as reasons for gambling, activity status (students, university students, or workers), and other contributing factors.

Therefore, this study introduces a novelty by presenting a more comprehensive analysis of the relationship between online gambling addiction behavior and anxiety levels among adolescents aged 17–24 years in Madiun City. The findings are expected to enrich scientific literature and strengthen mental health promotion efforts among adolescents. This study has also obtained ethical approval from the Health Research Ethics Committee of STIKES Bhakti Husada Mulia Madiun, with approval number 046/E-KEPK/STIKES/BHM/V/27 Mei 2025, and all participants provided informed consent before data collection. This study aims to provide a comprehensive understanding of online gambling behavior patterns, risk factors contributing to mental health problems—particularly anxiety—and strategies for prevention and intervention in Madiun City. The results are expected to serve as a foundation for more effective mental health promotion through education, counseling, and stricter regulation of online gambling practices. Therefore, this research focuses on *The Relationship Between Online Gambling Addiction Behavior and Anxiety Levels: A Case Study of Adolescents Aged 17–24 Years in Madiun City*.

Results

The results of the univariate data analysis for general characteristics, including gender, age of respondents, respondents' activity status, level of addiction, and reasons for engaging in online gambling. The univariate data analysis results for the independent variables include knowledge of the impacts of online gambling and online gambling addiction behavior. In addition, the univariate data analysis results for the dependent variable are the anxiety levels.

Table 1. Presentation of General Research Data

Data	f	%
Gender		
- Female	2	2
- Male	93	98



Data	f	%
Respondent's Age		
- 16-20 years	30	31,6
- 21-24 years	65	68,4
Activity Status		
- School Student	23	24,6
- University Student	37	38,7
- Worker	35	36,7
Duration of Online Gambling		
- < 1 Years	7	7,4
- 1-5 Years	69	72,6
- > 5 Years	19	20,0
Reasons for Involvement in Online Gambling		
- Friends	21	21,9
- Economic Factors	21	21,9
- Social Environment	25	26,5
- Leisure Activities	17	17,9
- Curiosity	11	11,8
Total	95	100

Table 1 shows that the majority of players are male, most commonly aged 21-24 years. The majority of respondents are students and, on average, have been engaged in online gambling for 1-5 years. The main reason for participating in online gambling is the influence of the social environment

Table 2. Presentation of Independent Variables

Variables	f	%	Min	Max	Mean	Median
Knowledge						
- Adequate knowledge	71	74,7%				
- Inadequate knowledge	24	25,3%	3	10	7,47	8.00
Total	95	100%				
Behavior of Online Gambling Addiction						
- Positive	29	69,5%				
- Negative	66	30,5%	21	49	36,34	38.00
Total	95	100%				

Table 2 shows that the majority of respondents have good knowledge regarding the impacts of online gambling. However, despite having a relatively good level of knowledge, most respondents still demonstrate negative behavior toward online gambling activities, indicating a gap between the knowledge they possess and the behavior they exhibit.

Table 3. Presentation of Dependent Variables

Variables	f	%	Min	Max	Mean	Median
Levels of Anxiety						
- Normal	0	0%				
- Moderate	26	27,4%	22	61	41,60	42,00
- Severe	67	70,5%				
- Extremely Severe	2	2,1%				
Total	95	100%				

Table 3 shows that the average level of anxiety among respondents falls into the severe anxiety category, indicating that most respondents experience high and significant symptoms of anxiety. This finding suggests that the psychological condition of the respondents is relatively unstable, which may affect their daily activities, social interactions, and their ability to control behaviors, including the tendency to engage in risky behaviors such as online gambling addiction.



Table 4. Bivariate Data Analysis

Variables	Statistics Test	Result
Knowledge with Anxiety Levels	Kendall's tau b Correlation coefficient	0,013
	Sig. (2 Tailed)	0,271
	N	95
behavior with anxiety levels	Kendall's tau b Correlation coefficient	0,333
	Sig. (2 Tailed)	0,001
	N	95

Based on Kendall's Tau-b test results, knowledge is not significantly related to respondents' anxiety levels, as indicated by a correlation coefficient of 0.013 and a p-value of 0.271, indicating a very weak and statistically non-significant relationship. In contrast, online gambling behavior demonstrates a significant relationship with anxiety levels, with a correlation coefficient of 0.333 and a p-value of 0.001, which indicates a moderate correlation. This suggests that the higher the level of online gambling addiction, the higher the anxiety level among adolescents, while the level of knowledge does not have a meaningful impact on their anxiety.

Discussion

Based on the data distribution, the majority of respondents, both those with good knowledge and those with limited knowledge about online gambling, tended to experience severe anxiety. In the moderate anxiety category, most respondents (31.0%) came from the good knowledge group, while only 16.7% of those with limited knowledge experienced moderate anxiety. In the severe anxiety category, 66.2% of respondents were from the good knowledge group and 83.3% from the limited knowledge group. Even in the extreme anxiety category, all respondents belonged to the good knowledge group. Regarding behavior, most respondents with severe anxiety exhibited negative behavior toward online gambling (53 respondents, 80.3%), whereas positive behavior was more common in the moderate anxiety category (15 respondents, 51.7%). Kendall's Tau-b analysis indicated a significant relationship between online gambling addiction behavior and anxiety levels ($p = 0.000$), while the relationship between knowledge about online gambling and anxiety was not significant ($p = 0.271 > \alpha 0.05$). These findings indicate that active gambling behavior correlates with higher anxiety, whereas knowledge alone is insufficient to reduce anxiety levels.

This phenomenon can be explained through the cognitive-behavioral gap, where high knowledge of online gambling risks does not necessarily influence behavior or emotions directly (Pakpahan, 2021). Individuals with high knowledge may still experience anxiety because they feel unable to control or stop their gambling habits. This heightened awareness can trigger internal conflicts, guilt, fear, and increased stress. Additionally, external and social factors play a crucial role. Respondents, most of whom are university students, remain in environments that encourage gambling, such as peer groups who also gamble online, lack of family support, or economic pressures. These factors can increase anxiety even when individuals possess sufficient knowledge about the risks.

The ability to manage stress and emotions also affects the relationship between knowledge and anxiety. Knowledge alone is insufficient to reduce anxiety if respondents lack emotional regulation or coping skills. Some respondents may face life pressures, trauma, or other psychosocial problems that cannot be resolved solely through understanding the risks of addictive behavior. Emotional dependence on gambling further contributes to anxiety. In cases of addiction, online gambling is not merely a form of entertainment but serves as a coping mechanism or escape from reality, making it difficult to quit despite awareness of its negative impacts.

This study aligns with (Lilis, 2021) in Toroh District, which demonstrated a significant relationship between online gambling addiction behavior and anxiety levels ($p = 0.000$), as well as Lazarus' stress and coping theory, which posits that addictive behavior often functions as an escape mechanism but creates a new stress cycle that triggers anxiety (Sri Wahyuningsih, 2024). Uncontrolled negative behavior is also associated with weak self-control and increased impulsivity among adolescents. These conditions make adolescents more vulnerable to chronic anxiety, social conflicts, and interpersonal problems, highlighting the need for interventions that not only improve knowledge but also shape attitudes, rehabilitate behavior, provide psychological counseling, and strengthen social support from family, schools, and communities.

The characteristics of the respondents indicate that most were late adolescents (20–24 years old), university students, and not yet employed, who are in a developmental stage of identity exploration, autonomy achievement, and independent decision-making. At this age, self-control is not fully mature,



particularly regarding technology and digital media use. The relatively higher free time combined with academic pressure may encourage online gambling activities. Questionnaire results showed that respondents with high scores on items such as “finding it difficult to control the urge to gamble online” or “preferring gambling over more productive activities” also tended to have high anxiety scores, demonstrating a direct link between individual attachment to online gambling and emotional instability.

Moreover, gender influences behavior and anxiety levels. Male respondents exhibited a higher tendency to engage in online gambling compared to females and experienced mild to moderate anxiety more frequently. This aligns with previous studies indicating that males are more vulnerable to technology-based addictive behaviors. Anxiety among respondents may arise due to various gambling-related factors, including financial losses, guilt from negative habits, and conflicts with parents or social environments.

This study emphasizes the imbalance between cognitive aspects (knowledge) and affective aspects (emotion/anxiety), which poses a challenge in education and prevention efforts targeting online gambling addiction among adolescents. Knowledge enhancement must be accompanied by approaches that shape attitudes, increase awareness, instill moral values, and strengthen self-control from an early age. Interventions focusing solely on cognitive aspects will not be sufficiently effective without the reinforcement of emotional regulation skills, social support, and appropriate coping strategies (Suhur et al., 2025).

Overall, this study confirms that online gambling addiction behavior significantly impacts adolescent mental health, particularly anxiety levels. Effective prevention and intervention require a multidimensional approach, including cognitive education, emotional management, reinforcement of social support, modification of social environments, and the development of effective coping and self-regulation strategies (Rizka Daniah et al., 2024; Suhur et al., 2025; Sri Wahyuningsih, 2024; Pakpahan, 2021). A comprehensive approach is expected to reduce adolescents' anxiety levels and prevent recurrent gambling behaviors, thereby supporting healthier psychosocial development during this complex transitional stage.

Conclusion

Based on the data and research findings, it can be concluded that most adolescents aged 17–24 who are addicted to online gambling in Madiun City experience severe anxiety and exhibit negative attitudes and behaviors. This study also found a significant relationship between online gambling addiction behaviors and attitudes with anxiety levels among these adolescents.

Based on these findings, the community is expected to increase awareness of the negative impacts of online gambling, particularly on mental health, such as anxiety. Parents, community leaders, and the broader community should pay closer attention to adolescents' activities and foster a supportive environment that encourages positive behaviors. Community-based promotive and preventive efforts are also important to help prevent addictive behaviors among adolescents.

For future researchers, it is recommended to conduct studies in schools, universities, or youth communities, such as colleges or senior high schools in Madiun City and the surrounding areas. These locations are appropriate for the field of Health Promotion because they enable educational interventions that can increase knowledge, foster positive attitudes, and prevent anxiety-related negative behaviors.

Authors Contribution

Aan Herwina, Riska Ratnawati, Karina Nur Ramadhanintyas.; methodology, validation, resources, writing—original draft preparation, writing—review and editing, project administration, and funding acquisition.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of STIKes Bhakti Husada Mulia Madiun, Number: 046/E-KEPK/STIKES/BHM/V/27 Mei 2025.



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Conflicts of Interest:

The authors declare no conflict of interest.

Appendix

Table 1. Presentation of General Research Data

Table 2. Presentation of Independent Variables

Table 3. Presentation of Dependent Variables

Table 4. Bivariate Data Analysis

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