

Factors contributing to online game addiction in adolescents: a systematic review

Nursalam, Dwi Indah Iswanti, Nia Agustiningsih, Faizatur Rohmi, Bhakti Permana,
Rio Ady Erwansyah

Department of Nursing, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

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ABSTRACT

The excessive use of online games can disturb the psychological, physiological, and behavioral balance of adolescents. This study aimed to identify the factors contributing to online game addiction. On databases like Scopus (20 articles), ProQuest (113 articles), SAGE (214 articles), and Springer (596 articles), published within the last five years, a systematic review was carried out using the population, intervention, comparison, outcome, study design (PICOS) framework. The articles that were chosen employed empirical quantitative, qualitative, or mixed-methods research on young people who were addicted to online games and were published between 2018 and 2023. The review's inclusion criteria were met by 25 papers. Factors can increase the risk of adolescents experiencing online game addiction, including adolescent factors consisting of, adolescent life satisfaction, and duration of smartphone use, parenting and communication, parental support, and parental income, friendship relationships and the school environment. These findings are expected to serve as the foundation for parents and teenagers to identify the cause of problems in order to reduce harmful consequences. Nurses are expected to be able to identify elements that contribute to adolescent online game addiction and devise interventions to assist adolescents in liberating themselves.

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Corresponding Author:

Dwi Indah Iswanti

Department of Nursing, Faculty of Nursing, Universitas Airlangga

Surabaya, Indonesia

Email: dwi.indah.iswanti-2021@fkip.unair.ac.id

1. INTRODUCTION

Excessive use of games is known to have detrimental effects on the physical and mental health of teenagers, including lack of physical exercise, lack of sleep, and decreased face-to-face social interaction, leading to low social skills [1], [2]. Low social skills in teenagers will result in poor peer relationships, an inability to adapt to the surrounding environment, decreased academic ability leading to low self-esteem, and the tendency to behave less normatively and more extremely, causing juvenile delinquency and even mental disorders [3]–[5]. Efforts to prevent game addiction have been made by providing prevention education, but the education provided only focuses on knowledge, so this is still not optimal. In addition, it is also not known about the specific factors that contribute to online gaming. Therefore, it is very necessary to further examine what factors influence online gaming addiction in teenagers.

According to a global survey in 2021, the prevalence of gaming disorder was reported that more than 2 billion people play video games worldwide, which will exceed 3 billion in 2023, and 3–4% of gamers experience video game addiction [6]. In 2021, the global prevalence was found to be 3.05%, which means that there are about At least 60 million people worldwide suffer from gaming disorders [6]. Teenagers are the

age group that experiences the most problems with online gaming addiction [7], [8]. Online gaming addiction occurs in teenagers aged 14–19 years, and most of them are 16 years old [9], [10]. Male and female teenagers have equal opportunities to play games, although males have more experience and gaming skills than females [11] and gaming addiction is more common among male teenagers [12]. The results of a CNN Indonesia report in October 2021 showed that 19.3% of teenagers in Indonesia are addicted to the Internet [13].

Online gaming is an internet-based game that is currently popular due to the development of attractive content and its adrenaline points, making online games more popular [14]. Various factors are suspected to contribute to gaming addiction, including internal, social, situational, and external factors [8], [15]. The lack of emotional presence from parents is one factor that encourages teenagers to seek refuge or comfort [16].

Games become a coping mechanism for all the problems they face. Like drugs, gaming is used to avoid stressful environments and unpleasant feelings, so people will forget their problems. With the use of internet gaming as a form of coping with real-world problems, individuals who are already addicted to online games can be interpreted as escaping from a depressed state [17]. Online gaming addiction can cause social anxiety, limiting teenagers' ability to communicate healthily with their peers, where peer relationships are crucial for teenagers [18]. Concerning the above, to control online gaming addiction, it is necessary to know what factors contribute to it. Therefore, this systematic review will discuss what factors contribute to online gaming addiction.

2. RESEARCH METHOD

A synthesis of pertinent papers on the causes of teen addiction to online gaming was done using a systematic review. The centre for review and dissemination and the Joanna Briggs Institute's criteria, as well as the PRISMA checklist, were utilized to assess the studies' quality. Using the population, intervention, comparison, outcome, study design (PICOS) approach to determine inclusion and exclusion criteria.

2.1. Search strategy and inclusion criteria for systematic reviews

The following electronic databases were initially used to conduct a thorough literature search for published studies: SCOPUS, PROQUEST, SAGE, and SpringerLink. The reference lists of the papers that were found were further searched to find more articles. Studies had to have been written in English within the previous five years (2018–2023), use quantitative or qualitative research designs, and recruit adolescents in order to meet the inclusion criteria. The search terms utilized were "game addiction", "adolescent", "predictor", "reason", "factor", "variable", "determinant", "element", "component", "aspect", "belief", "attitude", "influence", and "effect". The inclusion and exclusion criteria are presented in Table 1, and were used to choose the articles found through the search method.

Tabel 1. Inclusion and exclusion criteria with PICOS

Criteria	Inclusion	Exclusion
Population	Teenage	Children
Intervention	No Intervention	No Intervention
Comparisons	No Comparisons	No Comparisons
Outcome	Factors that influence online game addiction.	Not relevant with online game addiction
Study type	Cross sectional, longitudinal study	Systematic or literaturereviews
Publication type	Peer reviewed original studies non-peer-reviewed studies	Peer reviewed original studies non-peer-reviewed studies
Publication years	2018–2023	Pre 2018
Languange	English	Non-English Language

2.2. Study selection, data extraction, and management

The entire texts were examined based on the publishing year, the database was searched, the population was examined, and elements impacting online game addiction were identified. The full contents, abstracts, and titles of the articles were independently reviewed by the authors. Based on relevance to the subject, the caliber of the research, the strength of the evidence, and other inclusion and exclusion criteria, the writers evaluated the full-text versions of potential articles before deciding whether or not to include them in the review. Each article that was kept was evaluated, and the most important details were compiled into evidence tables that summarized the research methodology and conclusions of each piece. Additional tables provided a summary of the approach, findings, and suggestions. Each study's risk of bias was evaluated using the technique outlined [19]. Once again, disagreements were resolved through discussion.

2.3. Outcome measures

In the outputs that we have set, we focus on the field of online games. We focus on articles that consider the factors that influence online gaming addiction. The target audience is addolnecent.

3. RESULTS

3.1. Study characteristics

Based on the search results, the characteristics of the articles that have been found are obtained. Twenty-five articles met the inclusion criteria for review as shown in Figure 1. Evidence supports the contribution of adolescent factors, parental factors, and environmental factors that cause online game addiction. Existing articles are presented as in the following PRISMA flow.

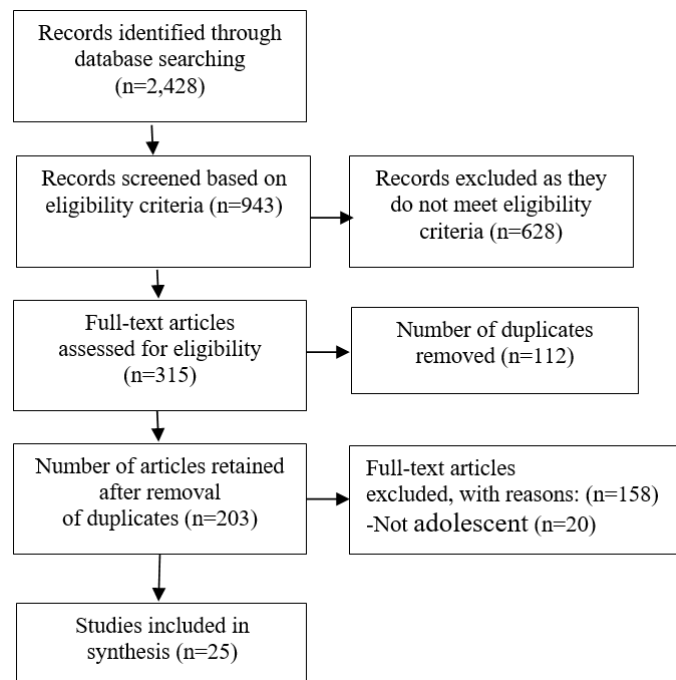


Figure 1. PRISMA flow chat

3.2. Adolescent characteristics

3.2.1. Gender

Playing online or offline games does not discriminate by gender. This is consistent with research that explains that both males and females have equal opportunities to play games, although males have more experience and gaming skills than female adolescents [11], [20] and the tendency to play games is not only done by male adolescents but also female adolescents, although some studies state that the incidence of game addiction is more commonly experienced by male adolescents [12], [21], [22].

3.2.2. Age

Based on age, it was found that among 14–19-year-old adolescents in junior high and high schools, the majority of respondents who played games were 16 years old. According to some studies, it is known that the prevalence of game addiction occurs at the age of 16, in the age range of 13–29 years and 16–21 years [10], [23].

3.3. Factors influencing online game addiction in adolescents

Several contributing factors can increase the risk of adolescents experiencing online game addiction, including; i) adolescent factors consisting of cognitive factors, adolescent life satisfaction, and duration of smartphone use. ii) Parental factors, consisting of parenting and communication, parental support, and parental income. iii) Environmental factors, consisting of friendship relationships and the school environment, can cause academic stress in school.

4. DISCUSSION

4.1. Adolescent factors

Online game addiction is influenced by several factors, including adolescent factors, parental factors, and environmental factors. Factors affecting adolescents include cognitive factors, adolescent satisfaction with life, and the duration of smartphone use. The parental factors include parenting, communication, parental support, and socioeconomic conditions. Environmental factors are related to the conditions that exist around adolescents, such as teachers, friends, and the environment in the school environment. A more complete explanation of the factors that contribute to online addiction, as discussed in the following discussion.

4.1.1. Cognitive factors

One form of maladaptive cognition is constantly thinking and worrying about excessive internet use in someone, resulting in continuous memories of the internet [24]. In addition, maladaptive cognition is also related to self-concept, feeling like nobody in the real world, but feeling like someone meaningful when entering the online world. The behavioral implications that arise include creating and controlling online profiles, and allowing entry into various online games [25]. Internet gaming players feel more valued and successful when in the online gaming world compared to the real world, so they will feel very disturbed when online games are not available [26].

Certain maladaptive beliefs in this cognitive factor are categorized as follows: excessive evaluation of game rewards and identity, inflexible rules and biases that arise in game situations, excessive dependence on games to meet self-esteem needs, and playing games as a method of gaining social acceptance [27], [28]. The results of this study show a positive linear relationship between the presence of maladaptive game cognition, especially maladaptive rules about games and game-based self-esteem, and symptoms of game addiction [29], [30].

4.1.2. Adolescent life satisfaction

Adolescent life satisfaction is related to the happiness and well-being felt by adolescents. Adolescents who do not feel life satisfaction will feel sadness and depression [31]–[33]. Playing games is one of the activities that are entertaining and fantasy-like, allowing interactions with other players without being limited by time and place. This is a new experience for depressed individuals that is very attractive, so they are interested in experiencing it, which then leads to addiction [12]. Several studies explain some motivations why someone is interested in internet gaming, including entertainment and pleasure, emotional coping, seeking challenges, and escaping from reality [34]. Players who are addicted to playing to avoid dissatisfaction [35], could be exhibiting indications of withdrawal symptoms, they want to overcome it by playing compulsively.

The use of internet gaming as a coping mechanism for problems in the real world is in line with the explanation that individuals who are already excessively using online games can be interpreted as individuals who are escaping from depression [17]. This addiction can be started by someone playing online games to meet other interests or greater commitments, regardless of the negative consequences [36], [37]. Online games typically contain and support particular features and components, such as comprehension of the plot, distinctive simulations, versatility, competition, and intriguing plots or stories, which lead to addiction.

Shyness is defined as a form of discomfort with oneself (feeling strange, too self-conscious) and tends to become someone else to fit in with the desired social environment [38]. Shy individuals tend to feel anxious and insecure because they feel judged and afraid of rejection by others when establishing direct interpersonal relationships. When in the virtual world, shy individuals have the freedom to do inhibition (change themselves) because of the anonymity facilities so that others do not know the actual physical form and social relationship. Based on several studies, shy individuals tend to prefer relationships through the virtual world in addition to entertainment media. In reality, entertainment and communication are the main components of online games. Thus, shy individuals can fulfill the need for dependence on others through this internet game.

4.1.3. Smartphone usage duration

Teens are more at risk of smartphone addiction compared to adults, as they do not have good self-control in smartphone usage. Teens with working parents may be at risk of smartphone addiction, possibly because they are not supervised by their parents after school and they will use their smartphones without rules and guidelines [29]. Smartphone addiction becomes one of the drivers for teens to be addicted to games, so it is interrelated. Online gaming has evolved into a significant life event that affects how people think, behave, and react. The sensation of quiet and tranquility that players experience while playing the game is what makes it feel like an escape. The system by which individuals begin messing around more regularly and

investing more energy messing around. At the point when the game is unexpectedly diminished or halted, serious sensations of discouragement and outrage, like shaking and upsetting profound impacts, emerge. This makes teenagers continue to try to meet their gaming needs because they feel a temporary sense of calmness (as a distraction) [37].

4.2. Parental factors

Parent-child relationships, communication, and family cohesiveness, as well as family support, are important to form child-family relationships so that children don't feel lonely. The lack of cohesiveness in the family environment will cause children to seek comfort in other ways, such as playing online games. Parental factors that contribute to gaming addiction are parenting and communication, parental support, and parental income.

4.2.1. Parenting, parental communication, and parental support

The most relevant factors in parenting and parental communication related to gaming addiction are hazardous family connections, family union troubles [39], parental emotional well-being issues, and the shortfall of rules for web gaming usage [40]. Three aspects of psychological parental control are linked to addictive behaviour [38], [41]. Parental mental control, a subset of parental control, can be defined as parental behaviour that interferes with and manipulates a child's ideas, feelings, and attachment to their parents. Such parental practises, such as instilling guilt, withholding love, and asserting power, might be categorised as manipulative and psychologically repressive [42]. Inducing guilt is a type of parental behaviour that makes a youngster feel bad for not complying with their parents' requests.

Parents who remove their affection and attention from their children until their performance matches their standards are said to be exhibiting love withdrawal. Assertion of authority is a type of parental behaviour in which parents restrict their child's ability to express his or her feelings and opinions. Parental psychological control differs from parental behavioural management significantly [43]. The first sort of parental control disrupts a child's psychological development by affecting their ideas and feelings, whereas the second aims to control or manage a child's behaviour.

Individual addiction behaviour is thought to be influenced by psychological parental control. To explain this association, three theories have been extensively presented. The primary hypothesis (self-assurance hypothesis) asserts that self-assurance upgrades or debilitates teenagers' inspiration and inherent assimilation, influencing their independence, character, and capability and prompting broken cell phone and web use to meet their mental necessities [43]. The subsequent hypothesis, named the social bond hypothesis by scholastics, holds that parental mental control is related with lower levels of youngsters' social bonds, which obstruct the improvement of individual relational connections and, thus, increment their degree of cell phone and web fixation. As per the third hypothesis (natural framework hypothesis), parental mental control impacts youngsters' expert requirements. When children's professional needs do not match their parents' professional needs, they exhibit mental instabilities. In this instance, the youngsters may be predisposed to addictive behaviour.

Positive family factors, like positive impression of the family climate, the glow inside the family, or closeness among guardians and kids [39], additionally act as defensive variables against computer game compulsion [35]. Game addiction is associated with low emotional and affectionate family relationships. Game addiction is associated with higher motor impulsivity, and lower family suitability and determination. Remission is associated with decreased anxiety and hostility and increased adolescent emotional stability. These discoveries recommend that profound prosperity and family change might be pertinent to the compelling administration of game-playing conduct [40], [44].

4.2.2. Socio-economic conditions

Newly emerging family types (multicultural/dual income) affect web-based game enslavement. [45], delinquency, and adolescent motive for engagement in online gaming [46]. Teenagers from double pay homes scored a lot higher on all delinquent and compulsion risk markers. Besides, young people from multicultural families scored a lot higher on the compulsion factor "mind-set change". At last, young people from double pay families are headed to play web-based games to sit back, though youths from multicultural families play internet games to mingle.

4.3. Environmental factors

Conducive classroom atmosphere, support from the teacher, and good relations between students are significantly negatively correlated with adolescent game addiction [37], [41], [47]. Internet accessibility and peer relationships will be associated with factors that reinforce adolescent game addiction [48]. In other words, when adolescents feel positive support from teachers and from other students, they do not have contact with friends who deviate, which reduces the risk of online game addiction [49].

5. CONCLUSION

The factors influencing online game addiction in adolescents, including: adolescent factors consisting, parental factors and environmental factors. This study yields important information about the factors that affect adolescents addicted to online games. These findings are expected to be the basis for parents, and adolescents to identify the source of problems to minimize negative impacts. Nurses as health care provider carrying out health promotion are expected to be able to identify the factors that cause online game addiction experienced by adolescents and develop interventions to help adolescents get out of online game addiction to help adolescents achieve better achievements and better social skills.

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BIOGRAPHIES OF AUTHORS







Nursalam     He is a Professor of Faculty of Nursing, Universitas Airlangga. His research interests are mainly focused in Nursing Management, Basic and Medical Surgical Nursing, Critical Nursing. Active member and Head of Association of Indonesian Nurses Education Center (AINEC) and Persatuan Perawat Nasional Indonesia (PPNI) at east java province. He can be contacted at email: nursalam@fkip.unair.ac.id.







Dwi Indah Iswanti     She is Doctoral Program in Nursing, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia and a Senior Lecturer in the Faculty of Nursing and Health Science, Universitas Karya Husada Semarang. Her research interests are mainly focused in Mental Health Nursing. Active member of Ikatan Perawat Kesehatan Jiwa Indonesia (IPKJI). She can be contacted at email: dwi.indah.iswanti-2021@fkip.unair.ac.id.







Nia Agustiningih     She is a Doctoral student, Faculty of Nursing, Universitas Airlangga and working at Sekolah Tinggi Ilmu Kesehatan Kepanjen, Malang. scientific focus on psychiatric nursing in the areas of mental disorders, psychosocial problems and mental health in adolescents. Research focus in mental health and psychosocial problems in adolescents etc. She can be contacted at email: anisa.hanifa1115@gmail.com.







Faizatur Rohmi     She is Doctoral Program in Nursing, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia and a Senior Lecturer in the Faculty of Nursing, Sekolah Tinggi Ilmu Kesehatan Kepanjen. Research focus in mental health especially schizophrenia. Active member of Ikatan Perawat Kesehatan Jiwa Indonesia (IPKJI). She can be contacted at email: faizatur.rohmi-2021@fkip.unair.ac.id.



Bhakti Permana     He is a Doctoral student, Faculty of Nursing-Universitas Airlangga and working at STIKep PPNI Jabar, Bandung. Scientific focus on fundamental dan community nursing. Research focus: caring, character, community and family development. He can be contacted at email: bhakti.permana-2021@fkip.unair.ac.id.



Rio Ady Erwansyah     He is Doctoral Program in Nursing, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia and a Senior Lecturer in the Faculty of Nursing, Sekolah Tinggi Ilmu Kesehatan Hutama Abdi Husada Tulungagung. Research focus in HIV AIDS. Active member of Persatuan Perawat Nasional Indonesia (PPNI). He can be contacted at email: rio.ady.erwansyah-2021@fkip.unair.ac.id.