
Social Effects of Online Game Addiction in Adolescents: A Systematic Review

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ABSTRACT

Online games are becoming increasingly popular and worldwide due to the rising constant development of technology. Internet gaming addiction is currently considered as global problem especially video game addiction has attracted interest among certain people. This study aimed to determine the social effects of online game addiction in adolescents and increase our knowledge of adolescents who experience online game addiction. This was a systematic review of the literature using the Scopus, Science Direct and SAGE Journals databases during five years with a randomized controlled trial. The following keywords were used “online game addiction”, “online game”, and “adolescents”. Of a total of 1,746 titles, 15 studies were included, of which all titles were randomized clinical trials. All the studies included online game addiction, focusing on the effect of social influence on online gaming addiction in adolescents. Based on the findings of 15 research articles used showed that there was a social influence on online gaming addiction experienced by adolescents. Social constraints proved to be an essential factor in the excessive internet use of adolescents. Other findings showed that associated internet gaming disorders and a lack of attention suggests that individualistic cultural orientations exacerbate these relationships without gender differences. There was evidence of a high prevalence of online gaming addiction among adolescents.

Keywords: Online Game Addiction, Online Games, Adolescents

Received April 17, 2021; Revised April 27, 2021; Accepted May 1, 2021



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BACKGROUND

Computer games are gaining popularity and well-known globally due to the constant development of technology and enhanced availability of technology than computers and smartphones. In response to global advances, a growing trend of research attempts to explore the lives of gamers and special attend to the problems associated with computer games overuse (Grajewski & Dragan, 2020). The internet presents many opportunities, challenges, and risks for teenagers today (Blinka et al., 2020). The growth in internet gaming use in the last 20 years among adolescents and young adults has raised reasonable concerns about the possible development of the addiction phenomenon (Kuss, 2013 in De Pasquale et al., 2020). Internet game addiction is currently considered a global problem. In particular, video game addiction has attracted particular interest among people (De Pasquale et al., 2020). The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5, American Psychiatric Association, 2013) has expanded the concept of addictive disorders to include gambling disorder as a DSM-5 addictive disorder. Apart from gambling disorders, internet gaming disorders were introduced in part III of the DSM-5 to study further. The 11th and the latest edition of the World Health Organization International Classification of Diseases (ICD-11) also introduces behavioral addictions as addictive disorders with the inclusion of gambling and video game disorders in the addictive disorder section (Saunders, 2017 in Liese et al., 2020).

Poland is the second-largest gaming market in Eastern Europe, with a total value of 546 million USD (Newzoo, 2018). At least 68% of internet users in Poland are gamers (Grajewski & Dragan, 2020). Research conducted in other country on a representative sample showed a difference in the incidence of 1.4% in Norway (Wittek et al., 2016), 2.5% in Slovenia (Pontes, Macur, & Griffiths, 2016 in Grajewski & Dragan, 2020), and the mean for the seven European countries was 1.6% (Müller et al., 2015 in Grajewski & Dragan, 2020). The study that focused exclusively on this group of players showed a diagnosis of Internet Game Disorder (IGD) that was more frequently used 4.0% in South Korea (Park, Jeon, Son, Kim & Hong, 2017) and 3.1% in Slovenia. (Pontes et al., 2016). In Germany, 5.7% of internet users are diagnosed with ED (Grajewski & Dragan, 2020).

According to Blinka et al. (2020), the internet gaming addiction manifestation including (1) preoccupation, (2) positive mood swings, (3) withdrawal symptoms, (4) difficulty limiting online time, (5) relapse into problematic behavior, and (6) social conflict and problems resulting from excessive use of internet games. Impulsive/even aggressive game players, usually often found among teenagers (De Pasquale et al., 2020). They have poor behavioral control, deficits/inattention, high impulsivity, a tendency to be more bored, high sensation seeking, and fluctuating mood. DSM-5 (American Psychological Association, 2013) introduces the concept of internet gaming disorder (ED) and defines it as continuous and repetitive use of the internet for playing internet games, leading to clinically significant disruption. Further diagnostic criteria include five of the nine symptoms: excessive work, increased time spent playing games before feeling satisfied, withdrawal symptoms, risk to social relationships, work or education, etc. (Paulus et al., 2020).

Environment and socialization play an important role in shaping adolescent behavior. More specifically, widely recognized adolescent behavior theories, such as the Behavioral-Problem Theory and Social Development Model, recognize the importance of the environment in the occurrence of problems such as delinquency, alcohol use, and behavior problems (Blinka et al., 2020). Emotional regulation can be achieved through adaptive means such as social support and occur through maladaptive means such as engaging in

addictive behavior (Pascuzzo, Cyr, & Moss, 2013). The influential general theory of addiction states that a critical factor in maintaining addiction is coping with negative emotions. A strong relationship has been found between emotional dysregulation and substance use, and behavioral dependence (Liese et al., 2020). Based on the data above, it can be said that the social environment around them still influences teenagers who experience online game addiction. The purpose of this study was to determine the social influence of online game addiction in adolescents and to increase our knowledge of adolescents who experience online game addiction.

METHOD

Search Strategy

The search strategy performed on electronic databases such as the Scopus database, Science Direct and SAGE Journals. Journal articles were identified by search terms or keywords ("Online Game Addiction", "Adolescents") published in the last 5 years (2016-2020) in English, full-text articles, open-access using Boolean operator logic (AND, OR) in searching for journal articles.

Inclusion and Exclusion Criteria

Search for journal articles using the PICOT framework (Population: adolescents over 10 years of age, Intervention: questionnaire, Compare: -, Outcomes: -, Time: 2016-2020). The study population was all adolescents over 10 years of age. In addition to the above criteria, the researchers entered the category of exclusion criteria.

Study Selection

According to the PRISMA guidelines, the potential studies were first drawn from an electronic database. After duplication removal, potential study titles and abstracts were then screened for eligibility criteria. The full-text of each study was selected to meet the inclusion criteria and taken for further review. A secondary text search was performed from the study reference list to identify additional notes. The articles that were relevant and met all inclusion criteria were included in the systematic review. The search and screening process was carried out by two independent reviewers/authors.

Data Extraction

A structured form is used to extract information from the included journal articles. The evaluation was started from the author, year, study design, respondent age, sample size, interventions, outcomes, and conclusions from journal articles.

RESULTS

Study Selection

A total of 1746 articles were identified. Duplication removal was carried out, and the remaining 582 articles were reviewed for eligibility. Then, 177 articles were excluded based on the last 5 years, randomized trial method (RCT) in English, full-text, open-access so that 24 articles were obtained and 9 articles were excluded so that 15 research articles were taken for review.

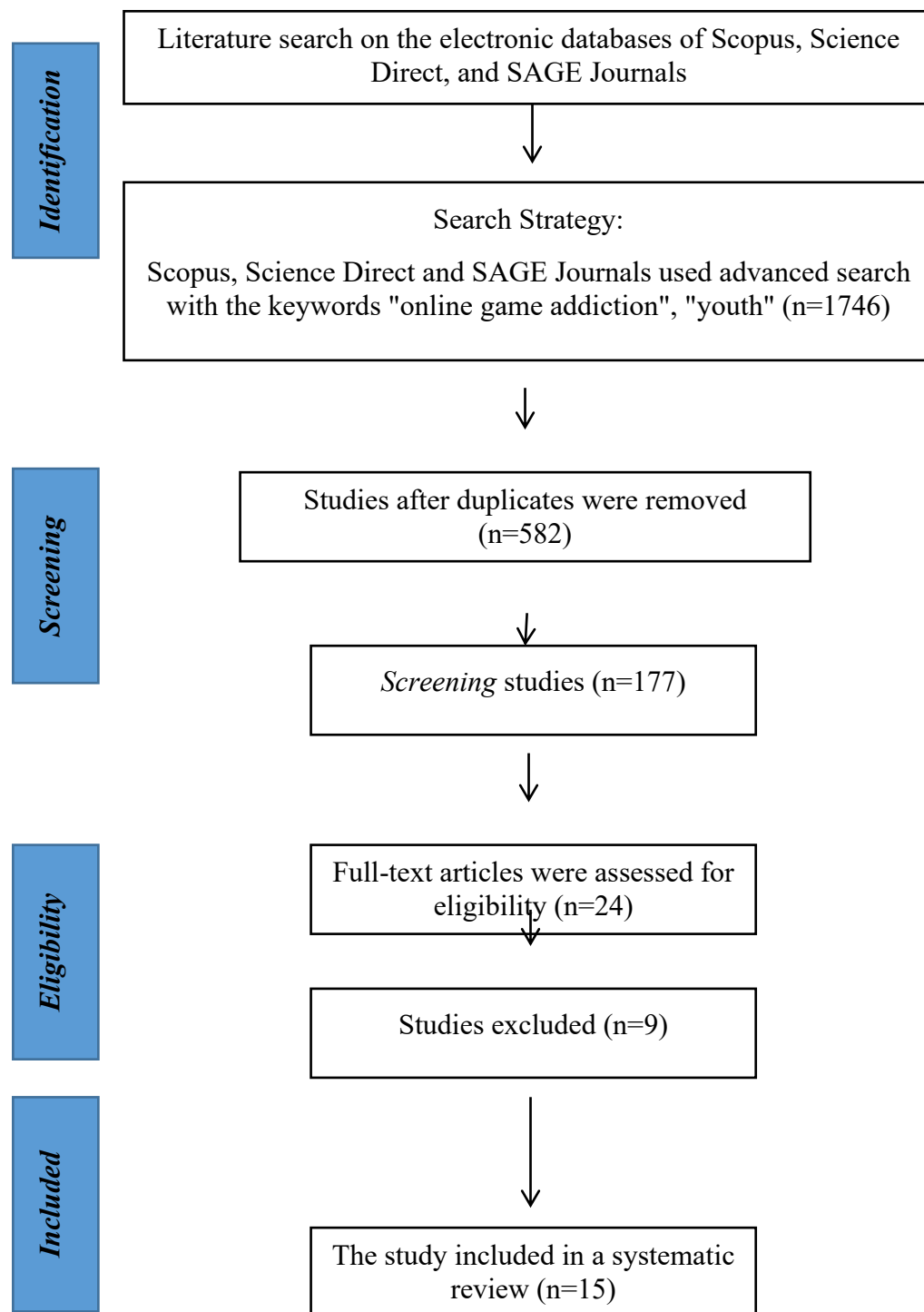


Figure 1. Results of study selection are summarized in the PRISMA flow chart

Characteristics Study

The total of respondents in this systematic review was 22595 respondents. The total population involved is between 49 and 8400 respondents. Participants involved were limited by age, invited by researchers to participate, selected by random selection, received consent from parents.

Characteristics of the Intervention

The interventions given to adolescents with online game addiction started from filling out the excessive internet use questionnaire (EIU), social constraints questionnaires, emotional and behavioral difficulties questionnaires, social adaptation self-evaluation questionnaires, adolescent experience questionnaires, stress level questionnaires, parents relationship questionnaire with children, social support questionnaires, quality of life questionnaires, and cultural orientation differences questionnaire. In this systematic review, there was an intervention to fill out an excessive internet use questionnaire (n=15) (journal articles on the table of study characteristics and findings ranging from numbers 1-15).

Excessive filling of the internet use questionnaire intervention was carried out for 12 months (n=1) (Blinka et al., 2020), 12 weeks (n=1) (Choi et al., 2020), (0 minutes, 20 minutes, 30 minutes, 40 minutes, 60 minutes, 2 hours, 5 hours, 7 hours, more than 7 hours) (n=4) (Paulus et al., 2020 and journal articles number 7, 8, 9) and no mention of the length of time filling out the intervention questionnaire (n=9) (De Pasquale et al., 2020 and journal articles 3, 4, 10, 11, 12, 13, 14, 15).

Social Effects of Online Game Addiction in Adolescents**IGD (Internet gaming disorder)**

IGD (Internet gaming disorder) has a positive correlation with psychopathological stress. Our results support the analysis of cognitive and behavioral rearrangements and social environmental factors (risk factors and resilience) associated with video game addiction behavior (De Pasquale et al., 2020). Internet use had a strong influence on adolescents, especially when occurs to self-esteem, and sometimes it can affect their social life and relationships with family (Mathew & Krishnan, 2020).

Peer relationships can moderate both the parent-child relationship and satisfaction of psychological needs and the relationship between parent-child and propensity for cell phone addiction among adolescents (Sun et al., 2020). Peer victimization was positively associated with cell phone addiction. Compassion moderated the relationship between peer sacrifice and cell phone addiction. Cell phone addiction are weakening for adolescents with higher levels of compassion. Gender also moderated the relationship between peer victimization and cell phone addiction, with this association more robust in girls than boys (Liu et al., 2020).

Social Constraints

Social constraints prove to be an essential factor in youth EIU (Excessive internet use). The critical role of the social environment is to suggest that it should be targeted and implemented in terms of prevention (Blinka et al., 2020). The findings indicated a relationship between ER and inattention and suggested that a vertical individualistic cultural orientation exacerbates this relationship without significant gender differences. The need to handle ED risks was differently among neglectful gamers of diverse cultural orientations (O'Farrell et al., 2020).

According to Ghuman & Griffiths (2012 in Novrialdy, 2019), problems arise from excessive online gaming activities, including less concern for social activities, loss of control over time, decreased academic achievement, social relations, financial, health, and life functions. The main danger posed by online games addiction is the extreme time investment in gaming.

DISCUSSION

The internet is similar to double-edged sword that can facilitate a person's life and provide many positive benefits to users by enabling them to acquire new information, knowledge and even entertainment in the era of global communication. On the other hand, improper or excessive use can have many negative consequences (Mathew & Krishnan, 2020). Despite their tremendous convenience, mobile phones also had negative consequences for personal health and public safety worldwide, drawing increasing attention to the general phenomenon of cell phone addiction and online gaming (Sun et al., 2020). Online game addiction, also known as game addiction or problematic and excessive game use, has developed as a worldwide public health problem due to its high incidence rate and severe negative impact on the individuals' physical and mental health, especially adolescents (Liu et al., 2020).

Based on our analysis, 15 research journal articles containing 22595 respondents randomly assigned to different questionnaires filling interventions have evaluated the existence of social effects on online game addiction experienced by adolescents. Social constraints prove to be an important factor in youth EIU (Excessive internet use). Findings suggesting a relationship between ER and inattention suggest that individualistic cultural orientations exacerbate this relationship without significant gender differences for either male or female.

Online game addiction experienced by teenagers now spends much time in their activities. Teens spend more than 2 hours/day playing games, or more than 14 hours/week (Rudhiati, 2015 in Novrialdy, 2019) even 55 hours a week (Van Rooij, Schoenmakers, Vermulst, Van den Eijnden, & Van de Mheen, 2011) or an average of 20-25 hours a week (Novrialdy, 2019). Previous studies found that many adolescents had inadequate understanding of the dangers of online game addiction (Novrialdy, Nirwana & Ahmad, 2019). Understanding the dangers of online game addiction is important for teenagers to be considered in making decisions when playing online games. Adolescents need to improve their knowledge about the dangers of online game addiction. This effort needs to be considered as the first step in the prevention of online game addiction.

Research from Masya & Candra (2016) obtained results by researching at MA Al Furqon Prabumulih in the 2015/2016 academic year from 26 February to 26 March according to the agreed schedule. The subjects in the study were all 53 students of class X MA Al Furqon Prabumulih. The characteristics of this research sample were students who like to play online games. Open interviews with counseling teachers and class X teachers were conducted to identify the presence or absence of students who like to play online games. The interviews results were about the factors that influence online game addiction disorder behavior in class X students at MA Al Furqon Prabumulih, with class X students. The study found that students online game addiction behavior was influenced by several factors, including absence of attention from others, the loved ones, lack of control, and depression. Students need attention from parents, family, and the environment as along with external stimuli.

The study by Suplig (2017) found that class X adolescents in one of the private Christian schools in Tanjung Bunga, Makassar, with 100 students as sample. All adolescents studied had gadgets and computers connected to the internet. In other words, that these teens were directly involved in using the internet. The average age of these adolescents is 15 to 16 years. One teenager interviewed with the initials J. P. said, "Every day he has time to play online games with his school friends and once playing can spend 3 to 4 hours a day". When calculated, it can result in 21 to 28 hours of this teenager spending time playing online games

every week. Teens who play online games between 1-9 hours are 14%, the range of 10-19 hours is 56%, and the range of 20 hours is over 30%. Through this data, it can be seen that there are as many as 30 teenagers who experience addiction to online games. This range can indicate that a teenager who plays games and spends this much time is classified as an addicted teenager.

Utami & Hodikoh's research data (2020) showed that the majority of adolescents aged 14-16 years (45.9%), are male (74.8%), history of playing online games ≤ 1 year (63.1%), time to play online games ≥ 6 hours/day (53.2%), the results of 48 adolescents (43.2%) are not addicted to online games, and 63 adolescents (56.8%) have addictions to online games. A total of 38 adolescents (34.2%) have good social adjustment, and 73 adolescents (65.8%) have poor social adjustment.

CONCLUSION

Our systematic review found that the prevalence rate of online game addiction among adolescents was high. This condition required full awareness among parents and community educators, and counselors about this issue and to reduce the risk of online game addiction and its impact on the quality of life of adolescents.

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