

Exploring the Correlations Between Game Addiction, Aggression, Narcissism, and Self-Control among Adolescents: A Comprehensive Literature Review

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Abstract

Aggression as one of society's biggest problems is affecting young people's mental health due to game addiction. Although existing research has clarified the relationship between influential factors on aggression and game addiction, this paper attempts to provide a holistic framework of these two variables with narcissism, and self-control through the literature. A comprehensive review of the existing literature was conducted by querying scientific databases (such as Google Scholar, Scopus, and PubMed) using keywords pertinent to the topic under investigation. A meticulous evaluation of the titles, abstracts, and full texts of the selected articles was undertaken prior to their analysis and reporting. According to the findings, aggression, game addiction, narcissism, and self-control are linked and affect individuals' physical and mental health, as well as social functioning. This paper also highlights the importance of further research and targeted interventions to address challenges posed by these interconnected issues. Future researchers can utilize these findings as valuable evidence and information for conducting more in-depth investigations on this subject matter. **Keywords:** Game Addiction, Aggression, Narcissism, Self-Control, Literature Review

Introduction

Aggression is defined as the intent to cause harm to a person who does not wish to be harmed (Baron & Richardson, 1994). It was found that increasing aggressive behavior is a particular concern with gaming addiction (Aung & Chit, 2020). With the development of technology, games have become an increasingly popular pastime, while many adolescents are willing to devote the majority of their time to games. In a meta-analysis, 3.05% of gamers worldwide were addicted to video games, indicating that as many as 60 million people or more may be affected (Stevens et al., 2021). Aung and Chit (2020) pointed out that game addiction could affect adolescents' academic performance, social interactions, and physical

health. Besides, some studies found game addiction was related to anger and disruptive behavior among adolescents (Begum et al., 2019; Ching et al., 2022).

According to DSM-V, individual with narcissistic personality traits have a grandiose sense of self-importance, fantasies of success and power, and an excessive need for admiration and recognition (APA, 2013). Scholars believe that narcissists make a lot of friends in order to get positive responses from others (Salahuddin & Muazzam, 2019). People can be positively viewed and accepted by others through the use of media and technology, and people with higher narcissism also tend to find appreciation and support in online games. Besides, it was found that children with higher narcissism feel superior to others, however, they may unnecessarily see themselves as having intrinsic worth (Brummelman et al., 2022).

In psychological terms, self-control is often seen as the capacity of someone to resist impulses and break bad habits, and avoid temptations (Hagger et al., 2019). In general, it develops or increases throughout adolescence and early adulthood (Zondervan-Zwijnenburg et al., 2020). According to Li et al (2019), self-control can restrain irrational, aggressive behavior resulting from frustration. However, those with low self-control are more likely to have cognitive impulse and are prone to choose some socially unacceptable behaviors when attempting to express negative emotions (Liu et al., 2020). In addition, studies have found that aggressive behaviors are common among adolescent's incapable of expressing and controlling their emotions because of Internet game addiction (Ektiriciog Iu et al., 2020).

Adolescence is an increasing period of severe aggressive and violent behaviors (Yang et al., 2022), while violent behavior and criminal activities in adulthood are predicted by adolescent aggression, which is also connected to the primary mental health issues among the adolescent population (Fung, 2019). With the rise of such an issue, the study will focus on the relationship between game addiction and aggression with the mediating role of narcissism and self-control.

Methods

The articles have been chosen by searching on accredited sites. We used mainly English language articles that were published in scientific databases which are in line with the main aim of this study to identify all studies within a selective sampling frame, that addressed the following research topics: What are the definitions of aggression, game addiction, narcissism, and self-control? What are the relationship between aggression, game addiction, narcissism, and self-control? What are the impacts of aggression, game addiction, narcissism, and self-control? What are the impacts of aggression, game addiction, narcissism, and self-control? What are the impacts of aggression, game addiction, narcissism, and self-control on physical and mental health among individuals?

The literature search was conducted in May 2023. We searched using keyword searches across four databases; WOS, Science Direct, PubMed, and Google Scholar. The keywords included; game addiction, aggression, narcissism, self-control. Keywords were first searched individually, then searched again paired with 'aggression'. Thereafter, the keywords were paired across all configurations and searched again and 114 papers were identified. An abstract search was conducted to identify the subject matter. Finally, a thematic analysis was then conducted through in-depth readings of all the identified literature. Major themes were extracted based on common discussion across multiple articles, and minor themes were identified as subsections to each major theme.

Findings

Aggression

Aggression is a common human behavior considered to be a trait shared by all humans (Veroude et al., 2016). Broadly speaking, aggression is the intentional infliction of physical or emotional harm on another person (Anderson & Bushman, 2002). Meanwhile, aggression is a behavior that may be accompanied by violence and hostility (Vakili et al., 2015; Khairi et al., 2022). In the psychology field, aggression refers to a range of behaviors that result in both emotional and physical damage to an individual (Rizanaj, 2021).

There are two types of aggression, namely emotional and motivational. To be more specific, emotional definitions of aggression describe it as a behavior motivated by anger, whereas motivational and behavioral definitions define it as any behavior that causes physical or psychological harm to the other (Yavuzer et al., 2018). In numerous literatures, aggression is typically categorized as physical, such as hitting, kicking, and spitting; verbal, such as shouting, threatening, and saying hurtful words; and relational, such as slandering someone and causing harm to social relationships (Coyne et al., 2010; Zhang et al., 2016; Ettekal & Ladd, 2017). Thereinto, it was found that physical and verbal aggression are regarded as overt aggression (Putallaz et al., 2008; Smith et al., 2009) (see in Figure 1).

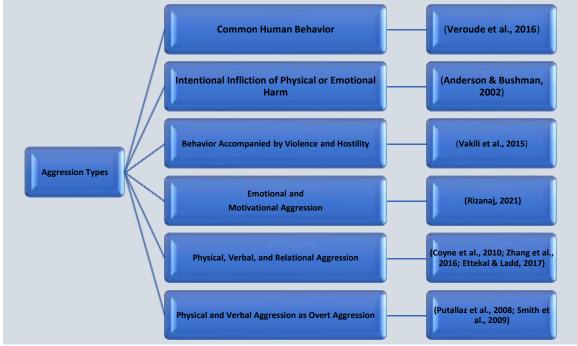


Figure 1. Aggression Types through the literature

Consequence of Aggression

Aggression was found to be related to mental health conditions. It can negatively impact various aspects of an individual's psychological well-being. People who are subjected to aggression might feel scared, anxious (Chung et al., 2019), or have low self-esteem (Donnellan et al., 2005; Vellasamy et al., 2022). Review of Parenting Styles and Their Impact on The Adolescents' Self-Esteem.), while experiencing post-traumatic stress disorder (PTSD) symptoms (Hale et al., 2022), and find it hard to build relationships based on trust (Malti et al., 2013).

Researchers found that high levels of physical aggression in childhood have been discovered to strongly predict future criminal behavior (Pingault et al., 2013). In addition, it has also been demonstrated that aggressive behavior in early childhood predicts poor social

functioning more consistently than inattention, excessive impulsivity, or oppositional behavior (Brennan et al., 2015). Current research indicates that aggression that begins at a young age persists throughout development (Campbell, 2002; Shaw et al., 1996). In this case, researchers found that problem children are more likely to develop into problem adults (Gibbons & Robins, 1967). The high stability coefficients of aggressive behavior have been confirmed by meta-analyses of previous research (Olweus, 1979), yet it remains unclear whether early aggressive behavior is promoted by a single or multiple pathways that lead to later violent behavior. Literally, it is generally accurate to predict later aggressive behavior based on early aggressive behavior.

Game Addiction

Definition of Game Addiction

Currently, game addiction is one of the most frequently discussed psychosocial aspects of playing computer and videogames (Lemmens et al., 2009). According to the DSM-V, Internet gaming disorders are defined by persistent and repeated participation in video games, which frequently causes significant daily, occupational, or educational disruptions (APA, 2013). Hence, game addiction has emerged as an official new psychopathology.

According to Lemmens et al (2009), game addiction is defined as the excessive and compulsive use of computer or video games that results in social or emotional problems, despite which the player is unable to control his or her excessive use. Similarly, Şahin et al. (2019) reckon that game addiction could be regarded as individuals' incessant desire to play games to the point where they lose control. Salahuddin and Muazzam (2019) mentioned that gaming addiction refers to compulsive gaming, isolating oneself from others, mood changes, and being overwhelmed by video game achievements. However, some scholars use "problematic gaming playing", and "pathological gaming" to describe excessive or problematic games (Johansson & Götestam, 2004; Seay & Kraut, 2007) to describe the concept of game addiction.

Impact of Game Addiction

Game addiction is always seen as a serious social issue (Park & Ahn, 2010). It was found to be a predictor of negative outcomes such as depression (Brunborg et al., 2014; Karthikeyan wt al., 2023), behavioral issues (Brunborg et al., 2014), and low self-esteem (Toker & Baturay, 2016), as well as life satisfaction (Lemmens et al., 2009).

Many scholars have found that game addiction, along with excessive gaming behavior, may cause some problems related to social, family, and physical (Lee et al., 2007; Sun et al., 2008; Porter et al., 2010). Besides, excessive gaming may be linked to problematic aspects of individuals' personality, social life, and medical issues (Rehbein et al., 2010; Festl et al., 2012). It was found that game addiction can substantially impair social and psychological functioning (Xu et al., 2012). Researchers believe that the negative effects of game addiction to adolescents include malnutrition, suicidal and deadly behaviors, disconnected social relationships, familial issues, as well as significant decline in academic performance (Caplan, 2002; Chak & Leung, 2004; Hagedorn & Young, 2011). Among them, Yayman and Bilgin emphasize that family problems brought on by gaming addiction as one of these effects, which may present unresolved problems in the future.

Furthermore, a study has discovered that game addicts experienced considerably lower subjective sleep quality, more severe sleep disturbances, shorter sleep duration, and more daytime dysfunction compared to non-game addicts (Zaman et al., 2022). In the cognitive

domain, game addiction may result in low cognitive flexibility, difficulty in responding, and difficulty in answering repetitively, as well as making repeated mistakes (Han et. al., 2012; Zhou et. al., 2012). In psychopathological dimensions, it may also lead to problems such as attention deficit hyperactivity disorder, major depressive disorder, anxiety, and impulsivity (Aboujaoude et al., 2006) (see in Figure 2).

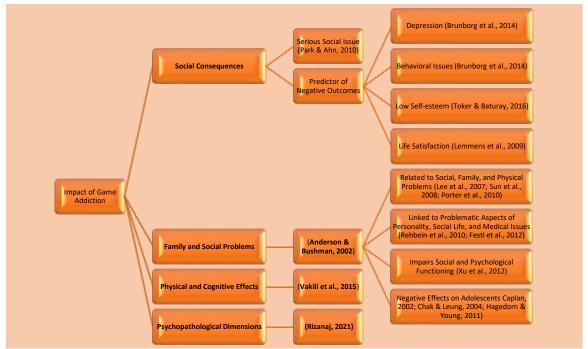


Figure 2. Impact of Game Addiction

Game Addiction and Self-Control

Game addiction and self-control have a complex and bidirectional relationship. In recent years, the majority of researchers have concluded that the ability to practice self-control is the primary factor in online game addiction. It was discovered that young people's lack of self-control and discipline was related to their gaming addiction (Kim et al., 2008). According to data from pre-survey, Internet cafe patrons lacked self-control when playing online games in internet cafes. In contrast, normal people with greater self-control can regulate their playing time and refrain from playing video games excessively (Haghbin et al., 2013).

Since self-control was found to have a negative correlation with game addiction as well (Mehroof & Griffiths, 2010), self-control has been identified by Chang and Kim (2019) as one of the protective factors against game addiction. However, Sumiyana et al (2022) contend that online game addiction is not only a result of students' lack of self-control, but could also be related to cognitive distortion and adverse selection (King & Delfabbro, 2014; Wölfling et al., 2019).

Game Addiction and Narcissism

According to Avcılar and Atalar (2019), it was seen that narcissism has increased significantly more rapidly with the spread of social media. Adolescents with a gaming addiction have a strong sense of control over their gaming environment (Iftikhar & Tariq, 2014), while narcissists always believe that they can control their environment (Salahuddin & Muazzam, 2019). Correspondingly, research from Xu et al (2022) have discovered that narcissists may try to use online gaming as an opportunity to avoid stress or increase their

sense of control. Meanwhile, narcissistic personality has also been described as a positive predictor of gaming addiction (Salahuddin & Muazzam, 2019), whereas other scholars have also found that narcissistic personality is a positive determinant of Internet game addiction (Brand et al., 2014).

In a study of high school boys, it was revealed that Internet game addiction was significantly predicted by narcissistic personality traits among students (Zandi Payam & Mirzaeidoostan, 2019). However, a result of a study that focuses on PUBG games found a significant negative correlation between Internet game addiction and narcissistic tendencies (Waris Nawaz et al., 2020). Besides, Karakoula and Triliva (2016) reckon that substance addicts have serious narcissistic issues. Nevertheless, they are more likely to be identified with powerlessness as opposed to the characteristic of self-importance.

Game Addiction and Aggression

Game addiction is one of the addictions that has recently captured the attention of researchers due to its dysfunctional psychosocial aspects (Shabbir et al., 2020). Ektiricioğlu et al (2020) also mentioned that adolescents who are unable to express and regulate their emotions because of digital game addiction are also prone to aggressive behavior.

University students' gaming addiction was significantly positively correlated with aggressive behavior, that is, the more frequently they played games, the more frequently they behaved aggressively (Aung & Chit, 2020). Similarly, digital gaming addiction was associated with aggression, with male adolescents scoring higher than females (Caner & Evgin, 2021). Moreover, findings from several longitudinal studies suggest that time spent on violent games leads to increased aggressive behavior (Gentile & Gentile, 2007; Anderson et al., 2008; Möller & Krahé, 2009).

In spite of some scholars having found that self-reported levels of aggression are linked to the amount of violent video game play. However, other researchers have found that aggression is not linked to killing virtual opponents in online games (Griffiths, 2000; Gentile & Stone, 2005). Similarly, Griffiths (2000) believes that children who were more aggressive were prone to be attracted to violent games rather than violent game activity leading to their aggression.

Narcissism

The definition of narcissism was considered as a one-dimensional pathology in the early phases of scientific research, has been expanded to encompass a more nuanced concept (Çevik et al., 2021). Hepper et al (2014) believed that individuals with high levels of narcissism have an exaggerated, magnified, extravagant self-image of themselves and exhibit lower empathy for others.

It has been argued by Karaaziz and Erdem Atak (2013) that narcissism also has a healthy dimension. Narcissism is classified into two types, namely pathological and normal (Wink, 1991). To be specific, pathological narcissism is a narcissistic personality disorder, whereas normal narcissism is a narcissistic personality trait (McNeal, 2007). However, narcissism might be confused for the personality traits of self-confidence and self-esteem or to perceive normal narcissism as the beginning of undiagnosed pathological narcissism due to this situation (Gürsu & Özokudan, 2019). Therefore, it is preferable to describe as healthy narcissism the degree of self-love that each individual should have in order to build healthy relationships with both themselves and their environment, and to describe as unhealthy narcissism the

degree of self-love that leads to unhealthy relationships with both themselves and their environment (Masterson, 2013).

Characteristic of Narcissism

The narcissistic personality is characterized by a preoccupation with oneself and an unwillingness to understand others. It is believed that individuals with narcissistic personality disorder experienced childhood trauma or were raised in unhealthy families, where parental behavior remains the primary lead to narcissistic traits (Salahuddin & Muazzam, 2019). Typically, narcissists have a continual need for admiration and ego-enhancement and are less agreeable people (Jonason & Fletcher, 2018). Thus, they might be expected to have problematic social relationships, along with being unable to get the admiration they need from their offline life (Kircaburun et al., 2018).

A dissociation between an unconscious sense of inadequacy and a conscious sense of superiority characterizes narcissism (Lambe et al., 2016). According to Wälder (1925) narcissistic personality disorder is characterized by egotism, arrogance, a sense of superiority over others, a preoccupation with self-praise, and a lack of empathy for others. Nevertheless, individuals with a high level of narcissism have unrealistic views of themselves (Gabriel et al., 1994). When narcissists confront reality and experience low ego and self-esteem, they may become hostile, antagonistic, and self-protective (Morf & Rhodewalt, 2001).

Narcissism and Aggression

According to Baumeister et al. (1996), the threat egoism model explains that narcissists often need the admiration and affirmation of others to confirm their unrealistically positive self-view and strong sense of superiority. When their fragile positive self-views are threatened, there is a disparity between their internal and external evaluations, which can lead to negative emotions and hostility toward the source of the self-threat, and they refuse to lower their self-evaluations, thereby promoting aggression (Baumeister et al., 1996). Besides, narcissistic rage theory suggests that narcissists respond more strongly to interpersonal setbacks and report more emotional changes and higher emotional intensity than non-narcissists (Rhodewalt & Morf, 1998). Therefore, when a narcissist feels threatened, they experience negative emotions such as shame, anger, and anxiety, which can lead to aggression (Krizan & Johar, 2015).

Baumeister et al (2000) pointed out that narcissism is regarded as a major cause of aggression. Similarly, it was explored as a significant risk factor for aggressive behavior such as cyberbullying, pushing others around, and calling others derogatory names, as well as spreading rumors (Kjærvik & Bushman, 2021). A meta-analysis revealed a positive correlation between narcissism and aggression (Zhang & Zhu, 2021). Correspondingly, the severity of narcissistic personality disorder was found to be correlated with the severity of aggression (Caligor et al., 2015). However, Van Teffelen et al (2020) argued that provoked aggression may be moderated by narcissistic personality traits (see in Figure 3).

Major Cause of	Risk Factor for	Correlation with
Aggression	Aggressive Behavior	Aggression
• Narcissism is identified as a significant cause of aggression (Baumeister et al., 2000).	• Linked to behaviors like cyberbullying, pushing, derogatory names, and spreading rumors (Kjærvik & Bushman, 2021).	 Positive correlation between narcissism and aggression (Zhang & Zhu, 2021). Severity of narcissistic personality disorder correlates with aggression severity (Caligor et al., 2015).

Figure 3. Narcissism and Aggression

Self-Control

Self-control is defined as the exertion of control over the self by the self (Muraven & Baumeister, 2000). Baumeister et al (2007) described self-control as the ability to resist impulses that would prevent daily functioning and the achievement of goals. Moreover, Duckworth et al (2012) considered self-control as the act of consciously controlling attention, emotion, and behavior in order to achieve set goals and standards. In other words, self-control is the management of one's thoughts, emotions, and actions (Schmeichel & Vohs, 2009).

Correspondingly, a similar concept called self-regulation can help individuals replace inappropriate behaviors with adaptive ones, while these behavioral responses may consist of intrusive compulsions, emotions, and supervised activities, as well as impulse control (Heatherton & Tice, 1995; Motevalli et al., 2023). Thus, all of the concepts point to the individual needing self-control to regulate his beliefs, emotions, and responses (Iftikhar & Tariq, 2014).

Impact of Low Self-Control

Indiciduals with low self-control are substantially prone to engage in irresponsible behaviors such as drinking, smoking, and gambling. Bsides, failures in self-control can result in a variety of behavioral problems that are detrimental to individuals and societies, such as depression, aggression, and inability to manage finances, as well as theft (Joosten et al., 2015).

According to the theory of self-control, compared to adolescents with lower levels of self-control, those with greater levels of self-control are more likely to demonstrate socially desirable behaviors (Gottfredson & Hirschi, 1990), whereas adolescents who lack self-control may engage in more delinquent and criminal behavior. Beside that, Gottfredson and Hirschi (1990) also stated that youth who lack self-control might be impulsive, self-absorbed, blinkered, and to engage in thrill-seeking or risk-taking behaviors without taking the long view of their choices. Subsequently, self-control was seen as a significant predictor that may affect bullying behavior. Nevertheless, only a few studies support the relationship between bullying

behavior and adolescents with lower levels of self-control (Chui & Chan, 2014; Moon et al., 2014).

Self-Control and Aggression

According to Reebye (2005), poor impulse control is often the basis for aggression. Extensive experimental evidence demonstrates that lack of self-control frequently predicts aggression and that increasing self-control reduces aggression (Denson et al., 2012).

Many scholars have explored that low self-control is linked with aggressive and risky behaviors over time (Pratt et al., 2014; Reisig & Pratt, 2011; Shirehjini et al., 2023). Self-control is found to be inversely related to self-reported aggression (Özdemir et al., 2013), laboratory aggression (Denson et al., 2011), driving aggression (Ellwanger & Pratt, 2014), aggressive ideation and aggressive behavior (Murray et al., 2016), and direct aggression (Meldrum et al., 2018). This suggests that self-control may be a significant mechanism through which various forms of aggression manifest as externalizing behaviors (see Figure 4).

Within the framework of the instigator, impellent, and inhibitor (I3) model and the general theory of crime, Baumeister et al. (2007) conceptualize self-control as a limited resource. To be specific, an individual who possesses a sufficient amount of self-control resources is able to use them to refrain from engaging in aggressive behavior when confronted with instigators and impellents to engage in aggressive behavior. In contrast, a person with insufficient self-control resources depletes them and engages in aggressive behavior. The majority of theories point to a negative relationship between self-control and aggression, with no published theory pointing to a positive relationship, however, empirical results are inconsistent (Lu et al., 2012).

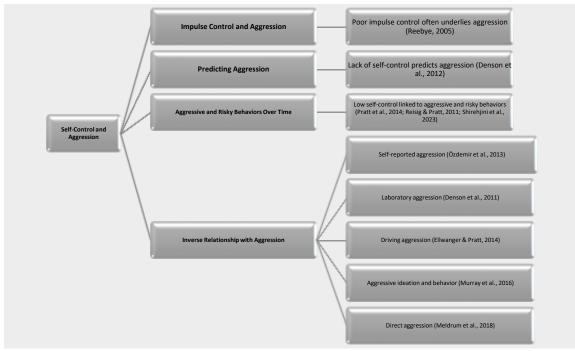


Figure 4. Self-Control and Aggression

Conclusion

The purpose of the current study is to provide a review of the previous studies conducted within the topic of aggression, game addiction, narcissism, and self-control. The impact of aggression on physical and mental health is significant, including fear, anxiety, low self-

esteem, and even PTSD symptoms. Early aggressive behavior in childhood predicts future criminal behavior and poor social functioning. Game addiction is associated with negative outcomes such as depression, behavioral issues, and low self-esteem. In addition to cognitive and psychopathological issues, video game addiction has social, familial, and physical consequences. Narcissists seek admiration and ego enhancement, leading to potential challenges in their interpersonal relationships. Research indicates a correlation between narcissism and aggressive behavior, with narcissistic personality disorder being a significant risk factor for aggression. Self-control plays a critical role in preventing excessive gaming, while low self-control is identified as a key factor contributing to the manifestation of aggressive behaviors. In conclusion, this paper sheds light on the relationship between aggression, game addiction, narcissism, and self-control, as well as the impact on individuals' physical and mental health, and provides valuable insights into these interrelated variables, prompting more research and consideration of developing targeted interventions to address the challenges posed by these issues.

Recommendation

The study makes an important contribution to aggression, game addiction, narcissism, and self-control. Educators, parents, and mental health professionals should be aware of these connections and work together to promote healthy gaming habits and enhance selfcontrol skills in individuals prone to problematic gaming behaviors, as well as adjust the pathological narcissism issues, thereby controlling the aggression tendencies. Meanwhile, future researcher should continue to investigate the complex relationships among these variables.

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Conflicts of Interest

There were no conflicts of interest between the authors.

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