The Origins, Effects, and Prevention Strategies of Digital and Gaming Addiction in the Adolescent Period: A Review Study

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Abstract

This article provides an overview of digital and gaming addiction in young individuals. Digital addiction stems from excessive use of computers, smartphones, and other digital devices, whereas gaming addiction entails young individuals becoming overly reliant on video games. The origins of these addictions are thoroughly examined, emphasizing significant factors such as the widespread availability of technology, the attraction of gaming, and the desire for social interaction. The article presents findings from research on digital and internet addiction in young people. The negative effects of these addictions on physical health, social relationships, academic performance, and emotional well-being are discussed. Effective prevention strategies are also examined, and informative recommendations for parents, educators, and health professionals are provided. Thus, this article presents a thorough investigation into the issue of digital and gaming addiction in young people, offering a comprehensive overview of its causes, effects, and preventative measures. The language used is impartial and formal, with clear explanations of technical terminology and a logical flow of information throughout the text. Standard academic formatting and conventions are adhered to, with precise word choices, correct grammar and spelling, and consistent citation and footnote styles. Bias is avoided, and positions on the subject are presented objectively and carefully.

Keywords: *Teenagers; Digital addiction; Gaming addiction; Technology diffusion*

1. Introduction

Nowadays, with the rapid development of technology, digital addiction and especially gaming addiction has become a growing concern among young people. In this digital age, young people's interaction with the digital world has become a part of their daily lives. Computers, smartphones, tablets, and other digital devices attract young people to a variety of digital content in both entertainment and social contexts. However, this increased digital interaction brings with it significant problems. Digital addiction refers to young people's excessive interaction with the internet, social media and especially games, which negatively

affects their normal life activities [1]. Game addiction, on the other hand, refers to an excessive interest in video games and the inability to control the time spent on these games [2].

In this article, the causes and effects of digital addiction and gaming addiction in young people and strategies to prevent these problems will be discussed. Examining these issues in detail is an important step towards understanding and dealing with the effects they have on young people's lives and society. Digital addiction and gaming addiction pose potential risks that can hinder the healthy growth and development of young people. Therefore, having an in-depth understanding of these issues is critical for communicating more effectively with young people and developing effective strategies to prevent these addictions. In addition, digital addiction and gaming addiction are not only an individual problem but can also have profound effects on the overall health of society and the future of the younger generation. In this article, we aim to take a closer look at these important issues and contribute to a more informed and healthy relationship between young people and the digital world.

1.1 Concepts of digital addiction and gaming addiction

Digital addiction refers to a condition in which individuals begin to interact with digital technologies in an excessive and uncontrolled manner, negatively affecting their normal life activities. This addiction usually occurs as a result of excessive interaction with the internet, social media, games, video content or other digital platforms. Digital addiction can cause an individual to lose the balance between the digital world and the real world, which can lead to problems in work, education, relationships, and other important areas of life. This type of addiction is often characterized by symptoms such as a constant need to be online, social isolation, physical health problems, decreased work or school performance, and weakened relationships with family and friends. Digital addiction is a common problem in young people and adults, and it is on the rise with the widespread use of technology [3].

Gaming addiction is a condition in which an individual shows excessive interest in video games and loses control over these games. Usually, this addiction is manifested by the fact that the time devoted to games negatively affects normal life activities and causes problems in work, school, or social relationships. Gaming addiction is particularly noticeable among young people when popular games are played continuously. Gaming addiction is usually characterized by symptoms such as an excessive need to play games, restlessness when distracted from the games, developing tolerance and a tendency to continue despite the problems caused by the games. This addiction can be particularly pronounced in game genres that require constant interaction, such as multiplayer online games and competitive games [4].

Digital addiction and gaming addiction can lead to serious problems that negatively affect an individual's daily life. Therefore, raising awareness, recognizing the symptoms, and developing prevention strategies can help individuals achieve a healthier digital balance.

1.2 Prevalence among young people

Digital addiction and gaming addiction have become a growing concern among young people. The rapid development of technology and easy access to digital content leads young people to spend more time on various digital platforms. Especially social media, online video content and games are an important part of young people's daily lives.

Research shows that a large proportion of young people are regularly exposed to digital media and games. According to a recent report by the Pew Research Center [5], 95% of young people in the US use the internet every day. The same report shows that 45% of young people are online almost constantly and access social media platforms frequently. This shows that young people show an intense interest in digital content and spend a large amount of time on these platforms [6]. Focusing on game addiction, it is observed that the majority of young people regularly play video games and show an intense interest in these games. Research shows that young people's gaming time can sometimes reach long hours, sometimes out of control, especially when it comes to interactive games such as competitive games and multiplayer online games [7].

This trend increases young people's potential risks of digital addiction and gaming addiction. At the same time, it can negatively affect young people's daily life activities, school success, social relationships, and physical health. In this context, it is important to raise awareness of the prevalence of digital addiction and especially gaming addiction among young people and to continuously monitor research in this field.

2. Causes

The causes of digital and gaming addiction in young people exist in a complex web of interactions. The primary reason is the rapid development of technology and the fact that digital tools have become an indispensable part of young people's daily lives. Especially social media platforms and various games have gained popularity among young people and encouraged their continuous use. Another important reason for digital addiction is that young people seek to strengthen their social connections, express themselves and seek social approval. These digital platforms offer young people the potential to provide instant social feedback and interaction, which can increase addiction. Furthermore, the competitive and rewarding elements in video games can also increase young people's interest in these games, which can lead to addiction. Psychosocial factors can also contribute to digital and gaming addiction. Young people experiencing psychological problems such as stress, emotional emptiness and low self-esteem may be more likely to turn to digital platforms. In addition, young people finding escape in the digital world instead of understanding their emotional world and interacting with others can also increase these addictions. The combination of these reasons is the root cause of digital and gaming addiction in young people. The following headings present the various causes of digital and gaming addiction in young people in headings.

2.1 Environmental factors

One of the important factors of digital and gaming addiction is environmental factors. Because it is known that the environment has very important effects on human beings.

2.1.1 Dissemination of technology

Today, the rapid proliferation of technology is an important factor in the rise of digital and gaming addiction among young people [8]. The increased accessibility of smartphones and other digital devices causes young people to be constantly online and more exposed to digital content. This may increase young people's interaction with the digital world and increase the risk of addiction. The effects of technology on young people are strengthened by the continuous development of new features and applications. Social media, instant messaging apps and other online platforms can increase digital addiction by creating a constant need to connect and share among young people.

2.1.2 Attractiveness in digital games

Digital games are an important environmental factor that is widely used among young people and can lead to addiction. Various psychological elements used by game developers are designed to attract young people to games and increase their desire to interact with them. Video games can be particularly attractive to young people because they contain competitive and rewarding elements. The constant sense of achievement and rewards in games include many interactive elements that create addiction in young people [9]. This attraction can lead young people to devote long periods of time to games and withdraw from real world activities. These environmental factors are the main drivers of digital and gaming addiction among young people. In this context, the proliferation of technology and the appeal of digital games are important factors that deepen young people's tendency to engage in and sustain these addictions.

2.2 Psychosocial impacts

Psychosocial impacts refer to the negative effects of gaming addiction on an individual's psychological and social health. Gaming addiction often disrupts an individual's emotional and social balance. As the individual becomes immersed in games, they may withdraw from real-world relationships, limit their social interactions, and tend towards isolation. This can lead to problems in peer relationships, low self-esteem, and depressive symptoms, especially in young people. Furthermore, gaming addiction can affect an individual's emotional well-being, increase stress levels, and negatively impact overall psychological health. Therefore, understanding and addressing psychosocial effects is important in developing strategies to cope with gaming addiction.

2.2.1 Emotional emptiness and stress

One of the psychosocial factors underlying digital and gaming addiction is young people's efforts to fill emotional gaps and coping mechanisms with stress [7]. Young people may turn to the digital world to cope with stressors such as life challenges, academic pressures, and social expectations [10]. Digital platforms have the potential to provide young people with emotional escape and a temporary sense of relief. Therefore, young people who want to fill emotional gaps and cope with stress may turn to digital content and develop addiction. Understanding how emotional gaps and stress affect digital addiction is important for developing preventive and intervention strategies.

2.2.2 Triggers of social isolation

Psychosocial factors include those that increase the risk of young people experiencing social isolation. Especially among young people, constant interaction with the digital world can reduce real-world social relationships and trigger social isolation [11]. Increased social media use may increase young people's tendency to form online friendships and seek social approval in the virtual world [12]. However, it should be noted that these online connections can lead to a distancing from real-world connections among young people. Understanding how social isolation operates as a contributing factor to digital and gaming addiction in young people is important for developing effective intervention strategies at the individual and societal level. These psychosocial factors are important contributors to the development of digital and gaming addiction among young people. The

role of factors such as emotional gaps, stress, and social isolation in the addiction process should be taken into consideration for designing interventions at the individual level and raising awareness at the societal level.

2.3 Game design and addiction

The relationship between game design and addiction highlights the potential for game developers to make their games addictive. Game designers can create their games to incorporate a variety of psychological elements to increase engagement and persistence. These elements can include rewards, progression systems, constant excitement, social interaction, and unpredictability. These elements can encourage players to stay engaged, but they can also set the stage for excessive game use and the development of addiction. The addictive potential of game design is the subject of a wide debate on the ethical responsibilities of the gaming industry and the impact of games on users' health.

2.3.1 Psychological elements in games

Various psychological elements used in game design are among the influencing factors that can create addiction in young people. Games utilize various psychological strategies to attract and keep users engaged. For example, a sense of achievement, competition, rewards, and a sense of progress can increase young people's engagement with games [8]. Psychological elements in games aim to manipulate young people's emotional responses and enrich the user's experience within the game. The effective use of these elements enables game developers to be successful in attracting young people to games and keeping them in the game for a long time. In this context, the game experience in which young people are exposed to these elements may contribute to the development of addiction.

2.3.2 Addictive game mechanics

Some mechanics used in game design can increase addiction in young people and create a desire to play games continuously. These mechanics include, in particular, reward systems, increasing levels of difficulty over time, social interaction features, and opportunities for continuous progression. For example, providing rewards to users can increase addiction to games by creating satisfaction and reward anticipation in young people.

At the same time, games that offer continuous progression can be effective in keeping young people engaged. The deliberate design of these mechanics can increase the risk of addiction in young people. These psychological elements in game design and addictive mechanics have the potential to weaken young people's resilience to games, creating long-term engagement and addiction. Therefore, it is important to have an in-depth understanding of the role of these elements in game design to understand and prevent digital game addiction among young people.

3. Impacts

Today, the rapid advancement of technology offers many opportunities for digital and gaming addiction among young people, and the effects of these modern addictions are becoming increasingly apparent. The continuous expansion of the digital world, the interactive nature of social media, and the appeal of various games have gained an important place in the daily lives of

young people. In this context, understanding the effects of digital and gaming addiction is becoming a critical issue affecting the healthy development and social cohesion of individuals.

3.1 Physical health problems

Gaming addiction can cause physical health problems when individuals are overexposed to computer games or other digital games for long periods of time. These long hours of constant sitting often lead to immobilization, which can contribute to physical health problems such as obesity, back pain, and musculoskeletal problems. In addition, factors such as disrupted sleep patterns and the effects of long hours in front of a screen on eye health can also contribute to physical health problems.

3.1.1 Insomnia and fatigue

Insomnia and fatigue as a result of digital and gaming addiction is a common problem among young people who spend long periods of time playing computer games or spending time on social media during the night. Research shows that the use of digital devices, especially in the bedroom, reduces sleep quality and increases fatigue in young people [13]. Lack of sleep is associated with a range of negative effects in young people, including lack of concentration, learning difficulties and mood disorders [14]. Therefore, the uncontrolled continuation of digital and gaming addiction may negatively affect the physical health of young people.

3.1.2 Obesity and sedentary lifestyle

Digital and gaming addiction may contribute to a lack of physical activity in young people and thus to the risk of obesity. Playing computer games or spending time in front of a screen for long periods of time may make young people less likely to be physically active and encourage a sedentary lifestyle [15]. Moreover, online games and social media, which are popular among young people, may encourage prolonged sitting habits, which may increase obesity-related health problems [16]. In this context, understanding the effects of digital and gaming addiction on physical health is important to promote a healthy lifestyle in young people.

3.2 Social impacts

Gaming addiction can negatively affect individuals' social relationships. Individuals who consistently spend time with games may move away from interacting with their environment and may tend towards social isolation. Important interactions in real-world relationships, family ties and friendships may diminish. In addition, gaming addiction can interfere with an individual's participation in work, school, or social activities, which can negatively affect their overall social functioning. Reduced social interaction, lack of emotional support and isolation are among the social problems associated with gaming addiction.

3.2.1 Social isolation and decline in relationships

Digital and gaming addiction can increase the risk of social isolation among young people. Focusing on computer games or other digital activities for long periods of time can reduce young people's social interactions and cause them to withdraw from friendships in the physical world [10]. Research shows that excessive digital use can undermine young people's face-to-face communication skills and lead to social isolation [11].

3.2.2   Effects on peer relationships

The impact of digital and gaming addiction on young people's peer relationships is complex. While virtual connections, especially through online games and social media platforms, can increase social interaction among young people, they can replace deep, meaningful relationships in the real world [17]. This can reduce young people's face-to-face communication skills and affect their emotional intelligence. Moreover, in some cases, digital and gaming addiction has the potential to create competition and conflict among young people. Multiplayer online games can especially cause negative interactions among young people by providing a competitive environment [18]. Therefore, understanding the impact of digital and gaming addiction on peer relationships is important for the development of effective interventions for youth social development.

3.3 Academic Impacts

Gaming addiction can negatively affect individuals' academic achievement. Focusing on games for long periods of time can shorten students' study time and reduce their interest in homework. This can lead to poor classroom performance, low grades, and regression in courses. Gaming addiction can also disrupt regular sleep patterns, which can lead to academic difficulties such as lack of concentration and distraction.

3.3.1   Distraction and loss of focus

Digital and gaming addiction can cause distraction and loss of focus among young people. Young people who engage in computer games or other digital activities for long periods of time may experience attention deficits and reduced learning processes [19]. Research shows that excessive digital use can undermine young people's task orientation and negatively affect their academic achievement [20].

3.3.2   Academic failure and educational regression

Digital and gaming addiction can lead to academic failure and educational regression in young people. In particular, excessive digital use can reduce young people's engagement in homework, classes, and other educational activities [21]. The focus on a variety of digital content can affect young people's learning processes, which in turn can reduce their academic performance. Moreover, online games and other digital activities can shorten young people's study time, which can negatively affect their exam preparation [22]. Academic failure and educational regression is an important issue among the long-term effects of digital and gaming addiction on young people.

4.   Ways of Prevention

Digital and gaming addiction has become an increasing problem today, especially among young people. While rapidly developing digital technologies, various games and social media platforms have an important place in the daily lives of young people, excessive use of these technologies can increase the risk of addiction. The negative effects of these addictions on individuals are manifested in physical, social, and academic areas. However, it is possible to develop effective prevention strategies against these problems. Prevention of digital and gaming addiction should focus on helping individuals develop healthy digital usage habits, maintain social relationships, and sustain academic success.

4.1 Awareness and education

Awareness and education play an important role in combating gaming addiction. It is important for individuals to understand and develop awareness of the potential addictive effects of gaming. Education can help individuals understand the risks, symptoms, and effects of gaming addiction. Health professionals, educators and families can help minimize the negative effects by guiding individuals to use games responsibly.

4.1.1 Explaining the dangers of digital addiction

Educational programs that explain the dangers of digital addiction can make a significant contribution to raising awareness among individuals. These programs can help young people understand the potential risks of overuse of digital technologies and games, highlighting the negative effects of addiction on physical, social, and academic health. In this context, it is important to inform students that digital addiction is a health problem, the importance of appropriate boundaries, and how to develop healthy digital habits in order to raise awareness [23,10].

4.1.2 Training programs for raising awareness

Educational programs to raise awareness can help individuals assess their digital usage habits, recognize signs of addiction, and set healthy boundaries. By providing young people with information on the symptoms, risk factors and effects of digital and gaming addiction, these programs can support them to strengthen healthy digital behaviors. In addition, educational programs can also raise awareness among families and provide strategies to help young people balance their digital use [9,24]. Awareness and education programs can function as a preventive measure against digital and gaming addiction and contribute to individuals adopting a conscious and balanced approach to this issue.

4.2 Family engagement

Family involvement is an important factor in combating gaming addiction. By monitoring their children's game use, families can help them maintain balance and recognize early signs of possible addiction. Family members should communicate regularly to understand their children's gaming habits and provide positive guidance. Healthy communication within the family helps children to understand their expectations and limitations regarding their play.

4.2.1 The role and responsibilities of families

It is critical that families play an active role in combating digital and gaming addiction. Families have a range of responsibilities, such as setting healthy boundaries, providing education, and offering emotional support to help young people stabilize their digital use habits. At this point, it is important for families to be aware of how to integrate digital technologies and games into daily life in a healthy way [25,26].

4.2.2 Parental guidance and supervision tools

Parental guidance and digital supervision tools are effective strategies to help families manage their children's digital and gaming use. By closely monitoring their children's digital activities, parents can provide guidance on identifying appropriate

content and promoting safe internet use. Moreover, through various applications and software, parents can monitor their children's digital interactions and set certain limits [27,28]. Consciously educating parents to understand and manage children's digital and gaming use can help to promote healthy digital habits of young people and reduce the risk of addiction. In this context, increasing parents' knowledge of the digital world and providing effective guidance is an important element of family engagement.

4.3 Healthy alternatives

Healthy alternatives offer an effective strategy to combat gaming addiction. Providing individuals with incentives to engage in healthy and varied activities in addition to gaming can reduce the risk of addiction. A variety of activities, such as physical activities, sports, artistic activities, reading or social interaction, can help individuals spend their time in a productive and balanced way. Furthermore, these alternatives can support young people to develop their emotional and social skills, cope with stress and maintain their overall health.

4.3.1   Promotion of physical activities

Offering healthy alternatives can help young people move away from digital and gaming addiction. Encouraging physical activities helps young people to channel their energy in a positive way. In this context, popularizing physical activities such as sports, exercise programs, or outdoor activities among young people can offer a pleasant alternative to get away from the digital world [29,30].

4.3.2   Supporting artistic and social activities

Artistic and social activities can help young people develop their creativity, find their emotional expression, and strengthen their social connections. Artistic activities such as music, painting, writing, theater, or participation in social groups allow young people to express themselves while distancing themselves from the digital world. These alternatives can help young people achieve diversity and balance in their daily lives [31,32]. Promoting healthy alternatives can be an effective strategy to reduce youth digital and gaming addiction. These alternatives can help young people find balance in their lives by providing them with the opportunity to explore healthy and positive activities that match their interests.

4.4 Game control

Game control is critical for individuals to use games in a healthy balance. It is normal to play, enjoy and have fun for a certain period of time; however, the risk of addiction can increase if game use gets out of control. Individuals need to make conscious decisions about limiting their gaming time, taking regular breaks, and making time for real-world responsibilities. At the same time, effective use of parental supervision tools can be an important tool to keep play time under control.

4.4.1   Limiting play hours

Limiting gaming hours can help young people control excessive gaming. Parents can support their children to develop a balanced digital use habit by allowing them to play games for a certain period of time. This strategy can help young people maintain sleep patterns, spend more time on social interactions and focus on academic activities [33,34].

4.4.2 Effective use of parental control tools

Parental control tools are an important tool to help families manage their children's digital interactions. These tools provide parents with the ability to moderate children's game content, limit screen time and impose certain content restrictions. By using these tools effectively, parents can support their children to achieve a healthy balance with the digital world [35,36]. Game control strategies can help young people interact with the digital world in a more mindful and balanced way. These measures can support families in developing their children's healthy digital habits and reduce the risk of game addiction.

5. Conclusion, Discussion, Limitations and Recommendations

This study focuses on recommended strategies for the prevention of digital and gaming addiction in young people. The increasing interaction of young people with the digital world brings with it the risk of digital addiction. In this context, it emphasizes the importance of conscious digital use, with particular emphasis on the responsibilities of society and families.

Society and families have a great responsibility to *prevent digital addiction in young people*. Schools should provide digital literacy education to young people to encourage responsible use and raise awareness about addiction. Families should understand their children's digital activities, strengthen communication, and set healthy boundaries. Society should support young people and contribute to campaigns and events that promote responsible digital use.

Conscious digital use enables young people to build a healthy relationship with the digital world. This builds skills to use technology in a positive way and helps young people to become informed consumers. At the same time, mindful digital use supports young people's social and emotional development. Therefore, educators, families and society should guide young people in this regard and promote responsible digital use. Discussions on the implementation of these strategies should address various challenges and solutions. For example, ways to deal with factors such as lack of public awareness of digital addiction and aggressive marketing strategies of the technology industry towards young people could be discussed. Also, the challenges that families and educators may face in implementing these strategies and the support they need should be part of the discussion.

5.1 Limitations

Each strategy has limitations, and it is important to understand these limitations. For example, a lack of knowledge among educators and parents may make it difficult to implement strategies effectively. Also, the rapid evolution of technology may require strategies to be updated and adapted. Recognizing these limitations contributes to developing more effective strategies and reducing the risk of digital addiction among young people.

6. Recommendations

Awareness Raising Programs for Parents and Educators: The study recommends developing awareness-raising programs for parents and educators. These programs can provide guidance on recognising the signs of digital and gaming addiction, helping young people develop healthy digital habits and preventing potential risks.

Training Modules in Schools: Special training modules for educational institutions can be developed to raise awareness of young people about digital and gaming addiction. These modules can provide students with information on the effects and risks of digital use and healthy habits.

Digital Literacy Programs: Digital literacy programs should be developed to enable young people to understand and use the digital world in a balanced way. These programs can provide young people with skills on effective communication, time management and online safety.

Psychosocial Support Services: Psychosocial support services that focus on the emotional and social needs of young people should be provided. It is important to understand the psychological factors underlying digital and gaming addiction and provide individual support in this regard.

Promotion of Family Communication and Activities: Programs and activities to strengthen communication within the family should be encouraged. Families should interact more with young people and emphasise alternative healthy activities instead of of digital tools.

Review School Policies: Schools should develop appropriate policies to balance students' use of digital devices. These policies can regulate use during class time and other activities that students need to focus on.

7. Declarations

7.1 Ethical approval

This study is a literature review; therefore, approval from the ethics committee was not required for it.

7.2 Funding

No funding was obtained for this research.

7.3 Availability of data and materials

Materials used in this review study are available from the corresponding author upon request.

7.4 Conflict of interest

The authors declare that they have no conflict of interest.

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