

The Effect of Digital Addiction on Athletic Performance

Ishak Gocer¹ , Muhammed Oniz^{2*} 

¹School of Health Sciences, Ankara University, Ankara, Türkiye

²School of Health Sciences, Erciyes University, Kayseri, Türkiye

ABSTRACT

Background: In contemporary times, the utilization of digital devices is steadily on the rise. The frequented usage of online games and applications has now reached an addiction level, which has a detrimental effect on not only the family structure but also, indirectly, on the social construct. Such an addiction causes individuals to withdraw from society and social life, ultimately confining themselves to their digital worlds. In this study, we aim to investigate the impact of digital addiction on athletic performance and summarise the relevant findings from existing literature. It is anticipated that our results will increase awareness among sports scientists, coaches and trainers. To explore the topic, we conducted a comprehensive literature review on the connection between digital addiction and sports performance, drawing on relevant sources.

Methods: A systematic search was conducted in academic databases for journals and conference proceedings. Relevant keywords such as 'technology addiction', 'digital addiction', 'sports performance', 'social media', 'online gaming' and 'technology' were used. By evaluating the literature, studies that investigated the impact of digital addiction on athletic performance were selected. The inclusion of 18 academic articles in this study was based on relevance and importance. The literature pertaining to our research subject matter was retrieved from electronic databases including TR Index, Google Scholar, and National Thesis Center. Subsequently, a detailed analysis of the chosen literature was conducted, elucidating commonalities, inconsistencies, and divergences amongst the studies.

Result: The study's findings demonstrate that digital addiction significantly impairs athletic performance. This highlights the adverse effects of digital device usage on athletic performance. Athletes experiencing digital addiction struggle to concentrate on their training and may become distracted. This highlights the adverse effects of digital device usage on athletic performance.

Conclusions: It is advisable that individuals restrict their use of digital technology, concentrate on adequate training and engage in physical recreation during their leisure time.

Keywords: Athletic performance, digital addiction, sports, technology

***Corresponding author:** Muhammed Oniz; muhammedoniz85@gmail.com

Academic Editor: Mehmet GÜLÜ

Journal of Exercise Science & Physical Activity Review

journal home page: www.e-jespar.com

<https://doi.org/10.5281/zenodo.8399841>

ARTICLE HISTORY

Received: 23 September 2023

Accepted: 25 September 2023

Published: 03 October 2023

INTRODUCTION

From humanoid robots to artificial intelligence, we are witnessing a dizzying development of technology in many fields. The rapid development, continued development, and spread of digital technologies cause significant changes in human life. So much so that the use of smartphones, tablets, and computers is now an indispensable part of daily life. This is the same for athletes as well as sedentary individuals. While this kind of addictive technological use offers great convenience for people in daily life, it also harms the structure of family and society. But, the effects of this technological addiction are still not fully understood today. In this context, this study aims to investigate the relationship between digital addiction and the athletic performance of athletes in the risk group where digital addiction is very effective and to bring the results obtained to the literature. This study aims to provide a basis for understanding the negative effects of digital addiction on athletic performance and taking measures against these effects by compiling the existing findings in the literature. This study is important in terms of providing a resource for coaches, researchers, and conditioners with the findings obtained. Addiction is defined as "substances or behaviors that cause the individual to show behaviors out of the norm and to be unable to fully fulfill their physical, mental, and biological functions" (Cited by Uzgu et al., 2023). Digital addiction refers to individuals' relationships with digital technological tools and environments such as tablets, computers, social media use, etc. (Turac and Guler 2023). By definition, digital addiction is the person and machine interaction that individuals of all age groups can show addiction regardless of age (Cited by Dektas et al., 2023).

Excessive use of computers with the feeling of satisfaction and constant desire that it creates in individuals causes addiction (Cakır et al., 2011). The most common type of addiction in our age is digital addiction. With the increase and development of technological tools in the last two decades, there has been an increasing trend of digital addiction globally, especially among adolescents and young people, and this situation has become even more serious with the Covid-19 pandemic (Meng et al., 2022; Dektas et al., 2023; Cavus et al., 2016). Advanced technology in the digital environment offers comfort to individuals; so, it is inevitable that individuals, especially young people, are affected by digital addiction (Uzgu et al., 2023; Unal and Korkmaz 2023). According to 2021 data, the number of active digital users online for an average of 6.7 hours per day is 4.66 billion for the internet, 4.32 billion for mobile internet, and 4.2 billion for social media (Meng et al., 2022; Fiedler et al., 2023; Dresch-Langley and Hutt 2022). In Turkey, according to the results of the "Household Information Technology (IT) Usage Survey" presented by TUIK in 2022, the rate of households with access to the Internet is 94.1% and the rate of individuals using the Internet is 85.0%. According to the results of the "Survey on the Use of Information Technologies by Children" presented by TUIK in 2021, the rate of children who regularly use the internet has increased and the rate of internet use by children has increased to 82.7% (TUIK, 2023).

Although the Internet was originally designed to help communication and research activities, the dramatic increase in Internet use in recent years has led to Internet addiction (Sato, 2016). So much so that in its early days, the Internet could only be used by computer experts, scientists, and engineers (Arisoy, 2009). Today, especially in the age of smartphones, the use of cell phones and especially the internet has become an integrated platform where the user can perform various tasks and activities such as social communication, entertainment, information search, and productivity. The popularity of cell phones and internet use on the phone is due to their easy portability and multifunctionality, which causes individuals to become more connected and dependent on their cell phones compared to other technological devices (Ong

et al., 2023; Sato, 2016). One of the most important activities that cause addiction to the internet and digital devices is digital games. As a concept, there is a strong relationship between internet addiction and digital addiction (Yalcin and Bertiz 2019).

Digital addiction is a term that covers internet addiction, gaming addiction, social media addiction, and other digital media addictions (Ercan et al., 2023). Digital addiction includes not only excessive internet use but also the addictive use of mobile and PC games on digital devices that can be used offline (Meng et al., 2022; Gulu M et al., 2023; Fiedler et al., 2023).

Although there is currently no consensus on whether men or women are more addicted to cell phone use (Ong et al., 2023), studies suggest that men are at higher risk of addiction due to excessive internet and gaming use (Meng et al., 2022). However, there is a consensus that men and women use cell phones for different purposes, with men preferring activities such as gaming and entertainment, while women use cell phones more for social interaction (Ong et al., 2023).

Benefits of Active Use of Digital Technology

It is a fact that digital technology has made some positive contributions to people today. For example, with the development of the infrastructure of internet providers, individuals can communicate with other individuals on the other side of the world in seconds through audio and video. Technology has evolved and developed in line with the needs of human beings. Developing technology allows society to become more civilized by increasing the level of welfare (Turac and Guler 2023; Arslan, 2020). The benefits of active use of digital technology are as follows;

- It facilitates the lives of individuals and allows individuals to improve themselves.
- Mastering and actively using digital technology saves time for individuals (Turac and Guler 2023). For example, while it used to be necessary to read dozens of encyclopedias in the library for months for an article, now this process can be completed in a very short time with the use of the internet and computers.
- If we look at the benefits of the active use of digital devices in terms of computer games; computer games have many benefits such as the development of spatial skills in children, ensuring hand-eye coordination, developing the imagination world, easily visualizing objects related to physics and chemistry, explaining the causes of shapes, ensuring the integration of shapes in space, developing writing skills, etc. (Horzum, 2011; Akdag et al., 2014).
- It is also known that individuals adapted to digital technology have better job opportunities (Akdag et al., 2014).

Risks of Digital Addiction

Today, although technological devices offer people many conveniences in different fields, sometimes the use of these devices outside of their intended purpose can be physically and psychologically harmful to individuals (Cakır et al., 2011). Studies clearly show that digital addiction causes significant problems in health, work, family, and social areas. This alarming situation has been the subject of many studies during the Covid-19 period and concerns have been expressed (Meng et al., 2022; Ong et al., 2023). The impact of excessive social media use, which has the highest usage rate on digital platforms, on increasing depression, anxiety, and especially mental health has recently become the focus of research (Fiedler et al., 2023; Ong

et al., 2023). Although people who use social media at an addictive level see this digital world they have created as an environment where the feeling of loneliness can be eliminated, the situation is the opposite. In other words, social media addiction causes the feeling of loneliness to increase even more (Uzgu et al., 2023).

Digital addictions cause chronic inactivity in individuals and this can lead to many health problems such as physiological and psychological disorders, eating disorders, obesity and weight problems, learning disorders, psychomotor skill disorders, headaches, eye disorders, sleep disorders, aggression, aggression, body posture disorders, anti-sociality, the tendency to violence, diseases caused by inattention to personal hygiene, etc. (Onal and Filiz 2023; Gulbetekin et al, 2021; Horzum, 2011). Also, digital addictions cause people to disrupt their responsibilities and cause negativities in their social lives. In daily life, individuals use technological products more in making appointments, online education, making reservations, and shopping. In this case, since individuals do not leave their comfort zones, their social interactions are damaged and they experience communication problems (Ercan et al., 2023). With the effect of all these negative conditions, individuals may become depressed (Dektas et al., 2023).

Strategies to Combat Digital Addiction

To prevent technology, in other words, digital addiction, children under 18 months of age should be kept away from screen-based media. For children aged 18-24 months, quality viewing programs should be selected and viewing should be with the family. For children between the ages of 2 and 5, quality programs should be selected and the viewing time should not exceed a most of one hour per day. For children aged 6 years and older, the time allocated to digital technology based on viewing should be limited and this limit should be consistent (Onal and Filiz 2023).

Effects of Digital Addiction on Athletes and Athletic Performance

In a study, the consequences of digital addiction were listed as follows; (1) athletes responding to commands later, (2) disturbance of optimal sleep routines of athletes, (3) distraction, (4) isolation among teammates and problems in social cohesion within the team, (5) decreases in sports performance due to lack of focus, etc. (Ong et al., 2023).

Related Literature Review

Digital addiction is one of the serious problems of today. So, this study aims to examine the effect of digital addiction on athletic performance. In this section where the literature summary is presented, summaries of various studies conducted in this field are presented. A sedentary lifestyle causes negative physical and mental health problems in individuals. There is a sedentary lifestyle worldwide. Although the positive effects of exercise are known, it has been reported that approximately 80% of adolescents and children aged 13-18 years do not engage in physical activity on a global scale (Gulbetekin et al., 2021). Arisoy (2009) drew attention to internet addiction in his study and aimed to provide detailed information on both pharmacological and cognitive-behavioral treatment of internet addiction. According to the results of this review study, internet addiction in individuals has negative effects on social, personal, and academic functioning.

Cakır et al. (2011) conducted a study on internet and game addictions on 996 university students and as a result of this study, it was argued that game and internet addiction harmed students' academic achievement and social relationships and this negative effect was found to be higher in male students than in female students.

In a study conducted by Akdag et al. (2014) on 1316 (513 male / 812 female) university students, the internet addictions of the participants were examined in terms of various variables. The study evaluated the relationship between internet addiction and factors such as age, gender, digital technology products, and duration of internet use. As a result of this study, it was found that most of the students had a "low" level of internet addiction. Similarly, Arslan et al. (2020) examined the digital addiction levels of 1108 (455 male / 653 female) university students in terms of various variables. According to the results of the study, digital addiction harms academic achievement, sleep problems, and social relationships. Yalcın and Bertiz (2019) examined the effects of game addiction in a qualitative study involving 25 university students. According to the results of the study, game addiction negatively affects students' academic performance and may also cause psychological problems. Horzum's study in 2011 included 889 (445 male / 444 female) primary school students and aimed to examine the addiction levels of primary school students to computer games according to different variables. According to the results of this study, addiction to computer games harms students' social relationships, academic achievement, and physical activity levels.

Gulbetekin et al. (2021) included 583 (278 male / 305 female) children in their study. In this study, it was aimed to determine the factors affecting adolescents' digital game addiction levels and their attitudes and behaviors toward physical activity. According to the results obtained from the study, digital game addiction negatively affects the physical activity levels of adolescents and this leads to an unhealthy lifestyle. Cavus et al. (2016) conducted a study on computer games and addiction levels in 435 university students. According to the results obtained from the study, 1 out of every 5 students participating in the research is under the threat of game addiction and this addiction negatively affects the academic performance of the students. It was also concluded that computer game addiction negatively affects volunteers' time management skills.

Uzgu et al. (2023) examined the digital addiction and loneliness levels of 333 (184 male / 149 female) university students in their study. In this study, the TV, phone, and computer usage rates of volunteers were investigated. As a result of the study, it was concluded that digital technology tools seriously affect individuals and that women live more dependent than men and young people live more dependent than older people. Similarly, Unal and Korkmaz (2023) investigated the digital addiction and loneliness levels of 354 (189 male / 165 female) secondary school students in terms of various variables. From the data obtained from the research, it was concluded that digital technological devices lead to digital addiction and this negatively affects the loneliness levels of individuals.

Onal and Filiz (2023) included 354 (196 male / 158 female) students of the Faculty of Sports Sciences in their study. The study aimed to determine the technological addiction and perceived stress levels of the volunteers and to reveal what kind of effect these levels have on their academic achievement. According to the results of the study, it was argued that technological addiction and the related perceived stress rate decreased the academic achievement of university students. Ong et al. (2023), (369 (193 male / 176 female) students voluntarily participated in their study. The study aimed to investigate the mobile phone use and

related digital addictions of young athletes. According to the results of the study, 40.65% of young athletes are at the level of addiction to smartphone use and this situation is a serious problem for young athletes.

Turac and Guler (2023) included 265 (158 male / 107 female) students of the Faculty of Sports Sciences in their study. In this study, it was aimed to examine the digital addiction and happiness levels of the students of the Faculty of Sports Sciences. According to the data obtained from the study, it was concluded that the digital addiction and happiness levels of the volunteers differed according to socio-demographic variables.

Fiedler et al. (2023) aimed to investigate digital addiction and mental health conditions caused by digital media in adolescent athletes. In this study, 591 German adolescent athletes from 42 different sports branches between the ages of 12-19 participated. According to the data obtained from the study; excessive use of digital technological devices causes various sleep disorders and various mental health problems. Langley et al. (2022) investigated the relationship between digital addiction and sleep in their study. According to the data obtained from their research, digital addiction causes sleep disorders and even insomnia in individuals.

Ercan et al. (2023) investigated the relationship between dysfunctional attitudes and digital addiction levels in their study of 390 young adults aged 18-24. In the study, technological devices and internet use of young adults were examined. According to the results of the study, having dysfunctional attitudes in volunteers can be explained by digital addiction, daily internet usage time, education level and not having a more chronic disease.

Dektas et al. (2023) aimed to investigate the leisure time management and digital addiction levels of secondary school students. The research was conducted on 2196 (1033 male / 1163 female) people. According to the results of the study; there was no significant difference in leisure time management values depending on the digital tools used (PC, TV, and smartphone), gender, applications used (Twitter, Instagram, Facebook, TikTok), a significant difference was observed in the time spent with digital tools. In digital addiction values, statistical significance was found in the overuse dimension, digital tools used, applications used, and time spent with digital tools according to gender variable.

According to the general results of the studies summarized above, digital addiction in individuals negatively affects academic achievement, social relations, and physical activity levels of individuals, and as a result, it causes mental health problems in individuals. These studies also provide important findings about the effect of digital addiction on athletic performance. Because most of the studies were conducted on athletes. So, digital platforms such as PC games, the internet, TV, social media, etc. create addiction in athletes and this allows athletes' athletic performance to be negatively affected.

MATERIALS AND METHODS

The data of the study were obtained through the literature review method. In this framework, 18 academic studies were compiled. The search for the studies related to our research topic was carried out in PubMed, Google Scholar, TR Index, and National Thesis Center electronic databases.

Some Studies Related to the Research Topic

In the literature review, there are many studies on the theme of "The Effect of Digital Addiction on Athletic Performance". While many of these studies have expressed the serious harms caused by digital addiction in individuals and society, some studies have raised awareness about the positive aspects of digital addiction. Some studies have expressed both the positive and negative aspects of digital addiction. Table 1 presents the studies compiled on the subject.

Table 1. The effect of digital addiction on athletic performance

| Reference | Participant (n) | Title | Type of digital addiction | Research result |
|--------------------------|--------------------------|---|--|---|
| Onal ve Filiz 2023 | 354 (196 men/158 women) | The Effect of Technological Addiction and Perceived Stress Levels of Faculty of Sport Sciences Students on Academic Achievement | Use of technological devices | The academic achievement of the volunteers decreased. |
| Turac ve Guler 2023 | 265 (158 men/107 women) | Investigation of Digital Addiction and Happiness Levels of Faculty of Sports Sciences Students | Use of technological devices and the Internet | Sports science students were found to be addicted to the use of technological devices, but digital addiction and happiness levels differed according to socio-demographic variables. |
| Ong ve ark., 2023 | 369 (193 men/176 women) | Problematic mobile phone use among youth athletes: a topic modelling approach | Smartphone use | Effects such as distraction/loss of focus, sleep problems/fatigue, loss of time/insufficient time, etc. were detected in digitally addicted athletes participating in the study. |
| Gulbetekin ve ark., 2021 | 583 (278 men/305 women) | Factors Affecting Digital Game Addiction and Physical Activity Attitudes and Behaviors of Adolescents | Use of digital games and technological devices | It was argued that digital addiction should be avoided to encourage children to do sports and change their attitudes towards physical activity. |
| Fiedler ve ark., 2023 | 591 | Digital media and mental health in adolescent athletes | Internet and social media use | It was argued that digitally addicted elite athletes are more affected by the negative effects of digital addiction than recreationally active individuals. |
| Meng ve ark., 2022 | Review | Global prevalence of digital addiction in general population: A systematic review and meta-analysis | Use of technological devices and the Internet | It was argued that digital addiction is a very common and very important problem in society. |
| Arslan, 2020 | 1108 (455 men/653 women) | Determination of the Digital Addiction Levels of Students University According to Various Variables | Use of technological devices and the Internet | It is stated that digital addiction affects individuals negatively and this negativity shows a significant difference in terms of gender, class level, place of residence, high school type, and branch variables, but not in terms of the economic status of the family. |
| Horzum 2011 | 889 (445 men/444 women) | Examining Computer Game Addiction Level of Primary School Students in Terms of Different Variables | Computer use | In terms of gender, male students were found to be more likely to be addicted to games than female students; in terms of socio-economic level (SES), students in upper SES were found to be more likely to be addicted to games than students in middle and lower |

| | | | | |
|------------------------|-------------------------------|--|---|---|
| | | | | SES; and in terms of grade, students in the 4th grade were found to be more addicted to games than students in the 3rd and 5th grades. |
| Dektas ve ark., 2023 | 2196 (1033 men/1163 women) | Investigation of Secondary School Students' Leisure Time Management and Digital Addiction Levels | Use of technological devices and the Internet | While there was no significant difference in leisure time management values depending on gender, digital tools used, and applications used, a significant difference was observed in the time spent with digital tools. |
| Cavus ve ark., 2016 | 435 | Computer Games and Addiction: A Field Study on University Students | Computer game | It was determined that 1 out of every 5 students was under the threat of game addiction. |
| Cakır ve ark., 2011 | 996 | An investigation of university students' internet and game addiction with respect to several variables | Internet and gaming addiction | It was found that male students were more likely to have internet and game addiction than female students. |
| Akdag ve ark., 2014 | 1316 (513 men/812 women) | Investigation of internet addiction of university students in terms of various variables | Internet addiction | The majority of the students were found to have a "low" level of internet addiction. |
| Arisoy, 2009 | Review | Internet Addiction and Its Treatment | Internet addiction | It was argued that digital addiction is a very important problem in society. |
| Yalcın ve Bertiz, 2019 | 25 | Qualitative Study on the Effects of Game Addiction on University Students | Digital games | It was concluded that individuals associate digital games with real life, prefer playing digital games to other activities, and have the view that digital games are a guide in solving a problem encountered in real life. |
| Langley ve Hutt, 2022 | Review | Digital Addiction and Sleep | Internet and social media addiction | It was argued that digital addiction causes sleep problems. |
| Uzgu ve ark., 2023 | 333 (184 men/149 women) | Examination of University Students' Digital Addiction and Levels of Loneliness | Use of technological devices and the Internet | It was concluded that as the age group increases, the time spent on the internet decreases a more controlled internet use is gained, and women are more addicted to the digital world than men. |
| Unal ve Korkmaz, 2023 | 354 (189 men/165 women) | Digital Literacy of Secondary Students Levels of Digital Addiction and Virtual Environment Loneliness Levels | Virtual applications | It was determined that digital literacy and digital addiction levels negatively affect virtual environment loneliness levels. |

| | | | |
|-------------------------|---|---|---|
| Ercan ve ark., 2023 390 | Relationship between Dysfunctional Attitudes and Level of Digital Addiction in Young Adults | Use of technological devices and the Internet | Digital addiction in young adults can be explained by having dysfunctional attitudes, education level, daily internet usage time and not having a more chronic disease. |
|-------------------------|---|---|---|

DISCUSSION

In this study, "The Effect of Digital Addiction on Athletic Performance" was investigated. The findings obtained from the studies compiled by addressing the research topic in the literature were brought together and a conclusion was reached. According to the findings of these studies, digital addiction has negative effects on athletic performance. The discussion section prepared according to the results of the compiled studies is presented below.

Among the compiled studies, no study directly addressed the relationship between digital addiction and athletic performance. However, some studies examined digital addiction in different variables and indirectly evaluated the effects of digital addiction on athletic performance according to these results.

[Onal and Filiz \(2023\)](#) investigated the effect of perceived stress levels and technological addictions of sports sciences faculty students on their academic achievement. According to the results of the study, excessive technology addiction and perceived stress levels negatively affected the academic achievement levels of the volunteers. Similarly, [Horzum \(2011\)](#) investigated the computer game addiction levels of primary school students. According to the data obtained from the study, computer game addiction negatively affected the academic achievement of the volunteers. Considering the results of these two studies, digital addiction and stress factors that cause a decrease in the academic achievement of volunteers can also be effective in training and thus these factors harm athletic performance.

[Turac and Guler \(2023\)](#) investigated the relationship between volunteers' digital addiction caused by excessive use of technological devices and the internet and their happiness levels. According to the results of this study, sports sciences students were found to be addicted to the use of technological devices, but their digital addiction and happiness levels differed according to socio-demographic variables. This could potentially have implications for athletic performance.

[Ong et al. \(2023\)](#) investigated smartphone use addiction in young athletes in their study. In the digitally addicted athletes participating in the study, distraction/loss of focus, sleep problems/fatigue, loss of time / insufficient time, etc. effects were detected. These identified factors are highly effective on athletic performance. These factors can significantly reduce athletic performance. Also, since the addiction to using smartphones makes it difficult for athletes to focus on training or competition, their athletic performance is negatively affected.

In the study conducted by [Gulbetekin et al. \(2021\)](#), the factors affecting digital game addiction and physical activity behaviors and attitudes of adolescents were investigated. According to the findings of the study, digital game addiction of the volunteers may reduce their attitude and participation in physical activity, and thus, this may have negative effects on the athletic performance of the volunteers.

[Fiedler et al. \(2023\)](#) examined the relationship between digital addiction and mental health in adolescent athletes. It was argued that digitally addicted elite athletes were more affected by the negative effects of

digital addiction than recreationally active individuals. According to the study, digital addiction has negative effects on the mental health of volunteers. Motivation is one of the most important factors in athletic performance. So, it would be a mistake to expect high athletic performance with impaired mental health. As a result, it can be said that digital addiction harms athletic performance.

Meng et al. (2022), who investigated the global prevalence of digital addiction with a systematic review, argued that digital addiction is a very common and very important problem in society. Similarly, Arslan et al. (2020) examined the digital addiction levels of university students. According to the results of these two studies, digital addiction increases stress levels in volunteers and increased stress levels can negatively affect athletic performance in athletes.

Dektas et al. (2023) investigated the relationship between leisure time management and digital addiction levels of secondary school students. According to the results of the study, digitally addicted students were found to have a lower ability to manage leisure time activities. According to this result, the athletic performance of these students may also be negatively affected.

Cavus et al. (2016), who conducted a field study on computer games and addiction, concluded that computer games make 1 out of every 5 students addicted to games. These results suggest that computer game addiction may affect individuals' time management skills and thus reduce their participation in sports activities. Similarly, Cakır et al. (2011) examined the prevalence of internet and game addiction among university students according to various variables. As a result of the study, it was found that male students were more likely to have internet and game addiction than female students. These findings suggest that these addictions may reduce individuals' interest in physical activity and sports and thus negatively affect their athletic performance values. However, some studies have found low levels of digital addiction in the volunteer population. For example; Akdag et al. (2014) aimed to examine the internet addiction of university students in terms of various variables. They concluded that internet addiction is associated with psychological problems such as social isolation, anxiety, and depression, but the majority of students have "low" levels of internet addiction. From the perspective of athletes, psychological problems caused by digital addiction may indirectly affect athletic performance, as such psychological problems can negatively affect athletes' ability to focus and motivation.

In a review study conducted by Arısoy (2009), it was argued that internet addiction is a serious social problem that requires treatment. According to the results of the study, internet addiction occupies individuals' free time or time when they can do physical activity. So, digital addicts face physical inactivity and consequent health problems. These problems create a situation that negatively affects athletic performance.

Yalcın and Bertiz (2019) investigated the levels of game addiction of university students in their study. According to the findings, they concluded that individuals associate digital games with real life and prefer playing digital games to other activities. The results of this study show that game addiction can negatively affect athletic performance by causing negative psychological, physical, and social consequences.

Langley and Hutt (2022) investigated the relationship between digital addiction and sleep and argued that digital addiction causes sleep problems. According to the results of the study, digital addiction causes sleep disturbances, and sleep disturbances are very effective in athletic performance, and thus digital addiction negatively affects athletic performance.

Uzgu et al. (2023) aimed to examine the digital addiction and loneliness levels of university students in their study. As a result, it was argued that young people exhibit more digital addiction than older people and women exhibit more digital addiction than men. Similarly, Unal and Korkmaz (2023) investigated the digital literacy levels, digital addiction, and virtual environment loneliness levels of secondary school students and as a result, it was determined that digital literacy and digital addiction levels negatively affect virtual environment loneliness levels. Since the expressions of loneliness and virtual loneliness, which are the main problems of the above two studies, are psychological states and psychological states known to affect athletic performance, we can say that digital addiction harms athletic performance according to these results.

Ercan et al. (2023) aimed to investigate the relationship between dysfunctional attitudes and digital addiction levels in young adults. According to the results of the study, digital addiction in young adults can be explained by having dysfunctional attitudes, education level, daily internet usage time, and having a more chronic disease. In short, the results show that digital addiction is higher in people with higher levels of dysfunctional attitudes. Daily internet usage time and chronic diseases mentioned in the results of this study are factors that negatively affect athletic performance. According to the results of this study, digital addiction may indirectly have negative effects on athletic performance.

CONCLUSIONS

Although following technology closely has its benefits, its disadvantages should also be taken into consideration. According to the results of the literature obtained from our research, digital addiction is a reality that is very common throughout society and has serious negative consequences. Also, the studies included in our study argue that digital addiction negatively affects physical activity. Negative effects on physical activity can negatively affect athletic performance in athletes. In other words, inactivity caused by digital addiction causes a decrease in the performance of athletes. Similarly, according to the results of the literature summary, the negative effects of digital addiction on social relationships, negative effects on physical activity levels, psychological problems, low academic achievement, etc. also lead to a negative effect on athletic performance. So, coaches, conditioners, athletes, and parents should take some measures to keep digital addiction under control.

- It is important to be aware of the benefits that digital technologies and internet use offer us, but it should not be forgotten that excessive and uncontrolled use of these can cause harmful effects on both family and society.
- In future studies, more comprehensive studies should be conducted to determine what kind of effects digital addiction has on athletes' training, motivation, and performance.

- In the studies to be conducted on this subject, comparing the athlete group with the non-athlete sedentary group in the same study will provide a better understanding of the subject.
- Studies on digital addiction have generally been conducted on young people, and the application of future studies on adults will be more decisive in understanding the issue.
- Family and institutional seminars can be organized on digital addiction and its dangers.

Author Contributions

Conceptualization, I.G. and M.O. methodology, I.G. and M.O; formal analysis, I.G. and M.O; investigation, I.G. and M.O; data curation, I.G. and M.O; writing—original draft preparation, I.G. and M.O; writing—review and editing, I.G. and M.O;

Informed Consent Statement:

Participants took part in the research voluntarily and the research was conducted in line with the Declaration of Helsinki.

Acknowledgments:

We would like to thank all participants who took part in the research.

Funding:

This research was not funded by any institution or organization.

Conflicts of Interest:

The authors declare that no conflicts interest.

REFERENCES

- Akdag, M., Sahan Yılmaz, B., Ozhan, U., & San, I. (2014). Investigation of internet addiction of university students in terms of various variables. *Journal of Inonu University Faculty of Education*, 15(1), 73-96.
- Arısoy, O. (2009). Internet Addiction and Its Treatment. *Current approaches in psychiatry*, 1(1), 55-67.
- Arslan, A. (2020). Determination of the Digital Addiction Levels of Students University According to Various Variables. *International e-Journal of Educational Studies*, 4(7), 27-41.
- Cakır, O., Ayas, T., & Horzum, M. B. (2011). An investigation of university students' internet and game addiction with respect to several variables. *Ankara University Journal of Faculty of Educational Sciences (JFES)*, 44(2), 95-118.
- Cavus, S., Ayhan, B., & Tuncer, M. (2016). Computer Games and Addiction: A Field Study on University Students. *Journal of Communication Theory and Research*, 2016(43), 265-289.
- Denktas, M., Temur, E., Aydın, R., Balinan, S., & Karadag, Y. (2023). Investigation of Secondary School Students' Leisure Time Management and Digital Addiction Levels. *Duzce University Journal of Sports Science*, 3(1), 83-90.
- Dresp-Langley, B., & Hutt, A. (2022). Digital Addiction and Sleep. *International Journal of Environmental Research and Public Health*, 19(11), 6910.
- Ercan, F., Erdogan, S., Erlen, C., Ince, D., Demirci, E., & Alan, N. (2023). Relationship between Dysfunctional Attitudes and Level of Digital Addiction in Young Adults. *Journal of Dependence*, 24(3), 361-370.

- Fiedler, R., Heidari, J., Birnkraut, T., & Kellmann, M. (2023). Digital media and mental health in adolescent athletes. *Psychology of Sport and Exercise*, 67, 102421.
- Guler, H., & Ozmaden, M. (2023). Investigation of the relationship between the digital game addiction awareness and leisure time satisfaction levels of the students of the faculty of sports sciences. *Journal of ROL Sport Sciences*, 4(1), 1-21.
- Gulbetekin, E., Guven, E., & Tuncel, O. (2021). Factors Affecting Digital Game Addiction and Physical Activity Attitudes and Behaviors of Adolescents. *Journal of Dependence*, 22(2), 148-160.
- Gulu, M., Yagin, F. H., Gocer, I., Yapici, H., Ayyildiz, E., Clemente, F. M., ... & Nobari, H. (2023). Exploring obesity, physical activity, and digital game addiction levels among adolescents: A study on machine learning-based prediction of digital game addiction. *Frontiers in Psychology*, 14, 1097145.
- Horzum, M. B. (2011). Examining Computer Game Addiction Level of Primary School Students in Terms of Different Variables. *Education and Science*, 36(159), 56-68.
- Meng, S. Q., Cheng, J. L., Li, Y. Y., Yang, X. Q., Zheng, J. W., Chang, X. W., ... & Shi, J. (2022). Global prevalence of digital addiction in general population: A systematic review and meta-analysis. *Clinical Psychology Review*, 92, 102128.
- Ong, N. C., Kee, Y. H., Pillai, J. S., Lim, H. B., & Chua, J. H. (2022). Problematic mobile phone use among youth athletes: a topic modelling approach. *International Journal of Sport and Exercise Psychology*, 1-22.
- Onal, A., & Filiz, B. (2023). The Effect of Technological Addiction and Perceived Stress Levels of Faculty of Sport Sciences Students on Academic Achievement. *Spormetre The Journal of Physical Education and Sport Sciences*, 21(1), 80-92.
- Sato, T. (2006). Internet addiction among students: Prevalence and psychological problems in Japan. *Japan Medical Association Journal*, 49(7/8), 279.
- Turac, G., & Guler, C. (2023). Investigation of Digital Addiction and Happiness Levels of Faculty of Sports Sciences Students. *Journal of Sport Sciences COMU*, 6(1), 13-26.
- TUIK, (2023). Data Portal For Statistics. Survey on Information and Communication Technology (ICT) Usage in Households and by Individuals, 2023. <https://data.tuik.gov.tr/Kategori/GetKategori?p=Bilim,-Teknoloji-ve-Bilgi-Toplumu-102>. (Access Date: 18.05.2023).
- Unal, S., & Korkmaz, O. (2023). Digital Literacy of Secondary Students Levels of Digital Addiction and Virtual Environment Loneliness Levels. *Journal of Bayburt Education Faculty*, 18(37), 218-240.
- Uzgu, M. A., Bozguney, R., Can, B., Ozlu, M., Akat, A., Gunes, F., & Calık, F. (2023). Examination of University Students' Digital Addiction and Levels of Loneliness. *Duzce University Journal of Sports Science*, 3(1), 75-82.
- Yalcın, S., & Bertiz, Y. (2019). Qualitative Study on the Effects of Game Addiction on University Students. *Science, Education, Art and Technology Journal*, 3(1), 27-34.