

Digital Addiction and Obesity in the Information Age: The Deep Connection Between Two Modern Threats and Obesity Education

Muhammed Oniz^{1*}, Nazmi Sarıtaş², Ishak Gocer³

¹School of Health Sciences, Erciyes University, Kayseri, Türkiye

²Faculty of Sport Sciences, Erciyes University, Kayseri, Türkiye

³School of Health Sciences, Ankara University, Ankara, Türkiye

ABSTRACT

Background: Today, advanced technological developments affect almost every aspect of our lives. Although this situation offers big convenience in the lives of individuals, it has also revealed new threats. Two of these threats are digital addiction and obesity. Although these two threats may seem different, there is a deep connection between them. The increase in the rate of digital addiction leads to an increase in obesity. Technological devices, especially digital devices, lead to malnutrition by pushing people to inactivity. This situation leads to an increase in obesity in society and many health problems. This research aims to examine the relationship between digital addiction and obesity, to understand the short and long-term effects of these two serious health problems on individuals, and to propose solutions to cut these threats. In this context, the terms digital addiction and obesity are defined, and their causes are explained. Also, the health-related risk factors of obesity, how digital addiction increases these risk factors, and strategies for coping with obesity and digital addiction are examined in detail. It is thought that the results obtained will create an awareness in the field of sports-health sciences.

Methods: In the current study, to examine the effect of digital addiction on obesity, a wide literature review including relevant sources was conducted. We aim to raise awareness in the field of sports-health sciences. For this purpose, we conducted a broad literature review to examine the effect of digital addiction on obesity. The review of articles related to the current research topic was carried out in Web of Science, PubMed, Google Scholar, and TR Index electronic databases. During this review, we focused on research published in scientific academic journals. Ten academic articles were included in the study.

Result: The findings of the study show that digital addiction significantly triggers obesity. This emphasizes the negative effects of digital device use on obesity.

Conclusions: According to the results obtained; the increase in digital addiction leads to an increase in obesity, especially by encouraging a sedentary lifestyle and affecting eating habits. Obesity education can raise awareness about "digital addiction" throughout society.

Keywords: Digital Addiction, digital gaming, digital minimalism, obesity, obesity education

***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.10396706>

ARTICLE HISTORY

Received: 06 December 2023

Accepted: 07 December 2023

Published: 28 December 2023

INTRODUCTION

The 21st-century world is dominated by advanced technology, and digitalization is widespread. This age, which we call the information age, has a sharp impact on society like a double-edged sword. In addition to the advantages that advanced technology offers to individuals in this age, modern health problems such as digital addiction and obesity have become a growing concern. People interact with smartphones, tablets, computers, and other digital devices and gadgets. The increase in time spent sitting has led individuals to sedentary lifestyles. These situations have paved the way for obesity to become a common health problem in society. In the current study, the reasons for the deep connection between digital addiction caused by the information age and obesity triggered by this addiction are explored. The complex relationship between digital addiction and obesity not only affects the health of individuals but also affects the structure and peace of society. The current study explores strategies to cope with and preventive measures against these two major threats of the information age. It is thought that this research will help to take a step forward in the search for solutions to the problems of digital addiction and obesity. In this context, the research aim to focus on the deep relationship between digital addiction and obesity, to examine the short and long-term effects of these two serious health problems on individuals, and to reveal solutions to cut these two threats. In this context, digital addiction and obesity are defined, and their causes are explained. In addition, in the current study, the risk factors of obesity on health-related parameters and the increasing effects of digital addiction on these risk factors, as well as strategies for coping with obesity and digital addiction were examined and explained in detail.

Digital Addiction: A Global Health Problem

Digital devices such as smartphones, tablets, laptops, etc., which emerged at the turn of the millennium and spread rapidly, have led humankind into the "digital age". These digital devices have become a way of life where children do their lessons, watch videos, and interact on social networks. So much so that these devices have become the daily needs of all humanity, especially adolescents and children. Digital devices are no longer bound by time or place, and digital media is easily and unlimitedly accessible everywhere. Because young minds are so vulnerable, they tend to become addicted, which leads to digital addiction (Ding & Li, 2023). Technological devices have gradually become an integral part of the way people communicate with each other and have replaced face-to-face communication. Overuse or addiction to digital devices has now become a global concern (Allcott, Gentzkow, & Song, 2022; Ding & Li, 2023). Technology is developing and spreading so fast that individuals are now spending almost all of their time in this digital world, and this creates a fear that these individuals will not be present enough in the real world (Allcott et al., 2022; Drago, 2015). Digital tools, which are widely used today, have invaded almost every aspect of our daily lives, especially with the pandemic (Ding & Li, 2023). So much so that the online world has become an alternative lifestyle for individuals. Digital devices such as tablets, smartphones, computers, game consoles, etc. have become an indispensable part of individuals' daily lives. Because digital devices provide entertainment, convenience, and portability to individuals (Aldemir, 2022; Dresch Langley & Hutt, 2022). Children, the group most affected by digital addiction, use these devices to play video games, watch videos, communicate, and interact with social media. It has been reported that there are 4.66 billion active internet users 4.32 billion active mobile internet users worldwide, and 4.2 billion

social media users (Aldemir, 2022; Gülü et al., 2023; Han, Nagduar, & Yu, 2023; Hawi, Samaha, & Griffiths, 2019). These social media users spend at least 2.5 hours a day on social media (Allcott et al., 2022). If we look at the values in Turkey, according to the Turkish Statistical Institute (TUIK) 2023 report; the rate of households with access to the Internet is 95.5% and the rate of individuals using the Internet is 87.1%. The rate of internet usage is 87.1% among individuals in the 16-74 age group. Gender, the rate of internet use was 90.9% for males and 83.3% for females. Addiction is defined as the urge that arises due to the addictive use of a particular substance or activity (TÜİK, 2023).

In general, addiction refers to the excessive desire for a concrete substance and the inability to give it up (Aldemir, 2022). Digital addiction is the problematic use of digital devices and tools (Arslan, 2019; Han et al., 2023). Digital addiction is defined as a compulsive urge for people to continue using digital devices and tools, even though it is known that excessive use of smartphones, tablets, computers, etc. for entertainment purposes will cause big physical and psychological problems for people, especially children, and adolescents and digital addiction has become a common trend in recent years. This situation is quite alarming today (Almourad, McAlaney, Skinner, Pleya, & Ali, 2020; Han et al., 2023; Hawi et al., 2019; Zahariades, 2018). Because of these compulsions, people go online for too long. Because they do not resist, they become depressed, their anxiety increases, their sleep patterns are disrupted, they exhibit asocial characteristics, and most importantly, they adopt a sedentary lifestyle (Aziz, Nordin, Abdulkadir, & Salih, 2021; Dresch Langley & Hutt, 2022; Han et al., 2023; King & Delfabbro, 2017). These situations bring along health problems such as obesity, eyesight, hearing problems, etc., which deeply concern society (Aziz et al., 2021; Han et al., 2023; Koral & Alptekin, 2023). A schematic representation of the psychological, physiological, and physical effects of digital addiction is shown in Figure 1. In particular, digital addiction negatively affects face-to-face communication, which is one of the most important factors of socialization. In fact, in one study, even among subjects who were aware of the decrease in face-to-face communication due to technology, more than 62% of them continued to use mobile phones in the presence of others. Similarly, many couples decided to abandon their plans to go hiking and instead chose to spend their entire day entirely glued to their tablets (Drago, 2015). Social media use, especially on smartphones, is claimed to be addictive in a similar way to harmful substances such as cigarettes, alcohol, and drugs (Allcott et al., 2022; Christakis, 2019; Dresch Langley & Hutt, 2022; Newport, 2019). Research shows that digital addiction has specific effects on brain function (Ding & Li, 2023). Similarities have been observed in the neurochemical conditions in the brains of people with digital addiction and those with such addictions (Hartogsohn & Vudka, 2023). Digital addiction varies across countries, regions, economic levels, and gender (Dresch Langley & Hutt, 2022; Han et al., 2023).

Technological devices are designed to create addiction in individuals. The main factor in people's digital addiction is the feeling of "getting pleasure". Academic studies show that the reward system of the brain plays a role in digital addiction. A person's habit of constantly checking incoming messages and likes, renewing the news source, can contribute to the formation of addiction by causing the secretion of the "feel-good neurotransmitter" called dopamine in the brain. As a result of excessive use of these devices, negative effects arise in both business and private lives of individuals (Aldemir, 2022; Dresch Langley & Hutt, 2022; Hartogsohn & Vudka, 2023). Digital addiction also affects family relationships in people. Because children are more vulnerable to digital addiction. Digital-addicted adolescents experience a sense of alienation in the family and may exhibit angry behavior (King & Delfabbro, 2017).

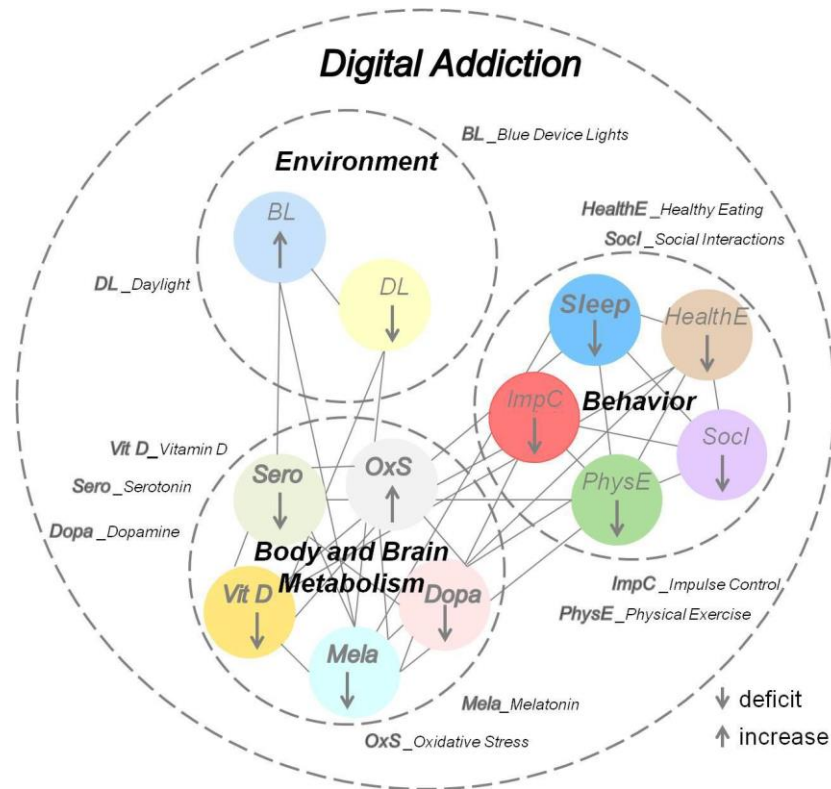


Fig. 1. Psychological, physiological, and physical effects of digital addiction (Dresp Langley & Hutt, 2022)

Obesity

Obesity is defined as excessive accumulation of fat in the body at a rate that will cause an increase in the risk of disease or premature death or impair health. Adipose tissue accounts for 15-18 percent of body weight in adult males and 20-25 percent in females. When this ratio exceeds 25% in men and 30% in women, obesity occurs (Irvin, Madden, Marshall, & Vince, 2023; Kahraman, Güriz, & Özdel, 2014; Lakshman, Elks, & Ong, 2012). Obesity starts at an early age and childhood obesity is a strong predictor of obesity in adulthood (Galvez, Frieden, & Landrigan, 2003; Lakshman et al., 2012). Obesity has serious and long-term consequences (Allcott et al., 2022; Lakshman et al., 2012). One of the most important health problems in developed and developing countries is obesity. With the development of technology and the prevalence of digital addiction, there has been a decrease in the rate of physical activity in individuals in general and as a result, a serious increase in the rate of obesity has become inevitable. Because malnutrition and physical inactivity are determinants of obesity. It is thought that obesity will become more widespread due to the decrease in physical activity, especially as long as adolescents play games with their friends at home or in internet cafes instead of playing games on the street or in sports fields. As the rate of obesity increases in the world, the rate of obesity-related diseases also increases. Diseases caused by the increase in fat mass affect the quality of life of individuals very negatively (Başdaş & Özbey, 2020; Bayrak & Cihan, 2021; Şengönül, Arancioğlu, Maviş, & Ergüden, 2019; Tjepkema, 2006). Having a healthy and fit body away from obesity has significant effects on happiness. Obesity negatively affects individuals' mood, psychology, and mental health (Akbuğa & Bilen, 2023; Han et al., 2023).

The Effects of Digital Addiction on Obesity

Computer game addiction causes adolescents to gain excess weight and become obese. Gamers often tend to eat while playing computer games and at the same time do not have enough physical activity to burn the added calories (Aziz et al., 2021; Kocakoğlu, Karaoğlu, & Kutlu, 2021). This can also lead to social anxiety, preventing adolescents from healthy communication (Başdaş & Özbey, 2020; Drago, 2015). Today, the concept of "digital obesity", which emerged as a result of digital addiction, reveals the effect of digital addiction on obesity more clearly (Bayrak & Cihan, 2021; Demir, Öteles, & Koçoğlu, 2023; Vidmar et al., 2023).

Ways to Reduce Digital Addiction for Reducing Obesity Rate in Society

Increasing physical activity in children and preventing sedentary lifestyles are seen as a way to combat obesity (Kocakoğlu et al., 2021). The way to achieve this can be achieved by taking measures regarding the time children spend in front of the screen. Due to the various psychological and physical health problems of digital addiction on people such as obesity, there has been an increasing tendency to stay away from digital tools for a certain period all over the world (Duncan, 2014; Han et al., 2023). Within the framework of these trends, the philosophy of "Digital Minimalism" was developed by Carl Newport, a professor of Computer Science at Georgetown University. This is a philosophy of technology use and is seen as a roadmap for getting rid of digital addiction (Akkuş, 2022). According to minimalism, with the balanced use of digital tools, the individual will be able to feel safe. According to the philosophy of digital minimalism, people stay away from technological tools for 30 days and do not use them at all. People try to rediscover the right behaviors during these 30 days. After 30 days, these people decide which technological tool will be useful in their own lives and how to use this tool. Digital minimalism is not a digital detox application where you can take a break from digital tools for 30 days and then return to your old order. For the practice of digital minimalism, individuals should first practice solitude, spend time alone, leave the phone at home, and take long walks (Newport, 2019).

Related Literature Review

In the literature review, there are many studies on the theme of "The Effect of Digital Addiction on Obesity". These studies have expressed the serious health problems that digital addiction causes in individuals and even in society by affecting obesity and solution suggestions for minimizing these problems. Table 1 presents the scientific studies examined on the subject.

Table 1. *The effect of digital addiction on obesity and suggestions for getting rid of addiction*

Reference	Participant (n)	Title	Type of digital addiction	According to the results of the research, unfavorable health conditions caused by digital addiction	Solution suggestions
(Dresp Langley & Hutt, 2022)	Review	Digital Addiction and Sleep	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Sleep patterns • Depression • Memory impairment 	<ul style="list-style-type: none"> • Awareness raising trainings about addiction should be provided.
(Aziz et al., 2021)	Review	Digital Addiction: Systematic Review of Computer Game Addiction Impact on Adolescent Physical Health	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Back and neck pain • Vision and hearing problems 	<ul style="list-style-type: none"> • A relational map of the causes and effects of digital addiction should be created.
(Başdaş & Özbey, 2020)	199 (268 male / 432 female)	Digital Game Addiction, Obesity, And Social Anxiety Among Adolescents	Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Social anxiety 	<ul style="list-style-type: none"> • Various activity programs should be established
(Bayrak & Cihan, 2021)	Review	The Phenomenon of Digital Obesity As a Result of Addiction in The New Media: Netflix Türkiye	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Physical and mental fatigue 	<ul style="list-style-type: none"> • Digital detox (diet) programs should be created.
(Muslu & Gökçay, 2019)	Review	Risk Factors Causing Obesity in Technology- Dependent Children	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Physical inactivity • Psychosocial problems • Sleep disorders • Irregular nutrition • Advertising exposure • Increased consumption of unhealthy food 	<ul style="list-style-type: none"> • Practices that increase physical activity should be developed. • School, family, and environment interaction should be ensured.
(Han et al., 2023)	199 (238 male / 253 female)	Digital Addiction and Related Factors among College Students	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity Dissatisfaction 	<ul style="list-style-type: none"> • Developing time management programs. • Making the body fit.

(Kocakoğlu et al., 2021)	491 (51 male / 148 female)	The Relationship Between Computer Game Addiction and Obesity in Third and Fourth Grade Elementary School Students	Digital Game Addiction	<ul style="list-style-type: none"> • Obesity 	<ul style="list-style-type: none"> • Programmes and practices that encourage physical activity should be developed.
(Koral & Alptekin, 2023)	Review	Digital Gaming Addiction: A Compilation	Digital Game Addiction	<ul style="list-style-type: none"> • Obesity 	<ul style="list-style-type: none"> • Preventive and therapeutic approaches to digital addiction should be developed.
(Ding & Li, 2023)	Review	Digital Addiction Intervention for Children and Adolescents: A Scoping Review	Technological Device Use and Digital Game Addiction	<ul style="list-style-type: none"> • Obesity • Anxiety • Depression 	<ul style="list-style-type: none"> • Preventive and therapeutic approaches to digital addiction should be developed.
(Şengönül et al., 2019)	Review	Obesity and Psychology	Addiction to the use of technological devices	<ul style="list-style-type: none"> • Obesity • Decreased self-esteem • Depression 	<ul style="list-style-type: none"> • The main step in the prevention and treatment of obesity is the permanent acquisition of healthy eating habits by individuals.

MATERIALS AND METHODS

The data of the present study were obtained through the literature review method. In this framework, 10 academic studies were compiled. The scanning of the studies related to our research topic was carried out in Web of Science, PubMed, Google Scholar, and TR Index electronic databases. The databases were searched with both Turkish and English translations of the keyword combinations "Digital Addiction", "Obesity", "Obesity Education", "Technological Addiction", "Digital Addiction and Obesity Relationship" and "Exercise and Obesity Relationship". Studies examining the effect of digital addiction on obesity in the literature were selected according to the level of relevance. Ten scientific academic articles were included in the current study. By making detailed analyses of the findings and results of these 10 selected articles, the common points between the studies were determined and solution suggestions were presented.

DISCUSSION

In this study, "The Effect of Digital Addiction on Obesity" was investigated. The subject of the research was discussed in depth in the literature and the findings obtained from the compiled studies were brought together and a conclusion was reached. According to the findings obtained from these studies, digital addiction has negative effects on obesity. Furthermore, the literature confirms that digital addiction has a significant impact on the physical health of young people. The discussion section prepared according to the findings and results of the studies compiled in the literature is presented below.

In a review article by [Aziz et al. \(2021\)](#), it was argued that computer game addiction hurts the physical health of young people, especially in adolescence. This may increase the risk of obesity in young people by causing them to become sedentary and move away from physical activities as a result of this inactivity.

[Ding and Li \(2023\)](#) examined intervention strategies to prevent digital addiction in children and young people. This research can guide future studies in determining the methods to prevent, minimize, and even treat digital addiction. Similarly, [Dresp Langley and Hutt's \(2022\)](#) study provides important findings that digital addiction can trigger obesity by disrupting sleep patterns. This disruption in sleep patterns may be a critical factor in increasing obesity in young people.

[Koral and Alptekin, \(2023\)](#)'s review study on digital game addiction emphasizes that digital addiction is a common problem among young people. This situation is thought to be very effective in distancing young people from physical activities and increasing obesity risk rates.

[Şengönül et al. \(2019\)](#) addressed the link between obesity and psychology in their study. The findings of the study show that obesity is not only a weight problem, but also affects mental health. This emphasizes that the complex relationship between obesity and digital addiction should be addressed within a broader health perspective.

[Han et al. \(2023\)](#) examined digital addiction and its prevalence among young people. While this study shows how digital addiction has become widespread among the young generation, it also focuses on determining the relationship between obesity and this addiction. [Muslu et al. \(2019\)](#) examined obesity risk factors in technology-dependent children. This study, which shows that technology addiction starting in childhood increases the factors that trigger obesity, emphasizes the negative effects of digitalization on health.

[Kocakoğlu et al. \(2021\)](#) addressed the relationship between computer game addiction and obesity in primary school students. This study reveals that digital addiction, which starts at a young age, is directly related to

obesity. Similarly, [Bayrak and Cihan \(2021\)](#) address the fact that digital addiction causes digital obesity in their study. This study, which shows how increasing addiction to the digitalization of media is effective on obesity, emphasizes the harmful effects of technology.

[Başdaş and Özbey \(2020\)](#) investigated the relationships between digital game addiction, obesity, and social anxiety in their study. This research highlights the complexity of these three factors by showing that digital addiction among young people is associated with obesity and social anxiety.

Our current research should be considered as a step towards understanding the deep connection between digital addiction and obesity. It is seen that digital addiction, which starts especially at a young age, is associated with obesity in the following years. At this point, awareness-raising campaigns and educational programs to manage the digital usage habits of children and young people in the information age may be effective. In conclusion, the deep link between digital addiction and obesity in the information age is an important issue that affects the health profile of young generations in a complex way. This review may contribute to better protecting young people against these modern threats by providing a basis for future research.

CONCLUSIONS

According to the results obtained from the current study; the increase in digital addiction leads to an increase in obesity, especially by encouraging a sedentary lifestyle and negatively affecting eating habits. Obesity brings serious health problems. The literature review supports this conclusion. In this regard, policies and campaigns that prevent digital addiction and encourage physical movement should be created and put into effect.

Recommendations;

- To prevent digital addiction, it is very important to increase the digital literacy level of society. Advertising, programs, and awareness-raising campaigns should be organized about the harms of digital addiction. These campaigns should focus on the harms of digital addiction and the importance of regular physical activity and healthy nutrition.
- Obesity educations will be very effective in preventing digital addiction.
- To reduce the impact of the sedentary lifestyle caused by digital addiction on obesity, it is necessary to increase the physical activity rate of society. Exercise programs should be organized in educational institutions and individuals should be encouraged to use public transport. These factors may contribute to a person's return to an active lifestyle.
- To prevent obesity, "Healthy Living" courses to be taught by health professionals can be added to the school curriculum.
- In the fight against obesity, "fast-food foods" that increase the risk of obesity should be banned.
- "Digital detox" and "digital minimalism" programs can be organized for individuals to reduce digital addiction. These programs allow individuals to get away from their digital devices in certain periods and thus focus on the real world.

- For children, parents need to be a guide for digital use. In this context, family awareness seminars should be organized and parents should be warned and informed about "screen time monitoring" of digital devices.
- These recommendations will contribute to reducing the deep connection between digital addiction and obesity. Effective and careful implementation of these recommendations can improve the overall health and well-being of individuals and, consequently, society.
- In schools, "obesity education" and "digital addiction" should be included in the curricula.

Author Contributions

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

Funding:

This research was not funded by any institution or organization.

Conflicts of Interest:

The authors declare that no conflicts interest.

REFERENCES

- Akbuğa, E., & Bilen, E. (2023). Obesity And Happiness. *Düzce University Journal of Sports Science*, 3(2), 179-184.
- Akkuş, T. (2022). Dijital Minimalizm: Ekran Bağımlılığı ve Teknoloji Yorgunluğu Sarmalından Kurtulmak İçin Bir Yol Haritası. *TRT Akademi*, 7(14), 367-370.
- Aldemir, A. (2022). Dijital Bağımlılık ve Bir Çözüm Yolu Olarak Dijital Minimalizm. In M. Baş, İ. E. Tarakcı, & R. Aslan (Eds.), *Dijitalleşme* (1 ed., Vol. 1, pp. 23-44): Efe Akademi Yayınları.
- Allcott, H., Gentzkow, M., & Song, L. (2022). Digital addiction. *J American Economic Review*, 112(7), 2424-2463.
- Almourad, M. B., McAlaney, J., Skinner, T., Pleya, M., & Ali, R. (2020). Defining digital addiction: Key features from the literature. *J Psihologija*, 53(3), 237-253.
- Arslan, A. (2019). Determination of the Digital Addiction Levels of Students in High School According to Various Variables: Sivas Province Sample. *Gazi Journal of Education Sciences*, 5(2), 63-80.
- Aziz, N., Nordin, M. J., Abdulkadir, S. J., & Salih, M. M. (2021). Digital addiction: systematic review of computer game addiction impact on adolescent physical health. *J Electronics*, 10(9), 996.
- Başdaş, Ö., & Özbey, H. (2020). Digital game addiction, obesity, and social anxiety among adolescents. *J Archives of Psychiatric Nursing*, 34(2), 17-20.
- Bayrak, T., & Cihan, B. (2021). The Phenomenon of Digital Obesity As A Result Of Addictionin The New Media: Netflix Türkiye. *e-Journal of New Media*, 5(1), 78-94.

- Christakis, D. A. (2019). The challenges of defining and studying “digital addiction” in children. *J Jama*, 321(23), 2277-2278.
- Demir, F. B., Öteles, Ü. U., & Koçoglu, E. (2023). An investigation of the relationship between digital obesity and digital literacy levels of individuals in the context of Turkey. *J Educational Research Reviews*, 18(3), 35-40.
- Ding, K., & Li, H. (2023). Digital Addiction Intervention for Children and Adolescents: A Scoping Review. *Int. J. Environ. Res. Public Health*, 20(6), 4777.
- Drago, E. (2015). The effect of technology on face-to-face communication. *J Elon Journal of Undergraduate Research in Communications*, 6(1), 13-19.
- Dresp Langley, B., & Hutt, A. (2022). Digital addiction and sleep. *J International Journal of Environmental Research Public Health*, 19(11), 6910.
- Duncan, B. M. (2014). *Digital detox, mindfulness, and art museums*: Drexel University.
- Galvez, M. P., Frieden, T. R., & Landrigan, P. J. (2003). Obesity in the 21st century. *J Environmental Health Perspectives*, 111(13), A684-A685.
- Gülü, 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. *J Frontiers in Psychology*, 14, 1097145.
- Han, S.-J., Nagduar, S., & Yu, H.-J. (2023). *Digital Addiction and Related Factors among College Students*. Paper presented at the Healthcare.
- Hartogsohn, I., & Vudka, A. (2023). Technology and addiction: what drugs can teach us about digital media. *J Transcultural Psychiatry*, 60(4), 651-661.
- Hawi, N. S., Samaha, M., & Griffiths, M. D. (2019). The digital addiction scale for children: Development and validation. *J Cyberpsychology, Behavior, Social Networking*, 22(12), 771-778.
- Irvin, L., Madden, L. A., Marshall, P., & Vince, R. V. (2023). Digital Health Solutions for Weight Loss and Obesity: A Narrative Review. *J Nutrients*, 15(8), 1858.
- Kahraman, M. S., Güriz, S. O., & Özdel, K. (2014). Adulthood Obesity: A General Review for Biological and Psychological Treatment. *J Clinical Psychiatry*, 17(1), 28-39.
- King, D. L., & Delfabbro, P. H. (2017). Features of parent-child relationships in adolescents with Internet gaming disorder. *J International Journal of Mental Health Addiction*, 15, 1270-1283.
- Kocakoğlu, U., Karaoğlu, N., & Kutlu, R. (2021). The relationship between computer game addiction and obesity in third and fourth grade elementary school students. *Gulhane Med J*, 63(2), 87.
- Koral, F., & Alptekin, K. (2023). Digital Gaming Addiction: A Compilation. *Karatay Journal of Social Research*(11), 283-308.
- Lakshman, R., Elks, C. E., & Ong, K. K. (2012). Childhood obesity. *J Circulation*, 126(14), 1770-1779.
- Muslu, M., & Gökçay, G. F. (2019). Risk Factors Causing Obesity in Technology-Dependent Children. *Gümüşhane University Journal of Health Sciences*, 8(2), 72-79.
- Newport, C. (2019). *Digital minimalism: Choosing a focused life in a noisy world*: Penguin.

- Şengönül, M., Arancıoğlu, İ. Ö., Maviş, Ç. Y., & Ergüden, B. (2019). Obesity and Psychology. *Haliç University Journal of Health Sciences*, 2(3), 1-12.
- Tjepkema, M. (2006). Adult obesity. *J Health reports-statistics canada*, 17(3), 9.
- TÜİK. (2023). Household Information Technologies (IT) Usage Survey, 2022. *Data Portal*. Retrieved from [https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-\(BT\)-Kullanım-Arastırması-2022-45587](https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanım-Arastırması-2022-45587)
- Vidmar, A. P., Salvy, S. J., Wee, C. P., Pretlow, R., Fox, D. S., Yee, J. K., . . . Mittelman, S. D. (2023). An addiction-based digital weight loss intervention: A multi-centre randomized controlled trial. *J Pediatric Obesity*, 18(3), e12990.
- Zahariades, D. (2018). *Digital Detox: The Ultimate Guide to Beating Technology Addiction, Cultivating Mindfulness, and Enjoying More Creativity, Inspiration, and Balance in Your Life!*: Art of Productivity. Akbuğa, E., & Bilen, E. (2023). Obesity And Happiness. *Düzce University Journal of Sports Science*, 3(2), 179-184.
- Akkuş, T. (2022). Dijital Minimalizm: Ekran Bağımlılığı ve Teknoloji Yorgunluğu Sarmalından Kurtulmak İçin Bir Yol Haritası. *TRT Akademi*, 7(14), 367-370.
- Aldemir, A. (2022). Dijital Bağımlılık ve Bir Çözüm Yolu Olarak Dijital Minimalizm. In M. Baş, İ. E. Tarakçı, & R. Aslan (Eds.), *Dijitalleşme* (1 ed., Vol. 1, pp. 23-44): Efe Akademi Yayınları.
- Allcott, H., Gentzkow, M., & Song, L. (2022). Digital addiction. *J American Economic Review*, 112(7), 2424-2463.
- Almourad, M. B., McAlaney, J., Skinner, T., Pleya, M., & Ali, R. (2020). Defining digital addiction: Key features from the literature. *J Psikologija*, 53(3), 237-253.
- Arslan, A. (2019). Determination of the Digital Addiction Levels of Students in High School According to Various Variables: Sivas Province Sample. *Gazi Journal of Education Sciences*, 5(2), 63-80.
- Aziz, N., Nordin, M. J., Abdulkadir, S. J., & Salih, M. M. (2021). Digital addiction: systematic review of computer game addiction impact on adolescent physical health. *J Electronics*, 10(9), 996.
- Başdaş, Ö., & Özbey, H. (2020). Digital game addiction, obesity, and social anxiety among adolescents. *J Archives of Psychiatric Nursing*, 34(2), 17-20.
- Bayrak, T., & Cihan, B. (2021). The Phenomenon of Digital Obesity As A Result Of Addiction in The New Media: Netflix Türkiye. *e-Journal of New Media*, 5(1), 78-94.
- Christakis, D. A. (2019). The challenges of defining and studying “digital addiction” in children. *J Jama*, 321(23), 2277-2278.
- Demir, F. B., Öteles, Ü. U., & Koçoğlu, E. (2023). An investigation of the relationship between digital obesity and digital literacy levels of individuals in the context of Turkey. *J Educational Research Reviews*, 18(3), 35-40.
- Ding, K., & Li, H. (2023). Digital Addiction Intervention for Children and Adolescents: A Scoping Review. *Int. J. Environ. Res. Public Health*, 20(6), 4777.
- Drago, E. (2015). The effect of technology on face-to-face communication. *J Elon Journal of Undergraduate Research in Communications*, 6(1), 13-19.
- Dresp Langley, B., & Hutt, A. (2022). Digital addiction and sleep. *J International Journal of Environmental Research Public Health*, 19(11), 6910.

- Duncan, B. M. (2014). *Digital detox, mindfulness, and art museums*: Drexel University.
- Galvez, M. P., Frieden, T. R., & Landrigan, P. J. (2003). Obesity in the 21st century. *J Environmental Health Perspectives*, *111*(13), A684-A685.
- Gülü, 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. *J Frontiers in Psychology*, *14*, 1097145.
- Han, S.-J., Nagduar, S., & Yu, H.-J. (2023). *Digital Addiction and Related Factors among College Students*. Paper presented at the Healthcare.
- Hartogsohn, I., & Vudka, A. (2023). Technology and addiction: what drugs can teach us about digital media. *J Transcultural Psychiatry*, *60*(4), 651-661.
- Hawi, N. S., Samaha, M., & Griffiths, M. D. (2019). The digital addiction scale for children: Development and validation. *J Cyberpsychology, Behavior, Social Networking*, *22*(12), 771-778.
- Irvin, L., Madden, L. A., Marshall, P., & Vince, R. V. (2023). Digital Health Solutions for Weight Loss and Obesity: A Narrative Review. *J Nutrients*, *15*(8), 1858.
- Kahraman, M. S., Güriz, S. O., & Özdel, K. (2014). Adulthood Obesity: A General Review for Biological and Psychological Treatment. *J Clinical Psychiatry*, *17*(1), 28-39.
- King, D. L., & Delfabbro, P. H. (2017). Features of parent-child relationships in adolescents with Internet gaming disorder. *J International Journal of Mental Health Addiction*, *15*, 1270-1283.
- Kocakoğlu, U., Karaoğlu, N., & Kutlu, R. (2021). The relationship between computer game addiction and obesity in third and fourth grade elementary school students. *Gulhane Med J*, *63*(2), 87.
- Koral, F., & Alptekin, K. (2023). Digital Gaming Addiction: A Compilation. *Karatay Journal of Social Research*(11), 283-308.
- Lakshman, R., Elks, C. E., & Ong, K. K. (2012). Childhood obesity. *J Circulation*, *126*(14), 1770-1779.
- Muslu, M., & Gökçay, G. F. (2019). Risk Factors Causing Obesity in Technology-Dependent Children. *Gümüşhane University Journal of Health Sciences*, *8*(2), 72-79.
- Newport, C. (2019). *Digital minimalism: Choosing a focused life in a noisy world*: Penguin.
- Şengönül, M., Arancioğlu, İ. Ö., Maviş, Ç. Y., & Ergüden, B. (2019). Obesity and Psychology. *Haliç University Journal of Health Sciences*, *2*(3), 1-12.
- Tjepkema, M. (2006). Adult obesity. *J Health reports-statistics canada*, *17*(3), 9.
- TÜİK. (2023). Household Information Technologies (IT) Usage Survey, 2022. *Data Portal*. Retrieved from [https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-\(BT\)-Kullanım-Arastirmasi-2022-45587](https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanım-Arastirmasi-2022-45587)
- Vidmar, A. P., Salvy, S. J., Wee, C. P., Pretlow, R., Fox, D. S., Yee, J. K., . . . Mittelman, S. D. (2023). An addiction-based digital weight loss intervention: A multi-centre randomized controlled trial. *J Pediatric Obesity*, *18*(3), e12990.
- Zahariades, D. (2018). *Digital Detox: The Ultimate Guide to Beating Technology Addiction, Cultivating Mindfulness, and Enjoying More Creativity, Inspiration, and Balance in Your Life!*: Art of Productivity.