



Examination of Internet Addiction Levels during The Covid-19 Pandemic Period

Covid-19 Pandemi Döneminde İnternet Bağımlılık Düzeylerinin İncelenmesi

ABSTRACT

In this research, it is aimed to examine the internet addiction levels of students and graduates studying in the Department of Physical Education and Sports before and during the Covid-19 pandemic. "Internet Addiction Scale" prepared by Young was applied to 2000 people before and during the pandemic. In the evaluation of statistical data, SPSS 24 was used and average, total score and percentages were taken into account in internet usage levels. Pre-pandemic of graduates; While 218 (49.5%) were identified as "average users", 154 (35.0%) "risk users" and 68 (15.5%) as dependent internet users, during the Covid-19 pandemic period; 7 (1.4%) were determined as "average users", 240 (48.0%) "risk users" and 253 (50.6%) dependent internet users. Before the pandemic, 182 (32.5%) of the students were "average users", 206 (36.8%) "risk users" and 172 (30.7%) as dependent internet users. During the pandemic period, 7 (1.4%) "average users", 273 (54.6%) "risk users" and 220 (44.0%) dependent internet users. Before the pandemic of all participants; While the average number of users is 400, the number of risky users is 360 and the number of dependent users is 240, during the Covid-19 pandemic period; The average number of users increased to 14, the number of risky users to 513 and the number of dependent users to 473. Although the internet usage of the participants outside the course hours they took in distance education was questioned during the pandemic period, all participants, graduates and students were at risk and addicted during the pandemic period.

Keywords: Covid-19, Pandemic, Internet Addiction, Physical Education and Sports

ÖZET

Bu araştırmada Covid-19 pandemi öncesi ve pandemi döneminde Beden Eğitimi ve Spor bölümünde öğrenim gören öğrenci ve mezun olanların internet bağımlılık düzeylerinin incelenmesini amaçlanmaktadır. 2000 kişiye pandemi öncesinde ve pandemi döneminde Young tarafından hazırlanan "İnternet Bağımlılık ölçeği" uygulanmıştır. İstatistiksel verilerin değerlendirilmesinde SPSS 24 kullanılarak internet kullanım düzeylerinde ortalama, toplam puan ve yüzdeler dikkate alınarak değerlendirilmiştir. Mezunların pandemi öncesi; 218'i (% 49,5) "ortalama kullanıcı", 154'ü (% 35,0) "riskli kullanıcı" ve 68'i (% 15,5) bağımlı internet kullanıcısı olarak tespit edilirken, Covid-19 pandemi döneminde; 7'si (% 1,4) "ortalama kullanıcı", 240'ı (% 48,0) "riskli kullanıcı" ve 253'ü (% 50,6) bağımlı internet kullanıcısı olarak tespit edilmiştir. Öğrencilerin pandemi öncesi 182'si (% 32,5) "ortalama kullanıcı", 206'sı (% 36,8) "riskli kullanıcı" ve 172'si (% 30,7) bağımlı internet kullanıcısı olarak tespit edilirken, Covid-19 pandemi döneminde 7'si (% 1,4) "ortalama kullanıcı", 273'ü (% 54,6) "riskli kullanıcı" ve 220'si (% 44,0) bağımlı internet kullanıcısı olarak tespit edilmiştir. Tüm katılımcıların pandemi öncesinde; ortalama kullanıcı sayısı 400, riskli kullanıcı sayısı 360 ve bağımlı kullanıcı sayısı 240 kişi iken, Covid-19 pandemi döneminde; ortalama kullanıcı sayısı 14, riskli kullanıcı sayısı 513 ve bağımlı kullanıcı sayısı 473'e yükselmiştir. Pandemi döneminde katılımcıların uzaktan eğitimde aldıkları ders saatleri dışındaki internet kullanıcılığı sorgulanmasına rağmen tüm katılımcılarda, mezun ve öğrencilerde pandemi döneminde riskli ve bağımlı kullanıcı oranları artmıştır.

Anahtar Kelimeler: Covid-19, Pandemi, İnternet bağımlılığı, Beden eğitimi ve Spor

INTRODUCTION

In December 2019, the World Health Organization was informed of cases of pneumonia of unknown aetiology that occurred in the city of Wuhan, Hubei province of China. Later, the National Health Commission of China announced that the outbreak was associated with a seafood market in the city of Wuhan, and Chinese authorities identified a new type of coronavirus (2019-nCoV) that was isolated. Then, with the spread of the Covid-19 virus all over the world in a short time, the whole world was caught unprepared for this epidemic. The fact that the countries of the world were caught unprepared for the epidemic caused the measures could not be taken. It has been observed that the epidemic Numerous epidemics have been seen in history so far, resulting in a serious number of deaths. One of the first measures taken during epidemics that resulted in deaths was encouraging people to live in isolation from each other. The emergence of the Covid-19 epidemic and its spread all over the world in a short time and the death of a significant number of people caused the transition of people from social life to home life (Kaya Deniz, 2020). With people quarantining themselves at home, the slogan "evde hayat var" (there is life at home) has been used by many public institutions, the private sector and television channels, and recommendations have been made for people to stay at

Aliye Menevşe¹

How to Cite This Article

Menevşe, A. (2023). "Examination of Internet Addiction Levels during The Covid-19 Pandemic Period", Journal of Social, Humanities and Administrative Sciences, 9(64):2740-2748. DOI: <http://dx.doi.org/10.29228/JOSHAS.69684>

Arrival: 25 March 2023
Published: 31 May 2023

International Journal of Social, Humanities and Administrative Sciences is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

This journal is an open access, peer-reviewed international journal.

¹ Assoc. Dr. Istanbul Sabahattin Zaim University Faculty of Sports Sciences Department of Physical Education and Sports Teaching, İstanbul, Turkey

home. In the statement made by internet service providers in Turkey, during this period, it was stated that people's internet usage increased by 50% during daylight hours (Yıldırım & İpek, 2020).

Although the purpose of the emergence of the Internet was to increase communication and facilitate information sharing, the widespread use of the Internet faster than expected has led to excessive use and some people to experience some problems in their work, school and family lives due to the use of the Internet (Arisoy, 2009). Various terms such as "internet addiction", "pathological internet use", "excessive internet use" and "internet abuse" have been thrown out for consideration to describe the uncontrolled and harmful use of the internet (Ögel, 2012).

Young (1999) likened internet addiction to substance or alcohol use addiction as it causes academic, social and professional harm, and defined "problematic internet use" based on the criteria of "pathological gambling" in her later studies. Caplan (2005) used the term "problematic internet use" and defined this condition as a multidimensional syndrome consisting of cognitive and behavioural symptoms that cause negative social, academic/professional results (Telkök Şen, 2015).

The concept of "Internet addiction" was first introduced in 1995 by Goldberg (1996) by adapting the diagnostic criteria of "substance addiction" from DSM-IV (Diagnostic and Statistical Manual of Mental Disorders 4th Edition). The one who initiated the first scientific discussions in this field was a psychologist named Kimberly S. Young. Young is one of the experts who brought the concept of "Internet Addiction Disease" to the agenda, created the first diagnostic criteria in a serious way, and conducted the first epidemiological research on internet addiction based on these diagnostic criteria (Young, 1999), in her research, Young aimed to determine whether the internet is addictive, and if so, what problems it causes.

While Morahan-Martin & Schumacher (2000) state that internet addiction is the intense use of the internet, the inability to control the use and the significant harm to one's life; Davis (2001) presented a cognitive-behavioural model about problematic internet use and described problematic internet use not only as a behavioural addiction but also as a specific situation with cognition and behaviours that have negative consequences on life (Telkök Şen, 2015).

Caplan (2002) states that in the model he developed by integrating the social skills and self-presentation competence of the person into the previously proposed "cognitive-behavioural" model, individuals who are inadequate in presenting themselves prefer online communication to face-to-face communication. Preferring online social interaction encourages compulsive internet use, which leads to negative consequences such as excessive time spent on the internet, mood changes, and withdrawal symptoms when staying away from the internet. The psychosocial stress caused by these negative results causes the person to stay on the internet more and has been a sustaining factor for problematic internet use (Telkök Şen, 2015).

The increase in the number of people staying at home, the increase in internet usage time and the increase in TV watching rates can lead to physical inactivity and internet addiction. According to Doğan & İmamoğlu's (2020) survey, patience in students does not significantly vary by watching TV and the time when they follow the developments on coronavirus. In a study, it was revealed that the news and statements on social media about the corona virus epidemic the deterioration of people's quality of life but did not provide a change in anxiety situations (Yazıcı & İmamoğlu, 2021). In the study of Sekban & İmamoğlu (2021), life satisfaction and health scores during the corona virus process vary according to the time spent watching television and watching coronavirus news on the internet. In this study, it is aimed to examine the internet addiction levels of students and graduates studying in the Department of Physical Education and Sports before and during the Covid-19 pandemic

METHODOLOGY

In this study, the survey model that is one of the quantitative research methods was used. The survey model is a research model that aims to detect a past or present situation as it is. The event, individual or object that is the subject of the research is tried to be defined in its own conditions and as it is. It is not intended to change or influence them (Karasar, 2020).

Research Group

While the Physical Education and Sports Departments are forming the study group of the research, the sample is the graduates and students. Our work that is primarily designed before the start of the Covid-19 pandemic process, it was initiated by applying 440 graduates and 560 students, 1000 people in total, however, during the Covid-19 pandemic process, the scale was applied to 2000 people in total as 500 graduates and 500 students. During the pandemic period, the internet usage of the participants except for the course hours in distance education was evaluated.

Data Collection Tool

Internet Addiction Self-Report Test (IAT)

Internet Addiction Self-Report Test (IAT) is a scale consisting of 20 questions developed by Young (1998). With the help of scale; It is aimed to determine the status of addicted, risky and average internet usage. As a result of the scale applied, the solution of the data was digitized using a six-point Likert scale. In scale, it is expressed as 1: never, 2: rarely, 3: often, 4: very often, and 5: constantly. On the scale, the most positive option is given 1 point and the most negative option is given 5 points. A low score indicates a good addiction level, and a high one indicates a bad addiction level.

Analysis of Data

In order to determine the internet addiction levels of the people participating in the research, the total scores they gave to the 20-item scale were calculated. In the evaluation, those who score 80 and above in total are defined as “addicted internet users”, those who score between 50-79 as “risky internet users” and those who score 49 and below are defined as “average internet users”.

The Cronbach Alpha coefficient of the whole scale was found to be 0.92 and the KMO value as 0.91 by the scale owner. The scale was adapted to Turkish by Bayraktar and its standardized Alpha value is 0.91, Spearman-Brown value is 0.87 (Bayraktar, 2001). These results suggest that the scale is reliable. In the evaluation of statistical data, SPSS 24 was used, and internet usage levels were evaluated by taking into account the average, total score and percentages. has turned into a pandemic due to the high risk of contagion and the inadequacy of the measures (Demirtaş & Çıplak, 2020).

RESULTS

Table 1: Average and Standard Deviation Values of Participants' Internet Addiction Levels in The Pre-Pandemic Period and During The Covid-19 Pandemic Period

		N	Avg.	Ss.
Pre-Pandemic Period	Graduate	440	1,6591	,73143
	Student	560	1,9821	,79558
Pandemic Period	Graduate	500	2,4920	,52772
	Student	500	2,4260	,52256

Table 1 shows the average and standard deviation values of the internet commitment levels of the individuals participating in the study during and before the Covid-19 pandemic. When the table is examined, it has been determined that the average of internet addiction of graduate students before the pandemic is 1.65; the average of the students who continue their education is 1.98. In the pandemic period, it has been determined that the average score of graduate students is 2.49; the students who continue their education are 2.42.

Table 2: Internet Addiction Levels of All Participants During The Covid 19 Pandemic Period and Pre-Pandemic Period

Score	Number of People	Score	Number of People	Internet Usage Level (0≤49)	Score	Number of People	Score	Number of People	Internet Usage Level (>50, ≤79)
Pandemic Period		Pre-Pandemic Period		Average Users	Pandemic Period		Pre-Pandemic Period		Risky Users
21	1	21	15		Average Users	50	30	52	
22	1	22	12	51		25	53	34	
		23	17	52		23	58	42	
		24	14	55		33	59	21	
25	1	25	16	58		45	60	46	
		26	13	60		22	61	33	
		27	13	62		11	64	37	
28	3	28	18	63		45	65	26	
29	1	29	12	67		39	68	28	
		30	15	69		54	70	14	
31	1	31	9	70		57	73	24	
32	1	32	12	73		76	76	27	
33	1	33	5	75		36	77	1	
34	1	34	8	77		17	78	3	
		35	12	T		513	T	360	
37	1	37	19						
		38	14						
39	2	39	11						
		40	22						
		42	14						
		43	22						
		44	19						
		45	21						
		46	17						
		47	13						
		48	15						
		49	22						
T	14	T	400						

Score	Number of People	Score	Number of People	Internet Usage Level (>79)
83	110	80	51	Dependent Internet Users
87	123	89	27	
101	56	93	33	
110	58	105	62	
113	96	112	55	
120	30	114	12	
T	473	T	240	

Covid-19 pandemic period in the table; While the average number of users was 14, the number of risky users was 513 and the number of dependent users was 473, in the pre-pandemic period; The average number of users is 400, the number of risky users is 360 and the number of dependent users is 240.

Table 3: Internet Addiction Levels of Graduates Participating In The Covid-19 Pandemic Period and Pre-Pandemic Period Research

Score	Number of People	Score	Number of People	Internet Usage Level (0≤49)	Score	Number of People	Score	Number of People	Internet Usage Level (>50, ≤79)
Pandemic Period		Pre-Pandemic Peirod		Average Users	Pandemic Period		Pre-Pandemic Period		Risky Users
21	1	21	14		50	12	52	11	
22	1	22	8		51	20	53	13	
		23	9		52	14	58	22	
		24	11		55	25	59	9	
25	1	25	6		58	15	60	14	
		26	1		60	22	61	21	
		27	10		62	10	64	17	
		28	10		63	20	65	9	
		29	6		67	20	68	9	
		30	10		69	33	70	5	
		31	4		70	18	73	10	
		32	11		73	30	76	10	
		33	5		75	1	77	1	
34	1	34	4		77	0	78	3	
		35	6		T	240	T	154	
37	1	37	9						
		38	12						
39	2	39	5						
		40	12						
		42	4						
		43	5						
		44	9						
		45	13						
		46	7						
		47	5						
		48	15						
		49	7						
T	7	T	218						

Score	Number of People	Score	Number of People	Internet Usage Level (>79)
83	55	80	22	Dependent Internet Users
87	50	89	13	
101	30	93	15	
110	28	105	9	
113	90	112	5	
120	0	114	4	
T	253	T	68	

Pre-Pandemic Period (Graduate)	Frequency	%
Average Users (0≤49) Point	218	% 49,5
Risky Users (>50, ≤79) Point	154	% 35,0
Dependent Internet Users (>79) Point	68	% 15,5
Total	440	100,0

Of the graduates participating in the pre-pandemic research, 218 (49.5%) were identified as "average users", 154 (35.0%) as "risky users" and 68 (15.5%) as dependent internet users.

Pandemic Period (Graduate)	Frequency	%
Average Users (0≤49) Point	7	% 1,4
Risky Users (>50, ≤79) Point	240	% 48,0
Dependent Internet Users (>79) Point	253	% 50,6
Total	500	100,0

Of the graduates participating in the study during the Covid 19 pandemic period, 7 (1.4%) were identified as "average users", 240 (48.0%) as "risk users" and 253 (50.6%) as dependent internet users.

Table 4: Internet Addiction Levels of University Students Participating in The Covid 19 Pandemic Period and Pre-Pandemic Period Research

Score	Number of People	Score	Number of People	Internet Usage Level (0≤49)	Score	Number of People	Score	Number of People	Internet Usage Level (>50, ≤79)
Pandemic Period		Pre-Pandemic Period		Average Users	Pandemic Period		Pre-Pandemic Period		Risky Users
		21	1		50	18	52	13	
		22	4		51	5	53	21	
		23	8		52	9	58	20	
		24	3		55	8	59	12	
		25	10		58	30	60	32	
		26	12		60	0	61	12	
		27	3		62	1	64	20	
28	3	28	8		63	25	65	17	
29	1	29	6		67	19	68	19	
		30	5		69	21	70	9	
31	1	31	5		70	39	73	14	
32	1	32	1		73	46	76	17	
33	1	33	0		75	35	77	0	
		34	4		77	17	78	0	
		35	6		T	273	T	206	
		37	10						
		38	2						
		39	6						
		40	10						
		42	10						
		43	17						
		44	10						
		45	8						
		46	10						
		47	8						
		48	0						
		49	15						
T	7	T	182						

Score	Number of People	Score	Number of People	Internet Usage Level (>79)
83	55	80	29	Dependent Internet Users
87	73	89	14	
101	26	93	18	
110	30	105	53	
113	6	112	50	
120	30	114	8	
T	220	T	172	

Pre-Pandemic Period (Student)	Frequency	%
Average Users (0≤49) Point	182	32,5
Risky Users (>50, ≤79) Point	206	36,8
Dependent Internet Users (>79) Point	172	30,7
Total	560	100,0

Of the students who participated in the research before the pandemic, 182 (32.5%) were determined as "average users", 206 (36.8%) "risk users" and 172 (30.7%) as dependent internet users.

Pandemic Period (Student)	Frequency	%
Average Users (0≤49) Point	7	% 1,4
Risky Users (>50, ≤79) Point	273	% 54,6
Dependent Internet Users (>79) Point	220	% 44,0
Total	500	100,0

Of the students participating in the study during the Covid 19 pandemic period, 7 (1.4%) were identified as "average users", 273 (54.6%) "risk users" and 220 (44.0%) as dependent internet users.

DISCUSSIONS

Douglas et al. (2008) reviewed published articles through meta-analysis and proposed the "conceptual model of internet addiction". According to this model, excessive use of the Internet is mostly determined by the internal needs and motivation of the individual (motivating factors such as hiding identity, reducing distress and relaxing effect, meeting social needs). On top of that, personal predisposition (being in environments that allow internet use, years of internet use, feeling misunderstood by others, feeling lonely, having little or no social life and/or self-confidence) is also important. The negative effects of Internet addiction can include various behaviours that may cause addiction (online porn, online stock market, virtual sex instead of normal intercourse, etc.) in addition to physical effects such as academic, social, economic, occupational and sleep time changes (Douglas et al, 2008).

Spada et al. (2008) proposed the "meta-cognition theory" which hypothesizes that negative cognitions are associated with problematic internet use and that as negative emotions such as anxiety, depression and distress increase,

problematic internet use will increase significantly. It has been observed that the number of addicted and risky users has increased in the negative stress environment that the Covid-19 pandemic has brought with it, especially health anxiety, depression, troubled days and economic concerns. Baltacı et al. (2020) determined that university students have difficulty in controlling their internet use during the Covid-19 pandemic period and that internet use negatively affects the relationships of family members. Similarly, Baltacı et al. (2021) stated that there was an increase in internet use during the Covid-19 epidemic process and stated that these situations had negative effects on the psycho-social health of individuals.

In recent years, genetic and biological studies in the field of neurobiology have focused on the deterioration of neurotransmission systems in internet addiction, with particular emphasis on serotonin and dopamine neurotransmitters. It has been stated that dopaminergic neurons extending from the ventral tegmental area to the mesolimbic and mesocortical areas can be activated by many psychoactive substances, which strengthens the role of dopaminergic neurons in the reward-addiction systems in the midbrain. It has been determined that the amount of dopamine, which gives pleasure, increases in the brains of internet addicts as soon as they connect to the internet, just like in the brains of alcohol-substance addicts (Arısoy, 2009). Studies have shown that decreased D2 receptor density in individuals with the A1 allele of the dopamine (D2) receptor may cause all substance addictions and behavioural addictions (Öztürk et al., 2007). In another study, decreased dopamine D2 receptor availability levels were observed in the dorsal caudate and striatum subsections, including the right putamen, in individuals with internet addiction (Kim et al., 2011). We believe that it is supportive in the studies that it is inevitable to experience problems that may threaten physiological health in neurobiological mechanisms due to the long hours of internet use and the increase in the rates of addicted and risky users with numerical analysis methods. Physiological and behavioural addictions have to be ignored due to many reasons such as the intensity experienced in the health sector during the Covid-19 pandemic, excessive patient management, loss of life and instant deaths, as well as directing all hospitals to Covid-19 treatments.

Lee et al. (2008) reported that the homozygous short allele variant of the serotonin transporter gene (5HTTLPR) was more common in the group with excessive internet use, in their case-control study based on the hypothesis that excessive internet use may have common neurobiological mechanisms due to high depressive symptoms. In another study in which plasma dopamine, serotonin and norepinephrine levels were measured, no change was observed in dopamine and serotonin levels, but it was reported that plasma norepinephrine levels were significantly lower in the internet-overuse group than in the control group (Zhang et al., 2013). The Covid-19 disease, which was experienced as a contagious virus all over the world in the second 10th year of the 21st century, threatened all humanity only physiologically and psychologically.

In their case-control study with 132 problematic internet users and 132 healthy users, Montag et al. suggested that one of the new candidate genes, the gene encoding the alpha-4 subunit of the nicotinic acetylcholine receptor (CHRNA4), may be associated with internet addiction (Montag et al., 2012).

In many studies examining the relationship between internet addiction and time spent on the internet, a positive relationship was found between internet addiction and the time spent on the internet. It has been determined that individuals stay on the Internet longer than non-addicted individuals, due to symptoms such as increasing the time they stay on the Internet (Telkök Şen, 2015). Hardie et al. (2007) found that non-addicted individuals use the Internet for an average of 21 hours a week, while addicted users use the Internet for an average of 68 hours a week. In another study conducted in the Czech Republic, it was determined that non-addicted individuals use the Internet for an average of 13 hours a week, and addicted individuals use the Internet for an average of 44 hours a week (Simkova & Cincera, 2004). There are differences in IA prevalence rates due to the absence of standardized diagnostic criteria for IA, the use of various scales with different cut-off scores in the diagnosis of IA, and differences in research designs and samples (Telkök Şen, 2015).

REFERENCES

- Arısoy, Ö. (2012). İnternet bağımlılığı ve tedavisi. *Psikiyatr Güncel Yaklaşımlar*, 2009:1:55–67.
- Baltacı, Ö., Akbulut, Ö.F. & Yılmaz, E. (2021). Problemlı internet kullanımında güncel bir risk faktörü: Covid-19 pandemisi. *Uluslararası Psikolojik Danışma ve Rehberlik Araştırmaları Dergisi*, 3(1): 97-121.
- Baltacı, Ö., Akbulut, Ö.F. & Zafer, R. (2020). Covid-19 pandemisinde problemlı internet kullanımı: bir nitel araştırma. *Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, 1(3): 126-140.
- Bayraktar F. (2001). İnternet kullanımının ergen gelişimindeki rolü. Yayınlanmamış Yüksek Lisans Tezi. Ege Üniversitesi Sosyal Bilimler Enstitüsü, İzmir.

- Byun, S., Ruffini, C., Mills, J.E., Douglas, A.C., Niang, M. & Stepchenkova, S. (2009). Internet addiction: metasynthesis of 1996-2006 quantitative research. *Cyberpsychol Behav.* 12(2):203–7.
- Caplan S.E. (2002). Problematic internet use and psychosocial well-being: development of a theory-based cognitive-behavioral measurement instrument. *Comput Human Behav.* 18(5):553–75.
- Caplan S.E. (2003). Preference for online social interaction: A theory of problematic internet use and psychosocial well-being. *Communic Res.* 30(6): 625–48.
- Caplan, S.E. (2005). A social skill account of problematic Internet use. *J Commun.* 55:721–36.
- Davis, R.A. (2001). Cognitive-behavioral model of pathological Internet use. *Comput Human Behav.* 17:187–95
- Demirtaş, Ö. & Çıplak, A. (2020). Pandemi sürecinin uluslararası müsabakalara hazırlanan güreş milli takım sporcuları üzerindeki etkileri. *Spor ve Rekreasyon Araştırmaları Dergisi*, 2(1): 39-52.
- Doğan, E. & İmamoğlu, O. (2020). Investigating the patience tendencies of university students during the coronavirus epidemic process. *Turkish Studies*, 15(4): 315-324. <https://dx.doi.org/10.7827/TurkishStudies.44382>
- Douglas, A.C., Mills, J.E., Niang, M., Stepchenkova, S., Byun, S. & Ruffini C, (2008). Internet addiction: Meta-synthesis of qualitative research for the decade 1996–2006. *Comput Human Behav.* 24(6):3027– 44
- Goldberg I. (2012). Internet addiction disorder. 1996. Aktaran: Yar A. Ruhsal bozukluğu olan ve olmayan ergenlerde internet bağımlılığı yaygınlığı. *Tıpta Uzmanlık Tezi. Kocaeli Üniversitesi Tıp Fakültesi, Kocaeli.*
- Karasar, N. (2020). Bilimsel araştırma yöntemi kavramlar ilkeler teknikler. Nobel Akademi.
- Kaya Deniz, A. (2020). Covid-19 salgını sürecinde dijitalleşen eğlence anlayışı: Çevrim içi konserler. *Stratejik Sosyal Araştırmalar Dergisi*, 4(2): 191-206.
- Kim, S.H., Baik, S.H., Park C.S., Kim, S.J., Choi, S.W., Kim, S.E. (2011). Reduced striatal dopamine D2 receptors in people with Internet addiction. *Neuroreport.* 22(8):407–11.
- Lee, Y.S., Han, D.H., Yang, K.C., Daniels, M.A. & Kee, B.S. (2008). Depression like characteristics of 5HTTLPR polymorphism and temperament in excessive internet users. *J Affect Disord.* 2008:109(1- 2):165–9
- Montag, C., Kirsch, P., Sauer, C., Markett, S. & Reuter M. (2012). The role of the CHRNA4 gene in internet addiction: a case-control study. *J Addict Med.* 6(3): 191–5.
- Morahan-Martin, J. & Schumacher P. (2000). Incidence and correlates of pathological Internet use among college students. *Comput Human Behav.* 16(1):13–29.
- Ögel K. İnternet bağımlılığı : İnternetin psikolojisini anlamak ve bağımlılıkla başa çıkmak. 1.baskı. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- Öztürk, Ö., Odabaşoğlu, G., Eraslan, D., Genç, Y. & Kalyoncu, Ö.A. (2007). İnternet bağımlılığı : kliniği ve tedavisi. *Internet Addiction : Clinical Aspects and Treatment Strategies.* 90(2):36–41
- Sekban G. & İmamoğlu O. (2021). Life satisfaction and psychological well-being of university educated students during the COVID-19 pandemic, *Apuntes Universitarios*, 11(4),384 – 398, DOI:<https://doi.org/10.17162/au.v11i4.819>
- Simkova. B. & Cincera J. (2004). Internet addiction disorder and chatting in the Czech Republic. *Cyberpsychol Behav.* 7:536–9.
- Spada, M.M., Langston, B., Nikčević, A.V., Moneta G.B. (2008). The role of metacognitions in problematic Internet use. *Comput Human Behav.* 24(5): 2325–35
- Technologies, E., Hardie, E. & Tee, M.Y. (2007). Excessive Internet Use : The Role of Personality , Loneliness and Social Support Networks in Internet Addiction. *Society.* 5:34–47.
- Telkök Şen, A. (2015). Tıp fakültesi öğrencilerinde internet bağımlılığı yaygınlığı, internet bağımlılığının sosyo-demografik özellikler, depresyon ve sosyal fobi ile ilişkisi. *Uzmanlık tezi Kocaeli Üniversitesi Tıp Fakültesi Psikiyat Anabilim Dalı.*
- Yazıcı Y. & İmamoğlu O. (2021). Investigation of quality of life and anxiety situations during the coronavirus outbreak process. *Bozok International Journal of Sport Science*, 2 (1), 146-155. <https://besyodergi.bozok.edu.tr/upload/pdf/tam-metin-f27u.pdf>

- Yıldırım, O. & İpek, İ. (2020). Yeni koronavirüs salgını dolayısıyla gündeme gelen sosyal izolasyon ve gönüllü karantina döneminde internet ve sosyal medya kullanımı*. İletişim Kuram ve Araştırma Dergisi, 52: 69-94.
- Young K. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyber Psychology Behav*; 1:237–44. Available from: <http://online.liebertpub.com/doi/abs/10.1089/cpb.1998.1.237>
- Young K.S. (1999). Internet addiction: Symptoms, evaluation and treatment. In: L. Vande Creek, T Jackson ed. *Internet addiction: A source book* Sarasota. FL: Professional Resource Press.
- Zhang, H-X., Jiang, W-Q., Lin, Z-G., Du, Y-S. & Vance A. (2013). Comparison of psychological symptoms and serum levels of neurotransmitters in shanghai adolescents with and without internet addiction disorder: a case-control study. *PLoS One*. 8(5):e63089