

# Social Media use Across Generations: from Addiction to Engagement

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 <http://dx.doi.org/10.5755/j01.eis.1.15.29080>

Social media is used at very high rates among young people not only in Europe and other developed countries but also developing and people from almost all generations have started to use social media. The use of social media has become an addiction regardless of country and changed the daily behaviour of users. Studies related to social media addiction are generally done on youth. It is observed that middle-aged and older individuals started to have engaged in social media. Therefore, the lack of research related to social media addiction of middle-aged individuals and over has made this study important. The aim of this study is to understand the tendencies to use social media as people get older. In the study, a survey was conducted on people aged between 24 and 49, and on people aged 50 and over; the goal was to understand the difference between the two age groups.

Social Media Addiction Scale Adult Form was used in the study was conducted on a total of 650 participants. As a result of the analysis of the data, it was concluded that as the age increased, the level of social media addiction decreased but that the social media addiction levels of individuals over middle age were considerably high more than expected. As the education level increases, the virtual tolerance sub-factor increases and the risk of social media addiction increases. There is a significant relationship between participants' marital status, smartphone use and social media addiction. The use of social media in the society can be transformed into an environment that can be used in education, self expression, creativity, media literacy and integration with society by getting rid of addiction. In addition, since addiction issue is being spread in Turkey and Europe, we want to increase an awareness for individuals and policymakers.

**KEYWORDS:** Internet, Social Media, Addiction, Social Media Addiction, Generations.

The existence of communication dates back to the existence of human beings. As people started to live in communities, the necessity to communicate emerged (Kongar 2014). Thus, communication between people, starting from the first man, reaching the present day and to continue to the future, has continuously developed and accelerated. Communication, which has existed since the first human communities where people living in the same community communicated face-to-face with each other, started to differentiate as individuals and communities living far away from each other needed to communicate. The change that continued throughout history evolved and spread more rapidly in the last 30 years of the 20<sup>th</sup> century than ever before due to both military and global reasons.

EIS 15/2021

Social Media use  
Across Generations:  
from Addiction to  
Engagement

Submitted 01/2021

Accepted for  
publication 06/2021

## Abstract

## Introduction



European Integration Studies  
No. 15 / 2021, pp. 63-77  
[doi.org/10.5755/j01.eis.1.15.29080](http://doi.org/10.5755/j01.eis.1.15.29080)

The internet and social media became the environments where people spent most of their time in daily life leading to addiction. This addiction has spread to almost the whole society, especially to the people born after the advent of the internet and social media; 'young people trying to follow old people' has been replaced by 'old people trying to follow young people'. It is known that people spend one third of their time using a smartphone, tablet, computer and playing digital games every day (Akkaş 2019).

The Internet and social media addictions are considered as a type of addiction that is widespread among young and middle-aged individuals. Relationships between individuals over middle age and these addictions has not been measured very much in national and international studies. But, it was seen that social media, game and internet addiction along with smartphones have influenced individuals over middle age and that the increasing use of technology by individuals over middle age is remarkable just like by young and middle-aged individuals (Doğan et al. 2019).

However, the use of technology and social media will be an important opportunity to combat aging in the developed countries of the world and especially in Europe where the rate of elderly is an important issue (Foster, 2015). Turkey is in the process of European Union membership, has entered the aging process. Educating not only young people but also middle-aged and older people in information technology literacy will support human and economic development.

With this study, it was understood that social media usage can lead people to addiction. However, considering the empowering dimension of technology, it is aimed to be seen as an opportunity and to guide individuals and societies appropriately with new policies. In this sense, ICTs support elderly people to improve their quality of life, their health and to live independently (Katrin et al., 2014). It helps them to be active both in business life and social life. Digital technologies and the internet contribute to the completion of declining talents and integration into society (Summers, 2018).

In the study, the social media addiction status of those aged 24 and over was tried to be understood. In addition, the social media addiction levels of the participants were analyzed together with their age, marriage, education status and smartphone usage. Social Media Addiction Scale was used in the study. In addition, a demographic information form was prepared to obtain demographic information from the participants. T-test, Anova test, Regression and Correlation analyzes were performed using the SPSS program

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## Literature

### The Concept Of Addiction And Drug Addiction

Addiction is derived from the Latin word 'addicere', which means 'devoted' or 'enslaved by' (Şahin 2011). Addiction is in question and a person is regarded as an addict when he cannot give up the substance he has used more than once though he wants to give it up, when he increases the dose and the number of the use of the substance, when he experiences symptoms of withdrawal in the absence of the substance and when he continues using it despite its harms (Ercan 2013). There are three basic elements in addiction.

- » The user tries to obtain the substance with an inner motive that he cannot prevent no matter what his state is like.
- » The user does not find the amount of substance he used before sufficient in the course of time and increases the amount or frequency of use (tolerance),
- » The user may need the substance or its effects severely (withdrawal) (Toraman 2013).

Substance (drug) addiction is the case in which a person cannot stop the use of a pleasure-giving substance that he uses in order to obtain a certain effect, cannot stop the need to take the substance and shows signs of withdrawal when he cannot access that substance despite the physiological, psychological and social problems it causes. (Hazar 2018).

Drug addiction and addictions arising from the use of technological devices and services show similarities in that they produce activity in the same regions of the brain and they are caused by the same human needs (Akkaş 2019). In fact, the behaviours creating addiction have existed for a long time. However, more common and irresistible forms of addiction have emerged recently. In these new addictions, there are no drugs but attractive and well-designed elements that are free of chemicals. Addictions such as gambling, social media and the Internet have the same effect on the user as drugs with their designs and systematic stances (Alter 2017).

### Technology And Internet Addiction

Technology is the process or technique that enables people to carry out their tasks such as sharing information and fulfilling a duty (Mary 2018). Devices that were produced by the addition of the Internet to technological products have virtually surrounded people. The relationship of users with these products starting as habits like entertainment and leisure turns into addiction after a while (Akkaş 2019).

Technology addiction is a type of addiction that started with the introduction of new technological products to human life, that emerges with the excessive use of the internet, tablet, mobile phone, social media, computer or television and in which a person shows withdrawal symptoms when he cannot access any of them (Turel et al. 2011; Ögel, 2018). When individuals spend most of their time due to technology addiction, it negatively affects their social life, their relationship with their families, school, friends and social environment, their academic development, and their psychological and cultural states. In fact, the excessive use of technology, which has many benefits, affects the users negatively with all these problems and has an effect in all areas of life. Technology addiction consists of subtitles such as internet addiction, smartphone addiction, social media addiction and video game or digital game addiction (Tiryaki 2015; Başaran 2005). The Internet is a communication system based on worldwide computer networks, formed by the reconnection of computer networks, which means the connection of two or more computers to one another (Canöz 2016; Castells 2005; Chayko 2018).

In general, internet addiction, which is defined as deterioration in people's lives, motives and behaviours as a result of the excessive use of the Internet (Halley 2015), causes problems at home, at school, at work, in short, in all living spaces by distancing people from their social lives. In order to describe the Internet addiction, it must meet the following criteria (Young 1999; Azizi, 2019) :

- a To be engaged in the Internet and spend more and more time online.
- b Repeated attempts to reduce the Internet use
- c The occurrence of withdrawal symptoms when you decrease the Internet use.
- d Time management problems.
- e Problems with the people around (family, school, work, friends).
- f Telling lies about time spent online.

Social media, with the increase of its use in recent years, is defined as web-based services that allow users from many communities to interact and to distribute all their information online through individual methods (Kuşay 2013). Social networking sites, which are virtual communities where every user can create their own profile, communicate with their friends and meet other people based on interests, form the backbone of social media; a great majority of internet users use social media. Social media, which attracted users with the opportunity to create profiles and list friends for the first time in 1997, gained momentum with the fast increase in the number of users when Facebook was launched in 2004. Afterwards, various opportunities

emerged with social networking sites such as Twitter, Youtube, Flickr, Instagram; thus, many positive and negative phenomena emerged (Grau et al. 2019). In the studies were done, it was seen gender, age, marital status, number of siblings, income level, usage of smartphones, and education level were associated with social media addiction (Aydin et al., 2021; Hamutoğlu et al., 2020; Demircioğlu and Kose, Mohammed et al., 2021, Mahamid and Berte, 2019). According to this literature following hypotheses were assumed.

- » H1. The younger group has a higher SMA than the older group.
- » H2. Women have higher SMA than men.
- » H3. There are significant differences between marital status in terms of SMA

The issue of addiction is remarkable in the results of the use of social media too because social media includes platforms with the highest number of users. The fact that smartphones have become widespread and are being used by almost all over the world and by almost any age group makes it easier for social media, which people start to use due to its positive features first, to become a tool of addiction. It is seen that the use of smartphone, which first spread among young people and then among higher age groups gradually, leads people from all parts of the society to social media addiction. That mobile and web designers working on social networks enable social media networks to become available for longer periods and easily navigable places also increases this addiction. According to this literature following hypotheses were assumed.

- » H4. Smartphone users have higher SMA than non-users
- » H5. There are significant differences between education level in terms of SMA
- » H6. There is a negative impact of age on SMA
- » H7. There is a negative impact of education on SMA

According to Kuşay, there are both positive and negative consequences of social media addiction (Kuşay 2013). Social media, which has positive consequences such as self-expression, sociality, integration with society, creativity, media literacy, intercultural exchanges, contributing to the self-development of young people and adolescents in particular and allowing people to redefine themselves, also have negative and dramatic consequences (Yalin and Zhang, 2021).

The fact that the individual participates in social media activities for a long time causes addiction; it becomes inevitable for the values and cultural structures to be harmed. Confidentiality and privacy, ethical and security problems may arise; sexual content sharing, lying easily, fraud, etc. damage the environment of trust (Kuss and Mark, 2011). In addition, one of the most important negative consequences is that excessive use of social media causes people to get lonely, to speak less, to laugh less and to argue less; it causes face face-to-face relationships to lose importance compared to the past, leading to the emergence of psychological disorders such as depression and anxiety (Turel et al., 2018).

Studies conducted between social media addiction and age have found a negative relationship between them. In this impact some variables such as having smartphone and education level mainly have moderating effect (Andreassen et al., 2017; Gungor and Kocak, 2020). In addition to the fact that social media has an important effect on the socialization of young, immigrant people, it has become widespread for the elderly to reach their old friends, find new friends and get rid of their depressions, especially if they are left alone (Abbasi, 2019; Hu et al., 2021; Yalin and Zhang, 2021, Aydin et al., 2021, Yıldız and Kocak, 2020).

According to this literature following hypotheses were assumed to understand impact differences on social media addiction in terms of education, age groups and smartphone usage situations.

- » H8. Smartphone usage situation and education level has a moderation impact in the effect of age on SMA
- » H9. Two age groups has a moderation impact in the effect of age and education on SMA

As it has been explained in Literature, since young people were born in a world where the products of cutting-edge technology such as social media, internet and computer are used, it seems natural for them to use this technologies and to produce new concepts and research topics through them. However, the socialization of a phenomenon means that it should spread to all sections of the society. This prevalence and addiction that started among young people gradually spread to other groups of the society by affecting mentally, psychologically, physically and socially (Pantic, 2014). It is remarkable that these products are being used in every part of the society, from a baby to an old person today. The use of technology, the Internet and social media, which has become an addiction among young people, started to turn into a kind of addiction gradually among middle-aged people and older ones. The aim of this research it is to measure the social media addiction of people as they age.

When both national and international researches are examined, it is seen that researches conducted related to addictions such as technology, internet, social media, digital games, smartphones are generally conducted on young and middle-aged individuals. Although it is seen that individuals over middle age have started to use technology as much as young people in daily life, there is very little research on this subject; this research is different in that it shows the social media addiction of individuals the difference between under 50 and 50 and over.

In the research, scientific literature review and field research method related to the field were used. To this end, previous studies in the field were found; the theoretical part was written based on the information collected from them; then, a field research was conducted to measure the information in this theoretical part. The research group of the study, determined by simple random sampling method, consists of a total of 650 adults, 272 of whom are 50 years old and over, living in Istanbul and participating in the research voluntarily. A survey study was conducted in the research. In the first part of the survey, which consists of two parts, personal variables (age, gender, marital status, education, whether they live in their hometown and whether they use a smartphone) were asked. In the second part, social media addiction scale (SMAS) was used

### **Personal Information Form**

Participants were asked about their personal information before answering the social media addiction scale. The participants were asked about their age, gender, marital status, education level, and whether they use a smartphone. The age continuous variable was transformed into a dichotomy variable (coded 0 and 1) for descriptive analysis as under 50 and over 50.

### **Social Media Addiction Scale (SMAS)**

Social media addiction scale (SMAS) adult form developed by Şahin and Yağcı and given in the appendix of this study was used (Şahin and Yağcı, 2017). SMAS consists of two sub-dimensions (Virtual Tolerance and Virtual Communication) and 20 five-point Likert type scale items. Virtual tolerance sub-dimension consists of items 1-11, and virtual communication consists of items 12-20. Items 5 and 11 were added to the total with the reverse scoring system. The virtual tolerance subdimension explains social media users' increasing their time of use over time and disrupting other normal daily activities; virtual communication explains how the individual communicates via social media. Scale scoring is done between 20 and 100 points. As the score increases, it is concluded that the individual perceives himself as a social media addict.

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## The Aim and Importance of the Research

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## The Method of the Research

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## Measures

## Data Analysis

The data collected in the study were evaluated through appropriate analysis techniques. As a result of the analyses, the validity of the data was found as Cronbach's  $\alpha = .893$  and KMO test value 891; the Barlett test value was found to be  $\chi^2 = 4649.74$  ( $sd = 190$ ,  $p = 0.00$ ). The results in KMO and Barlett tests showed that the survey was suitable for factor analysis. Exploratory Factor Analysis (EFA) was performed on the data and it was observed that the Virtual Tolerance and Virtual Communication sub-dimensions reached the expected factor loadings (Table 1). In addition, significant results were obtained by conducting Independent Sample T-Test to determine whether the addiction differentiates according to two option variables, ANOVA to determine the effect of educational background on addiction, and Regression analyses to see the effect of age on addiction. Additionally, moderation analyses were done to find the impacts of education, age groups, and smartphone usage status in the association between age and social media addiction. SPSS Process-MACRO Model 1 analysis was used to test and transform the moderation data into graphs.

## Findings

### Descriptive Statistics

391 (60.2%) of the participants in the study were female and 259 (39.8%) were male. 272 (41.8%) of these participants were over 50 years old, 284 (43.7%) were married, 320 (49.2%) were single, 26 (4%) were widows/widowers and 20 were (3.1%) divorced. As for the educational back-

ground of the participants, 5 (0.8%) could not read and write, 6 (0.9%) could only read and write, 34 (5.2%) were primary school graduates, 14 (2.2%) were secondary school graduates, 80 (12.3%) were high school graduates, 388 (59.7%) were university graduates and 123 (18.9%) had graduate degrees. It was found out that 434 (66.8%) of the participants did not live in their hometowns and that 627 (96.5%) used smartphones.

### Independent Samples T-Tests and One Way Anova Tests

The average addiction scores of the participants were calculated and their state of addiction was analysed, as seen in Table 2. When the addiction scores of the participants were added, it was observed that the lowest ones had 20 and the highest ones had 98 points; it is noteworthy that the average of the social media addiction level of all participants was  $\bar{X} = 50.8$ , the average of the participants over 50 was  $\bar{X} = 47.8$  and the average of the participants between the ages 25 and 49 was  $\bar{X} = 53.2$ . It is remarkable that social media addiction in individuals of 50 years old and over is close to that of young and middle-aged individuals. Even though the averages are so close indicates that social media addiction has started to spread over middle age young and middle aged people has significant difference than those who are 50 and over. According to this result, hypothesis H1 was accepted.

When other analyses conducted based on the average of the addiction scores of the data are viewed, it is seen that the levels of social media addiction differs significantly in terms of the participants' gender. While the

**Table 1**

Factor Loadings of the Data Obtained through SMA Scale

Scale Item No	Factor Loading Values	
	Virtual Tolerance	Virtual Communication
1	.639	
2	.839	
3	.654	
4	.822	
5	.685	
6	.826	
7	.545	
8	.316	
9	.520	
10	.461	
11	.397	
12		.480
13		.536
14		.568
15		.470
16		.803
17		.567
18		.443
19		.641
20		.685
Eigenvalue	6.70	1.71
Explained Variance	33.51	8.58
	Total Variance: 42.10%	

average addiction of male participants was  $\bar{X} = 49.1$ , the average addiction of female participants was found to be  $\bar{X} = 51.8$ . In addition, when the average of addiction among the participants living in their hometown is viewed, it is seen that the result is  $\bar{X} = 49,6$ ; and the average of those who do not live in their hometown is  $\bar{X} = 51,3$ . According to this result, hypothesis H2 was accepted.

It is noteworthy that there are significant differences between the marital status of the participants in terms of their social media addiction levels (Table 3). When the social media addiction levels of the participants are examined based on their marital status, it is seen that the highest one is among the divorced ones with  $\bar{X} = 56.5$ , followed by the single ones with  $\bar{X} = 53.6$ , married people with  $\bar{X} = 47.8$ , and widows/widowers with  $\bar{X} = 42.6$ . However, the most striking result is related to the effect of smartphone use on social media addiction. While the average of the participants who use a smartphone is  $\bar{X} = 51.7$ , the average of the participants who do not use a smartphone is  $\bar{X} = 25.7$ . In other words, it is seen that the addiction level of those who use smartphones is more than twice the addiction level of those who do not use smartphones. Therefore, it is possible to state that smartphones increase social media addiction. According to these results, hypotheses H3 and H4 were accepted.

	N	Minimum	Maximum	$\bar{X}$	SD
Social Media Addiction Level	650	20	98	50.8	14.6
Participants Aged 50 and Over	272	20	98	47.8	16.1
Participants Aged Between 25 and 49	378	22	92	53.2	13

**Table 2**

T-test between Age Groups and Social Media Addiction

	Variable	N	$\bar{X}$	SD
Marital Status and Social Media Addiction Level	Married	284	47.8	15.4
	Single	320	53.6	13.3
	Widow/Widower	26	42.6	13.8
	Divorced	20	56.5	13.2
Use of Smartphone on Social Media Addiction Level	Uses	627	51.7	13.9
	Does not use	23	25.7	11.1

**Table 3**

Anova Tests between Marital Status, Smartphone Usage and Social Media Addiction Level

Dependent Variable	Age	Education
Social Media Addiction Level	-.272	3.19

**Table 4**

The Relationship of the Addiction Level of the Participants with their Age and Education Background

One-Way Variance Analysis (ANOVA) was applied to the data to determine whether there were significant differences among education categories of the participants in terms of social media addiction, and the results in Table 5 were obtained. When Table 5 is seen, a significant difference between the education level of the participants is understood. While the average of the social media addiction level of the high school graduate participants is the highest with the score  $\bar{X} = 52.3$ , the average of the people who can only read and write is lowest with the score  $X = 26.1$  ( $F = 9.228$ ;  $p < 0.5$ ). When the ANOVA test results were examined, the p value was less than  $p < 0.001$ ; therefore, Tukey test, from post-hoc tests, was applied and it was concluded that the education level of the participants had significant differences in terms of social media addiction levels, as understood in Table 6. According to this result, hypothesis H5 was accepted.

Regression analysis was conducted in order to determine the relationship between age and social media addiction, and meaningful results were obtained. In addition, it was seen that effective

and meaningful results were achieved when the education levels of the participants and their social media addiction levels were subjected to regression analysis.

**Table 5**

ANOVA Results of the Social Media Addiction Levels of the Participants According to Their Education Level

Variable	Education Level	N	$\bar{X}$	s	
Variable	Cannot Read and Write	5	26.2	13.3	
	Can Only Read and Write	6	26.1	9.2	
	Primary School	34	40.6	19.4	
	Secondary School	14	48.5	16.1	
	High School	80	52.3	14.4	
Education Level	Source of Variance	SS	sd	F	p
	Between Groups	11099.20	6	9.228	.000
	Within Groups	128898.06	643		
	Total	139997.27	649		

**Table 6**

ANOVA Results of the Social Media Addiction Levels of the Participants According to Their Education Level

Education Level	Variables (j)	Difference of Averages	p
Cannot Read and Write	Can Only Read and Write	.033	1.000
	Primary School Graduate	-14.44	.336
	Secondary School Graduate	-22.30	<b>.041</b>
	High School Graduate	-26.12	<b>.001</b>
	University Graduate	-25.31	<b>.002</b>
	Graduate Degree	-26.55	<b>.001</b>
Can Only Read and Write	Cannot Read and Write	-0.33	1.000
	Primary School Graduate	-14.48	.241
	Secondary School Graduate	-22.33	.022
	High School Graduate	-26.15	<b>.000</b>
	University Graduate	-25.34	<b>.000</b>
	Graduate Degree	-26.58	<b>.000</b>
Primary School Graduate	Cannot Read and Write	14.44	.336
	Can Only Read and Write	14.48	.241
	Secondary School Graduate	-7.85	.585
	High School Graduate	-11.67	<b>.001</b>
	University Graduate	-10.86	<b>.000</b>
	Graduate Degree	-12.10	<b>.000</b>
Secondary School Graduate	Cannot Read and Write	22.30	<b>.041</b>
	Can Only Read and Write	22.33	<b>.022</b>
	Primary School Graduate	7.85	.585
	High School Graduate	-3.82	.967
	University Graduate	-3.01	.987
	Graduate Degree	-4.25	.938
High School Graduate	Cannot Read and Write	26.12	<b>.001</b>
	Can Only Read and Write	26.15	<b>.000</b>
	Primary School Graduate	11.67	<b>.001</b>
	Secondary School Graduate	3.82	.967
	University Graduate	.81	.999
	Graduate Degree	-.43	1.000

Education Level	Variables (j)	Difference of Averages	p
University Graduate	Cannot Read and Write	25.31	<b>.002</b>
	Can Only Read and Write	25.34	<b>.000</b>
	Primary School Graduate	10.86	<b>.000</b>
	Secondary School Graduate	3.01	.987
	High School Graduate	-.81	.999
	Graduate Degree	-1.24	.980
Graduate Degree	Cannot Read and Write	26.55	<b>.001</b>
	Can Only Read and Write	26.58	<b>.000</b>
	Primary School Graduate	12.10	<b>.000</b>
	Secondary School Graduate	4.25	.938
	High School Graduate	.43	1.000
	University Graduate	1.24	.980

When Table 4 is seen, it is observed that there is a negative significant relationship between age and social media addiction level ( $B = -.272$ ;  $p < 0.001$ ). That is, as the age of the participants increases, social media addiction decreases. A high positive significance was also found between the impact of education level on social media addiction of the participants ( $B=3.19$ ;  $p < 0.001$ ). That is, it was concluded that as the education level of the participants increased, the level of social media addiction improves. In this sense, social media addiction negatively associated with age, whereas negatively with education level. According to these results, hypotheses H6 and H7 were accepted.

In the study, The moderator analysis method was used to determine the variables predicted to change the direction and effect of the relationship between the dependent variable and the independent variable. For this purpose, moderator effects of education, smartphone users and two different age groups in the effect of age on SMAS and the impact of two different age groups in the effect of education on SMAS were tested. For this purpose, SPSS Process-MACRO Model 1 analysis was used to test and transform the data into graphs. The results we found using moderation analysis were statistically meaningful, and hypotheses H8 and H9 were accepted.

## Moderation Analysis

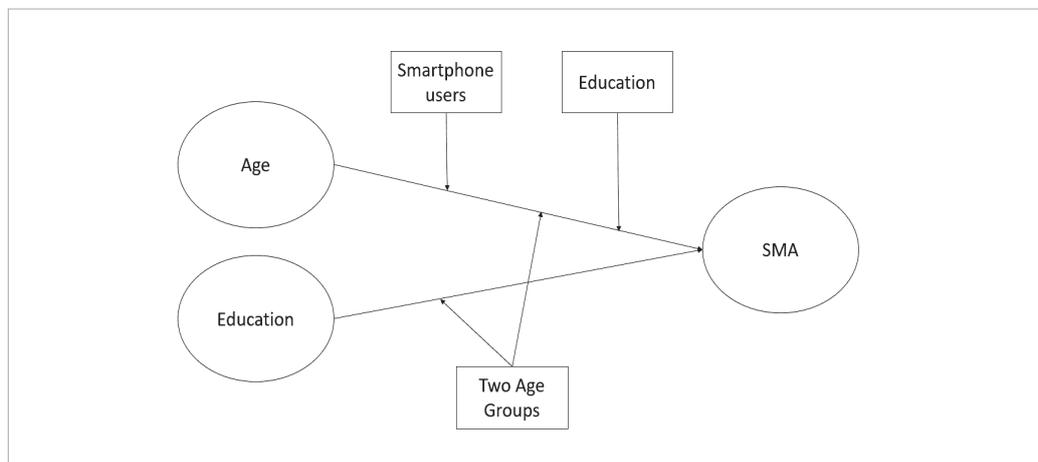


Figure 1

The Conceptual Diagram for Moderation Analysis

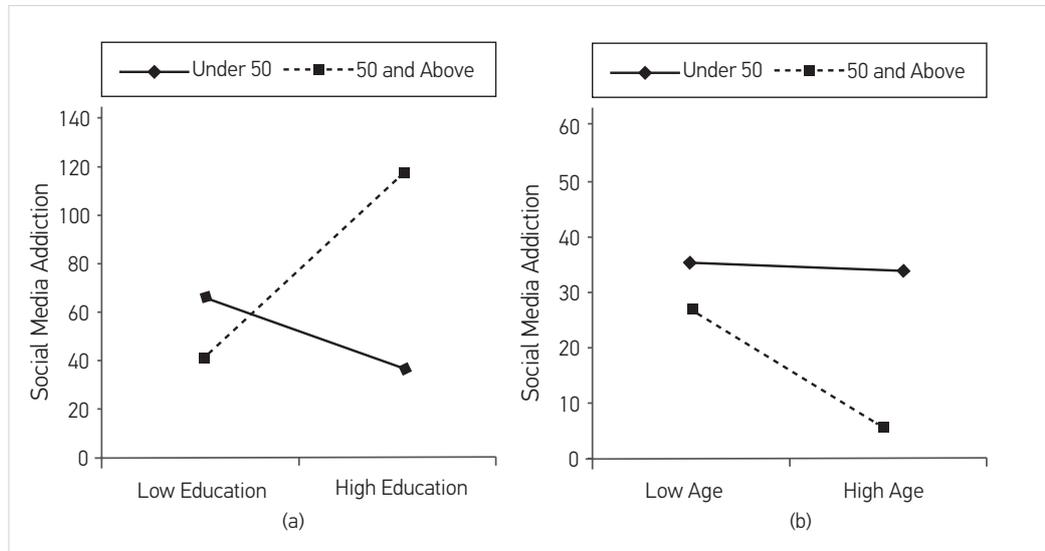
A moderation analysis was conducted to examine the relationship between the ages of the sample group of the study and social media addiction by comparing smartphone users and non-users. There is a significant effect of age and smartphone usage status interaction on social media

addiction. As a result of the moderation analysis performed with Process-MACRO Model 1, a significant relationship was found ( $\beta = -.4628, p < .05$ ). Accordingly, there are differences between smartphone users and non-users regarding the effect of age on social media addiction. According to the graphic in Figure 2 (a), social media addiction decreases as the ages of non-smartphone users increase, and social media addiction decreases very little as the age of the smartphone users increases.

By comparing those with a high level of education to those with a low level of education, moderation analysis was used to examine the correlation between the ages of the study's sample group and social media addiction. Age and education level interaction has a major impact on social media addiction, and a significant association was discovered ( $\beta = .1459, p < .001$ ). As a result, the impact of age on social media addiction varies according to education level. According to the graph in Figure 2 (b), social media addiction declines as the age of the low educated increases and increases almost insignificantly as the age of the high educated increases.

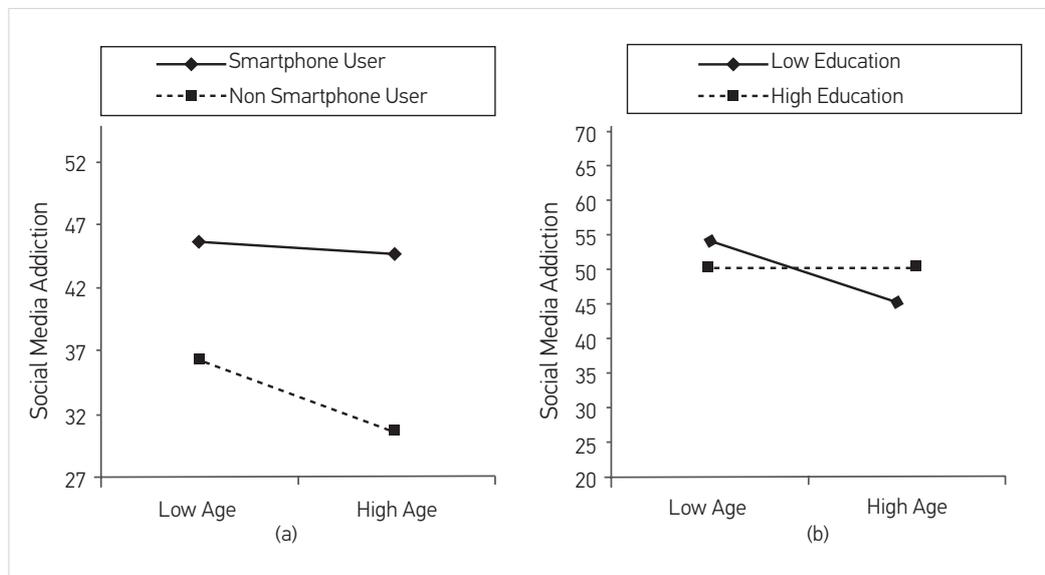
**Figure 2**

Moderation Effects of Smartphone and Education Status in the Impact of Age on SMA



**Figure 3**

Moderation Effects of Age Groups in the Impact of Education and Age on SMA



The study's sample group was divided into those under the age of 50 and those aged 50 and over. A moderation analysis was used to determine the role of two age groups in the correlation between education level and social media addiction. Education and two age groups interaction has a profound effect on social media addiction, as shown by a significant correlation ( $\beta = 3.75$ ,  $p < .01$ ). Education has a different effect on social media addiction in both of the two age groups. According to the graph in [Figure 3 \(a\)](#), social media addiction decreases as education increases under the age of 50 and significantly rises as education increases the age of 50 above.

The role of two age groups in the effect of age on social media addiction was determined using a moderation study. Age and two age groups significantly impact social media addiction, as shown by a significant relation ( $\beta = -.6860$ ,  $p < .01$ ). For age groups, age has different impacts on social media addiction. According to the diagram in [Figure 3 \(b\)](#), social media addiction decreases as the age increases of 50 and above, whereas it remains almost the same as age increases of under 50.

Social media is a new phenomenon for humanity but it has become widespread and affected almost the entire world. Social media, which has become indispensable especially for the generations that came to the world after the new media transformation, has started to influence all of the society gradually along with the young generation. When we view X, Y and Z generations, it is seen that Z generation is very much engaged in social media. Along with the perceptions that social media is virtually a 'necessity' of the new world, first generation Y, that is, middle-aged individuals, started to adopt social media. Social media has spread to all sectors of the society and led the X generation, that is, individuals over middle age, to adopt this technology. Thus, the individuals over middle age who do not want to break their ties with the society, their families, friends and the groups they belong to have started to communicate better by using social media. When literature is reviewed, it is observed that researches related to social media addiction are generally conducted on young people; this research was designed to focus on differences between middle age individuals and older people.

In the study, all of the hypotheses that we assumed were accepted. The average of the addiction scores of the participants turned out to be 50.8; the score was 47.8 for the participants over 50 and 53.2 for the 25-49 age group. Although the addiction level of individuals over 50 years of age was less than the other group and the average, it was determined that there was only a 3-point difference between them and the general average and the average of individuals over middle age. The level of social media addiction among middle-aged individuals turned out to be below average, but social media addiction levels were considerably high. Current finding about elderly group was consistent with recent literature which shows the use of social media in elderly people is increasing (He, et al., 2020; Spagnoletti et al., 2015; Wen et al., 2013; Cornejo et al., 2013; Jeehoon et al., 2017)

When the other findings of the research are studied, it is seen that the use of smartphones greatly affects the level of social media addiction. The average of social media addiction levels of 627 participants using smartphones was 51.7 while the average of the participants who did not use smartphones was 25.7. Another remarkable point here is that only 23 participants out of 650 participants, 272 of whom are over middle age, do not use smartphones while 627 of them use smartphones. There were also significant differences between the marital status of the participants and their social media addiction levels. The highest social media addiction level was among the divorced participants and the lowest was among widows/widowers. Significant differences were found in relationships between the level of social media addiction and the gender of the participants. Women had more addiction than men which is consistent with the literature (Hogue and Mills, 2019; Chen, 2015; Hamutoğlu et al., 2020; Demircioğlu and Kose).

When the relationship between the education level of the participants and the level of social me-

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## Discussion

dia addiction is examined, it is seen that the level of social media addiction increases as the level of education increases. The participants who graduated from secondary school, high school and universities and those with graduate degrees have a much higher social media addiction level than primary school graduates and those who can only read and write. We determined that the increase in the level of education causes rising in social media addiction is consistent with recent literature (Mohammed et al., 2021, Mahamid and Berte, 2019). We found that as the virtual tolerance sub-dimension, which expresses that social media users increase their time of use more and that they disrupt other normal daily activities, increases, virtual communication explaining the communication of the individual through social media increases ( $\beta = .52$ ,  $t = 20.04$ ,  $p < 0.001$ ). It was understood that the relationship between them was statistically significant.

We determined that social media addiction decreases as the age increases, but it was seen that the level of social media addiction of individuals over middle age is at a considerable level. The fact that technology and social media are widely used by the middle-aged individuals too can be evaluated as the tendency for the individuals over the age of 50 to approach the average in the forthcoming years. It can be thought that the average difference of 6 points between young and middle-aged individuals and individuals over middle age will decrease as technology companies increase their policies towards the elderly and that individuals over middle age will follow the new technological transformations more closely (Jecheon et al., 2017; Tyler et al., 2020; Fang et al., 2018; Cotton, 2017). Thus, it seems possible that the widespread social media addiction, which exists in the younger generation, will be also possible for individuals over middle ages.

As a result of the moderation analysis performed in our study, it was understood that education level and smartphone usage status had a moderating effect on social media addiction. In another analysis, it was determined that two different age groups moderated the effect of educational status on social media addiction. Even if there are no similar studies in the literature, many studies that are partially similar have found effects according to education, age groups, and smartphone usage situations (Andreassen et al., 2017; Gungor and Kocak, 2020; Aydin et al., 2021, Yildiz and Kocak, 2020). It can be said that the use of social media by middle-aged and over individuals, which are described as the X and Y-generation, has become widespread. Due to socialization, communication, being busy, spending time, quick access to information, and the guidance of business, economic and social life, social media addiction similar to that of the Z generation may be increased among the X and Y generation.

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### Limitations of the Study

Since there were no enough studies on technological addiction with elderly of the population, new studies must be done for comparison. Even though our study contributes to the current literature, more studies covering all segments of society should be made. Due to the online survey, we could not reach the elderly face to face and focus on their detailed social media usages. Also, we could not understand their feelings towards social media and similar technologies because of online surveying. In particular, in Europe, where the elderly population is very high, and in Turkey, where the population is rapidly aging, the issue of technology addiction of the elderly who started to use new technologies more intensively should be studied more.

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### Conclusions

In our study, we evaluated the relationship of social media addiction with socio-demographic variables. Also, by making age and education variables independent variables, the moderation effect of smartphone use and age groups in the effect of age and education level on social media addiction was tested. As a result, it has been determined that age, gender, marital status, education level, and smartphone usage predict social media addiction. Besides, it has been determined that the social media addiction of different categories such as male and female, young and advanced age, and education levels differ. In addition, it was found that two different age groups and the use of smartphones have moderating effects in the effect of age and education level on social media addiction.

With the spread of the Covid 19 virus, quarantines applied in countries have exposed people to more internet and digital technologies, regardless of the age. At the same time, people who have to stay in their homes in quarantines will face more psychological, physical, spiritual and social problems (Kocak et al., 2021). With the excessive use of the Internet and social media, digital addiction will emerge and psychosocial problems will further increase. New digital based technologies and the internet have become an integral part of everything and they have rapidly been penetrating into societies' daily lives from workplaces to homes. Today's youth generations who are heavily using digital technologies will become tomorrow's elderly people and the technologies will still be dominant more than today in their old age. Unless producing proactive policies in rapidly developing technologies area and on their effect in social area, there will incrementally be technical as well as psychosocial, mental, and social issues in the future.

Families should provide proper settings for both children and the elderly who are at home, where they can use the Internet to an extent that does not cause addiction. Significantly, there should be implemented some programs at schools by which students must be encouraged to use new technologies to gain knowledge and information, news, and other things which will increase their research capacity rather than leading to addiction. The programs to be implemented at schools should be guided by social workers, psychologists, and experts working on new technologies to combine social and technical issues. Projects and arrangements should be made by policy makers in order to raise awareness of the society about technology addiction, which is likely to affect individuals' behavior and daily lives.

Technology addiction is not easily understood like other addictions, because the use of technology is a part of our lives. For this reason, individuals should be given training on how to use technology without being dependent on technology literacy at the beginning of their education life. In addition to formal education, the information of individuals should be updated in the understanding of lifelong education.

Abbasi, I., S., (2019). Social media addiction in romantic relationships: Does user's age influence vulnerability to social media infidelity?, *Personality and Individual Differences*, Volume 139, Pages 277-280, ISSN 0191-8869, <https://doi.org/10.1016/j.paid.2018.10.038>.

Akkaş, İbrahim (2019). *Teknoloji Bağımlılığı*. Konya: Eğitim Yayınevi.

Aktan, Ercan (2018). "Üniversite Öğrencilerinin Sosyal Medya Bağımlılık Düzeylerinin Çeşitli Değişkenlere Göre İncelenmesi", *Erciyes İletişim Dergisi* 5/4: 405-421. <https://doi.org/10.17680/erciyesiletisim.379886>

Alter, Adam (2017). *Karşı Konulmaz Bağımlılık Yapıcı Teknolojinin Yükselişi ve Bizim Ona Esir Edilişimiz* (Translated by Deniz İren Gün). İstanbul: Paloma Yayınları.

Andreassen, C. S., S. Pallesen, & M. D. Griffiths, (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey, *Addictive Behaviors*, Volume 64, Pages 287-293, ISSN 0306-4603, <https://doi.org/10.1016/j.addbeh.2016.03.006>.

Azizi, S.M., Soroush, A. & Khatony, A. (2019). The relationship between social networking addiction and academic performance in Iranian students of med-

ical sciences: a cross-sectional study. *BMC Psychology* 7, 28 (2019). <https://doi.org/10.1186/s40359-019-0305-0>

Aydın, S., Koçak, O., Shaw, T. A., Buber, B., Akpınar, E. Z., & Younis, M. Z. (2021). Investigation of the Effect of Social Media Addiction on Adults with Depression. *Healthcare*, 9(4), 450. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/healthcare9040450>

Bat, Mikail; Kayacan Şehriban (2016). "İnternet Bağımlısı Erişkinlerde Sosyal Medya Oyunları Üzerine Vaka İncelemesi: Candy Crush Oyunu". *Karadeniz Teknik Üniversitesi İletişim Fakültesi Elektronik Dergisi*, 3/12: 20-46.

Canöz, Nilüfer (2016). "Modern İletişimde İnternet ve Sosyal Medyanın Yeri: Türkiye'deki Kullanıcılara Yönelik Bir Araştırma", *NWSA Humanities Sciences*, c.11, s.2, s.33-54. Konya. <https://doi.org/10.12739/NWSA.2016.11.2.4C0201>

Castells, Manuel (2005). *Enformasyon Çağı: Ekonomi, Toplum ve Kültür, Birinci Cilt: Ağ Toplumunun Yükselişi* (Translated by Ebru Kılıç). İstanbul: Bilgi Üniversitesi Yayınları

Chayko, Mary (2018). *Süper Bağlantılı İnternet, Dijital Medya & Tekno-Sosyal Hayat* (Translated by Berkay

## Suggestions For Researchers, Individuals And Policymakers

## References

- Bayındır, Deniz Yengin, Tamer Bayrak). İstanbul: Der Yayınları
- Chen, G.M. (2015). Why Do Women Bloggers Use Social Media? Recreation and Information Motivations Outweigh Engagement Motivations. *New Media Soc.*, 17, 24-40. <https://doi.org/10.1177/1461444813504269>
- Cornejo, Raymundo, Mónica Tentori, & Jesús Favella, (2013). Enriching in-person encounters through social media: A study on family connectedness for the elderly, *International Journal of Human-Computer Studies*, Volume 71, Issue 9, Pages 889-899, ISSN 1071-5819, <https://doi.org/10.1016/j.ijhcs.2013.04.001>.
- Cotton, Shelia R, (2017). Examining the Roles of Technology in Aging and Quality of Life, *The Journals of Gerontology: Series B*, Volume 72, Issue 5, September, Pages 823-826, <https://doi.org/10.1093/geronb/gbx109>
- Demircioğlu, Z.I., Göncü Köse, A. (2021). Effects of attachment styles, dark triad, rejection sensitivity, and relationship satisfaction on social media addiction: A mediated model. *Curr Psychol* 40, 414-428. <https://doi.org/10.1007/s12144-018-9956-x>
- Ercan, Hülya (2013). *Bağımlılık Tedavisinde Egzersiz Terapisi*. Ankara: Nobel Yayınları.
- Fang, Yang, Anson K. C. Chau, Anna Wong, Helene H. Fung & Jean Woo (2018) Information and communicative technology use enhances psychological well-being of older adults: the roles of age, social connectedness, and frailty status, *Aging & Mental Health*, 22:11, 1516-1524, <https://doi.org/10.1080/13607863.2017.1358354>
- Foster L., Walker A. (2015). Active and successful aging: A European policy perspective. *Gerontologist*. 2015;55:83-90. <https://doi.org/10.1093/geront/gnu028>
- Grau, S., Kleiser, S. and Bright, L. (2019), "Exploring social media addiction among student Millennials", *Qualitative Market Research*, Vol. 22 No. 2, pp. 200-216. <https://doi.org/10.1108/QMR-02-2017-0058>
- Güngör, A.B. & Koçak, O. (2020). Üniversite öğrencilerinin akıllı telefon bağımlılığı ve akademik erteleme davranışı arasındaki ilişkinin incelenmesi. *JRES*, 7(2), 397-419.
- Hamutoglu, N.B., Topal, M. & Gezgin, D.M. (2020). Investigating Direct and Indirect Effects of Social Media Addiction, Social Media Usage and Personality Traits on FOMO. *International Journal of Progressive Education*, 16(2), 248-261. doi: 10.29329/ijpe.2020.241.17 <https://doi.org/10.29329/ijpe.2020.241.17>
- Hazar, Zekihan (2018). *Çağın Vebası Dijital Oyun Bağımlılığı ve Başa Çıkma Yöntemleri*. Ankara: Gazi Kitabevi
- He, Tao, Changqin Huang, Ming Li, Yuqiong Zhou, & Shihua Li, (2020). Social participation of the elderly in China: The roles of conventional media, digital access and social media engagement, *Telematics and Informatics*, Volume 48, 101347, ISSN 0736-5853, <https://doi.org/10.1016/j.tele.2020.101347>.
- Hogue, Jacqueline V., Jennifer S. Mills, (2019). The effects of active social media engagement with peers on body image in young women, *Body Image*, Volume 28, Pages 1-5, ISSN 1740-1445, <https://doi.org/10.1016/j.bodyim.2018.11.002>.
- Hu, S., Hu, L. and Wang, G. (2021), "Moderating role of addiction to social media usage in managing cultural intelligence and cultural identity change", *Information Technology & People*, Vol. 34 No. 2, pp. 704-730. <https://doi.org/10.1108/ITP-10-2019-0518>
- Jeehoon, Kim, Hee Yun Lee, M Candace Christensen, & Joseph R Merighi, (2017). Technology Access and Use, and Their Associations With Social Engagement Among Older Adults: Do Women and Men Differ?, *The Journals of Gerontology: Series B*, Volume 72, Issue 5, September, Pages 836-845, <https://doi.org/10.1093/geronb/gbw123>
- Katrin G., Michael C., (2014). *ICT enabled independent living for elderly*, (Institute for innovation and Technology, Germany), ISBN 978-3-89750-160-7
- Koçak, O., Koçak, Ö. E., & Younis, M. Z. (2021). The Psychological Consequences of COVID-19 Fear and the Moderator Effects of Individuals' Underlying Illness and Witnessing Infected Friends and Family. *International Journal of Environmental Research and Public Health*, 18(4), 1836. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/ijerph18041836>
- Kuşay, Yeliz (2013). *Sosyal Medya Ortamında Çekicilik ve Bağımlılık; Facebook Üzerine Bir Araştırma*. İstanbul: Beta Yayınları.
- Kuss, Daria; Griffiths, Mark (2011). "Addiction to Social Networks on the Internet: A literature review of empirical researches". *International Journal of Mental Health and Addiction*, 8/9.
- Kongar, Emre (2014). *Toplumsal Değişme Kuramları ve Türkiye Gerçeği*. İstanbul: Remzi Kitabevi.
- Mahamid, F.A., Berte, D.Z., (2019). Social Media Addiction in Geopolitically At-Risk Youth. *Int J Ment Health Addiction* 17, 102-111, <https://doi.org/10.1007/s11469-017-9870-8>
- Mohammad Dalvi-Esfahani, Ali Niknafs, Zohre Alaedini, Hajar Barati Ahmadabadi, Daria J. Kuss, T. Ramayah (2021). Social Media Addiction and Empathy: Moderating impact of personality traits among high school students, *Telematics and Informatics*, Volume 57, 101516, ISSN 0736-5853, <https://doi.org/10.1016/j.tele.2020.101516>.
- Ögel, Kültegin (2018). *Bağımlılık ve Tedavisi Temel Kitabı*. İstanbul: IQ Kültür Sanat Yayınları
- Pantic I. (2014). *Online social networking and mental*

health. *Cyberpsychology, behavior and social networking*, 17(10), 652-657. <https://doi.org/10.1089/cyber.2014.0070>

Rahmatullah Haand & Zhao Shuwang (2020) The relationship between social media addiction and depression: a quantitative study among university students in Khost, Afghanistan, *International Journal of Adolescence and Youth*, 25:1, 780-786, <https://doi.org/10.1080/02673843.2020.1741407>

Spagnoletti, Paolo, Andrea Resca, & Øystein Sæbø, (2015). Design for social media engagement: Insights from elderly care assistance, *The Journal of Strategic Information Systems*, Volume 24, Issue 2, Pages 128-145, <https://doi.org/10.1016/j.jsis.2015.04.002>.

Summers, M. J., Rainero, I., Vercelli, A. E., Aumayr, G., de Rosario, H., Mönter, M., ... My-AHA Consortium (2018). The My Active and Healthy Aging (My-AHA) ICT platform to detect and prevent frailty in older adults: Randomized control trial design and protocol. *Alzheimer's & dementia (New York, N. Y.)*, 4, 252-262. <https://doi.org/10.1016/j.trci.2018.06.004>

Şahin, Mehmet (2011). İlköğretim Okulu Öğrencilerindeki İnternet Bağımlılığı. Yayınlanmamış Yüksek Lisans Tezi. Yeditepe Üniversitesi Sosyal Bilimler Enstitüsü. İstanbul.

Şahin, C., & Yağcı, M. (2017). Sosyal Medya Bağımlılığı Ölçeği-Yetişkin Formu: Geçerlilik ve güvenilirlik çalışması, *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD)*, 18 (1), 523-538.

Tiryaki, Salih (2015). Sosyal Medya ve Facebook Bağımlılığı, Konya: Litera Türk Academia Yayını

Toraman, Muhammet (2013). İnternet Bağımlılığı ve Sosyal Ağ Kullanım Düzeylerinin Ortaöğretim Öğrencilerinin Akademik Başarıları ile İlişkisinin İncelenmesi. Yayınlanmamış Yüksek Lisans Tezi.

Elâziğ: Firat Üniversitesi Eğitim Bilimleri Enstitüsü.

Turel, Ofir; Serenko, Alexander; Giles, Paul (2011). "An Empirical Investigation of Online Auction Users". *MIS Quarterly*, 35/4: 1044, <https://doi.org/10.2307/41409972>

Turel, O., Poppa, N.". & Gil-Or, O., (2018). Neuroticism Magnifies the Detrimental Association between Social Media Addiction Symptoms and Wellbeing in Women, but Not in Men: a three-Way Moderation Model. *Psychiatr Q* 89, 605-619, <https://doi.org/10.1007/s11126-018-9563-x>

Tyler, Mark, Linda De George-Walker, & Veronika Simic. (2020) Motivation matters: Older adults and information communication technologies. *Studies in the Education of Adults* 52:2, pages 175-194. <https://doi.org/10.1080/02660830.2020.1731058>

Wen Huei Chou, Yu-Ting Lai & Kuang-Hsia Liu (2013) User requirements of social media for the elderly: a case study in Taiwan, *Behaviour & Information Technology*, 32:9, 920-937, <https://doi.org/10.1080/0144929X.2012.681068>

Yalin Sun, Yan Zhang, A review of theories and models applied in studies of social media addiction and implications for future research, *Addictive Behaviors*, Volume 114, 2021, <https://doi.org/10.1016/j.addbeh.2020.106699>.

Yıldız, E. ve Koçak, O. (2020). Üniversite öğrencilerinde sosyal medya bağımlılığı ve algılanan sosyal destek arasındaki ilişkinin değerlendirilmesi. *Toplum ve Sosyal Hizmet*, 31(3), 1102-1126 <https://doi.org/10.33417/tsh.681389>

Young, Kimberly (1999). Internet addiction: Symptoms, evaluation, and treatment innovations in clinical practice, 17, In L. Vande Creek, & T. L. Jackson (Eds.), Sarasota, FL: Professional Resource Press.

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