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## The COVID-19 fear and loneliness as the predictors of social media addiction in young

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### Abstract

Young people use social media more than others, and this comes to the fore with COVID-19. This research aims to analyze to what extent the COVID-19 fear and loneliness which affect social media addiction in young adults and to what extent this effect changes as per gender. In this research, the UCLA Loneliness Scale-8, the Fear of COVID-19 Scale, and the Social Media Addiction Scale were used. Through convenience sampling, a total of 507 young adults aged 18-24 years were selected for the research sample. In the evaluation of research data, frequencies, percentages, correlation coefficients and multiple linear regression analysis were used. The mean duration of time spent on social media was 4.26±2.324 hours per day, and mostly used application was the WhatsApp (31.2%). Social media addiction has weak positive relationships with COVID-19 fear and loneliness, and moderately positive relationship between the time spent on social media, and, the time spent on social media has weak positive relationships with COVID-19 fear and loneliness. COVID-19 fear, loneliness, and time spent on social media were identified accounted for 17.1% of the variance in social media addiction for the total group and identified accounted 17.5% for female group. Loneliness was not included in the model for the male participants, rather, the COVID-19 fear and time spent on social media were the predictors of social media addiction for 20.5% in men.

**Keywords:** Social media, social media addiction, COVID-19 fear, loneliness

### Introduction

The COVID-19 pandemic that has influenced the entire world continues to be a current issue with new cases and mutations. The absence of definitive treatment for the infection, the continuing deaths, setbacks in the achievement of the desired progress in vaccination, and the inability of vaccines to provide full protection raise individuals' anxiety and fear [1]. In the COVID-19 pandemic, a constantly changing, complicated, and unpredictable process came into play due to the nature of the virus. Human beings can feel fears such as having difficulty in accessing health services, experiencing food shortages, losing their incomes, losing their jobs just as much as fearing that they or their relatives will be infected with the disease, be hospitalized at the intensive care unit, or die [2]. In a study, it was discerned that the participants

had medium-level COVID-19 fear during the pandemic and the female participants and the participants who lose a relative due to the COVID-19 infection had higher levels of COVID-19 fear [3]. This situation can induce individuals to avoid meeting other individuals, get distanced from social life, and get lonely along with the COVID-19 fear [4].

Loneliness is a universal experience for humankind and can turn to be an agonizing process. It is asserted that loneliness created a health issue critical in terms of depression, anxiety, suicidal ideation, and the risk of avoiding the use of health services [5]. In a study, it was identified that, during the pandemic, 43% of the participants obtained loneliness scores above the threshold, and loneliness had strong positive associations with depression and suicidal [6]. It is put forward that the individuals turned toward passing more time on social media to cope with the feeling of loneliness growing along with the pandemic [7].

Today, it is discerned that, together with the development of smart phone and tablet technology and the increase in the percentage of the population with internet connectivity, the percentage of the population using social media grew [8]. It was announced that the

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percentage of the population with internet access reached 92.0% across Turkey and 88.5% of the population accessing internet used smart phones for this purpose [9]. Along with these facilities to access the internet, individuals were forced to participate online in the changing educational and professional life, and also, it was discerned that the individuals preferred internet facilities more during their spare time activities. In previous studies, it was stated that, in parallel to the rise in the time spent by individuals on the internet during the pandemic, there was a large-scale increase in the time spent on activities such as online games, social media, online chatting, and online shopping in comparison to the pre-pandemic period [10,11]. The review of the relevant literature shows that, alongside this increase, social media usage preferences differed as per gender [12]. It is asserted that the men devoted more time to digital games, videos, and social media platforms whilst the women passed more time on social media, online shopping, and online chatting platforms [13-15]. This situation means that the use of online platforms increased across the entire society even if the purpose of using online platforms differed as per gender. The online time increasing in the COVID-19 pandemic can, at the same time, pave the way for uncontrolled, unconscious, and excessive internet use. In a study about internet addiction, it was found that internet use was more prevalent among young individuals and this situation was associated with high-level technology literacy among young individuals [7].

Young adulthood is a period that follows adolescence, embodies unique developmental tasks, and is quite actively lived through by the person to reach future ideals. Even if young individuals had milder cases of the COVID-19 infection [16], they were more affected by the restrictions imposed to prevent the spread of the infection. The challenges such as the switch to distance education along with the suspension of face-to-face education at universities, the imposition of restrictions on businesses (cafes, restaurants, and so on) and activities (concerts, trips, and so on) where young adults built social relations, the compulsory extension of the period spent at home, and the withdrawal from social life along with the feeling of anxiety about infecting themselves and the people around them with the disease were the factors tempting young adults to use social media more. Even if the reasons for young individuals to use social media were listed as meeting with friends, viewing photographs and posts, messaging, passing spare time, accessing information, and following up the current agenda, [17] it is known that young individuals used social media more for entertainment and social interaction. Upon the review of the relevant literature, it is discerned that, although certain studies about young individuals during the COVID-19 pandemic were performed, [18,19] no study analyzed the COVID-19 fear, loneliness, and social media addiction all together in young individuals. Thus, this research aimed to analyze to what extent the COVID-19 fear and loneliness affected the social media addiction in young adults and to what extent this effect changed as per gender.

## Materials and Methods

### Study Design

The research was designed as a cross-sectional study to analyze the relationship between the COVID-19 fear, loneliness, and social media addiction in young adults aged 18-24 years.

## Population and Sample

The research population is the young adults aged 18-24 years. The sample size was calculated as 472 by using with the G\*Power 3.1 program for the calculation of sample size for linear regression analysis with medium effect size. For this study, effect size of 0.15, Type I error of 0.05, a Type II error of 0.05 (95% power). Considering that there may be data loss, 529 young adult were included in the sample. From April 2021 to June 2021. A non-probability sampling technique (convenience sampling) was utilized as the sample selection method, and the data collection forms were shared on social media and online platforms by using an online form. However, 22 young adults who failed to satisfy the criteria for being included in the study (being aged below 18 years or above 24 years) were removed from the data set, and hence, 507 young adults were included in the analysis.

## Data Collection Tools

The Participant Information Form, the Fear of COVID-19 Scale, the UCLA Loneliness Scale-8, and the Social Media Addiction Scale were used as the data collection tools in the study.

**Participant Information Form:** This questionnaire prepared by researchers has 10 questions about socio-demographic characteristics, the state of being affected by the COVID-19 infection, and the state of using social media with multiple responses.

**Fear of COVID-19 Scale (FCV-19S):** The scale was developed by Ahorsu et al. [20] and Bakioglu et al. performed the validity and reliability study for the scale in Turkish [1]. Designed as a five-point Likert-type scale, the FCV-19S has seven items and no sub-scale. The total score to be obtained from the FCV-19S items indicates the level of the COVID-19 fear experienced by the respondent. The scores to be obtained from the FCV-19S range between 7-35 points, and a high score obtained by a respondent from the FCV-19S implies that the respondent has high-level COVID-19 fear. Cronbach's alpha coefficient as the measure of internal consistency was calculated as 0.82 for the Turkish form of the FCV-19S.

**UCLA Loneliness Scale-8 (UCLA LS-8):** Russel et al. developed the scale [21]. The long form of the scale has 20 items and is designed as a four-point Likert-type scale. The short form of the scale composed of 8 items was adapted to Turkish by Doğan et al. [22]. As the score obtained by a respondent from the scale increases, the respondent's level of loneliness goes up. Cronbach's alpha coefficient as the measure of internal consistency was calculated as 0.96 for the scale.

**Social Media Addiction Scale-Adult Form (SMAS-AF):** The scale was developed by Şahin and Yağcı to identify adults' social media addiction levels [23]. Designed as a five-point Likert-type scale, the SMAS-AF has 20 items (0-34 points: no addiction, 35-52 points: little addicted, 53-69 points: moderately addicted, and 70 points or above: highly addicted). Cronbach's alpha coefficient as the measure of internal consistency was found as 0.94 for the SMAS-AF.

## Data Analysis

The research data were evaluated by using the Statistical Package for Social Science (SPSS) 25.0 and Jeffrey's Amazing Statistics Program (JASP) 0.14.1. Firstly, frequencies and percentage values for independent variables were analyzed. Next, internal consistency analysis was carried out for the scales used in the study, then, correlation coefficients were calculated for the total scores obtained from the scales, and lastly, to find out the predictors of social media addiction, the multiple linear regression analysis was conducted for the entire group and the groups of male and female participants separately.

## Ethical Approval

Before the research, the ethical endorsement for the study was obtained from the Social Sciences and Humanities Ethics Committee of a university (Date: 8 March 2021, No: 2021-3). The research data were collected in compliance with the Declaration of Helsinki, and the young adults were informed about the study before the research, and if they volunteered to participate in the research, they were asked to fill in the informed consent form.

## Results

Upon the review of participant young adults' socio-demographic characteristics, it is discerned that they had a mean age of  $20.85 \pm 1.796$  years, 67.1% of them were female, 96.6% of them were single, 62.8% of them had medium-level income, and 79.5% of them were students (Table 1).

**Table 1.** Participants' sociodemographic characteristics

Variable	Group	n	%
<b>Gender</b>	Female	340	67.1
	Male	167	32.9
<b>Marital status</b>	Single	490	96.6
	Married	17	3.4
<b>Income level</b>	Low	92	18.2
	Medium	318	62.8
	High	97	19.0
<b>Employment status</b>	Working	63	12.4
	Not working	41	8.1
	Student	403	79.5
<b>Total</b>		507	100.0
<b>Age</b>	$\bar{X} \pm SD = 20.85 \pm 1.796$ years		
$\bar{X}$ : Mean; SD: Standard deviation			

Upon the examination of participant young adults' characteristics related to social media use, it is identified that the mean duration of time spent by them on social media was  $4.26 \pm 2.324$  hours per day, and they mostly used the WhatsApp Messenger (31.2%) and used social media for the purpose of passing the time (28.7%) (Table 2).

Arithmetic means and standard deviations as the descriptive

statistics and Cronbach's alpha coefficient as the measure of internal consistency were calculated for the three scales used in the study. In this respect, Cronbach's alpha coefficients were found as 0.853, 0.872, and 0.782 successively for the SMAS-AF, FCV-19S, and UCLA LS-8. Next, the multicollinearity between the three scales above and the time spent on social media was examined. In this regard, it was found that, firstly, the social media addiction has weak statistically significant positive relationships with COVID-19 fear ( $r=0.251$ ,  $p<0.01$ ) and loneliness ( $r=0.189$ ,  $p<0.01$ ), secondly, there was a statistically significant moderately positive relationship between social media addiction and the time spent on social media ( $r=0.317$ ,  $p<0.01$ ), and thirdly, the time spent on social media has weak statistically significant positive relationships with COVID-19 fear ( $r=0.110$ ,  $p<0.05$ ) and loneliness ( $r=0.116$ ,  $p<0.01$ ) (Table 3).

**Table 2.** Participants' characteristics related to social media use

Variable	Group	n	%
Social media platform	WhatsApp Messenger	379	31.2
	Instagram	375	30.9
	Twitter	114	9.4
	Facebook	46	3.8
	YouTube	251	20.7
	TikTok	33	2.7
	Other	15	1.3
<b>Total</b>		<b>1213</b>	<b>100.0</b>
Purpose of the social media use	Chatting	296	24.4
	Sharing posts	124	10.2
	Researching	184	15.2
	Having entertainment	260	21.5
	Passing the time	347	28.7
<b>Total</b>		<b>1211</b>	<b>100.0</b>
Time spent on social media	$\bar{X} \pm SD = 4.26 \pm 2.324$ hours per day		
$\bar{X}$ : Mean; SD: Standard deviation			

To find out the predictors of social media addiction, firstly, the model created for the group of all participants in young adults, and then the models produced for the groups of male and female participants in young adults were analyzed. The COVID-19 fear, loneliness, and the time spent on social media were included in the models as independent variables. It was discerned that the model for the entire group ( $R^2=0.171$ ,  $F(10.609)=34.546$ ,  $p<0.01$ ), the group of female young adults ( $R^2=0.175$ ,  $F(10.267)=23.685$ ,  $p<0.01$ ), and the group of male young adults ( $R^2=0.205$ ,  $F(11.109)=14.029$ ,  $p<0.01$ ) were statistically significant. In this sense, it was found that the independent variables of the COVID-19 fear, loneliness, and the time spent on social media were statistically significant in the models created for the group of all young adults and the group of female young adults while only the COVID-19 fear and the time spent on social media were statistically significant in the model produced for the group of male young adults. Accordingly, loneliness was not statistically significant in the model created for the group of male young adults (Table 4).

**Table 3.** Descriptive statistics, Cronbach's alpha coefficients, and correlation coefficients for continuous variables

n=507	Cronbach $\alpha$	$\bar{X}$	SD	Min-Max	1	2	3
1. SMAS-AF	0.853	48.24	12.90	19-88			
2. FCV-19S	0.872	16.79	6.13	7-35	$r=0.251$ $p=0.000$		
3. UCLA LS-8	0.782	18.13	4.69	8-32	$r=0.189$ $p=0.000$	$r=0.017$ $p=0.700$	
4. Time spent on social media (hour)	-	4.26	2.32	1-17	$r=0.317$ $p=0.000$	$r=0.110$ $p=0.014$	$r=0.116$ $p=0.009$

**SMAS-AF:** Social Media Addiction Scale-Adult Form; **FCV-19S:** Fear of COVID-19 Scale; **UCLA LS-8:** University California of Los Angeles- Loneliness Scale  
**SD:** Standard deviation;  **$\bar{X}$ :** Mean; **Min:** Minimum; **Max:** Maximum

**Table 4.** Multiple linear regression analysis conducted to predict the social media addiction (SMAS-AF)

		B	t	p	F	R <sup>2</sup>
Entire group	<i>FCV-19S</i>	0.218	5.347	0.000		
	<i>UCLA LS-8</i>	0.153	3.749	0.000	34.546	0.171
	Time spent on social media	0.275	6.685	0.000		
Group of female partici-pants	<i>FCV-19S</i>	0.218	4.404	0.000		
	<i>UCLA LS-8</i>	0.171	3.434	0.001	23.685	0.175
	Time spent on social media	0.293	5.895	0.000		
Group of male partici-pants	<i>FCV-19S</i>	0.276	3.827	0.000		
	<i>UCLA LS-8</i>	0.136	1.919	0.057	14.029	0.205
		0.261	3.586	0.000		

**SMAS-AF:** Social Media Addiction Scale-Adult Form; **FCV-19S:** Fear of COVID-19 Scale; **UCLA LS-8:** University California of Los Angeles- Loneliness Scale

## Discussion

Together with measures and restrictions in effect alongside the continuation of the pandemic, a new life pattern emerged, time spent face-to-face with other people decreased, and individuals turned toward satisfying their socialization needs through social media. In this research, the COVID-19 fear, loneliness, and the time spent on social media were analyzed as the predictors of social media addiction individually for the group of all participants, the group of female participants, and the group of male participants. As per the current research, it was identified that the model created for the group of all participants accounted for 17.1% of the variance in social media addiction. In the study by Schou Andreassen et al. [14] that examined the relationship of social media and video game addiction with psychiatric symptoms, it was put forward that the independent variables related to psychiatric symptoms (depression, anxiety, obsession, compulsion, and so on) explained 7%-15% of the variance in social media addiction [15]. In a meta-analysis evaluating social media and mental health, it was indicated that the problematic use of social media had a negative relationship with subjective well-being, positive state, and positive emotions but a positive relationship with the mental problem. In the meta-analysis, generally, life satisfaction and self-esteem referred to subjective well-being while depression and loneliness were utilized to represent the mental problem. In this respect, it is discerned that the problematic use of social media had a weak

negative relationship with life satisfaction and self-esteem and a moderately positive relationship with depression and loneliness [24]. In a study that was performed with young adults during the COVID-19 pandemic, it was stated that half of the participants had high loneliness scores, 80% of them exhibited depressive symptoms, 61% of them had anxiety above the medium level, and the pandemic increased the psychosocial symptoms associated with loneliness [25]. In this context, it is identified that the findings of the current research were consistent with the relevant literature, and it is considered that the COVID-19 fear and loneliness accompanying the pandemic increased the social media addiction. Additionally, it is discerned that the young adults turned toward the use of social media as a means of passing spare time and handling the mental health affected negatively by the pandemic. In the current research, it was found that the time spent on social media was a statistically significant predictor of social media addiction. It is asserted that, together with the COVID-19 pandemic, the individuals' stress levels went up and this, in turn, increased the use of social [26]. In a study that examined the relationship between social media use and depression in young adults, it is discerned that the increase in depressive symptoms was associated with the problematic use of social media but not with the time spent on social media [27]. Upon the analysis of the perceived social isolation and the social media use, it was identified that the perceived social isolation had statistically significant positive relationships with the time spent on social media and problematic use of social media [28]. In a

study about screen time, it was stated that the individuals' physical and mental health problems increased along with the increased screen time, and the increased screen time negatively affected the cognitive, linguistic, social, and emotional development [29]. Another study showed that the increase in the time spent on social media was associated with mental health problems such as the rise in the self-harm risk, the aggravation of depressive symptoms, and the decrease in self-esteem [30]. In the relevant literature, there are different results about the relationship between the duration of social media use and social media addiction while, in the current research, it is discerned that the time spent on social media had a statistically significant effect on social media addiction. Alongside this situation, it can be said that, unlike other periods, individuals participated more in online platforms due to certain obligations such as education, work, and shopping during the pandemic, and this, in turn, accelerated the switch toward other platforms irrelevant to individuals' purposes, and hence, along with the increase in the time spent on social media and other online platforms, the social media addiction was stimulated.

In the current study, it is discerned that, in the model created for the group of male young adults, the variable of loneliness had no statistically significant effect on social media addiction and the variables of the COVID-19 fear and the time spent on social media accounted for 20.5% of the variance in social media addiction. Moreover, in the model produced for the group of female young adults, the variables of the COVID-19 fear, loneliness, and the time spent on social media explained 17.5% of the variance in social media addiction. In a study that evaluated the effect of COVID-19 quarantines on the use of online media, it was put forward that the COVID-19 measures increased the use of social media, and the men passed the time more on games and erotic platforms while the women spent time mostly on social media [13]. Likewise, in another study, it was stated that being a male was associated with the addictive use of video games whilst being a female was associated with the addictive use of social media [14]. In another study carried out in Japan, it was asserted that the men used social media more for gaming while the women used it for the formation of social networks, the men had higher internet addiction and social withdrawal scores, and the social withdrawal had a moderately positive association with smart phone addiction in the entire study group [15]. The results of these studies are consistent with the findings of the current research, and it can be considered that loneliness had statistically significant effect on social media addiction in the case of women unlike men as the women spent more time on activities for alleviating the effect of loneliness, such as having communication and chatting with other people on social media and meeting the need for sharing posts by using online means.

## Conclusion

In this research, the COVID-19 fear, loneliness, and the time spent on social media were analyzed as the predictors of social media addiction individually for the group of all participants, the group of female participants, and the group of male participants. As per the research results, it was identified that the model created for the group of all participants accounted for 17.1% of the variance in social media addiction. Upon the examination of the models produced to find out the predictors of social media addiction,

it was found that there was a difference between the groups of men and women. According to the model created for the group of female young adults, the COVID-19 fear, loneliness, and the time spent on social media predicted 17.5% of the variance in social media addiction. In this respect, it was discerned that loneliness had no statistically significant effect on social media addiction in the group of male young adults. As per the model created for the group of male young adults, the COVID-19 fear and the time spent on social media predicted 20.5% of the variance in social media addiction.

## Limitations and Recommendations

This study that analyzed the effect of the COVID-19 fear and loneliness on social media addiction has certain limitations. First of all, the use of a non-probability sampling technique in the research means that the research results are solely valid for the group on which the research was conducted, and hence, they cannot be generalized to the entire population. To more clearly discern the relationship between the variables in the research and their predictive effects, larger samples and different groups should be utilized for analysis. Besides, in a cross-sectional study like this one, causal inferences cannot be made, and accordingly, to discern a causal relationship between variables, performing longitudinal or intervention studies is recommended. Moreover, the presence of other variables likely to predict social media addiction but not covered by this research can be another limitation of this study. Therefore, planning new studies to be performed with social media use and social media addiction can be recommended. This research contributes to the relevant literature with its findings with the quality to the way for numerous studies aiming to analyze social media addiction.

## Conflict of interests

*The authors declare that there is no conflict of interest in the study.*

## Financial Disclosure

*The authors declare that they have received no financial support for the study.*

## Ethical approval

*The ethical approval for the study was obtained from the Social Sciences and Humanities Ethics Committee of a university (Date: 8 March 2021, No: 2021-3).*

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