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The Use of Online Social Network Sites During the COVID-19 Pandemic as a Protective or Risk Factor for the Well-Being of University Students

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Abstract

During the COVID-19 period, the use of social network sites (SNSs) has been reported to increase. The present study aimed to explore whether, on balance, their use serves the well-being of university students positively as a source of social capital and entertainment, or negatively as a source of information about the COVID-19 pandemic. It focused on a sample of 339 university students, a group which is known to have a high risk of well-being problems. Students completed the demographic information form, the use of SNSs form, and the World Health Organization Well-Being Index. The use of SNSs form included items on SNS use in terms of daily duration, usage patterns (active and passive use) and reasons with regard to social capital (bridging and bonding social capital) and entertainment, and the perceived change in these quantitative and qualitative aspects of SNS use compared to the pre-COVID period. It also measured the level of exposure to COVID-19 related information on SNSs. It was found that the increase in the duration of SNS use predicted the well-being score negatively whereas the increase in active use and use for bonding social capital related reasons predicted it positively. These findings suggest that the quantity and the quality of SNS use are differently related to the well-being of university students. The active use of SNSs, particularly for the purpose of connecting with the close networks might constitute protective factors for student well-being in the case of health emergencies like the COVID-19 pandemic.

Keywords: social network sites; COVID-19; well-being; pandemic; social capital; entertainment

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Introduction

Emerging at the end of the year 2019 in Wuhan, China, the coronavirus disease (COVID-19) spread across the globe and constituted a massive health crisis (Chen Wang et al., 2020). In March, 2020, the World Health Organization (WHO) announced COVID-19 as a pandemic. Shortly afterwards, COVID-19 had surpassed previous recent pandemics such as SARS and MERS in terms of the number of the reported cases and the mortality rate (Murphy, 2020). On July 31st the total number of cases reported by the WHO was 17.106.007 worldwide. As a highly contagious respiratory disease, COVID-19 does not only influence physical health, but also psychological health of individuals (Brooks et al., 2020; Shigemura et al., 2020). During the pandemic, the use of social network sites (SNSs) has increased dramatically (Digital 2020, 2020). The aim of the present study was to examine the relationship

between SNS use and psychological well-being during the COVID-19 period in one particular group in society which has a high risk for well-being problems, namely university students.

Impact of COVID-19 on Well-Being

As a threat to the survival of human beings, pandemics create fear and anxiety in individuals (LeDoux, 2012; Mobbs et al., 2015). They are afraid of getting infected, having contact with contaminated surfaces, and being close to others who might be infected (Polizzi et al., 2020). They also worry about the health of their beloved ones, especially older ones or the ones with some risk factors such as any previous or current physical disease (Fiorillo & Gorwood, 2020). Additionally, the strategies implemented by governments to reduce the transmission of the virus such as social distancing, isolation, and quarantine have an effect on the psychological well-being of people (Brooks et al., 2020; Devi, 2020; van Bavel et al., 2020). Such strategies have reduced physical contact and forced family members, friends, work colleagues, and classmates apart. They have also curtailed many leisure activities that were part of everyday social life such as eating out, meeting with friends, or going to gyms. These restrictions on social activity have resulted in an increase in loneliness and the loss of sense of security, safety, and stability (Fiorillo & Gorwood, 2020; Polizzi et al., 2020; van Bavel et al., 2020). Furthermore, individuals experience uncertainty about the course of the pandemic and the accompanied socio-economic changes (Buheji et al., 2020).

In general, university students are highly vulnerable to psychological well-being problems (e.g., Auerbach et al., 2016; Ibrahim et al., 2013; Larcombe et al., 2014; Stallman, 2010; Storrie et al., 2010) and they constitute one of the groups with a high risk for well-being problems during the COVID-19 pandemic (Cuiyan Wang et al., 2020; Dodd et al., 2021; Padrón et al., 2021; van de Velde et al., 2021). In addition to the stressors that influence the psychological well-being of the general population as mentioned above, there are other factors affecting specifically the well-being of university students. First of all, university students are exposed not only to the preventive strategies implemented by the governments, but also to those implemented by their universities (van de Velde et al., 2021). In most universities, it was mandated that classrooms were not to be used and face-to-face lectures were replaced by online ones in a short period of time. Internships and applied courses were cancelled; the curriculum and requirements of courses were modified (Ali, 2020; Nadeak, 2020). These changes may have resulted in uncertainty, stress, and anxiety in university students (Son et al., 2020). Moreover, university students' satisfaction with online education, their positive and negative learning experiences, their work load, their access to Internet and technological devices required for online education, and their proficiency and confidence in using these devices are other education-related factors that might influence their well-being (Dodd et al., 2021; Padrón et al., 2021; Sahu, 2020). In addition, the living conditions of many students were changed (Fry et al., 2020). Many left their dormitories or residences shared with friends and returned to live with their parents (Dodd et al., 2021; Savage et al., 2020; Son et al., 2020). This change combined with their online education continuing at home may have lead to conflicts between academic and family/personal lives (Badri & Yunus, 2021). Besides, the income of many students was reduced due to the loss of their student jobs which was accompanied by many of them encountering with financial instability and uncertainty about their future and career (Dodd et al., 2021; Li et al., 2021; van de Valde et al., 2021). Finally, their social activities and face-to-face interactions with their peers which are major parts of their active lifestyles and sources of social support were interrupted, so they might have become socially isolated (Elmer et al., 2020; Son et al., 2020; van de Valde et al., 2021; Villani et al., 2021).

One of the factors that might influence well-being during the COVID-19 period is the use of SNSs (Devi, 2020; Fiorillo & Gorwood, 2020; Li et al., 2021; Xiao et al., 2020).

Use of Social Network Sites and Well-Being During COVID-19

SNSs allow their users to construct profiles; to form and maintain relationships; and to share news, status updates, or photos with their online networks (e.g., Coleman, 1988; Steinfield et al., 2012). Previous studies have demonstrated that various quantitative and qualitative aspects of the use of SNSs are differently related to well-being.

One of the quantitative aspects of SNS use that is claimed to be related to well-being is the duration of use. Although some studies showed that a higher use of SNSs is related negatively to psychological well-being (e.g., Lin et al., 2016; Romer et al., 2013), other studies indicated a positive relationship between them (Dienlin et al., 2017; Valkenburg et al., 2006). One of the explanations for this negative relationship is that spending more time on SNSs lead to more unfavorable social comparisons between the self and others' idealized representations on SNSs

which might result in envy towards others, distorted negative image of the self, and a sense of self-inferiority (Krasnova, et al., 2013; Tandoc et al., 2015). Another explanation is that some SNSs users consider that time spent on SNSs is wasted and the associated activities are meaningless. Higher use in such individuals might cause negative feelings such as guilt and shame which can influence their well-being negatively (Lin et al., 2016; Sagioglou & Greitemeyer, 2014). On the other hand, a positive relationship between the use of SNSs and well-being is attributed to the increase in social support and reinforcement obtained through SNSs (Bessi re et al., 2008; Ellison et al., 2007; Valenzuela et al., 2009). All of these explanations imply the importance of the qualitative aspects of SNS use.

It is known that patterns of SNS use constitute a qualitative aspect in terms of psychological well-being. These patterns include interactive or directed communication with online friends including messaging, commenting on posts, and chatting; content production or broadcasting referring to posting, uploading videos or photos, and updating profiles; and passive consumption including checking others' profiles and statuses, and following their posts (Burke et al., 2011; Clerkin et al., 2013; Shaw et al., 2015). During interactive communication, SNS users engage in personal exchanges with other users. These exchanges are rich in content, include personal information, embrace intimacy and reciprocity, and maintain or strengthen the relationships (Burke et al., 2011). The patterns of content production and passive consumption are not targeted to specific users, but they are necessary activities that enable users to keep up with their social networks (Burke et al., 2011). Directed communication and content production are active ways of using SNSs contrary to passive consumption. It has been demonstrated that active communication between users on SNSs is related positively to well-being (Bessi re et al., 2008; Burke et al., 2010). On the other hand, higher passive use was shown to be related to higher loneliness and negative consequences on well-being (e.g., Burke et al., 2011; Krasnova et al., 2013; Shaw et al., 2015; Verduyn et al., 2015). Another qualitative aspect of SNS use is the reasons for use. One reason for SNS use is to increase social capital.

Social capital refers to the resources embedded in the relationships among individuals within a specific social situation or network (Coleman, 1988; Lin, 2001). It dated back to Marx's ideas about financial capital representing the surplus value created and taken by the capitalists controlling the means of production and their investment into the marketplace with an expected return (Lin, 1999). Its main premise is that "individuals engage in interactions and networking in order to produce profits" (Lin, 1999, p. 31). According to Lin (1999), these profits or resources include information flow, influence, social credentials, and reinforcement of the identity and recognition. Putnam (2000) arranged these resources into bridging social capital which refers to resources related to having access to information from a heterogeneous network with weak ties including acquaintances such as co-workers, classmates, and friends of friends; and bonding social capital which denotes the social and emotional support and companionship users obtain from a homogeneous network with strong ties that include family members, friends, and neighbors. The positive relationship between social capital and well-being has been previously demonstrated (see Almedom, 2005; Nyqvist et al., 2013 for a review).

SNSs have been shown to be a source of social capital. After controlling a variety of factors which might influence social capital such as demographics, subjective well-being and general internet use, Ellison et al. (2007) measured the intensity of using one particular SNS, namely Facebook, through the combination of the size of online network with the daily duration of use and found that greater intensity of use was associated with increased perceived bridging and bonding social capital in university students. Examining the direction of this relationship in a longitudinal study, Steinfield et al. (2008) demonstrated that the intensity of Facebook use predicted the bridging social capital of university students one year later. It has also been shown that active communication between users on SNSs is related positively to both the bonding and bridging forms of social capital (Burke et al., 2010).

Aside from a desire to increase social capital, another reason for SNS use is for entertainment. Users are engaged in activities on SNSs to relax, forget about uncomfortable things, and pass their time (Jung et al., 2007; Kim et al., 2011).

The studies reviewed above examined the impact of SNSs on well-being under normal circumstances in everyday life. They have questioned whether SNSs contribute to or threaten face-to-face communication and well-being. However, COVID-19 has created a specific context in which face-to-face communication is limited and well-being is threatened because of the pandemic and the regulations implemented to decrease its contagion. The main aim of the present study was to explore the relationship between SNS use and well-being in this unusual context to provide more insight into the relationship between the use of SNSs and well-being. While some previous studies have examined the use of SNSs during earlier pandemics such as H1N1 and MERS, they have mostly analyzed the contents of the posts shared on SNSs (Chew & Eysenbach, 2010; Davies, 2009; Signorini et al., 2011; Song et al.,

2017). Unlike these studies, the second aim was to combine both the quantitative and qualitative aspects of SNS use to present a thorough analysis which is missing in the current literature. Considering university students' high risk for well-being problems, the present study focused only on this subpopulation.

During the COVID-19 period, the use of SNSs has been reported to increase in university students (Özdoğan et al., 2020; Samet, 2020; Wold, 2020). However, the increase in specific patterns of use might be related to their well-being differently. Moreover, during the pandemic the usual reasons for SNS use might have changed. To break the social isolation that resulted from the imposition of social distancing strategies; the use of SNSs to receive bonding social capital might have increased (Fiorillo & Gorwood, 2020; Xiao et al., 2020). Maintaining connections with friends and family members (Devi, 2020) and receiving and providing emotional and social support through SNSs might help to deal with negative emotions caused by the pandemic and create positive ones brought by online prosocial behavior and empathy (Alloway et al., 2014; Polizzi et al., 2020). Reliance on SNSs to obtain bridging social capital might have also increased. Because of the decrease in offline communication, the use of SNSs as a source of information might have become more common (Buheji et al., 2020; Depoux et al., 2020). Research on previous outbreaks indicated that via SNSs individuals receive health-related information from other users, share relevant information with their online networks, and join discussion forums and health-related online groups to exchange information and opinions (e.g., Davies, 2009; Fox, 2011; Song, 2015). In addition, they might rely on SNSs to obtain information about other academic, political, economic, or social issues. As individuals may also seek relaxation and to calm themselves from worrying about pandemic related issues, the use of SNSs for entertainment might have also become more frequent.

Specific to the COVID-19 period, the content of the information encountered on SNSs might be also considered as a qualitative aspect of SNS use related to well-being. Although SNSs play a role in transformation of factual knowledge; misleading rumors, myths, misconceptions and conspiracy theories also spread quickly through them. This fictional and untrustworthy information might increase fear and create confusion (Depoux et al., 2020; Devi, 2020). Moreover, users were found to communicate their negative emotions such as fear and anxiety often and more frequently than their positive emotions during the previous outbreaks (Chew & Eysenbach, 2010; Signorini et al., 2011; Song et al., 2017). Considering that previous studies also indicate that online messages on negative experiences and emotions spread widely (e.g., Pfeffer et al., 2014; Stieglitz & Dang-Xuan, 2013), it can be claimed that SNS users might be exposed to negative information on COVID-19 more frequently and this might increase their own negative emotions on the pandemic which might further lead to a decrease in their well-being. Supporting this claim, a recent study by Gao et al. (2020) demonstrated that the frequency of exposure to news and information about COVID-19 on social media platforms such as Sina weibo, Zhihu, Douban, WeChat is related positively to mental health problems in China.

The Present Study

Considering the possible positive and negative relationships between SNS use and well-being during the pandemic, the present study explored whether the use of SNSs constitutes a protective or risk factor for the well-being of university students. It analyzed the use of SNSs in terms of its quantitative aspect namely its daily duration; and its qualitative aspects including its patterns (active versus passive use), its reasons for use with regard to social capital and entertainment, and the exposure to the online contents related to the pandemic. Positive predictive relationships between the increase in the quantitative and qualitative aspects of SNS use would support the possibility that the use of SNSs serves a protective factor for the well-being of university students during the COVID-19 period, whereas negative predictive relationships would support the possibility that it functions as a risk factor.

Method

Participants

For the present study, 339 participants living in Turkey were contacted through snowball sampling between June 1 and June 7, 2020. As the researcher aimed to collect data in a short period of time considering the rapid changes in the living and health conditions (e.g., the transmission rate, the strategies implemented by the government and universities) during the COVID-19 period, snowball sampling was used. It has been shown to be a preferred sampling method in challenging circumstances such as pandemics (e.g., Leighton et al., 2021; Lisitsa et al., 2020).

The only inclusion criterion was being a university student, thus data from those participants who reported to have graduated from a university or who did not provide information about their university and department were excluded. The mean age of the remaining 312 participants (231 female, 74%) was 22.20 years ($SD_{age} = 1.67$, Min = 18, Max = 30). One hundred and sixty one participants (51.60%) were students at the university where the researcher is lecturing. The remaining participants were students from 58 different universities across Turkey. At the time of data collection, 67.90% of the participants were living in Istanbul, and the remaining participants were living in 30 cities across Turkey. The demographic characteristics of the participants are presented in Table 1. Twenty-five percent of the participants reported to know someone infected with COVID-19.

Table 1. Demographic Characteristics of the Participants ($N = 312$).

Variable	<i>n</i>	%
Relationship status		
Single	195	62.50
In a relationship	116	37.18
Perceived financial status		
Very good	22	7.05
Good	150	48.08
Mediocre	124	39.74
Poor	15	4.81
Living condition before COVID-19		
With family members	190	60.90
In dormitory	29	9.29
With friends	40	12.82
Alone	52	16.67
Living condition after COVID-19		
With family members	275	88.14
In dormitory	—	—
With friends	17	5.45
Alone	17	5.45

Materials

Demographic Information Form

The demographic information form includes questions about participants' age, sex, perceived financial status, university, department, and where and with whom they were living before and after the COVID-19 outbreak.

Use of Social Network Sites Form

The use of social network sites form consists of questions about the number of SNSs participants were using; how much time they spent on SNSs; whether their use of SNSs had changed after the COVID-19 outbreak in terms of the duration of their use, their reasons and patterns. To measure how many SNSs participants were using, 16 popular SNSs (Facebook, Youtube, Instagram, Twitter, Vine, Foursquare, Whatsapp, Skype, Linkedin, Messenger, WeChat, Tiktok, Telegram, Snapchat, Pinterest, Medium, Tumlr, Twitch, Reddit, Line and Badoo) available in Turkey were presented to the participants. They reported which one of these SNSs they were using. To assess the duration of SNS use, participants were asked to state how much time they spent daily on SNSs during the two weeks prior to participating in the study (less than 1 hour, 1–2 hours, 2–3 hours, 3–4 hours, more than 4 hours). To measure the change in the quantitative and qualitative aspects of SNS use, participants were asked to compare their SNS use before and after the COVID-19 outbreak in terms of average SNS use during the month before the COVID-19 outbreak and over two week period immediately prior to the administration of the study.

Participants rated the perceived change in the duration of SNS use on a 5-points Likert scale (1 = *decreased a lot* to 5 = *increased a lot*). To measure the change in active use, participants were presented with 4 items referring to

activities matching with active use (messaging with friends, commenting on posts, posting about self, and posting informative contents) and asked to rate their perceived change in each activity on a 5-points Likert scale (1 = *decreased a lot* to 5 = *increased a lot*). To measure change in passive use, they were presented with 2 items referring to activities relating to passive use (following/reading friends' posts and following/reading others' posts) and asked to rate their perceived change in each activity on a 5-points Likert scale (1 = *decreased a lot* to 5 = *increased a lot*). The Cronbach's α of items on the change in active and passive use was .79. The mean of the rating on items related to active and passive use constituted the score of the change in active use and the score of the change in passive use, respectively. To measure, the perceived change in the reasons for SNS use, participants were presented with three items, one bridging social-capital related reason (to receive information), one bonding social-capital related reason (to connect with family and friends) and one entertainment-related reason (to have fun). For each item, they rated the change on a 5-points Likert scale (1 = *decreased a lot* to 5 = *increased a lot*) through making a comparison between the pre- and post-COVID-19 periods as mentioned above.

Lastly, they rated how frequently they encountered posts about COVID-19 on SNSs in the two-week period prior to the study through a 4-points Likert scale (1 = *never* to 4 = *very frequently*). This measure for the frequency of the exposure to online posts about COVID-19 was adapted from Gao et al. (2020).

World Health Organization Well-Being Index (WHO-5)

The WHO-5 was introduced by World Health Organization in 1988 and is frequently administered to measure subjective well-being in clinical and non-clinical settings with a brief number of items (e.g., Bech et al., 1996; Downs et al., 2017; Topp et al., 2015). It has been also used to measure depression (Gao et al., 2020; Garland et al., 2018; Krieger et al., 2014). It was adapted to Turkish by Eser et al. (2019). It includes 5 items relating to well-being over the previous two weeks. Each item is rated on a 6-points Likert scale (0 = *never* to 5 = *always*). The sum of the scores for all items constitutes the well-being score ranging from 0 to 25. Higher scores indicate greater well-being. In the adaptation study, its internal consistency was .81. In the present study, it had an internal consistency with a Cronbach's α of .85.

Procedure

The consent form and the questionnaires were presented to the participants online via survey software. After the consent form, the participants first completed the demographic information form, followed by the WHO-5 and the use of social network sites form. The completion of all questionnaires was anonymous and took approximately 10 minutes. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Ethical approval was obtained from the Ethics Committee of Bahçeşehir University.

Results

All statistical analyses were performed with SPSS 24. Prior to analysis, the assumptions of the normality of the sampling distribution were tested and found to be satisfied (Tabachnick & Fidell, 2014). No univariate or multivariate outliers in the variables that were included in the analyses were detected. The skewness and kurtosis values of these variables were below the critical limits, thus no transformation was undertaken (Field, 2009; Tabachnick & Fidell, 2014). To check for common method bias (CMB), Harmon's single factor test was run. It demonstrated that the unrotated single factor explained 15% of the total variance, suggesting that CMB can be eliminated (Podsakoff & Organ, 1986).

Table 2 presents participants' responses to the items regarding the duration of their SNS use and its perceived change. Descriptive statistics for the number of SNSs used, the perceived change in the reasons for and patterns of SNS use are shown in Table 3.

A one-way repeated measures ANOVA test was run to compare the perceived change in the reasons for SNS use. The results showed that there was a difference in the perceived change in the use of SNSs for reasons related to bonding social capital, bridging social capital, and entertainment, $F(2, 616) = 29.75, p < .001, \omega^2 = .04$. Pairwise

comparisons showed that the perceived change in the use of SNSs for reasons related to bonding social capital was lower than the perceived change in the SNSs use for reasons related to bridging social capital and entertainment whose perceived change did not differ from each other.

Table 2. *Descriptive Statistics for the Duration of SNS Use and the Perceived Change in the Duration (N = 312).*

	<i>n</i>	%
Duration of use		
less than 1 hour	18	5.77
between 1 and 2 hours	44	14.10
between 2 to 3 hours	86	27.56
between 3 to 4 hours	67	21.47
more than 4 hours	97	31.09
Change in duration		
decreased a lot	8	2.56
decreased	28	8.97
no change	57	18.27
increased	139	44.55
increased a lot	80	25.64

Table 3. *Descriptive Statistics for the Number of SNSs Used, the Perceived Change in the Reasons for and Patterns of SNS Use, and the Frequency of the Exposure to COVID-19 Related Posts (N = 312).*

	<i>M</i>	<i>SD</i>	Mode
Number of SNSs	6.11	2.60	5
Change in reasons			
to increase bonding social capital	3.67	0.78	4
to increase bridging social capital	3.99	0.83	4
to have entertainment	4.07	0.88	4
Change in patterns			
active use	3.10	0.66	
passive use	3.34	0.82	
Exposure to posts on COVID-19	3.13	0.83	4

A paired-samples t-test was conducted to analyze the perceived change in the patterns of SNS use. It indicated that there was more change in the passive use of SNSs than in the active use, $t(309) = -5.92, p < .001, r = .32$.

The average well-being score was 11.37 ($SD = 5.08$, Range = 0–25). An independent samples t-test demonstrated that the well-being score of participants who knew a person infected with COVID-19 ($M = 11.46, SD = 5.33$) did not differ from the score of the participants who did not know anyone infected with COVID-19 ($M = 11.33, SD = 5.01$), $t(307) = -.19, p = .848$.

To examine the relationship between the well-being score, and the use of SNSs, correlation analyses were conducted. Table 4 displays the results. The well-being score was found to correlate negatively with the perceived change in duration of SNS use; and positively with the perceived change in active use and the perceived change in the use for reasons related to bonding social capital. The predictive effects of these three SNS use related variables on the well-being score were further tested with a regression analysis. For the regression analysis, the enter method was preferred, because ordering the predictors theoretically in terms of their importance in predicting the outcome was not possible. The model was found to be significant, $R^2 = .07$, Adjusted $R^2 = .06$, $F(3, 303) = 6.97, p < .001$. As shown in Table 5, the perceived change in the duration of SNS use, the active use of SNSs, and the use for bonding social capital related reasons were found to be significant predictors of the well-being score.

Table 4. Correlations Between the Well-Being Score, the Duration of SNSs Use and the Change in the Duration, Reasons and Patterns of SNSs Use.

	1	2	3	4	5	6	7	8	9
1. Well-being score	—	-.11	-.13*	.14*	-.05	.15**	.10	.05	-.04
2. Duration of SNSs use		—	.26***	.10	.17**	.17**	-.01	.25***	.13*
3. Change in duration			—	.20**	.39***	.13*	.08	.27***	.09
4. Change in active use				—	.57***	.35***	.20***	.34***	.17**
5. Change in passive use					—	.25***	.23***	.36***	.17**
6. Change in bonding						—	.36***	.28***	.15*
7. Change in bridging							—	.32***	.15**
8. Change in entertainment								—	.10
9. Posts on COVID-19									—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5. Summary of the Multiple Regression Analysis for Variables Predicting the Well-Being Score.

	Unstandardized coefficients		Standardized coefficient		
	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
1 (Constant)	7.95	1.72		4.62	.000
Change in duration	-1.00	0.31	-.18	-3.21	.001
Change in active use	1.04	0.46	.14	2.25	.025
Change in use for bonding social capital	0.83	0.38	.13	2.17	.031

Discussion

The aim of the present study was to examine whether the well-being of university students has been impacted by their increased use of SNSs during the COVID-19 pandemic. Participants in the present study were spending 2–3 hours daily on SNSs and 70% of them reported an increase in the duration of their use after the COVID-19 outbreak, a trend also observed in recent research undertaken by Özdoğru et al. (2020), Samet (2020), and Wold (2020). The present study found no relationship between the duration of SNS use and well-being of university students; however the increase in the duration of SNS use is seen to have a negative impact on their well-being. It is thought this finding might indicate that university students consider that they are spending too much time on SNSs instead of studying or engaging in other activities they consider more meaningful, causing them to feel guilty, worried, or depressed. Another possible reason is that university students who are depressed might use SNSs more frequently. In the WHO-5 administered to measure well-being, raw scores less than 13 points are considered for further assessment of depression (Eser et al., 2019). In the present study, the average well-being score was found to be 11.37 and 59.62% of participants obtained a score less than 13. Although this finding might indicate a high rate of depression in university students during the COVID-19 period, the design of the study does not enable the researcher to attribute the high depression scores specifically to the COVID-19 period and to select one of the reasons for the negative relationship between the increase in the SNS use and well-being. However, a more detailed analysis of the qualitative aspects of SNS use might provide more insight into its relationship with well-being.

In terms of the change in the reasons for their use of SNSs, participants reported more increases for bridging social capital and entertainment related reasons compared to those related to bonding social capital. This finding suggested that during the pandemic, university students' reasons for SNS use changed and especially for the purposes of accessing information and entertainment. COVID-19 triggered fear responses in individuals and led to various threats and uncertainties in their daily life (e.g., Fiorillo & Gorwood, 2020; Polizzi et al., 2020). To deal with these negative emotions and uncertainties, keeping their minds away of issues related to the pandemic might be crucial (Fiorillo & Gorwood, 2020; Polizzi et al., 2020; van Bavel et al., 2020). To be able to do that, university students might spend their time on SNSs to obtain information about academic, political, economic, or social issues in which they are interested. Moreover, having fun might help them to cope with the negative consequences of the COVID-19 (Devi, 2020). Thus, SNSs as platforms providing entertaining activities might be preferred by

university students during the COVID-19 period compared to the pre-pandemic period. Although the predictive effect of these qualitative aspects of SNS use on well-being was not observed in the present study, the possible relationships deserve future research.

An increase in using SNSs for bonding social capital related reasons compared to the pre-COVID period was also reported by the participants. This increase might be due to their perceived need to connect with their online networks in an effort to cope with the social isolation caused by the pandemic (Fiorillo & Gorwood, 2020; Xiao et al., 2020). However, the level of increased usage for securing bonding social capital was not as much as the increase in using SNSs for bridging social capital and entertainment. The reason for this difference might be related to the fact that most of the university students in the current study were living with their families during the COVID-19 period. They might not rely on online resources to receive support as much as to receive information or engage in entertaining online activities, because their families were together with them to provide support. Nevertheless, the increase in the use of SNSs for bonding social capital related reasons was found to predict their subjective well-being positively. This finding suggested that even those university students who were living with their families, might seek to increase their social and emotional support via SNSs in an effort to boost their well-being. After the outbreak of COVID-19, university students lost their face-to-face interaction with their friends because of the change in the education system implemented by the universities. Moreover, they had to move out of dormitories and residences they were sharing with their friends either because they were closed by the authorities or for economic reasons (Dodd et al., 2021; Fry et al., 2020; Savage et al., 2020; Son et al., 2020). These changes are evident in the present study as demonstrated by the decrease in the rate of the students living in the dormitories or with their friends, and the increase in the rate of students living with their families after the COVID-19 outbreak compared to before (as presented in Table 1). Considering these changes in their social lives and living conditions, SNSs might become especially important for university students as an online source to maintain their connections with their friends and to engage with them to seek social and emotional support from them which might contribute to their well-being (Alloway et al., 2020; Polizzi et al., 2020).

The other qualitative aspect of SNS use examined in the present study was the patterns of use. It was found that participants reported more change in the passive use of SNSs compared to active use after the COVID-19 outbreak. Previous research has demonstrated that passive use of SNSs is related negatively to well-being (e.g., Krasnova et al., 2013; Verduyn et al., 2015). No relationship between the increase in passive use and well-being was observed in the present study. On the other hand, the increase in active use was found to predict subjective well-being positively. Through messaging, creating posts, and commenting on others' shared contents, SNSs users create intimate and reciprocal relationships with others (Burke et al., 2011; Clerkin et al., 2013; Shaw et al., 2015). During the COVID-19 period, using SNSs to create these relationships seems to contribute to the well-being of university students. Besides, active use of SNSs has been demonstrated to be related to securing bonding social capital (Burke et al., 2010). Consistent with the increase in using SNSs to seek bonding social capital, the increase in active use might contribute to the maintenance and strengthening of students' relationships with strong ties.

It has been reported that the use of SNSs might risk the well-being of individuals if they are exposed to too much information and also misinformation about the pandemic (Depoux et al., 2020; Devi, 2020; Gao et al., 2020). In the present study, the frequency of exposure to posts about COVID-19 was not found to be related to the well-being of university students. It could be they are more critical in their evaluations of COVID-19 related information posted on SNSs.

The lack of a relationship between the exposure to COVID-19 related information on SNSs and well-being measured through WHO-5 assessing depression as a mental health problem was in line with the previous finding of Gao et al. (2020). Using the same measures, they demonstrated that the frequency of exposure to COVID-19 related information on SNSs is not related to the depression level of Chinese individuals. However, they found that exposure to information about COVID-19 on SNSs is related positively to anxiety. Considering the findings of the present study and the study of Gao et al. (2020) together, it can be claimed that the relationship between the exposure to COVID-19 related information and psychological well-being should be further examined in future research measuring different mental health problems. In addition, in both of these studies, the exposure to the COVID-19 related information on SNSs was measured with only one item. Future research should consider the distinction between the exposure and the consumption of the information on SNSs, and the users' attitude toward the trustworthiness of online posts, and to examine their relationship to well-being more thoroughly.

The present study contributes to the literature on the relationship between SNS use and well-being through studying this relationship considering its different aspects in an unusual context which limits face-to-face

communication and impedes on well-being. It has some important implications. Due to the fact that university students are at high risk for well-being problems, they should have access to counseling and mental health support services (Badri & Yunus, 2021; Dodd et al., 2021; Li et al., 2021; Sahu 2020). Practitioners providing these services should be aware of the relationships between aspects of SNS use and well-being. They might discuss them with university students to understand their possible risks for well-being problems and their ways of coping with the unusual circumstances. Practitioners might also encourage students to connect online with their close networks and to engage in active interactions with other SNS users to improve their well-being. Moreover, the differences in the relationship between quantitative and qualitative aspects of SNS use on well-being demonstrated the need for considering both aspects more comprehensively in future research.

The present study has several limitations. First of all, the sample consisted only of university students in Turkey. They were recruited through snowball sampling and most of them were students at a particular university and living in Istanbul when the study was conducted. These characteristics of the sample lead to imbalance and limit the generalizability of the findings which should be interpreted taking the specific characteristics of the participants into account. Moreover, the unequal distribution of male and female participants meant that sex differences could not be analyzed. Recent research has demonstrated that female individuals experience more well-being problems following the COVID-19 outbreak than males (Chen Wang et al., 2020). Furthermore, data were based on the subjective reports of the participants to single items measuring their perceived change in their reasons for SNS use and the frequency of them encountering posts about COVID-19 on SNSs. Besides, the correlational design of the study does not allow inferences about causal relationships. The SNSs use related factors assessed in the present study were found to account for only a small portion of the variance in well-being. Other factors such as offline and online social support, personality characteristics, resilience levels, and living conditions which have been demonstrated to be related to well-being and SNS use should be considered in future research to establish more comprehensive models.

This study demonstrates that the perceived increase in the active use of SNSs and their use for bonding social capital related reasons contributed positively to the well-being of university students during the COVID-19 pandemic, whereas the perceived change in duration of SNSs use predicted well-being negatively. These findings suggest that where students can increase the quality rather than the quantity of their engagement with SNSs in such challenging times they are more likely to obtain protective benefits to their well-being.

Conflict of Interest

The author has no conflicts of interest to declare.

Author's Contribution

This study was devised and conducted by Dr. Hale Ögel-Balaban.

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