



## Social Media Use, Addiction and Burnout Levels of Hospital Employees, Effective Factors: A Cross Sectional Study

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### *Authors' contributions*

*This work was carried out in collaboration among all authors. Authors KYA, NA and BÖ designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author NA managed the analyses of the study. Author KYA managed the literature searches. All authors read and approved the final manuscript.*

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### ABSTRACT

**Background:** As years pass by, the usage of social media has become an important public health issue. It is known that problematic social media use is related with health problems. With this study, it is aimed to determine the social media use of hospital employees, the relation between social media addiction and burnout levels and to determine effective factors.

**Methods:** Target population of the cross-sectional study consists of 2627 person between the ages of 18-60 who is working at a university hospital. Minimum sample size was calculated as 321 and reached up to 323 people. Question form, Burnout Scale and Social Media Addiction Adult Form were applied by interviewing the employees face-to-face between the months of March-April 2019.

**Results:** 80.2% of the participants use social media every day, 63.1% of them use social media mostly at evenings. 94.8% of people mostly connect to social media with their phone. Average time spent daily on social media is 91, 33±87, 89 minutes. Daily social media use is significantly higher in women, university graduates, nurses. There is a significant difference between age groups and between married and never married in terms of average time spent daily on social media. Social media addiction scale score is significantly higher in women, never married persons and in the age

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group 20-29. Weak correlation was determined between scores of social media addiction scale and burnout levels, and age and time spent on social media.

**Conclusions:** It is determined that social media usage in hospital employees is higher than Turkey's average and there is a positive relation between scores of social media addiction scale and burnout levels. Providing education to employees in order to reduce social media usage, hanging posters related with how over-usage of social media may lead to burnout.

*Keywords: Technology addiction; social media; burnout.*

## 1. BACKGROUND

One of the many primary elements of technological age, social networks draw attention of people of all ages; virtual life has been replacing the real life itself due to provided application and services [1]. This leads to an increased interest in this field and to develop an addiction day by day.

Addiction is defined as one's ability to lose control of an object or an act [2]. Young et al. has grouped internet addiction as computer addiction, overload of information, internet compulsions, cyber sexual addiction and cyber relationship addiction [3]. Since the purpose of using social media sites is to establish both online and offline relationships, social media addiction can be classified into the cyber relationship addiction group [4].

Nowadays, uncontrolled use of social media and negative health effects that it created have increased considerably. According to the We Are Social "Digital 2019 in Turkey" report, there are 3.48 (45%) billion social media users and there are 52 million (63% of the population) active social media users in our country. According to the 2018 report, there is an increase of 5 (9%) million in the number of internet users, an increase of 1 million (2%) in the number of active social media users. Users daily spend average 2 hour and 46 minutes on social media. One-third of the social media users are aged between 25 and 34 years [5].

According to the 2018 TÜİK "The Household Use of Information Technology Research", internet users were 72, 9%, 84, 1% of them, in other words, approximately 61, 3% of the all population used social media. Percentage of social media use was at 45% in the world, whereas it is striking to see this percentage is well over 60% in Turkey [6].

When social media use has developed into addiction, individual spends their whole time on

technological device excluding the tasks they have to. They feel desperate, anxious, stressed and angry when they are not using the social media. Physical symptoms such as headache, sweating, lack of sleep; musculoskeletal system disorders and posture disorders due to long time physical inactivity are experienced. Decline in empathy, use of violence as problem-solving ability, attention deficit and decline in tolerance may be experienced [2]. The information and social overload then turn into pressures and responsibilities to the user. When the exhaustion reaches to a critical point, it is very likely for the user to terminate her continuance, in order to escape from the stress suffered on social media [7].

Psychological effects that are created by social media use suggest that it may lead to burnout. In a study by Chang Liu and Jianling Ma; social media addiction contribute significantly to social media burnout, that is the higher the level of social media addiction, the heavier the burnout symptoms and envy and social media use anxiety mediate such association in both parallel and serial way [8]. Maslach burnout is described as physical exhaustion that occurs mostly among people who work at jobs that require them to communicate with people face-to-face, reflection of feelings of long period of tiredness, desperation and hopelessness to the job, life and other people with negative behaviors [9].

When compared with the past, people being able to reach social media through portable equipment such as computer, smart phone, tablet more frequently and easily has turned social media addiction into a rather interesting and worrisome issue. Some authors hypothesized that social media addiction is an impulsive disorder with a strong compulsive component [10].

Generally, majority of the studies that have been conducted for measuring the level of social media addiction are intended towards young people. There are less number of studies which

examine the level and causes of addiction in adults. In this study, it is aimed to determine the state of adults, social media addiction level of hospital employees and to identify whether there is a relation between social media addiction of employees and their burnout levels and factors affecting these.

## 2. METHODS

Target population of the cross-sectional study consists of 2627 person between the ages of 18-60 who is working at Gaziantep University Şahinbey Research and Application Hospital in 2019. Minimum sample size was calculated as 321 by using 'sample calculation formula for finite population' with  $\pm 0,05$  standard error at 95% confidence level by taking frequency of social media use as 61% according to the data by TÜİK, 323 people were reached. For selecting the participants, multi-stage sampling methods were used. These people were divided into 4 groups as doctor, nurse, secretary and other than later were selected with simple random sampling method by using table of random numbers.

Question form, Burnout Scale [11] Social Media Addiction Scale Adult Form (SMAS-AF) [12] were applied by interviewing the employees face-to-face between the months of 2019 March-April. In question form which was prepared by reviewing the literature, there are 17 questions that comprise of sociodemographic characteristics and social media use habits. Hospital employees who accepted to answer the questions and between the ages of 18-60 which Social Media Addiction Scale Adult Form was valid and reliable for were included in the study.

### 2.1 Social Media Addiction Scale Adult form

SMAS-AF is a 5-point likert scale that consists of 20 items. The highest score that can be obtained from the scale is 100 and the lowest score is 20. Higher score is interpreted as individual perceives themselves as "social media addict". The Cronbach Alpha internal consistency coefficient has been found as 0,94. Test-retest reliability coefficient of the scale has been found as 0,93 [12].

### 2.2 Burnout Scale

Burnout scale consists of 21-items in a 7-point scale which is developed in order to measure occupational burnout levels of individuals. Items

of the scale are scored as "1 never" and "7 daily". The highest score that can be obtained from the scale is "7" and the lowest score is "1". While interpreting the obtained score, burnout level of a person who answered the scale is interpreted in 4 ways. Accordingly, for this person: obtained "3 or lower" scores from the scale interpreted as "there is no sign of burnout; for the obtained scores between "3-4" there is a warning signal for burnout; for the obtained scores between "4-5" from the scale there is a sign of burnout and for the obtained "5 or more" scores from the scale indicate there is a crisis situation where it requires immediate help [11].

Data were analyzed by using SPSS packet program, descriptive statistics (number, mean, standard variation, percentage etc.), when comparing variables; chi-square, Anova, t test, Pearson correlation and linear regression analysis were applied.  $p \leq 0, 05$  was considered as statistically significant. Means were given with standard deviation. For the study, approval was obtained from university ethics committee.

## 3. RESULTS

58.5% of the participants were male, 41.5% of them were female, and the mean age was  $34, 02 \pm 7, 88$ . The mean ages of females were  $32, 84 \pm 7, 43$ , the mean age of males were  $34, 85 \pm 8, 10$  and 44% of them were aged between 30-39. 80.2% of them use social media every day, 63.1% of them use social media mostly at evenings. 94, 8% of them mostly access social media through smart phone. Average time spent daily on social media is  $91, 33 \pm 87, 89$  minutes Table 1.

80, 2% of the participants use social media every day. Ratio of social media use in women (88, 8%) is significantly higher than men (74, 1%) ( $p=0,00$ ). Ratio of social media use in those who are university graduate (86, 4%) is significantly higher than the group of primary/secondary school graduates (64, 5%) ( $p= 0,02$ ). Social media use ratio of those who are aged between 20-29 (91, 2%) is significantly higher than other age groups ( $p=0,00$ ). Social media use ratio in nurses (92, 0%) are significantly higher than other groups ( $p= 0,02$ ). No significant difference was found between marital status and the presence of chronic disease ( $p > 0, 05$ ) Table 2.

Less than 2 hours daily use of social media is significantly lower in 20-29 age group compared to other age groups, 2-4 hours use of social media is significantly lower in 40 and older age

compared to 20-29 age group ( $p= 0,00$ ). 4 hours and more social media use is higher in 20-29 age group than 30-39 age group ( $p= 0,00$ ). Less than 2 hours and 2-4 hours use of social media is significantly higher in never married compared to married persons ( $p= 0,00$ ). No difference was found in daily 4 hours and more use between groups according to marital status. Average time spent daily on social media according to age groups is determined as  $141,61 \pm 84,80$  minutes for 20-29 age group,  $99,63 \pm 77,10$  minutes for 30-39 age group and  $95,96 \pm 85,14$  for 40 and older age group. Average time spent daily on social media of 20-29 age groups is found to be significantly higher than other groups. ( $p= 0,00$ ).

Average score of social media addiction scale is  $44, 85 \pm 11, 99$ , average score of burnout scale is  $3,462 \pm 1, 09$ . Score level of social media addiction scale is significantly higher in women ( $46,447 \pm 12,10$ ) compared to men ( $43,73 \pm 11,81$ ) ( $p=0,04$ ) and score level of 20-29 age group ( $48,843 \pm 11,78$ ) is significantly higher than the other age groups ( $p= 0,00$ ). Score level of never married persons ( $47,613 \pm 11, 85$ ) is significantly higher than married persons ( $43,800 \pm 11, 94$ ) ( $p= 0,03$ ). No significant relation was found between education level, occupation, presence of chronic disease, at which hours social media is mostly used during day and score level of social media addiction scale Table 3.

**Table 1. Distribution of participants according to sociodemographic and social media use characteristics**

	Number	Percentage
<b>Age</b>		
20-29 age group	102	31,6
30-39 age group	142	44,0
40 and older age group	79	24,4
<b>Gender</b>		
Male	189	58,5
Female	134	41,5
<b>Marital Status</b>		
Married	230	71,2
Never Married	88	27,2
Divorced	5	1,5
<b>Educational Background</b>		
Primary School /Secondary School	31	9,6
High School	58	18,0
University	154	47,7
Master	80	24,8
<b>Job</b>		
Doctor	70	21,7
Nurse	75	23,2
Secretary	36	11,1
Other*	142	44,0
<b>Daily Social Media Usage</b>		
None	64	19,8
Less than 2 hours	118	36,5
2-4 hours	114	35,3
More than 4 hours	27	8,4
<b>Most used device to access social media</b>		
Smartphone	275	94,8
Tablet	1	0,4
Computer	14	4,8
<b>Time of visiting social media during day morning</b>		
Noon	15	5,2
Evening	29	10,0
Night	183	63,1
	63	21,7

\*Other: Includes the sample which selected from other hospital employees such as technician, public servant, janitor, security

**Table 2. Distribution of participants according to their daily social media use status**

	Non-user		User		p	Statistic Test
	Number	Percentage	Number	Percentage		
<b>Age</b>						
20-29 age group	9	8,8	93*	91,2	0,00*	Chi-square
30-39 age group	33	23,2	109	76,8		
40 and older age group	22	27,8	57	72,2		
<b>Sex</b>						
Male	49	25,9	140	74,1	0,00*	Chi-square
Female	15	11,2	119	88,8		
<b>Marital Status</b>						
Married	48	20,9	182	79,1	0,74	Chi-square
Never Married	15	17,0	73	83,0		
Divorced	1	20,0	4	80,0		
<b>Educational Background</b>						
Primary/Sec. School	11	35,5	20	64,5	0,02*	Chi-square
High School	14	24,1	44	75,9		
University	21	13,6	133	86,4		
Master	18	22,5	62	77,5		
<b>Job</b>						
Doctor	15	21,4	55	78,6	0,02*	Chi-square
Nurse	6	8,0	69	92,0		
Secretary	7	19,4	29	80,6		
Other	36	25,4	106	74,6		

\* $p \leq 0,05$  was received as statistically significant

As a result of applying burnout scale, score levels of social media addiction scale of those who have "a crisis situation where it requires immediate help" which is a 5 score or more group are significantly higher than those who have not burnout state ( $p=0,00$ ).

No significant relation was determined between daily use time of social media and burnout scale score levels. Nurses ( $3,75 \pm 1,06$ ) were found significantly higher than the other groups in terms of burnout scale score levels ( $p=0,03$ ). There were no significant relation between other variables (gender, age, marital status, education) and burnout scale score levels.

It is determined that there is weak positive correlation between scores of social media addiction scale and burnout levels ( $p < 0,01$ ;  $r = 0,22$ ). After performed linear regression analysis, one unit of change in score level of burnout scale explains 4.7% of the change in the score of social media addiction scale ( $p = 0,00$ ;  $R^2 = 0,047$ ).

A moderate negative correlation was determined between age and daily use time of social media ( $p < 0,01$ ;  $r = -0,27$ ). According to the result found after linear regression, one unit increase

in age explains the 6,9% of the decrease in daily use time of social media ( $p = 0,00$ ;  $R^2 = 0,069$ ).

It is determined that there is a moderate negative correlation between scores of social media addiction scale and number of child in women ( $p < 0,01$ ;  $r = -0,26$ ). However, in linear regression analysis which was performed by controlling the effect of age, no significant correlation was found between number of child and score levels of social media addiction scale ( $p > 0,05$ ;  $r = -0,03$ ). This shows that as age increases daily use time of social media increases and number of child is not an effective factor.

#### 4. DISCUSSION

In this study which was conducted for the purpose of evaluating the social media use of an university hospitals' employees, it was found that daily social media use ratio in hospital employees is higher than average social media usage in the world (45%) and Turkey (61,2%) [5-6]. Again social media usage rates at the evening hours (63,1%) were found to be higher compared to usage ratios at the morning (5,2%), noon (10,0%) and night (21,7%) hours. This can

be interpreted as users spend their spare times using social media. Access to social media being mostly through smart phones can be explained with the popularity of smart phones with internet connection and it does not require a special time or place to use it.

Daily social media use ratio and score level of social media addiction scale were found to be significantly higher in women compared to men. In a study where SMAS-AF was used and relation of social media with loneliness and symptoms of narcissistic personality disorder and in another study where again SMAS-AF was used and social media addiction of Science teacher candidates was examined, no significant difference was found in terms of gender throughout the scale [13-14]. In the We are Social 'Global Digital Report 2019' it is determined in distribution of age and gender

statistics that men are more active on social media than women at every age group [5]. These different results may be caused by the fact that occupational differences of individuals or difference in the research time.

Higher number of social media users and higher daily use time of social media in 20-29 age group compared to other age groups and decrease in the time spent on social media as age increases may be caused by the fact that young generation is more familiar with technology, they have become acquainted with social media at early ages and their ability to easily adapt innovations. However, since social media usage is very common amongst all age groups, these groups too should observe closely. In a study by Şafak and Kahraman which the same scale was used, the relation between social media addiction and age was found statistically In significant [14]. This

**Table 3. Comparison of average scores of social media addiction scale depending on some variables**

	Number	Percentage	Average Scores of Social Media Addiction Scale $\bar{X} \pm SS$	p	Statistic Test
<b>Age</b>					
20-29 age group	102	31,5	48,84 ± 11,78	0,00*	ANOVA
30-39 age group	142	44,0	44,57 ± 10,99		
40 and older age group	79	24,5	40,21 ± 12,33		
<b>Sex</b>					
Male	189	58,5	43,73 ± 11,81	0,04*	Student t
Female	134	41,5	46,44 ± 12,10		
<b>Marital Status</b>					
Married	230	71,2	43,80±11,94	0,03*	ANOVA
Never Married	88	27,2	47,61±11,85		
Divorced	5	1,5	45,00±10,79		
<b>Educational Background</b>					
Primary/Secondary School	31	9,6	42,32 ± 13,53	0,59	ANOVA
High School	58	18,0	45,62 ± 12,33		
University	154	47,7	44,72 ± 11,89		
Master	80	24,8	45,55 ± 11,36		
<b>Occupation</b>					
Doctor	70	21,7	45,42 ± 11,13	0,31	ANOVA
Nurse	75	23,2	46,60 ± 12,11		
Secretary	36	11,2	45,33 ± 11,42		
Other	142	43,9	43,53 ± 12,43		
<b>Burnout Scale</b>					
No sign of burnout	117	36,2	42,05 ± 10,71	0,00*	ANOVA
Warning signal for burnout	118	36,5	45,85 ± 11,67		
Burnout	56	17,3	45,01 ± 12,01		
Crisis situation where it requires immediate help	142	9,9	51,00 ± 14,68		

\* $p \leq 0,05$  was received as statistically significant

difference can be caused by dealing with different age groups in the analysis of the research.

Scores of social media addiction scale and daily 4 hours use of social media being significantly higher in never married persons compared to married persons can be interpreted as being married may be a decreasing factor in proneness to social media addiction. Similar results have found in a study where determines the levels of burnout and internet usage of physicians, nurses and other employees in a university hospital [15].

Weak correlation was determined between scores of social media addiction scale and burnout levels. In another research where it is conducted in 13 different enterprises in Thailand on the effect social media addiction has on awareness and coping strategy, those who are highly addicted to social media tended to have lower awareness and they have shown tendency to use emotion-focused coping strategy in order to deal with stress. Decision to use emotion-focused coping strategy and lack of attention is associated with high emotional exhaustion [10]. In another study conducted in Thailand, it is found that social media use in workplace is associated with lower level of exhaustion in individuals who have high level of mindfulness [16]. In a study conducted by Salmela-Aro et al. in adolescents about school burnout and internet use; according to results excessive internet use leads to later school burnout and school burnout leads to later excessive internet use [17]. Differences in while evaluating the individuals or differences in work fields may be the reason of this result.

The fact that the research was conducted in a single university hospital in Turkey, information which obtained as a result of the collection of questionnaire form and verbal statements of individuals not being objective, participants giving insufficient or incorrect answers due to fear of lack of privacy, refusing the fill out the forms or imperfect information on some questions are the limitations of the study. Due to the inconsistent answers in subjects such as alcohol, smoking and monthly net income, these questions are excluded.

## 5. CONCLUSIONS

In conclusion, it is determined that social media use is higher in hospital employees than average of Turkey; there is positive relation between

scores of social media addiction scale and burnout level. This was a weak correlation, and larger research is needed to clearly determine the relationship between social media addiction and burnout. However, it is an important point that the duration of social media use in healthcare workers is higher than the average of our country and the world average. It is also striking that nurses have a 92% social media usage rate. Score level of social media addiction scale is significantly higher in women, 20-29 age group and of never married persons Sharing the results with officials, giving education to hospital employees in order to reduce social media use, hanging posters in hospitals about the damages of long-time usage of social media can be suggested. It is an important point that social media addiction scale scores are high in women, 20-29 age group and never married people, and these groups should be given priority when providing education.

After the education will be provided, it may be beneficial to make a new due diligence study within the hospital. The increasing use of internet and social media during the current epidemic period shows that similar studies should be reproduced in larger groups in order to understand the consequences of this intensive use.

## CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

Approval was obtained from university ethics committee.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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