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Examination of Social Media Addiction and Sleep Behavior of Athletes: A Study on Athletes in Universities

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Abstract

Determining young athletes' sleep quality and social media addiction is important for their performance. For this reason, our study aims to examine elite athletes' sleep quality and social media addiction. There are three parts to the research. The first part consists of demographic information. In the second part, the social media addiction scale was used. This scale was developed by Firat and Barut (2018). In the third part, the athlete sleep behavior scale was used. The athlete sleep behavior scale was developed by Driller, Mah, and Halson (2018) and adapted into Turkish by Darendeli, Diker, and Cinar (2019). The research consists of 412 participants collected by convenience sampling method. In the study, MANOVA and correlation analysis were performed after Cronbach alpha, and Skewness-Kurtosis values were checked with the SPSS program. According to the results of the research, a negative relationship was found between habitual sleep quality and sleep disorder. This result shows that while increasing sleep disturbance decreases habitual sleep quality, decreasing sleep disturbance increases habitual sleep quality.

Keywords: Sleep, Social media, Sport management, Sports psychology, Sports sociology

1. Introduction

Sleep has an important place in terms of the sociological environment. Today, sleep studies have become an important subject studied sociologically (Hsu, 2014). It is an indisputable fact that sleep has vital importance in human life. In addition, the inability to sleep at the right time has serious negative effects on quality of life and human health (Pilcher, Ginter, & Sadowsky, 1997; Vail-Smith, Felts, & Becker, 2009; Luyster & Dunbar-Jacob, 2011; Joao et al., 2018). From an evolutionary point of view, a human being is a creature whose biological clock is in a certain order, which sleeps in the dark and wakes up when the sun rises. In addition, it is known that sleeping between 22:30 and 05:00 at night, especially in the dark, is important in terms of the secretion of hormones necessary for the human organism (Canan, 2019; Karaismailoglu, 2022).

Although the developments in our age have brought innovations and conveniences in many areas, many factors threaten people's health as a result of the emergence of situations that are not compatible with human nature (Markus, 1994; Alghamdi, 2016; Mustafaoglu et al., 2018). Among these factors, the psychological and physiological harms of social media, which is used by almost everyone today, are the subject of discussion rather than the benefits (Siddiqui & Singh, 2016; Akram & Kumar, 2017; Singh, Amiri, & Sabbarwal, 2017). It is known that 5.9 billion people around the world use social media, in short, 59% of the world's population uses social media (Smartinsights.com). In today's world, where more than half of the world uses social media, exposure to digital screens along with social media will of course have some effects on the masses. It would be more accurate to evaluate these effects psychologically and psychophysiologically. From a psychophysiological point of view, exposure to the lights on the digital screen has serious damage to the human brain (Greske & Bellur, 2008; Cajochen et al., 2011; Dunckley et al., 2015). Exposure to digital screen lights, especially before going to sleep, maintains the activation of the pineal gland of the brain, causing the person to not be able to sleep well, and as a result, it causes consequences such as not being able to rest well and not waking up vigorously in the morning (Urbanski, 2000; Ozcelik et al., 2013; Munsamy & Chetty, 2020). Another effect of social media use is being dependent on social media itself. Along with this addiction, many factors such as our preferences in social life, our friendships, our shopping habits, and our lifestyle (Nakaya, 2015; Savci & Aysan, 2017; Hawi & Samaha, 2017).

Sleep is important for every person, but from the point of view of athletes, sleep is more important. Because athletes are professional individuals who need to have high mental and physical performance. For athletes, we can also interpret sleep as a recovery process. It should not be forgotten that a good athlete should be very sensitive and self-sacrificing in terms of good training, good sleep, and good nutrition (Ekmekci, 2022; Coel et al., 2022). The use of social media has some negative effects on athletes as well as on every individual (Hayes, 2019; Gezgin & Mihci; 2020; Hudimova et al., 2021). However, the point that will be emphasized in this research will be the attitudes of athletes towards sleep. It is known that especially the new generation of athletes use their phones before going to sleep, and as a result, they cannot sleep well and spend the recovery process insufficiently (Kölling et al., 2019). Therefore, in light of the above information, this study aims to examine the effect of

social media use on the sleep behaviors of athletes.

2. Method

2.1 Research Model

In this study, the quantitative method was used and it was done with relational scanning, which is one of the scanning models.

2.2 Universe-Sample (Research Group)

Table 1. Descriptive statistics

	Female			**Male**		
	18-20 years	**21-23 years**	**24-27 years**	**18-20 years**	**21-23 years**	**24-27 years**
	42 (25.9%)	84 (51.8%)	36 (22.3%)	99 (39.6%)	59 (23.6%)	92 (36.8%)
Total	162			250		

The sample group of the research consists of a total of 412 licensed athletes between the ages of 18-27 who are interested in team sports and individual sports. In the study, the athletes were asked whether they were licensed athletes for at least 1 year. 41 people who answered no were excluded from the sample.

2.3 Data Collection Tools

The data collection tool consists of three parts. In the first section, there is a personal information form. In the second part, the social media addiction scale was used. This scale was developed by Firat and Barut (2018). The scale has two sub-dimensions. These sub-dimensions are; deprivation and influencing daily life sub-dimensions. In the third part, the athlete sleep behavior scale was used. The athlete sleep behavior scale was developed by Driller, Mah, and Halson (2018) and adapted into Turkish by Darendeli, Diker, and Cinar (2019). This measurement tool consists of four sub-dimensions. These sub-dimensions are; sleep quality, sports relationship, habitual sleep efficiency, and sleep disorder.

2.4 Analysis of Data

As a result of the analysis, it was determined that the reliability values of all sub-dimensions were above .70. According to Kalayci (2018), a Cronbach alpha value above 0.70 is considered reliable.

The Skewness and Kurtosis values of the study were found in the range of -2-2. According to Weaver and Wuensch (2013), -2-2 values indicate that the data is homogeneously distributed.

3. Results

Table 2. MANOVA analysis results

	Age	Deprivation	Influencing Daily Life	Sleep Quality	Sports Relationship	Habitual Sleep Efficiency	Sleeping Disorder
Female	18-20 years	4.2 ± 0.1^{B}	4.1 ± 0.3^{A}	2 ± 0.1^{A}	2.8 ± 0.2^{B}	2 ± 0.1^{B}	1.7 ± 0.2^{E}
	21-23 years	3.7 ± 0.3^{C}	3.8 ± 0.7^{B}	2 ± 0.1^{A}	2.2 ± 0.1^{C}	1.5 ± 0.2^{C}	3 ± 0.2^{D}
	24-27 years	3.9 ± 0.3^{A}	4 ± 0.6^{AB}	2 ± 0^{A}	2.4 ± 0.3^{C}	1.7 ± 0.3^{C}	2.6 ± 0.6^{B}
	Total	3.9±0.3	3.9±0.6	2±0.1	2.4±0.3	1.7±0.3	2.6±0.6
Male	18-20 years	4 ± 0.2^{A}	4.3 ± 0.4^{A}	2.2 ± 0.4^{C}	2.4 ± 0.2^{C}	2 ± 0.5^{B}	$2.5\pm0.^{BC}$
	21-23 years	4.2 ± 0.3^{B}	4.1 ± 0.5^{A}	2.5 ± 0.3^{B}	2.7 ± 0.2^{B}	2.2 ± 0.4^{A}	2.7 ± 0.2^{B}
	24-27 years	3.9 ± 0.2^{A}	4.1 ± 0.3^{A}	2.1 ± 0.3^{AC}	1.8 ± 0.6^{A}	2.3 ± 0.3^{A}	2.3 ± 0.3^{A}
	Total	4±0.2	4.1±0.4	2.2±0.3	2.3±0.5	2.2±0.5	2.5±0.4
Total	18-20 years	4.1 ± 0.2^{a}	4.2 ± 0.4^{a}	2.2±0.3	2.5 ± 0.3^{a}	2 ± 0.5^{a}	2.2 ± 0.6^{a}
	21-23 years	3.9 ± 0.4^{b}	3.9 ± 0.7^{b}	2.2±0.3	2.4 ± 0.3^{a}	1.8 ± 0.4^{b}	2.9 ± 0.2^{b}
	24-27 years	3.9 ± 0.3^{b}	4 ± 0.4^{b}	2.1±0.2	2 ± 0.6^{b}	2.1 ± 0.4^{a}	2.4 ± 0.4^{c}
	Total	4±0.3	4.1±0.5	2.2±0.3	2.3±0.5	2±0.5	2.5±0.5

Note. a-c: There is no difference between age variables with the same letter in each column. A-E: No difference between gender variables with the same letter in each column.

Box's Test of Equality of Covariance Matrices result was found as .000. Therefore, the results of Pillai's Trace test were taken into account ($p < 0.01$). According to the results of the study; While the mean score of the sub-dimension affecting life for women was 3.9, it was determined as 4.1 for men. While the average score of the sleep quality sub-dimension was 2 for women, it was 2.2 for men. While the mean score of the sports relationship sub-dimension for women was 2.4, it was determined as 2.3 for men. While the average score of the habitual sleep efficiency subscale for women was 1.7, it was determined as 2.2 for men. While the average score of the sleep disorder sub-dimension was 2.6 for women, it was 2.5 for men.

While the average score of the participants in the 18-20 age range in the sub-dimension of affecting life was 4.2, the average score of the participants between the ages of 21-23 was determined as 3.9 and the average score of the participants between the ages of 24-27 was determined as 4. While the average score of the sleep quality sub-dimension of the participants between the ages of 18 and 20 was 2.2, the average score of the participants between the ages of 21-23 was 2.2 and the average score of the participants between the ages

of 24-27 was 2.1. While the average score of the participants in the 18-20 age group in the sports relationship sub-dimension was 2.5, the average score of the participants between the ages of 21-23 was 2.4, and the average score of the participants in the 24-27 age group was 2. While the average score of the habitual sleep efficiency sub-dimension of the participants between the ages of 18 and 20 was 2, the average score of the participants between the ages of 21-23 was 1.8 and the average score of the participants between the ages of 24-27 was determined as 2.1. While the average score of the deprivation sub-dimension score of the participants in the 18-20 age range was 2.2, the average score of the participants between the ages of 21-23 was 2.9 and the average score of the participants between the ages of 24-27 was determined as 2.4.

Table 3. MANOVA analysis results

Tests of Between-Subjects Effects							
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Female	Deprivation[a]	0.650	1	0.650	11.666	**0.001**	0.028
	Influencing Daily Life[b]	2.095	1	2.095	8.015	**0.005**	0.019
	Sleep Quality[c]	6.046	1	6.046	103.862	**0.000**	0.204
	Sports Relationship[d]	1.762	1	1.762	15.642	**0.000**	0.037
	Habitual Sleep Efficiency[e]	17.400	1	17.400	130.447	**0.000**	0.243
	Sleeping Disorder[f]	0.586	1	0.586	4.282	**0.039**	0.010
Male	Deprivation	3.342	2	1.671	29.994	**0.000**	0.129
	Influencing Daily Life	4.348	2	2.174	8.318	**0.000**	0.039
	Sleep Quality	2.355	2	1.178	20.227	**0.000**	0.091
	Sports Relationship	14.381	2	7.190	63.840	**0.000**	0.239
	Habitual Sleep Efficiency	1.318	2	0.659	4.942	**0.008**	0.024
	Sleeping Disorder	36.844	2	18.422	134.504	**0.000**	0.399
Gender* Years	Deprivation	7.434	2	3.717	66.718	**0.000**	0.247
	Influencing Daily Life	0.556	2	0.278	1.064	0.346	0.005
	Sleep Quality	2.089	2	1.045	17.946	**0.000**	0.081
	Sports Relationship	17.482	2	8.741	77.605	**0.000**	0.277
	Habitual Sleep Efficiency	8.143	2	4.072	30.524	**0.000**	0.131
	Sleeping Disorder	20.847	2	10.423	76.105	**0.000**	0.273

Note. [a]R^2 = .338; [b]R^2 = .087; [c]R^2 = .298; [d]R^2 = .468; [e]R^2 = .375; [f]R^2 = .482.

The main effect of gender and age was significant in all sub-dimensions. In the interaction of gender and age, it was found to be significant with all sub-dimensions except for the sub-dimension of affecting life ($p < .005$). The highest Partial Eta Squared value was found in the sleep quality sub-dimension of the age variable ($\eta^2 = .399$).

Table 4. Correlation analysis results

	Deprivation	Influencing Daily Life	Sleep Quality	Sports Relationship	Habitual Sleep Efficiency	Sleeping Disorder
Deprivation	1					
Influencing Daily Life	0.617	1				
Sleep Quality	0.273	0.163	1			
Sports Relationship	0.613	0.098	0.283	1		
Habitual Sleep Efficiency	0.448	0.037	0.051	0.108	1	
Sleeping Disorder	-0.495	-0.026	0.305	.-193	.-637	1

When the results of the correlation analysis are examined, it is seen that the highest correlation is between habitual sleep efficiency and sleep disorder. These results show that as sleep disturbance increases, habitual sleep efficiency increases or vice versa. The lowest correlation obtained from the study is seen to be in the dimension of affecting daily life with a sleep disorder.

4. Discussion

Evidence shows that problematic use of social media is widespread among the majority of users and causes significant behavioral and psychological problems (Wang et al., 2015). Excessive sleep deprivation in young athletes can cause physiological and cognitive damage (Supiah et al., 2022). When the studies are examined, although there are studies that do not differ in terms of gender in social media addiction (Luo & Hu, 2020), there are differences in our study. It has been concluded that women aged 21-23 have lower social media addiction than women and men aged 18-20, 24-27 years old. It is seen that the reason why women have lower social media addiction in the 21-23 age range is due to their better self-management in situations of deprivation and affecting daily life.

One of the most important reasons for problematic sleep habits may be social media habits (Gunes et al., 2018). Sleep is very important in terms of mental and physical performance as well as recovery in athletes (O'Donnell et al., 2018; Kölling et al., 2019; Ekmekci, 2022). Another issue to be considered in terms of sleep quality is the age factor. Sleep quality seems to vary according to age (Silva & Pavia, 2018; Spilsbury et al., 2004). Our study partially parallels this result. While sleep quality did not cause a significant difference in women, it

was observed that sleep quality was higher in men between the ages of 21-23. The main reason for this situation is thought to be because men between the ages of 21-23 (x = 2.7) have a higher relationship with sports than others. However, it is seen that the high relationship between sports (x = 2.8) in women between the ages of 18-20 does not affect sleep quality (x = 2.00). According to Wash et al. (2021), it has been argued that even if the sleep quality varies according to the gender of the athletes or non-sports factors, each athlete should be evaluated within himself.

Another issue to be considered in terms of sleep quality is the age factor. There are also studies showing that sleep quality varies according to age (Spilsbury et al., 2004). However, another point to be considered here is that phone addiction should affect sleep quality. In addition, considering the new generation's phone addiction, different factors come into play in terms of sleep quality (Moattari et al., 2017; Ozcan & Acimis, 2021). When the literature is taken into consideration, results appear that phone addiction has a negative impact on sleep quality. In addition, it is known that addiction to social media negatively affects young athletes at many points by increasing their addiction to the phone (Gezgin & Mihci, 2020). There is a negative correlation between habitual sleep efficiency and sleep disturbance in our study. The results show that especially women between the ages of 21-23 have significantly higher sleep disorders than others. This is due to the inefficiency of habitual sleep efficiency. Low sleep efficiency can affect the individual's sleep disorder. As a result, this may negatively affect the performance of the athletes.

In conclusion, the study conducted on university student-athletes, it is seen that it is necessary to increase habitual sleep efficiency in order to eliminate sleep disorders. In particular, the causes of sleep disorders in female athletes between the ages of 21-23 will be investigated and increasing sleep efficiency will contribute to the performance of the athlete. In addition, it is seen that social media addiction is above the average score in both men and women. It is thought that this situation may adversely affect the sleep behavior of athletes. Also the regulation of the social media habits of the athletes will positively affect the sleep behavior of the athletes.

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