Social media addiction in middle and high school students Participants in school sports during the coronavirus disease 2019 (COVID-19) pandemic.

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Abstract:

This study aims to find out the reality of Social Media Addiction (SMA) in middle and high school students during the outbreak of the Coronavirus Diseases 2019 (COVID-19) pandemic, through the statistical differences identification in the variables of academic level, gender, practice of sport and its type. The descriptive approach has been used in this study. The Social Media Addiction Scale - Student Form (SMA-SF) was used for SMA "Cengiz Şahin 2018''; which consists of 28 items as a main tool for this study.

The studied sample was chosen by the intentional method, which consisted of 35 participants whose ages ranged from 11 to 18 years. After analyzing and treating the obtained results, with a set of statistical means using the program of Statistical Package for Social Sciences version 22.0 (SPSS22),. 34.28% students were having mild addiction of social media, while 65.72% students were having moderate addiction. In addition, it was observed that there is no severe addiction. Moreover, they found that there were no significant differences observed in all studied variables with regard to the SMAS-SF.

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1. Introduction

In the end of December 2019, there was a significant development of pneumonia cases without an apparent cause in *Hubei*, *China*[1]. After several laboratory investigations, a new coronavirus has been identified as the main cause of these cases. This new virus was named coronavirus disease 2019 (COVID-19) by the World Health Organization (WHO) [2]. And this virus has spread terribly in many parts of the world. Currently, this frightening spread has made this virus a global pandemic, with major impacts on the health, psychological, social, economic and political levels[3] . The worldwide experience of combating Severe Acute Respiratory Disorder (SARS) has confirmed that reducing interpersonal communication is no less important than finding a vaccine for this epidemic, for this reason several countries have taken quarantine measures to contain the spread of this dangerous virus infection[4] . These restrictive measures on the freedoms of citizens have led to the suspension of transportation, suspension of studies in all stages, and the imposition of social distancing measures in all public and private institutions[5] . As a result of these procedures, children and adolescents spend long periods at home in front of television screens, electronic games and chatting on various social media sites whose overuse greatly affects the academic achievement of students as well as wasting and consuming time that they must use in useful works, it also

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(1)-E. Dong, H. Du, and L. Gardner, "An interactive web-based dashboard to track COVID-19 in real time," Lancet Infect. Dis., vol. 20, no. 5, pp. 533–534, 2020; K. Liu et al., "Clinical characteristics of novel coronavirus cases in tertiary hospitals in Hubei Province," Chin. Med. J. (Engl)., vol. 133, no. 9, pp. 1025–1031, 2020.

(2)-H. Harapan et al., "Journal of Infection and Public Health Coronavirus disease 2019 (COVID-19): A literature review," J. Infect. Public Health, vol. 13, no. 5, pp. 667–673, 2020.

(3)-S. Salem and M. Alasmari, "Threats to Mental Health Related to Home Quarantine following the Novel Coronavirus, COVID-19," Arab Journal for Security Studies, vol. 36, no. 2, pp. 265–278, 2020.

(4)-C. C. Hsu, T. Chen, M. Chang, and Y. K. Chang, "Confidence in controlling a SARS outbreak: Experiences of public health nurses in managing home quarantine measures in Taiwan," Am. J. Infect. Control, vol. 34, no. 4, pp. 176–181, 2006.

(5)-N. Akhtar, M. N. Akhtar, M. Usman, M. Ali, U. I. Siddiqi, and M. Ali, "COVID-19 restrictions and consumers ' psychological reactance toward offline shopping freedom restoration," Serv. Ind. J., vol. 0, no. 0, pp. 1–23, 2020.

affects the individual's feelings of anxiety, depression, and low self-esteem[6] . A previous study on the impact of the use of social media indicated that excessive use has led to mental health problems, and that taking a break from social media may enhance well-being during a pandemic, which is critical to mitigating the mental health damage caused by the pandemic[7] . According to another study, conducted on internet addiction and related psychological factors among children and adolescents in *China* during the coronavirus epidemic 2019, the use of internet was excessive during this period for the both groups, and this study indicated also that age, gender, depression and stress are major factors effect on Internet addiction[8] . This paper aims to identify the reality of SMA, in middle and high school students, in light of the outbreak of the new coronavirus. And also to identify the statistical differences in the variables of academic level, gender, practice of sport and its type.

2   Material and Methods

2.1   Study design and sampling

The SMAS-SF was distributed to middle and high school students; who were chosen by the intentional method This is due to the ease of communication with them, and because they participate in school teams, in addition to being in the age group most exposed to addiction to social networking sites, and in this study we depended on the descriptive approach for its relevance to the study problem and its nature. Data collection started on October 18, 2020 at 09:00 am until October 25, 2020 at 10:00 am Algerian time, it took about 8 minutes for each participant to answer the scale statements. The ages of the study sample range from 11 to 18 years As their number 35 students.

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(6)-F. Hou, F. Bi, R. Jiao, D. Luo, and K. Song, "Gender differences of depression and anxiety among social media users during the COVID-19 outbreak in China : a cross- sectional study," pp. 1–11, 2020.

(7)-B. Zhong, Y. Huang, and Q. Liu, "Computers in Human Behavior Mental health toll from the coronavirus : Social media usage reveals Wuhan residents ' depression and secondary trauma in the COVID-19 outbreak," Comput. Human Behav., vol. 114, no. May 2020, p. 106524, 2021.

(8)-H. Dong, F. Yang, X. Lu, and W. Hao, "Internet Addiction and Related Psychological Factors Among Children and Adolescents in China During the Coronavirus Disease 2019 (COVID-19) Epidemic," vol. 11, no. September, pp. 1–9, 2020.

Whose characteristics were explained in Table 1. The questions that were explored included demographic and social variables. In addition, the reality of SMA was assessed using the SMAS-SF which developed by *Cengiz Şahin*[9] , their validity and reliability (Internal Consistency, Comparison of Extreme Groups, Alpha-Crumbach and Split Half) were measured and presented in Tables 2 and 3, respectively. The used scale in our study consists of 28 items distributed into 4 sub-dimensions. The item number 27 (*I spend more time on social media to see some special announcement (e.g. birthdays)*) was deleted from the used scale in our study due to its inconsistency with the culture of the study environment. 1-5 items are within the Virtual Tolerance sub dimension (VT); 6-14 items are within Virtual Communication sub dimension (VC); 15-23 items are under Virtual Problem sub dimension (VP) and 24- 28 items are under Virtual Information sub dimension (VI). These questions are answered according to Likert scale with five responses alternatives: "(1) Definitely not appropriate", "(2) Not appropriate", "(3) Undecided", "(4) Appropriate" and "(5) Quite appropriate". The negative items are scored reversely. All items on this scale are positive. Scoring of SMAS-SF was done by quartile method. The highest point that can be recorded on this scale is 145, and the lowest point is 28. High scores indicate that the participant considers himself addicted to social media[10] . SMAS-SF scores were distributed as follows: No addiction "from 28 to 58", mild "from 59 to 87", moderate "from 88 to 116", and severe "from 117 to 145"[11].

Table 1. Demographic proprieties of samples

Variables	Frequency	Proportion (%)
Academic level		
Middle school	21	60
High school	14	40

(9)-Ş. Cengiz, "Social Media Addiction Scale - Student Form : The Reliability and Validity Study," vol. 17, no. 1, pp. 169–182, 2018.
(10)-Ş. Cengiz, "Social Media Addiction Scale - Student Form : The Reliability and Validity Study," vol. 17, no. 1, pp. 169–182, 2018.
(11)-A. Sahithi, S. V Mane, and S. Agarkhedkar, "Use of Social Media and its Effects in School Going Adolescents," vol. 6, no. 2, pp. 20–25, 2020.

Gender		
Male	22	62.9
Female	13	37.1
Practice of sport		
Yes	23	65.7
No	12	34.3
Type of sport		
Individual	19	82.6
Team	04	17.4

Table 2. Validity of SMAS-SF.

A. Validity of SMAS-SF in an Internal Consistency manner.

	VT	VC	VP	VI	SMAS-SF
VT	1.00	.454**	-.086	.181	.711**
VC		1.00	-.036	.278	.758**
VP			1.00	-.267	.338*
VI				1.00	.421*
SMAS-SF					1.00

** Correlation is significant at the 0.01 level.
 * Correlation is significant at the 0.05 level.

B. Validity of SMAS-SF in manner of Comparison of Extreme Groups.

Scale	Comparison groups	N	Mean	Std Deviation	T-value	Df	Sig.
SMAS-SF	**Lower group**	8	20.314	4.450	-5.739	34	.000
	Upper group	8	20.942	2.721			

Table 3. Reliability of SMAS-SF.

A. Reliability of SMAS-SF in Alpha-Crumbach manner.

Crumbach's Alpha	N of items
.607	28

A. Reliability of SMAS-SF in Split Half manner.

Items	Mean	Std divution	N of items	Reliability		
				Befor correction	After correction	
				Pearson	Guttman	Spearman-

				corrilation	Coefficient	Brown Coefficient
Individual	45.657	5.121	18			
Pinary	47.971	4.624	17	.623	.765	.768
Total	93.628	4.872	35			

From Tables 1 and 2, we notice that the SMAS-SF has high degrees of validity and reliability.

2.2 Statistical analysis

In order to describe the Socio-demographic characteristics of the study sample, descriptive analyses have been conducted in our study, as well as to determine the scores for SMAS-SF. The differences examination has been performed in the studied variables (academic level, gender, practice of sport, and its type) according SMAS-SF by the Mann-Whitney U test. This statistic was selected because the data are nominal and do not follow a normal distribution. The SPSS[22] was used to analyze all data. When the P-value is less than 0.05, it is considered statistically significant.

3 Results

3.1 Characteristics of the sample

The study sample consists of 35 students; the descriptive statistics of this sample are presented in Table 1. In sum, the number of middle school participants was 21 (60%), and the number of males was 22 (62.9%). In addition, the number of participants practicing sports reached 23 (65.7%); of whom 19 (82.6%) participant in individual sports.

### 3.2 The reality of SMA among middle and high school students

The Fig. 1 shows the reality of SMA among middle and high school students. The dimensions arrangement of SMAS-SF is shown in Table 4. From the table, it is clear that the both dimensions VC and VP came at the beginning of the arrangement, while the other dimensions (VT and VI) came at the end of the arrangement. Based on

what was previously mentioned in the Methods section and from figure 1, it was observed that all participants in our study are addiction to social media. Indeed, 34.28% students were having mild addiction (80-87) of social media, while 65.72% students were having moderate addiction (88-113). On the other hand, it was observed that there is no severe addiction in our study sample.

Table 4. Dimensions arrangement of SMAS-SF

Scale dimensions	Responses of students				
	Degrees	**Mean**	**Std. division**	**Percent**	**Arrangement of dimensions**
VT	530	15.142	3.557	16.547	4
VC	984	28.114	3.428	30.721	2
VP	1052	30.057	3.588	32.844	1
VI	637	18.200	2.471	19.887	3
SMAS-SF	3203	91.514	7.385	100	-

Fig. 1 Reality of SMA.
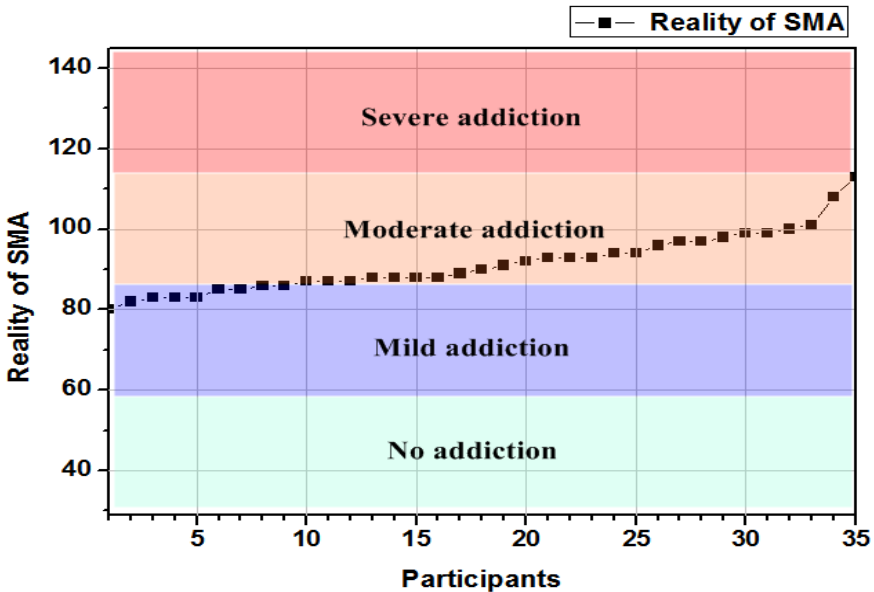
3.3 **Differences in the study variables with respect to SMSA-SF.**

The results presented in Table 5 report that there are no significant

differences in all studied variables (academic level, gender, practice of sport and its type) with regard to the SMAS-SF.

Table No. 05: shows the differences in the study variables

Variables	SMSA-SF		
	Mann–Whitney U	Z	Sig.
Academic level	129.500	-.590	.555
Gender	100.000	-1.471	.141
Practice of sports	107.000	-1.079	.280
Type of sport	28.500	-.772	.440

Through Table No. 05: We note that there are no statistically significant differences in all the variables of the study (Academic level, Gender, Practice of sports, Type of sport).

4 Discussion

Excessive use of social media is considered as a type of psychological and behavioral dependence on social media platforms, as it is also known as internet addiction disorder and other forms of excessive use of digital media, which results in severe damage of individuals performance for long period in various areas of life[12] . In this study, it was observed that all participants are addiction to social media. Indeed, 34.28% students were having mild addiction (80-87) of social media, while 65.72% students were having moderate addiction (88-113). However, it was observed that there is no severe addiction in our study sample. In spite of that, the problem of SMA among middle and high school students is not only a product of quarantine home measures during the COVID-19 pandemic, but it is a problem rooted since the emergence of these means and the beginning of their development. The same findings were found in a previous study, before the outbreak of COVID-19 pandemic, on the social media addiction among the students; and it was observed that there is only

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(12)-A. Van Deursen and S. Hegner, "Modeling habitual and addictive smartphone behavior . The role of smartphone usage types , emotional intelligence , social stress , self- regulation , age , and gender Computers in Human Behavior," no. July, 2015.

mild and moderate addiction[13]. It is evident from the obtained results that home quarantine is the reason of SMA in all participants. Despite the restrictive measures imposed during this period, as the students live in a limited environment where there is less formation of external relationships, they communicate with family members and close friends. In addition, they don't care much about recent news and developments. Since the sample of our study is represented by students, they spend most of their time in the school where the use of social media is almost non-existent. On the other hand, these students are obliged to do their homework in an ongoing way and are subject to family control while they are at home. We also found that the percentage of 63% males practice individual and team sports in the study sample. Thus, the times of use of social networking sites are greatly reduced, and accordingly, the reality of SMA is only mild and moderate.

5 Conclusion

In our study, it was observed that there was a SMA for all participants. 34.28% students were having mild addiction of social media, while 65.72% students were having moderate addiction. In addition, it was observed that there is no severe addiction. There were no significant differences observed in all studied variables with regard to the SMAS-SF.

In summary, SMA is a difficult problem that troubles students' parents during the quarantine home due to COVID-19 pandemic, which can only be faced with the combined efforts of the family, school, as well as society.

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EXPLANATION: Different states related to social media use on the internets are given below. You are asked to read each expression carefully and put (X) for the expression you deem the most correct for you. Do not skip any item and mark each state please		1- Strongly disagree 2- Disagree 3- Neither agree nor disagree 4- Agree 5- Strongly agree				
01	I am eager to go on social media.	01	02	03	04	05
02	I look for internet connectivity everywhere so as to go on social media.					
03	Going on social media is the first thing I do when I wake up in the morning.					
04	I see social media as an escape from the real world					
05	A life without social media becomes meaningless for me.					
06	I prefer to use social media even there are somebody around me.					
07	I prefer the friendships on social media to the friendships in the real life.					
08	I express myself better to the people with whom I get in contact on social media.					
09	I am as I want to seem on social media.					
10	I usually prefer to communicate with people via social media.					
11	Even my family frown upon, I cannot give up using social media.					
12	I want to spend time on social media when I am alone.					
13	I prefer virtual communication on social media to going out.					
14	Social media activities lay hold on my everyday life.					
15	I pass over my homework because I spend much time on social media.					
16	I feel bad if I am obliged to decrease the					

	time I spend on social media.					
17	I feel unhappy when I am not on social media.					
18	Being on social media excites me.					
19	I use social media so frequently that I fall afoul of my family.					
20	The mysterious world of social media always captivates me					
21	I do not even notice that I am hungry and thirsty when I am on social media.					
22	I notice that my productivity has diminished due to social media.					
23	I have physical problems because of social media use.					
24	I use social media even when walking on the road in order to be instantly informed about developments.					
25	I like using social media to keep informed about what happens.					
26	I surf on social media to keep informed about what social media groups share.					
27	Keeping informed about the things related to my courses (e.g. Homework, activities) makes me always stay on social media.					
28	I am always active on social media to be instantly informed about what my kith and kin share.					

Appendix No.01

Social Media Addiction Scale Student Form (SMAS-SF)