

## Effect of Social Media Network on Social Relations and Academic Achievement Among Medical Students

Ali Mohammad Ali Aljabry, Ahmed Ali Ahmed Jaafari, Mohammed Abdullah Mohammed Salawi, Fahad Abdoh Taher Majrabi, Nagi Mohammed Ahmed Hazzazi, Ahmed Hadi A Khormi, Mohammad Ali Mousa Dagheriri, Abdulaziz Mohammed Abdullah Alfaqih, Mohammed Ahmad Mohammed Al-harobi, Saud Abdulaziz Musa Alqahtani

Jazan University

Corresponding Author: Ali Aljabry <a\_aljabry@hotmail.com>

### ABSTRACT

**Background:** Social networks influence the lives of individuals and communities. They have several advantages; however, they have many disadvantages including its adverse effect on social life and academic performance of students. They are reasons for time-consuming, individuals can even addict these sites.

**Aim of the work:** this study aimed to determine impact of social media on academic performance and social relationships as well as factors associated with social media and pattern of using social media.

**Methods:** This was an observational cross-sectional study which was conducted in Jazan University; it included 205 (45.1%) male students and 250 (54.9%) female medical students. A questionnaire was used to perform this study. SPSS was used to analyze data.

**Results:** The present results showed that the most common used sites were facebook (53%), 65.9% of students used social networks for more than three years, 58.5% used these sites for 2 to 4 hours. Gender was a significant factor regarding using Facebook and WhatsApp (P-value=0.001, 0.004 respectively), the only significance was found between the different academic years was regarding WhatsApp (P-value=0.001) which was commonly used by fourth-year students (46.1%). Both numbers of hours and using social media during lectures influenced study level (P-value=0.01, 0.021 respectively).

**Conclusion:** The most common social site used was Face book and the social media affected the academic performance of students negatively. Social media has both positive and negative effect on social relations.

**Keywords:** social media, academic performance, social media effects.

### INTRODUCTION

Social media was defined as "internet-based applications that allow the creation and change of content which is user-generated" <sup>[1]</sup>. Social media involves a group of applications and websites that enable users to share their ideas, feelings, different contents, experiences and communicate with other users <sup>[2]</sup>. There was a rapid expansion of social media which lead to dramatic alteration in the world; this rapid increase can be attributed to several factors such as easy of accessibility and use, availability of mobile phones and tablets <sup>[3]</sup>.

The most popular social media include twitter, WhatsApp, facebook, facebook messenger, skype, Viber, Instagram and we-chat <sup>[4]</sup>. Facebook is the most popular social media in the world with 1.65 billion users and the age group of 20-29 years represented 30% of total users <sup>[4]</sup>. however in Saudi Arabia twitters users are higher <sup>[5]</sup>. Many students consider using social media sites as a component of their lives <sup>[6]</sup>. It was found in one study that 90% of college individuals were facebook users <sup>[7]</sup>.

There are advantages of social media such as convenient access to information, fast and efficient communication with other people, promoting tool for businesses and collaborative environment <sup>[8]</sup>. Social media also has different roles in education <sup>[9]</sup>.

Social media also has several disadvantages including personal data leakage, time wasting and recruitment for jobs <sup>[10]</sup>, causing anxiety, depression, sleep problems and addiction to social media which affects and interferes with performing daily missions<sup>[11]</sup>.

Also, these sites can make fundamental changes in social relations and social life <sup>[6]</sup>. A study had investigated the effect of using social media on the academic performance of students <sup>[10]</sup>. Social media sites have effects on the lives of students and their academic achievement as well as the duration of their studies <sup>[12,13]</sup>. A study from Pakistan revealed that the use of social media affected negatively on lives and education of teenagers and children <sup>[14]</sup>.

Another study was performed on Nigerian students and it was found that the social media didn't affect the studies of students<sup>[15]</sup>. A study from Iran was performed on medical students showed a negative association between using of social network sites and GPA of students<sup>[6]</sup>.

While, in a study conducted at Malaysia University showed that the social media enhanced student's grades as social media increased the communications and discussion between students and their instructors<sup>[16]</sup>. A study carried out by **Abbas *et al.***<sup>[17]</sup>

On the medical students showed that there was a positive effect of social media using the academic performance of students according to student's opinion. Most of the studies conducted on this subject focused on academic performance, not social life, so this study aimed to determine the effect of social media on both academic performance and social relationship as well as to determine the factors associated with using social media.

## **SUBJECTS AND METHODS**

### **Study design and subjects**

This study was an observational cross-sectional study which was conducted at Jazan University on 205 (45.1%) male students and

250 (54.9%) female students. A questionnaire was used to perform this study.

All the information of participants were kept confidential, students who accepted to participate in this study gave a written informed consent, it was available to the student to refuse consent to participate in this study.

### **Statistical analysis**

Data were analyzed using SPSS software version 16, a simple descriptive analysis in the form of numbers and percentages. Chi-square was used as a test of significance to detect the association between social phobia and variables, with a significant level of less than 0.05.

## **RESULTS**

The present study included 205 (45.1%) male students and 250 (54.9%) female students, the large majority of them were from the second medical year 139(30.5%) followed by those from the third year 110(24.2%), fourth year 102(22.4%) and finally fifth and sixth years 55(12.1%) and 49(10.8%) respectively. The pattern of using social media among participants is shown in **table1**. Using of facebook was the most common among participants (53%) followed by using twitter (35.6%) then Instagram and WhatsApp (34.3%) and (28.8%) respectively.

**Table 1: the pattern of using social media between the medical students**

<b>Pattern</b>	<b>N</b>	<b>%</b>
<b>Uses</b>		
Facebook	241	53.0
Twitter	162	35.6
Instagram	156	34.3
WhatsApp	131	28.8
<b>Since when using social networking sites</b>		
low than one year	23	5.1
from 1 to 3 years	132	29.0
more than three years	300	65.9
<b>Number of hours</b>		
less than 1 hour	98	21.5
from 2 to 4 hours	266	58.5
from 5 to 10 hours	76	16.7
more than 10 hours	15	3.3
<b>Entering sites</b>		
Home	439	96.5
university	97	21.3
internet cafe	16	3.5
<b>While the use of networking sites you be</b>		
alone	379	83.3
with your friends	31	6.8
with one of your family	45	9.9
<b>Favorite service</b>		
participation of opinions	153	33.6%
media sharing	160	35.2%
to express an opinion and say what inside the self	148	32.5%
chat	166	36.5%
science and education	183	40.2%
games	67	14.7
<b>Use the real name</b>		
yes	103	22.6
no	352	77.4
<b>Causes of using social media</b>		
<b>For Fun</b>	300	65.9
<b>For Knowledge and Education</b>	264	58.0
<b>Communication with Relatives and Friends</b>	208	45.7
<b>For Spend of Time</b>	164	36.0
<b>To Avoid Stress &amp; Boring</b>	59	13.0
<b>to identify new persons</b>	78	17.1

Most of the participants 65.9% used social networking sites more than three years ago, 29% from 1 to 3 years and 5.1% only used them one year ago. The large majority of students used social networks from 2 to 4 hours 58.5% and the least percent 3.3% used them for more than 10 hours. There were 96.5% entered social networks from home, 21.3% from university and 3.5% only from internet café. Most of the students (83.3%) used sites alone, the most common favorite service was science and education 40.2% and the least common favorite service was games (14.7%). The most common cause for using social media was fun (65.9%) and the least common cause was avoiding stress and boring (13%). 77.4% didn't use their real

names, the dominant cause for not using the real name was feel freedom (24%) and an equal percent reported that the reason was fear from identity by another and desire to change their real characters, 2.4% for each reason. While the most dominant reason for using the real name was they wanted to express their characters (50.5%), 13.6% reported that they wanted to get trust from their participants and 32.5% said that they wanted to be found easily by others. Regarding gender, there were significance differences regarding the use of facebook and Whatsapp between males and females (P-value=0.001, 0.004 respectively). However, no significance differences were found regarding using of twitter and Instagram (**Table 2**).

**Table2: sex differences in social media use**

Networks	Males ( 205)	Females ( 255)	P values
Face book	130	111	<0.001*
	63.4%	44.4%	
twitter	75	87	0.69
	36.6%	34.8%	
Instagram	70	86	0.712
	34.1%	34.4%	
Whats	73	58	0.004*
	35.6%	23.2%	

\*P-value; significant

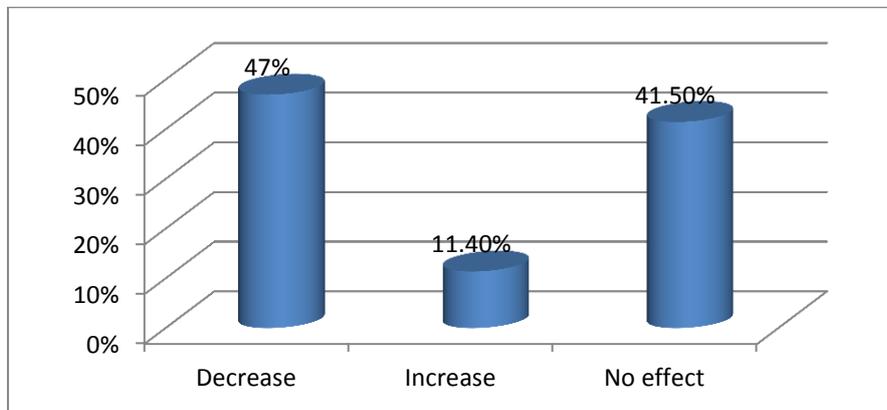
Differences in use of social media regarding the academic year showed that there was only significance difference regarding using of WhatsApp between the different academic years (P-value=0.001), students from the fourth year were the most group to use WhatsApp.

There was no significant difference between the different academic years regarding using of facebook, twitter or Instagram (Table3).

**Table3: the use of social media among students from the different academic years**

Social networks	Second year N (%)	Third year N (%)	Fourth year N (%)	Fifth year N (%)	Sixth year N (%)	P-value
Facebook	64(46%)	54(49.1%)	62(60.8%)	36(65.6%)	25(51%)	0.053
Twitter	47(33.8%)	50(45.5%)	28(27.5%)	18(32.7%)	19(38.8%)	0.084
Instagram	49(35.3%)	42(38.2%)	29(28.4%)	19(34.5%)	17(34.7%)	0.038
Whatsapp	32(23%)	16(14.5%)	47(46.1%)	22(40%)	14(28.6%)	0.001*

The opinion of students about the effect of social media on their study results is shown in figure1.



**Fig1: the opinion of students about the effect of social media on their results**

28 students had low study level, 166 had high study level and 261 had normal study level, a significant difference (P-value=0.01) was found regarding using hours and the study level of students, also there was a significant difference regarding the use of social media during lectures and study level of students (P-value=0.021), table4.

**Table 4: the correlation between study level of students and using hours and different variables**

Variables	Study level N (%)			P-value
	Low (28)	High (166)	Normal (261)	
Using hours				<b>0.01</b>
<1 hour	9(9.2%)	48(49%)	41(41.8%)	
2-4 hours	11(4.1%)	89(33.5%)	166(62.4%)	
5-10 hours	7(9.2%)	22(28.9%)	47(61.8%)	
>10 hours	1(6.7%)	7(46.7%)	7(46.7%)	
Using during lectures				<b>0.021</b>
Yes	13(11.3%)	36(31.3%)	66(57.4%)	
No	15(4.4%)	130(38.2%)	195(57.4%)	

The perception of students toward using of social media and the social relation is shown in **table 5**.

**Table 5: perception of students toward social media**

Questions	Agree N (%)	Neutral N (%)	Disagree N (%)
feeling the lonely and social isolation	148 32.5	138 30.3	168 36.9
feeling involved with social media friends more than the family member	186 40.9	87 19.1	182 40.0
feeling involved in social friends more than the family member	99 21.7	104 22.9	252 55.4
no difference in the relationships with social media friends and real friends	97 21.3	85 18.7	273 60.0
time of speaking with social media friends more than speaking face to face	205 45.1	106 23.3	144 31.6
social media friends more than real friends	104 22.9	71 15.6	280 61.5
confidentiality in social media friends more than in real friends	48 10.5	71 15.6	336 73.8
feeling good relationships with social media friends makes me attempt to meeting them face to face	148 32.5	127 27.9	180 39.6
family activity decrease when start using social media network	160 35.2	116 25.5	179 39.3
social media network use lead to family disintegration	127 27.9	142 31.2	186 40.9
social media network use lead to neglect of social duties	208 45.7	132 29.0	115 25.3
visiting relative decreased when start using social media	176 38.7	112 24.6	167 36.7
social activities in family events decreased when start using of social media	141 31.0	99 21.8	215 47.3
Making the person close to relevant who communicate with, on social media	218 47.9	108 23.7	129 28.4
using social media has made keep the old and current relations	276 60.7	119 26.2	60 13.2

## DISCUSSION

The present study included 205 (45.1%) male students and 250 (54.9%) female medical students to investigate the impact of social media on academic performance and social relationships. It was stated that facebook is overwhelming social site, but in Saudi Arabia there is a high number of twitter users <sup>[5]</sup>, however in this study the most common site used by students was facebook representing 53%, while twitter was in the second rank 35.6% and the least site used was WhatsApp (28.8%). A study was conducted on medical students from Khartoum University <sup>[18]</sup> showed that facebook and WhatsApp were the most social sites used by medical students. The large majority of our students (65.9%) used social networks for more than 3 years. In this study, students tended to use social networks for 2 to 4 hours (58.5%), while least percent 3.3% tended to use them for more than 10 hours. In a previous Saudian study <sup>[10]</sup> it was found that the average time for usage of social media was 10 hours and there were 68% of students spent time above the average estimated time. A study was performed on medical students from the sixth year showed that most students spent 2 hours daily on social media and some other students spent more than 6 hours <sup>[17]</sup>. The most common entering sites between medical participants was home (96.5%) and the large majority of students (83.3%) used social sites alone in the current study. The most favorite service of social sites for students was science and education (40.2%) and the least favorite one was games (14.7%). The most prevalent cause for using social media between students was fun (65.9%), while knowledge and education was in the second rank (58%), the least common cause was avoiding stress and boring (17.1%). In a study carried out by **Al-Khalifa** <sup>[19]</sup>, it was found that 58% of students used twitter for academic purpose and education. In other studies <sup>[6, 20]</sup>, it was reported that communication with old friends was the most common cause for using social sites, while in our study this cause was in the third rank between other different reasons. Communication with friends represented 54.5% of cases in Iraqi study <sup>[2]</sup>. Most of our students (77.4%) didn't use their real name and the most common cause for that was their desire to feel freedom (24%), while 22.6% used their real ones and the most common cause mentioned for that was the desire of students to express their characters (50.5%). Regarding the factors that

influence the use of different social sites, we found that gender was significantly associated with the using of both facebook (P-value=0.001) and WhatsApp (P-value=0.004). Males tended to use facebook and WhatsApp (63.4% and 35.6% respectively) more than females. However, there were no significant differences regarding the use of twitter and Instagram. A survey of 100 students of Baghdad and Mustansiriya Universities revealed that 61.5% of males and 54% of females used facebook followed by twitter and youtube <sup>[21]</sup>. The academic year was not a significant factor that affected using of different social sites except for WhatsApp (P-value=0.001), where there was a significant difference between students from different academic year in using WhatsApp, the students from the fourth year tended to use WhatsApp more than other years (46.1% for fourth year students). By investigating the effect of social media on the study results of students, there were 47% reported that social media made their study results to decrease. The same results were reported by another study <sup>[22]</sup> and it was shown that excessive use of social media lead to decrease in students' grades. In a study from Iraq <sup>[2]</sup> it was found that the percent of students who reported positive effect of social media on their academic performance was higher than those who reported negative effect and no effect (42%, 33% and 25% respectively), the opposite was found in our study, where the highest percent of students reported decrease in their results followed by those with no effect and finally with increased performance (47%, 41.5% and 11.4% respectively). A study from Khartoum University <sup>[18]</sup> demonstrated that 73.8% of social sites users agreed that social sites negatively affected their personal academic performance and 91% stated that there was a negative effect of using the social media on all students' academic performance. A study from Nigeria <sup>[23]</sup> showed that 28% of users agreed that there was a negative effect of using the social sites on their personal academic performance. In contrast to our results, **Camilia et al.** <sup>[15]</sup> in their survey found that using of social media frequently didn't affect the studies of students. In a survey study in Saudi Arabia <sup>[10]</sup>, there were 60% of the respondent students reported that the excessive use of social media didn't affect their academic performance. It was reported in many studies <sup>[6, 13,24]</sup> that there was a negative association between academic grades and using

of social network sites, this means that increasing usage of social sites leads to decreased in academic performance of students. Another studies <sup>[25-27]</sup> which assessed the effect of facebook specifically, showed that using facebook had no effect on the academic performance of students. On the other hand a study from Malaysian University showed that the grades of students were enhanced by social media as a result of communications and discussion between students and their instructors <sup>[16]</sup>. It was found that duration of using social media affected the study level of students significantly (P-value=0.01), however most of students participated in this study had either normal level (261) or high level (166), while only 28 had low level. In a study from Saudi Arabia <sup>[10]</sup> a negative skew in GPA scores of students was found suggesting that most of GPA scores were high, whereas low scores were few. A negative correlation was reported between duration of time spent on social media <sup>[3,28]</sup> or spent on facebook<sup>[7,29,30]</sup> and grades of students. However, other two studies reported that there was no correlation between social media time usage of students and the grades of students <sup>[2,17]</sup>. Also, using of social media during lecture has influenced on the level of students (P-value=0.021), however most of those with low level (15 students) didn't use social media during lecture. We investigated the effect of social media on the social relationships in this study. 36.9% of students didn't feel lonely or social isolation, 40.9% stated that they felt involved with social media friends more than family members, 55.4% were disagree that they were involved in social friends than family members, also 60% were disagree that there was no difference in the relationship with social media friends and real friends. There were 45.1% reported that their time of speaking with friend in social media was more than that of face to face, 61.5% were disagree that their friends of social media were more than real friends, 73.8% weren't more confident in social media friends than real ones. Most of students (39.6%) didn't tend to meet their friends on social media even they had good relationship, 39.3% stated that family activity didn't decrease by starting use of social media, however 45.7% stated that social media use led to neglect of social duties and 38.7% reported that visiting relative decreased when starting social media using. 47.3% of students were disagree that social activities in family decreased when start

using social media, 47.9% mentioned that felt close to person with whom they communicate on social media and 60.7% stated that social media made them keeping the old and current relations. From the answers of students about the previous questions we can demonstrate that the social media have positive and negative effects on the social life, however this depends on the person who use social sites. We couldn't find any study that focused on the effect of social media on the social life of students, also we investigated many points that weren't investigated before such as years of using social media, entering sites, using real name on social media and its causes, the effect of different academic on using of different social sites, these were strength points of our research, however the lack of researches about correlation between social life and using of social media made use unable to compare our results, so further studies are very recommended.

## CONCLUSION

In this study, we could conclude that facebook was the most common social sites used by medical students in Jazan university, and the favorite service of social sites for students was science and education. Gender and being in the academic year were two factors affecting the use of social sites, where gender was a significant factor affected using of facebook and Whatsapp, while the academic year influenced using of WhatsApp. The social media caused the decrease in the academic performance of students and hours of social sites usage and usage during lecture affected the academic performance of students significantly. Also, social media has both positive and negative effect on the social life of students.

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