

Research Article

# Impacts of Social Media on Academic Performance and Mental Health of Alzaiem Alazhari University Medical Students (Nov 2020 - June 2021)

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## Abstract

**Introduction:** Social media is a network of websites and applications that enables individuals to converse with each other. With billions of people using, it worldwide. Social media overuse is quite common among university students. Which has been linked to mental health issues and it is negative effect on emotional wellbeing. Also, it affects the academic performance either positively or negatively. This study aims to determine the correlation between social media usage and academic performance and its impacts on mental health on undergraduate medical students of Alzaiem Alazhari University. **Objectives:** This study aimed to identify the impacts of social media using on academic performance and mental health of undergraduate medical students of Alzaiem Alazhari University students. **Methods:** A descriptive cross-sectional study, during the period from November 2020 to June 2021. on medical students of Alzaiem Alazhari University in Khartoum, Sudan. The total population of his study was 280 By Stratified random sampling technique, according to their academic year then the sample selected randomly from each stratum. The data was collected by using electronic structured questionnaire by google form. SPSS version 24 was used to analyze the collected data. **Result:** All the study population was used social media and the most common program used by students was whatsapp then youtube, facebook, twitter, instagram and telegram in order. The majority of students spend more than 4 hours daily on social media however 79.6% use it for recreational purposes and just 14%for academic purposes. Also 73.6% their academic performance was affected. 51.8% negatively affected and 78.3% their mental health negatively affected. 55% of sample member need less than half an hour to sleep. **Conclusion & recommendation:** the study showed the negative impact of social media had higher compared to positive impact academically and mentally so the faculty should consider that the students need more awareness and advices about appropriate usage of social and positive aspect of social media should be improved also students should be learned how to manage their time on social media. So, we encourage the establishment workshops and conferences about social media problems.

## Keywords

Social Media, Mental Health, Academic Performance

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## 1. Introduction

### 1.1. Background

Social media is a network of websites and applications that enables individuals to converse with each other [1, 2]. It also allows users to generate, use, exchange and discuss the content available on the worldwide web [3]. Content includes personal information, documents, videos, and photos. Users engage with social media via computer, tablet or smartphone via web-based software or web application, often utilizing it for messaging [4]. 2.31 billion social media users were reported in 2016 [3]. The most commonly used social media among students were: Facebook, WhatsApp and Twitter [5]. A breakthrough occurred in the period from 2005 to 2015 with the rise in social media utilization from 12% to 90% respectively [6]. As of 2019, statistics 2.7 billion people use Facebook, Instagram, or Messenger each month and more than 2.1 billion people use at least one every day [7]. In 2022 more than 4.9 billion are using the internet globally. While approximately 4.6 are social media users [8] expected to exceed this number by 2036 with 6 out of 10 individuals will be active online on the planet [9]

Overuse of social media has been linked to mental health issues [10]. Also, it is negatively affecting emotional well-being [11]. Harassment, depression, eating disorders, anxiety and loneliness are also reported to affect a higher percentage among younger generations [12, 13]. This is attributed to less time spent in the real world which negatively affects their psychological wellbeing. These Psychological issues could lead to smoking and alcoholism [10]. Academically, social media offer the chance for discussion groups which help find study materials and expand the academic horizons [14, 15]. Despite this advantage, most of the students did not utilize it for academic purposes. Which had led to poor academic performance [16-18]. Consequently, many universities restricted access to social media within their buildings [19]

The use of social media has become a part of students' lives throughout the globe [20, 21]

Here in Sudan usage of social media has become one of the daily practices of most university students and almost all of those students have smartphones and spend their free time in it. The prevalence of internet addiction was found to be 80.15% (95% CI: 75-85) and an increase in the incidence of internet use [22].

This study aims to determine the correlation between social media usage and academic performance and its impacts on mental health on undergraduate medical students of Alzaiem Alazhari University. Also, this study will help to know the positive aspects of social media usage and how to improve it. What are the adverse effects and how to avoid them.

### 1.2. Objectives

General objective:

To identify the impacts of social media using on academic performance and mental health of undergraduate medical students.

Specific objectives:

1. To determine the effects of social Media usage on medical students academically and mentally.
2. To determine the negative and positive effects of social Media usage on medical academically and mentally.
3. To determine the relationship between time spends on social media and its effects on mental health and academic performance.
4. To determine the relationship between types of social media platforms and the purpose of use it with academic performance.

## 2. Methodology

### 2.1. Study Design and Setting

A descriptive cross-sectional study was conducted at Alzaiem Alazhari University, Khartoum, Sudan. Which was established in 1993. During the period from November 2020 to June 2021.

Study population and sampling:

The study was conducted on undergraduate medical students of Alzaiem Alazhari University. Using this formula to find the sample size.

$n = N / (1 + N)$ , Where: (n= Number of samples, N= Total population, e= Error tolerance).

The total population (N) = 954, so when we applied the formula the sample size (n) was equal to 280. By Stratified random sampling technique, the medical students were divided into 5 strata (according to their academic year) then the sample was selected randomly from each stratum. So, after dividing (n) on the 5 strata, we studied this study on 56 students from each batch a total sample size equal to 280 students.

*Data collection and analysis:*

In this study, the needed data was collected through an electronic structured questionnaire by Google form. The questionnaire included 4 parts: Sociodemographic data (age, gender, batch, marital status, residence), questions related to using social media (type of social media platforms, number of hours spent using it and purpose of the using), questions related to academic performance and questions about mental health. Statistical package for social science (SPSS) version 24 used to analyze the collected data and print it in graphs and frequency tables, then a statistical test was done to examine the relationship between time spent by students on social media and its effect on their mental health and the relationship between types of social media platforms and the purpose of use it with academic performance, by chi-square test.

## 2.2. Ethical Considerations

Ethical approval was obtained from the community department of Alzaiem Alazhari University, and after an explanation of the purpose of the research to all participants informed consent was obtained from them and their information was preserved confidentially.

## 3. Results

The majority of the participants are females 55.4% of the sample size. The predominant age group is 21-23 years 67.5% (table 1). Most of the participants are singles 96.4%. And are Bedouin residents, or do their origins go back to there 91.8% table 2. The sample size of this study was taken from five consecutive academic batches, with a fixed percentage of each academic batch shown in table 3.

As demonstrated in figure 1: all sample members of this study use social media and the majority of the sample members use the Facebook application, with a rate ranging between 25 to 50% of the rest of the media, where they reached 27.5% of the sample size. And 5% of the sample size does not use it (figure 2). While the members use the WhatsApp application, at a rate ranging from 75 to 100% of the rest of the

media, they make up 40.7% of the sample size (figure 3). while the members use the YouTube application, with a rate ranging from 50 to 75% of the rest of the media, they make up 31.4% of the sample size.

The members use the Telegram application, by the amount of 27.1% of the sample size.

We noticed that the majority of the sample members say that it is not to fetish and rapid flexing when it is preparing for it, with 51.6% of the sample size while those who feel anger and rapid faders 22.1% of the sample size while those who may notice 25.6% of the sample size.

We noticed that the majority of the sample members said that they have never been subjected to cyberbullying before, as their percentage reached 77.9% of the sample size, while 15% of the sample size says that they do not care about it, while 6.8% of the sample size says that they felt sad all that day They even managed to get rid of it, while 4% of the sample size got rid of cyberbullying after a long period.

The majority of the sample members feel motivated when browsing through the media the achievements of others, as their percentage amounted to 67.1% of the sample size, while about 19.3% of them feel jealousy and anger, while 11.10% feel frustrated, while 2.5% of the sample size does not feel anything when browsing it in the media (table 7).

Table 1. Socio-demographic data.

	Age								
		from 18 to 20		form21 to 23		from 24 to 27		more than 27	
		Sex		Sex		Sex		Sex	
		Male	Female	Male	Female	Male	female	Male	female
		Count	Count	Count	Count	Count	Count	Count	Count
Batch	batch 23	0	0	14	22	13	6	1	0
	batch 24	0	0	20	30	5	1	0	0
	batch 25	1	0	23	31	1	0	0	0
	batch 26	4	7	20	23	1	0	1	0
	batch 27	20	30	1	5	0	0	0	0

*Table 2. Socio-demographic data.*

		Place of residence			
		Bedouin		Civilize	
		Social status		Social status	
		Single	Married	single	Married
		Count	Count	Count	Count
Batch	batch 23	48	4	4	0
	batch 24	51	1	4	0
	batch 25	49	4	3	0
	batch 26	48	0	7	1
	batch 27	52	0	4	0

*Table 3. The batch.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	23	56	20.0	20.0	20.0
	24	56	20.0	20.0	40.0
	25	56	20.0	20.0	60.0
	26	56	20.0	20.0	80.0
	27	56	20.0	20.0	100.0
	Total	280	100.0	100.0	

*Table 4. Other platforms used by students.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TikTok	21	7.5	47.7	47.7
	Snapchat	8	2.9	18.2	65.9
	Reddit	1	0.4	2.3	68.2
	Quora	3	1.1	6.8	75.0
	Discord	1	0.4	2.3	77.3
	Messenger	2	0.7	4.5	81.8
	Imo	5	1.8	11.4	93.2
	Botim	2	0.7	4.5	97.7
	Weverse	1	0.4	2.3	100.0
Total	44	15.7	100.0		
Missing	System	236	84.3		
Total		280	100.0		

**Table 5.** Determine students currently grade average point (GPA).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	49	17.5	17.5	17.5
	very good	135	48.2	48.2	65.7
	Good	79	28.2	28.2	93.9
	Acceptable	17	6.1	6.1	100.0
	Total	280	100.0	100.0	

**Table 6.** Negative impacts of social media on mental health.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	90	32.1	32.1	32.1
	Agree	123	43.9	43.9	76.1
	Not agreeing and not opposing	63	22.5	22.5	98.6
	Opposed	3	1.1	1.1	99.6
	vehemently opposed	1	0.4	0.4	100.0
	Total	280	100.0	100.0	

**Table 7.** Feeling of students when go through the achievements of others on social media.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I feel motivated	188	67.1	67.1	67.1
	Frustration	31	11.1	11.1	78.2
	anger and jealousy	54	19.3	19.3	97.5
	Nothings	7	2.5	2.5	100.0
	Total	280	100.0	100.0	

**Table 8.** Time need by students to sleep.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than half an hour	154	55.0	55.0	55.0
	Half an hour to an hour	82	29.3	29.3	84.3
	about an hour	25	8.9	8.9	93.2
	Furthermore	19	6.8	6.8	100.0
	Total	280	100.0	100.0	

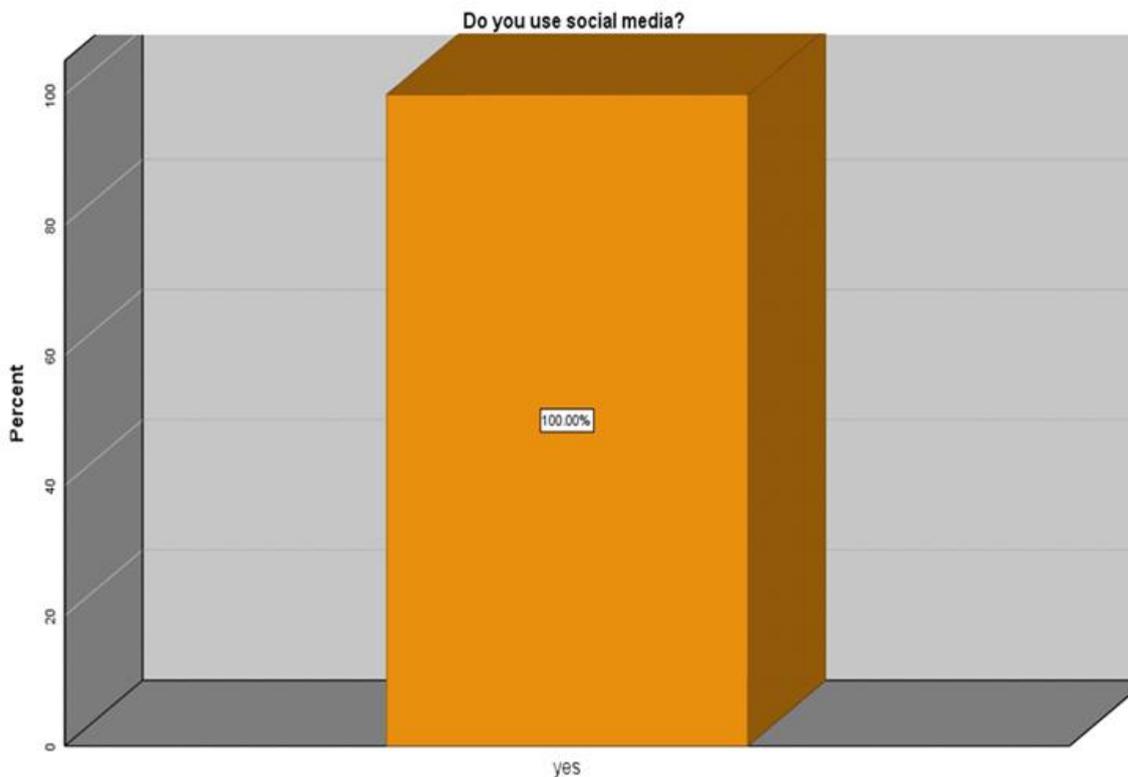


Figure 1. Usage of social media.

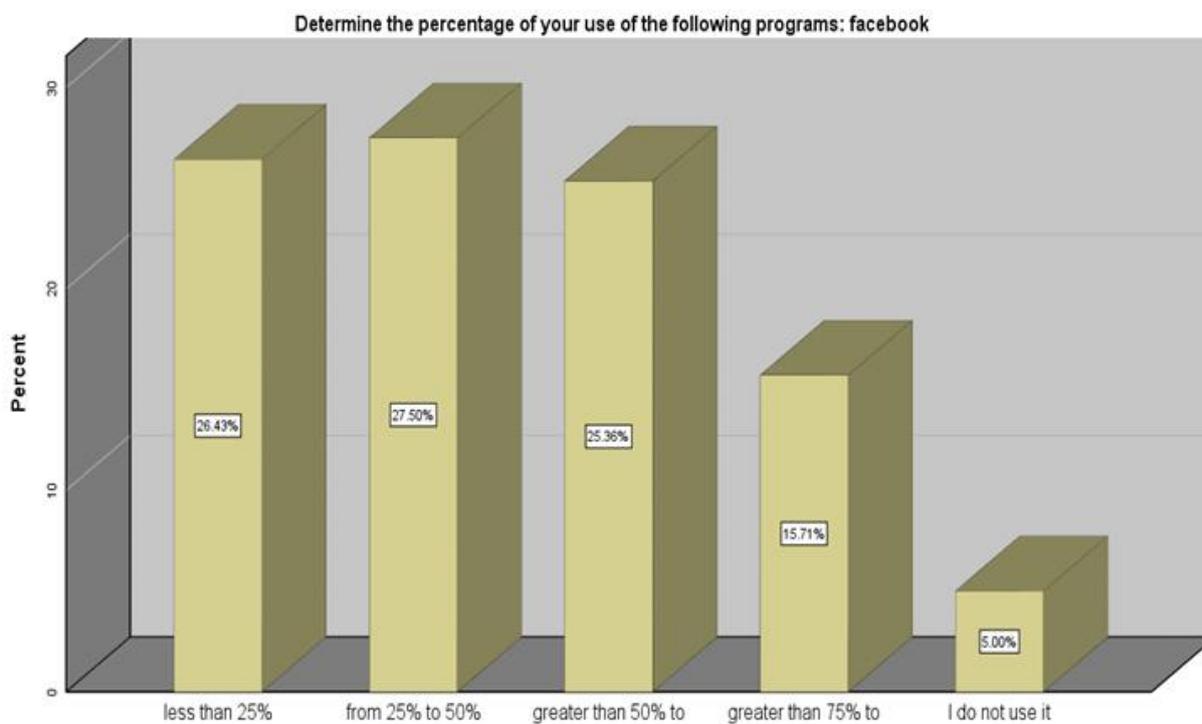


Figure 2. Demonstrates percentage of face book usage by students.

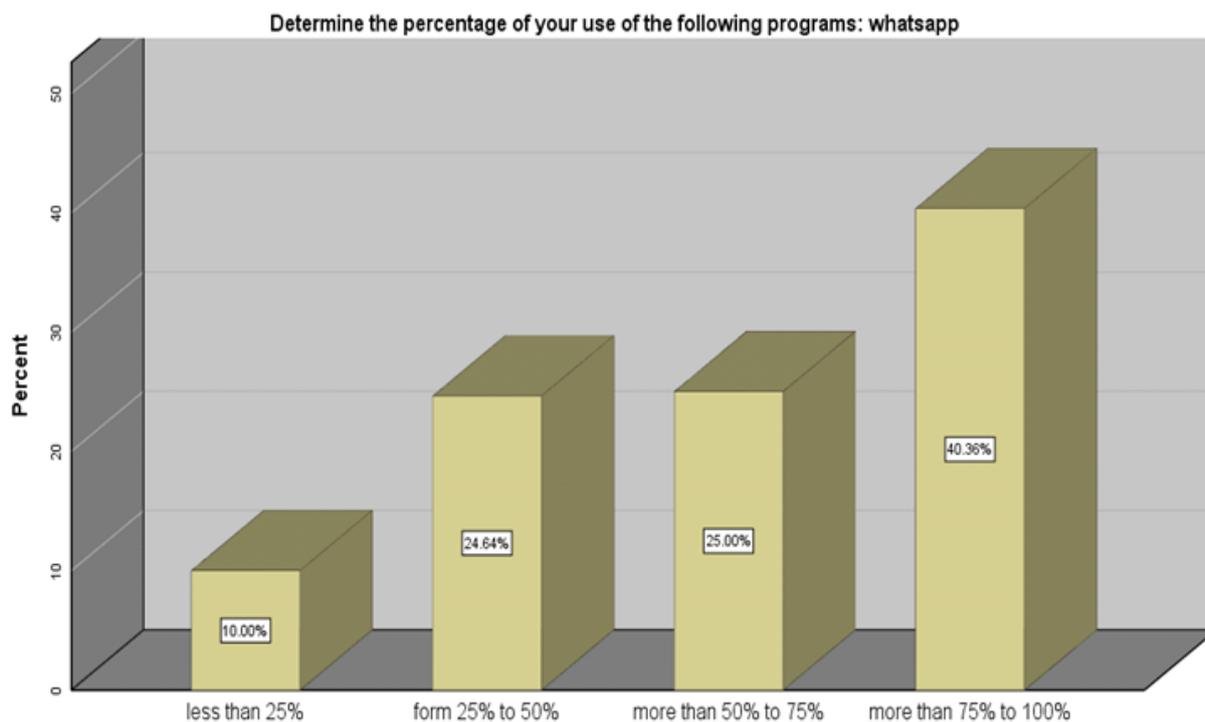


Figure 3. WhatsApp usage percentage.

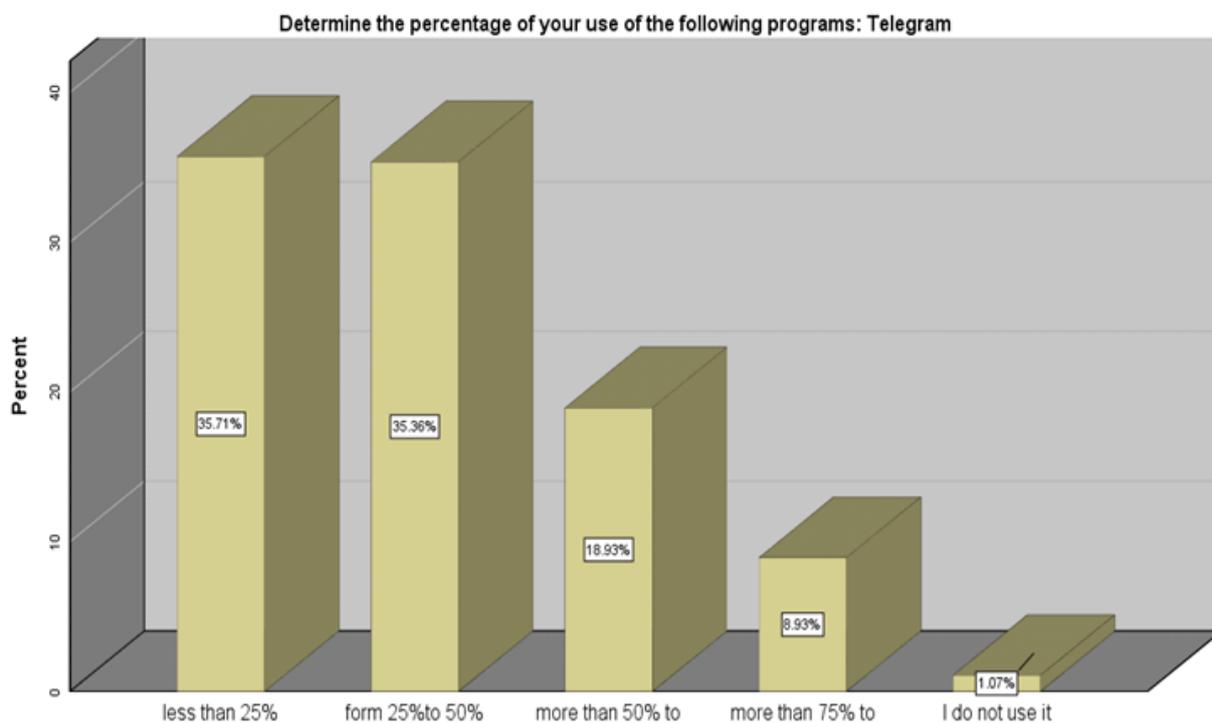


Figure 4. Telegram usage percentage.

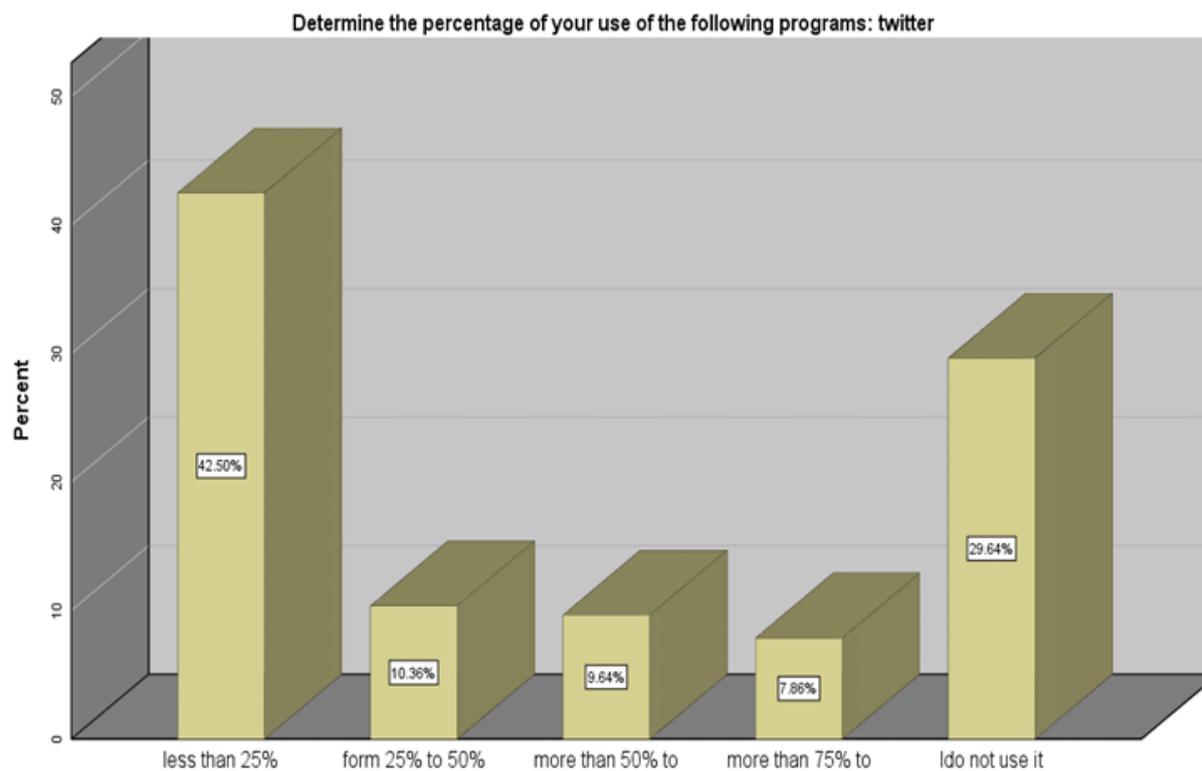


Figure 5. Twitter usage percentage.

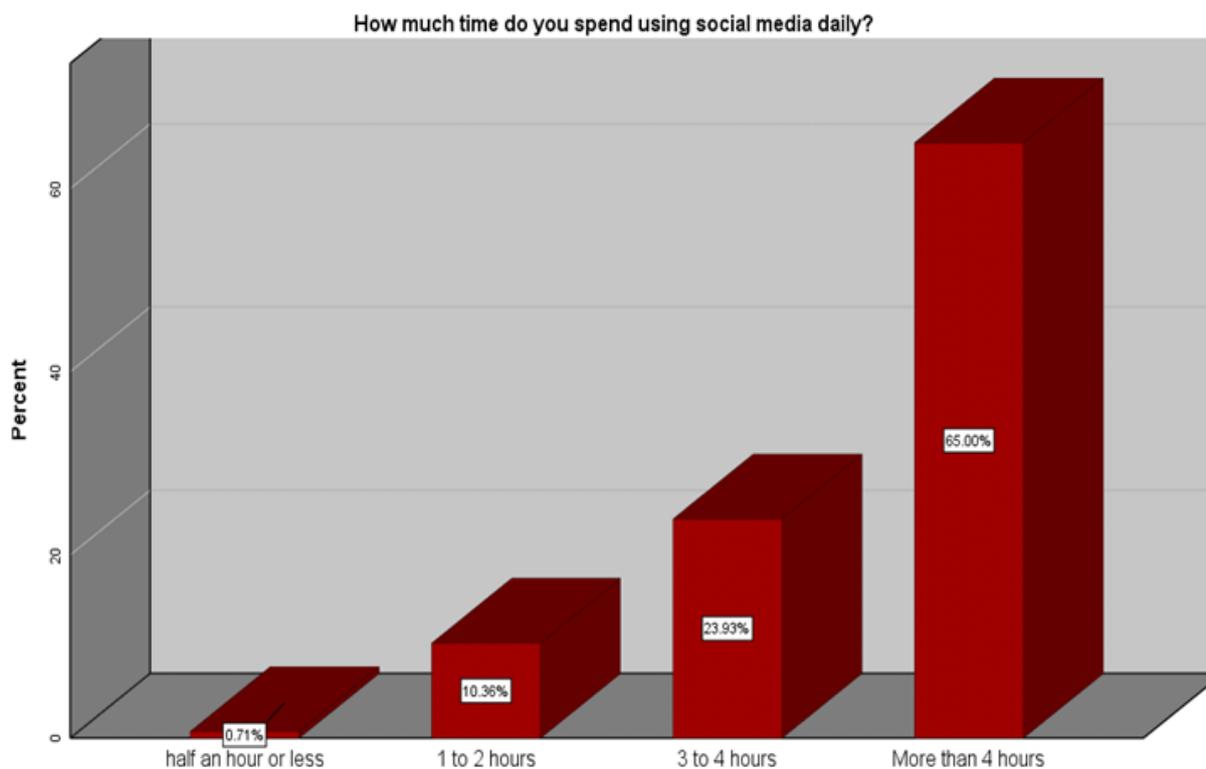


Figure 6. Daily time spend on social media.

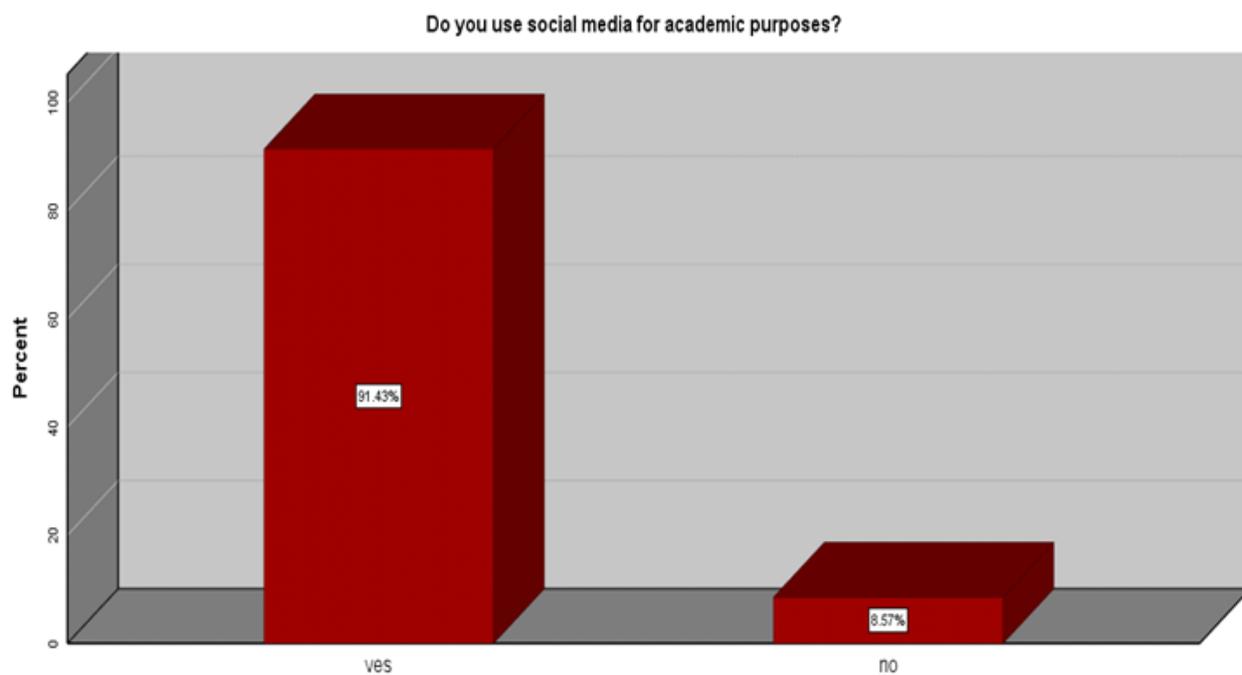


Figure 7. Number of students used social media for academic purposes.

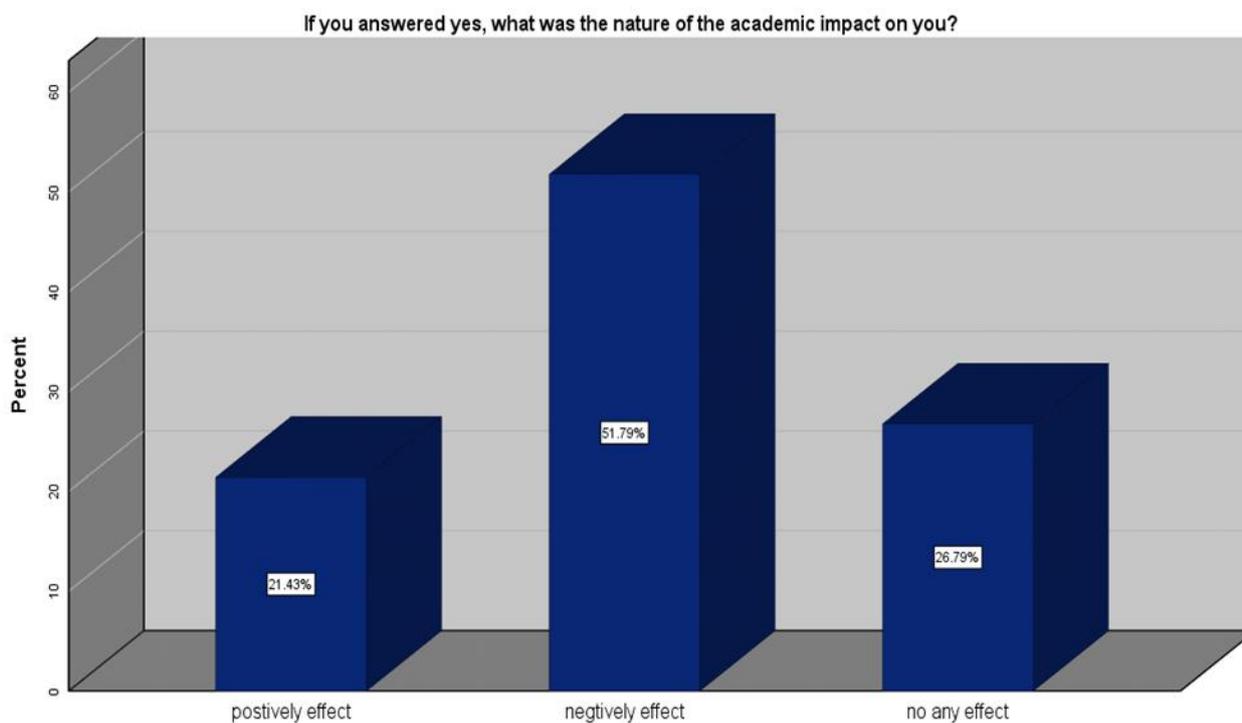
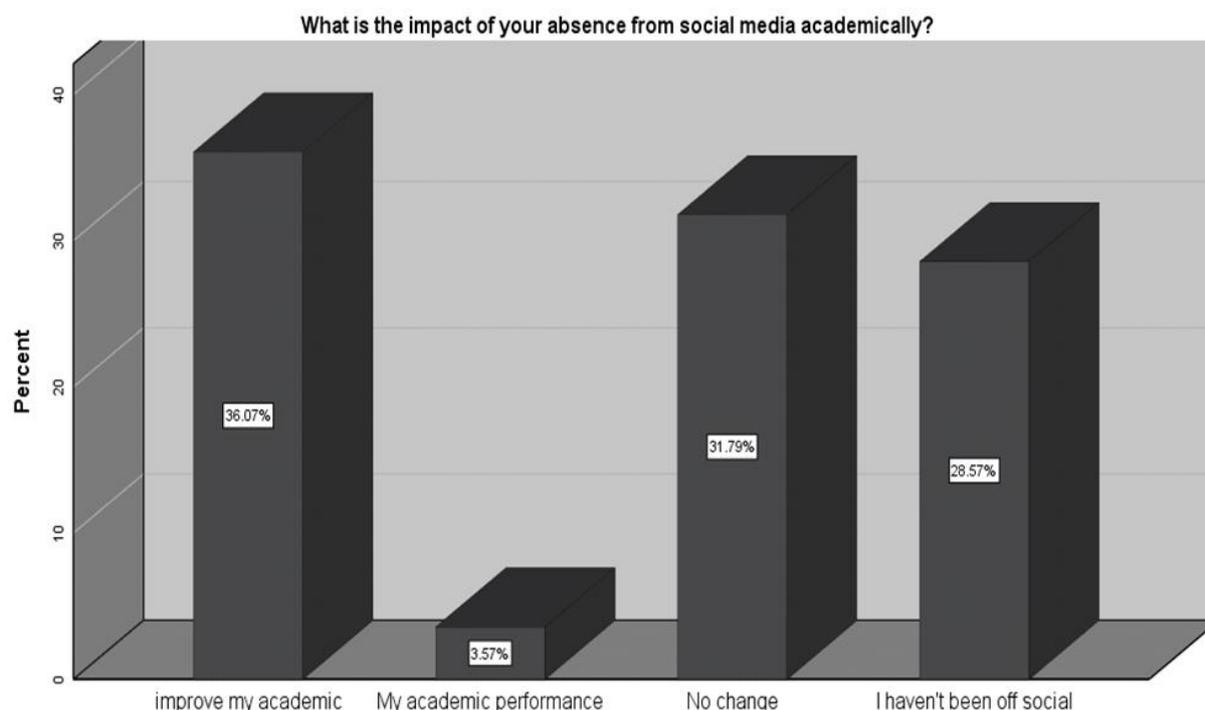


Figure 8. Nature of academic impacts on students.



**Figure 9.** The impacts of absence from social media academically.

The majority of individuals said that their tendency to loneliness and isolation ranges between 40 to 60%, where their percentage reached 27% of the sample size, while 22.5% of the sample size ranged from 60 to 80% of the sample size, while 18.2% Of the sample size, their inclination to loneliness and isolation ranged from 80 to 100%, while 18.9% of the sample size ranged from 20 to 40% of the sample size.

The majority of the sample members take less than half an hour to sleep, as their percentage reached 55% of the sample size, while 29.3% of the sample size takes from half an hour to an hour until they can sleep, but about 8.9% of the sample size takes about an hour until He sleeps, but 6.8% of the sample size takes more than an hour to be able to sleep (table 8).

## 4. Discussion

The study was conducted on medical students of Alzaiem Alazhari University among 280 students taken equally from five batches, all of them use social media, and the majority of them are females constituting about 55.4%.

Facebook is considered the most social media used followed by WhatsApp, telegram and YouTube, we find that the percentage of consumption of time more than 4 hours reaches 65% which is considered very high when compared with recommended healthy time (30 minutes)

In this study, we show that the majority of students say that social media has a negative impact on academic performance, which is similar to the Iranian cross-sectional study [16], and cross-sectional study completed by Hira Hasnain, AnumNasreen and Hamza Ijaz [17]. Also, another Nigerian

descriptive study demonstrates the negative impact of social media [23]. On the other hand, researches like an Online cross-sectional survey conducted on 650 medical students shows that two-thirds of students consider social media to have a positive impact on academic performance [14]. although social has a negative impact generally, also has a positive impact on finding a job, developing skills, and education which gives the area of sharing material, finding resources and meeting people, this is going in line with a study in Delta State University, Abraka, Nigeria [15] and a descriptive study done by Gilbert M. Talaue, etal [19].

The majority of participants consider the social media to affect their academic performance negatively, we consider the imperatival consequence of consuming a lot of time and, superiority of recreational and entertainment purposes over academic issues as explanations, although of this negativity majority of them have very good GPA, which is proven by Causal-comparative study in Nigeria conducted on four universities concluded the majority suffer from internet addiction that's results in poor performance [18]. Another study found that time spent on social network sites is shown to negatively impact academic performance [24]. As time spent on social networking sites increases, the academic performance of the students is seen to deteriorate, the negative impacts of social media on academic performance are clear enough and need more clarifying.

about 76% agree with the negative impacts of social media on mental health although when we asked how much time need to fall asleep, most of them said less than 30 minutes which shows no sleep problem but this may be due to exhaustion, which makes them fallen sleep and their phones

with hand. many studies conducted similar results of our research [10, 12, 25].

## 5. Conclusion

According to our study all participant is use social media and this mean that a social media has become very popular among students these days and they spend more than 4 hours daily in it.

The study revealed that the most of participant were affected negatively by social media and their academic performance was deteriorated as to their mental health while they said they were get improved academically when they stopped using it for certain period.

Majority of students spend long time on social media especially on WhatsApp for recreational purposes so this affects their academic performance due to waste of time.

There is clear relationship between type of program using by students and the purpose of use it e.g., most of participant choose WhatsApp as their best platform and it is known media for recreational purposes as in this study the most of participant said that they use social media for recreational aims and this behaviour is against their academic performances.

Despite spend long time on social media majority of respondent said they need less than half an hour to sleep when they return to their beds so we noticed that this may be due to exhaustions.

Most of respondent said they have tendency to loneliness and isolation when they use social media in range of 40 to 60% and this may affect their mental wellbeing.

The study found some positive affect of social media like developing skills, making new friendship and they motivated when see others achievements on social media and also, they benefit from it in purpose of electronic learning.

## 6. Recommendations

1. Minimize uses of cell phone and computers unless the purpose is important and good.
2. The uses of internet generally should lower.
3. The medical students should give the academic issues the priority when use social media.
4. We advise students to benefit from learning features of social media.
5. social media browsing better to avoid when go to sleep.
6. Avoiding compare yourself with others due to dissimilarity of life.
7. We should increase the awareness of people in social media about cyber bullying and other bad things.
8. Support students and give them motivation is very important through videos and posts.
9. We encourage the establishment workshops and conferences about social media problems.
10. We hope researchers to establish more research.

## Abbreviations

GPA: grade average point

SPSS: Statistical package for social science

## Author Contributions

A. A.; conceptualization and methodology, A. A. and A. M.; software, M. M; formal analysis, A. M. and M. M. and A. A.; resources, A. H. and A. A. and A. M.; writing—original draft preparation, A. A. and M. M.; writing—review and editing.

## Data Availability

The data used in this study are available from the corresponding author on reasonable request.

## Conflicts of Interest

The authors declare no conflicts of interest.

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