

Effect of Electronic Media Abuse on Health Among University Students

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Abstract

Background: Electronic media become an integral part of students' lives. Electronic media abuse has adverse effects on students' physical, psychological, social health and academic achievement of university students. **Aim:** the aim of study was to assess effect of electronic media abuse on health among university students. **Subjects and methods:** this study was Descriptiveanalytic **Sample:** Multistage sample was selected and this study was performed on 298 students **Setting:** four faculties at Beni-suef University. **Tool** Data were collected using interviewing questionnaire including 1) Demographic characteristic of university students 2) University students' opinions about electronic media abuse 3) Academic achievement and electronic media use among university students 4) Effects of Electronic media abuse on health of university students.. **Results:** the result of this study showed that (100%) of university students used internet and (95.3%) of them used smartphone 48.6% of university students had sever effect on psychological condition.43.6% of students had sever effects on physical condition.62.7% of university students had sever effect on social health and there is highly significant association between academic achievement and use of social media in which ($p= 0.0001$). **Conclusions:** the studied students had adverse effects of electronic media abuse on physical, psychological, social and academic achievement. **Recommendations:** Increase university students' awareness about hazardous technological effects on the human body and importance of face-to-face communication to enhance social health of students.

Keywords: Electronic media abuse, University students, Physical, Psychological, Social health, Academic achievement, Role of CHN.

Introduction:

Electronic media play an integral role in the lives of all people. Over the years, the rapid growth of technology in broad forms has obviously affected on people lives and interaction. Televisions, record players, computers, laptops, and VCRs (videocassette recorder) changed how people learned, were entertained, stayed connected, and explored. In the past two decades, these devices have been joined or replaced by cellular phones, I-Pods, MP3 players, DVDs, and PDAs (personal digital

assistants) (Tahir & Shafi, 2015, Karthi, et al, 2018).

These new technologies have become a cornerstone for how people, particularly university students, communicate and are entertained. Technology gives adolescents many benefits; talking to people worldwide, the easy and regular communication or contact with family and friends, forming satisfying social connections that may be difficult to form in person. Some young adult said that they are feeling good about themselves on-line than in real world and feeling easier to be accepted on-line.

Besides, the easily accessibility of the internet through cell phones and wireless computer access provides adolescents quickly and easily to be knowledgeable about a various number of topics (Miakotko, 2017).

On the other hands, as the growing phenomenon of vast browsing of the Internet; now-a-days researchers are trying to identify what are the impacts of heavy Internet usage, specifically for the university students affect their health. A number of researches has also been conducted on the impact of electronic media abuse and excessive internet usage and has explored that it impact on their health negatively and positively (Alam, et al, 2014, Tahir & Shafi, 2015).

Social networking sites (SNS) are forms of electronic media that refer to web-based and mobile applications that enable individuals and organizations to create, engage, and participate new user generated or existing content through multi-way communication. Examples of these social media include Facebook, Twitter, YouTube, WhatsApp, Instagram, etc. social networking sites (SNS) have become the most modern and attractive tools for connecting people throughout the world particularly university students (Mingle& Adams, 2015).

Nowadays, university students are highly relay on the electronic media and internet to seek for information, SNS, entertainment, online shopping, and online gaming, among others. Students, especially the undergraduates aged between 19 and 24 years old are deemed to be more susceptible to electronic media abuse which may be characterized by emotional instability and low academic performance. The use of technologies such as social media networks and the Internet is one of the most important factors that can influence educational performance of students positively or

adversely (Mehmood and Tawir, 2014, Yeap et al, 2016, Ambad et al, 2017).

The negative effects of electronic media abuse include anxiety, depression, physical health problems, school absenteeism, lying, fatigue, and social isolation. The excessiveness of the electronic media also may lead to low self-esteem, depression, boredom, and attention-deficit hyperactive disorder. Using mobile phones also associated with symptoms of headaches, earache, concentration difficulties, fatigue as well as musculoskeletal symptoms (Zain El Dien, 2014, Norharlina, 2016, Ambad et al, 2017).

The role of community health nurse focus on preventing negative effects of electronic media, and provide education to university students and their parents for the positive and negative effect of electronic media in the context of bio-psycho-social effect of electronic media and internet on students lives. Parents should be aware of the risks associated with students such as long time screen and violent imagery as it promotes aggressive attitudes, fear and antisocial behavior. So the nurse should offer support and advice to parents who allow students' unsupervised access to electronics and inappropriate violent imagery as it may lead to physical, psychological and social consequences (Mostafa, 2018).

Significance of the study:

The new 2018 Global Digital suite reveals that there are now more than 4 billion people around the world using the internet. Africa has seen the fastest growth rates, with the number of internet users across the continent increasing by more than 20 percent year-on-year. Two-thirds of the world's 7.6 billion inhabitants now have a mobile phone. More than 3 billion people around the world now use social media each

month, with 9 in 10 of those users accessing their chosen platforms via mobile devices (Mcdonald, 2018).

Egypt had the most significant growth in internet users and social media in 2017. Internet user penetration in Egypt reached 48% in 2017 with an estimated number of 45 million and projected to grow to 53.5 percent in 2019. More than 14 million of Egyptians are very active on social networks, 110.06 million Mobile subscribers, 26.3 million Egyptians are using smart phones, 37 million Egyptians access Face book every month with over 22 million or 59% of monthly active people return every day. The largest age group for Face book usage is currently 18-24years old, followed by the users in the age of 25-34. And both sexes are logging on for their social media fix as 64% male users and 36% female users in Egypt sign in (Ahmad, 2017).

Aim of the study:

The Aim of this study is to assess effect of electronic media abuse on health among university students.

Research question:

1. Which electronic media types are the university students mostly exposed to?
2. What are the effects of electronic media abuse on the physical condition of the university students?
3. What are the effects of electronic media abuse on the psychological condition of the university students?
4. What are the effects of electronic media abuse on the social condition of the university students?
5. There are relationship between electronic media abuse and academic achievement of the university students?

Subjects and Methods:

Research design:

A Descriptive design was used to fulfill the aim of the study and answer the research questions.

Setting of the study:

This study was conducted in 4 faculties at Beni-suef university; faculty of nursing, faculty of Physiotherapy, faculty of social work, faculty of mass communication. Subject: A Multistage sample was used and this study was performed on 298 students from 4 faculties.

Data collection tool:-

The data for this study were collected by using one tools structured interviewing questionnaire designed by investigator after reviewing the related current and previous literature to collect data which concern the aim of the study at consisted of 4 parts as follows:

Part one: Designed to assess demographic data and electronic media used by university students. (Q 1- Q32)

Part two: university students' opinions about electronic media abuse impacts and factors attract student to use electronic media. (Question 33-34)

Part three: Designed to collect data on student's academic performance. (Q 35-42).

Part four: Designed to collect data about effects of electronic media abuse on health among university students physical, psychological and social ;38 questions. (12 questions covered physical domain, 15 questions covered psychological domain and 11 questions covered social domain)

❖ Scoring system:

Each questions has 3 level of answer: yes(2) =sever effect, sometimes(1) =moderate effect, no(0) =mild. The scores of the items were summed-up and the total divided into by the number of the items.

These scores were converted into a percent score, they were evaluated as following:

Physical domain:

Mild effect= from 0 to 8 grade

Moderate effect= from 9 to 16 grade

Mild effect=from 17 to 24 grade

Psychological domain:

Mild effect= less from 10 grade

Moderate effect= from 10 to 19 grade

Mild effect=from 20 to 30 grade

Social domain:

Mild effect= less than 7 grade

Moderate effect= from 7 to 14 grade

Mild effect=from 15 to 22 grade

Tools validity and reliability:

Study tools that were designed submitted to a panel of reviewers and experts. Each one of the experts on the panel was asked to examine the instrument for content coverage, clarity, wording, length, format, and overall appearance. Modifications of tools were done according to panel judgment.

Ethical consideration:

For ethical reason, primary approval obtained from the Research and Ethics committee at Faculty of Nursing, Ain-shams University, also, an official permission was obtained from the selected faculties (faculty of nursing, faculty of Physiotherapy, faculty of social work, faculty of mass communication) to conduct the study. Each participant informed about the purpose of the study and its significance. They were informed as well, that they have the right to withdraw from the study and anonymity and confidentiality secured

Administrative design:

An official letters were sent to the directors of the 4 faculties at Beni-Suef University explaining the aim of the study.

Pilot study:

A pilot study was conducted on 10% of total sample of university students (30 students), it was done for evaluation of the applicability and clarity of the tools, assessment of feasibility of fieldwork, identification of a suitable place for interviewing women, and to detect any possible obstacles that might face the investigator and interfere with data collection.

Statistical analysis: The collected data were coded and entered in special format to be suitable for computer feeding. Following data entry, checking and verification process were carried out in order to avoid any errors. Data were analyzed using the statistical package for social science (SPSS). The following statistical analysis measures were used:

- Descriptive statistical measures
- Statistical analysis test
- Graphical presentation

Result:

Table (1): shows that 30.2% of university students are 21 years old and the mean \pm SD age is 20 ± 1.6 years. 65.8 % of university students live in rural area. 55% of them are female. 60.4% of them are single. Besides, 66.4% of them are not participated in students' activities. 41.3% of mothers and 52.3% of fathers are read and write. 66.4% of university students has not enough income.

Table (2) : Proved that the most electronic media used by university students internet and smartphone, 100% and 95.3% respectively. 90.6% of university students watching TV. Movies and football match are most watching programs, 35.6% and 37.03% respectively. 83.9 % of university students used facebook, 75.2% of them using whatsapp and finally, 82.6% of them not using you tube.

Figure (1): demonstrate that 43.6% of students have sever effects on physical condition.

Figure (2): demonstrate that 48.6% of university students have sever effect on psychological condition.

Figure (3) : illustrated that 62.7% of university students have sever effect on social health.

Figure (4): illustratted that there was highlyly significant negative correlation

between hours of use of electronic media and social health.

Table (3): represented that there is highlyly significant association between academic achievement and use of social media in which ($p= 0.0001$).

Table (1): Distribution of studied university students according to their demographic characteristics :- (n= 298).

Demographic characteristics	N	%
Faculty		
• Faculty of mass communication	62	20.8
• Faculty of Nursing	103	34.6
• Faculty of Social work	50	16.8
• faculty of Physiotherapy	83	27.9
Academic year		
• First	73	24.5
• Second	55	18.5
• Third	68	22.8
• Forth	102	34.2
Age		
• 18	70	23.5
• 19	60	20.1
• 20	63	21.1
• 21	90	30.2
• 22	15	5
Mean± SD	20±1.6 years	
Residence of place		
• Rural	196	65.8
• Urban	102	34.2
Gender		
• Male	134	45
• Female	164	55
Marital status		
• Married	118	39.6
• Single	180	60.4
Participation in students activities		
• Yes	100	33.6
• No	198	66.4
Education of mother		
• Illiterate	95	31.9
• Read and write	123	41.3
• Bachelor	80	26.8
Education of father		
• Illiterate	81	27.2
• Read and write	156	52.3
• Bachelor	61	20.5
Income		
• Enough	100	33.6
• Not enough	198	66.4

Table (2) :Distribution of university students according to their usage to electronic media (n= 298) (research question no 1).

Student's use of electronic Media	N	%
watching T.V programs		
• Yes	270	90.6
• No	28	9.4
The most favourite program to university students		
• Movies	96	32.2
• Series	61	20.5
• Foot ball	128	43
• Music	13	4.4
Duration of watching favourite program		
• Less than 3 hours/day	120	40.3
• 3 hours/day	95	31.9
• More than 3 hours/day	83	27.9
using computer or laptop		
• Yes	212	71.1
• No	86	28.9
Duration of computer use		
• Less than 3hour/day	83	39.1
• 3 hours/day	76	35.8
• More than 3 hours/day	53	25
Using smartphone		
• Yes	284	95.3
• No	14	4.7
Duration of mobile use		
• Less than 3 hours/day	78	27.5
• 3 hours/day	102	35.9
• More than 3 hours/day	104	36.6
Using internet		
• Yes	298	100
• No	0	0
Duration of internet use		
• Less than 3 hours/day	81	27.2
• 3 hours/day	77	25.8
• More than 3 hours/day	140	47
Using face book		
• Yes	250	83.9
• No	48	16.1
Duration of face book use		
• Less than 3 hours/day	65	26
• 3 hours/day	93	37.2
• More than 3 hours/day	92	36.8
using what app		
• Yes	224	75.2
• No	74	24.8
Duration of WhatsApp use		
• Less than 3 hours/day	64	28.6
• 3 hours/day	60	26.8
• More than 3 hours/day	100	44.6
using you tube		
• Yes	52	17.4
• No	246	82.6
Duration of you tube use		
• Less than 3 hours/day	52	100
• 3 hours/day	0	0
• More than 3 hours/day	0	0

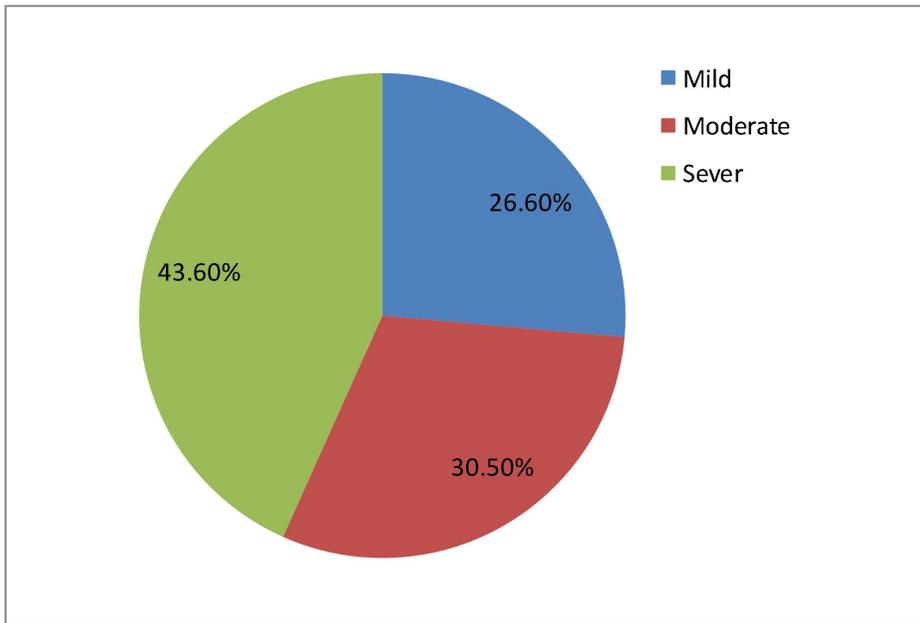


Figure (1):effect of electronic media abuse on the physical condition of the university student (n=298).

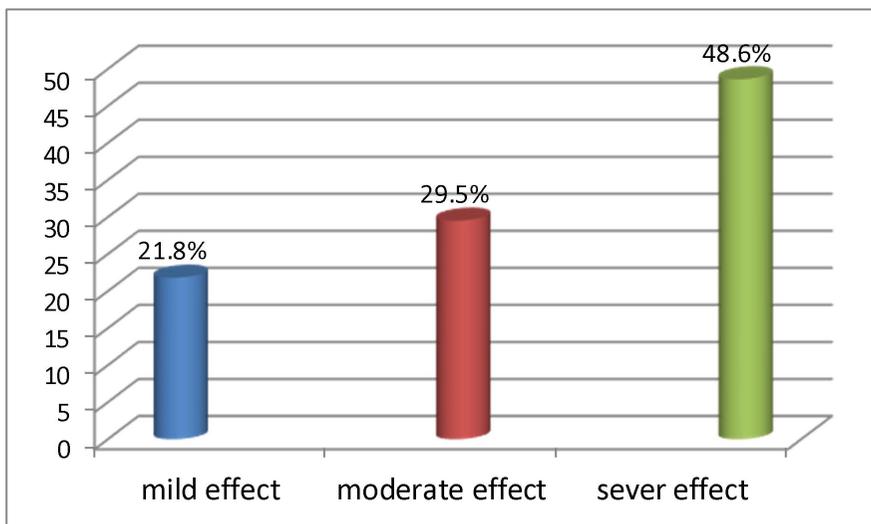


Figure (2): effect of electronic media abuse on the psychological condition of the university student (n= 298). (research question no 3).

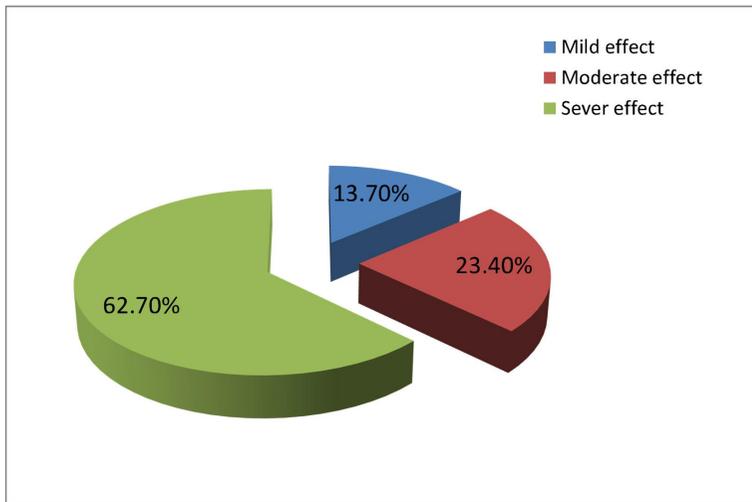


Figure (3): effect of electronic media abuse on the social condition of the university student (n=298) (research question no 4).

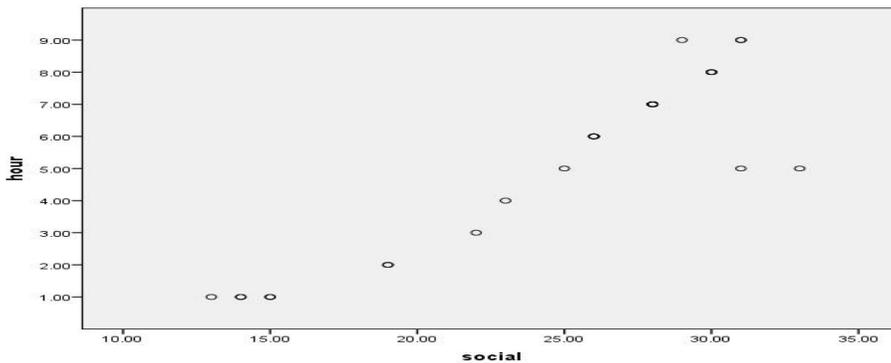


Figure (4): Correlation between hours of use of electronic media and its impact on social health (n=298).

Table (3):Relation between academic achievement and hours use of social media (n= 298) (research question no 5).

Academic achievement	Hours use of social media						X ²	P
	Less than 3 h		3h		More than 3 h			
	N	%	N	%	N	%		
Total grade last year								
Acceptable 130	15	11.5	30	23.1	85	65.3	52.3	.0001
Good 40	10	25	12	30	18	45		
Very good 45	15	33.3	19	42.2	11	24.4		
Excellent 83	38	45.7	25	30.1	20	24.1		
Regular attendance								
Yes 196	62	31.6	65	33.1	69	35.2	22.3	.0001
No 102	16	15.6	21	20.5	65	63.7		

Discussion

The negative effects of electronic media abuse include anxiety, depression, physical health problems, school absenteeism, lying, fatigue, and social isolation. Using mobile phones also associated with symptoms of headaches, earache, concentration difficulties, fatigue as well as musculoskeletal symptoms the present study was carried out in 298 students.

Regarding to sociodemographic characteristic of the study subjects, the current study showed that average age of university students were 21 years old with mean SD 20±1.6 years. This result was in agreement with **Muduli (2015)** who investigated addiction to technological gadgets and its impact on health and lifestyle on college students with an average age of 21 year. **Tran et al, (2017)** who investigate the influence of internet addiction and online interpersonal influences on health-related quality of life reported that the highest percentage of participants was aged 21 with the mean age of participants 20.8 years.

Regarding of residence of place the study showed that nearly two thirds of subjects were living in rural area. This is due to the fact that rural area had large section of total Beni-suef population.

The result of current study revealed that more than half of subjects are female. This could be due to that males spend much time on other outdoor activities like hanging out and other stuff than females in that specific age group and in the Arab culture and female had much leisure time. This finding is in agreement with the result of **Fakhreldin, (2018)** who assess effects of awareness program on university students' problematic use of technology and face to face communication and reported that more than half of studied students were females. also, it was in agreement with **central intelligence agency (CIA) (2017)** males to females' ratio, which was 1.06 in 2016 at age group 15-24 years.

This result is disagreement with the study of **Kim et al. 2015** who investigated smartphone addiction among college students reported that females to be more than twice the number of males. Also, this result is inconsistent with **Mansour (2016)** who investigated the use of smartphone apps among library and information students at south valley university in Egypt showed that the majority of participants were females. This contradiction is due to different settings as the researcher in the former study targeted only one department that could be preferred by females.

Regarding to marital status, the current study revealed that less than two thirds of subjects were single. This result could be due to that most of sample selected were from scientific faculties and targeted subjects don't like to marry unless they graduated from faculty recording Beni-Suef culture and get jobs. the present study findings were in accordance with **Tran et al, (2017)** who investigate the influence of internet addiction and online interpersonal influences on health-related quality of life in young Vietnamese and study of **Jehopio, Wesonga and Candia (2017)** who investigate the effect of online social networking sites usage on academic performance of university students in Uganda reported that less than two third of participants were single.

Concerning participation in students' activities, the current study revealed that nearly two thirds of subjects didn't participate in activities. This could be related to excessive use of electronic media especially smartphones which don't allow time to participate in students' activities. This is agreement with **Fakhreldin (2018)** that showed that participants with less student activities participation tend to use social services more than those who spend their time in students' activities. This could be related to the availability of time to use smartphones' social services, which is less with spending time in students' activities.

Regarding of income, the current study revealed that nearly two thirds of subjects hadn't enough income .This could be due to the socioeconomic status of Egypt. This study was in agreement with **Stalin et al (2016)** who investigated mobile phone usage and its health effects reported that two third of participants belong to low socioeconomic status.

The current study revealed that the most participating students used

smartphones. From the investigator point of view this finding could be due to that smartphones became an international phenomenon and are becoming increasingly necessary in everyday life and offer an essential set of mobile applications for information, communication, education, and entertainment purposes. In addition to, smartphone provides internet access via Wi-Fi which facilitates installation of smartphone applications and other functions such as media players, digital cameras, and GPS-based navigation. this is in agreement with the study of **Haug et al. (2016)** who investigated Smartphone use and smartphone addiction among young people in Switzerland proved that most of participating sample (97.6%) owned a smartphone.

Regarding to student's use of TV programs, the current study showed that vast majority of subjects watch TV and showed that movies and football are the most programs of TV to watch by university students. This could be due to these programs lasting long time to watch that couldn't be watched online or on internet because of a weakened network in Egypt so it easy for them to watch these programs on TV.

The current study revealed that majority of subjects used facebook .This could be due to that facebook allow students to chat with multiple friends, to share/tag photos, to engage in social activism and easy to use. This is agreement with **EI-Bashbasha (2013)** who investigated the motivations of using social networking by the students of Jordanian Universities reported that vast majority of participants used facebook.

The current study revealed that A relatively high percentage of subjects had sever negative effects on physical health.this may be due to excessive use of electronic media especially social media through smart

phone and improper position while using media. This finding was in agreement with the study of the study of **Kim et al (2012)** who investigated effects of the use of smartphones on pain and muscle fatigue in the upper extremity showed that there was sever effect of smartphone on physical health. This was disagreement with **Abdelhamed (2014)** who investigated Upper extremities symptoms among mobile hand-held devices users and their relationship to device use reported that signs and symptoms reported by the participants in the current study were mild and moderate.the différance might be due to the samble size.

Concerning to effect of electronic media on psychological health, the current study reported that a relatively high percentage of subjects had sever effect on psychological condition .This may be due to excessive use of electronics might high raise their anxious level. this finding is in agreement with **Muduli (2015)** who investigated addiction to technological gadgets and its impact on health and lifestyle reported that addiction to tech-device had sever negative impacts on psychological health of the respondents.

The current study showed that a relatively high percentage of subjects had severed effect on social health .Due to the time spent on the devices the youth are refrained from some outdoor activities with friends and family. This was consistent with **Young (2004)** reported that participating students had sever negative impacts on relationship and social behavior. But **Jacobsen and Forste (2011)** who investigated academic and social outcomes of electronic media use among university students reported that SNS use and cellular-phone communication facilitate offline social interaction rather than replace it. There are several explanations for this contradiction. First, students are

multitasking, and are likely sending and receiving text messages or checking SNSs while hanging out with friends. In addition, students are likely using cellphone communication and SNSs to make plans with friends to go on dates, hang out, or socialize. Finally, access to SNSs and cellular-phone communication gives students greater access to social situations in general. They provide students with additional mechanisms for meeting new people and keeping in touch with friends.

The current study proved that there was statistical significant relation between the type of faculty (theoretical and practical faculty) and total hours of use in which $P=0.0001$. This could be related to the difference of study nature and the availability of time for each type of faculties. This result was supported by **Fakhreldin (2018)** who assess effects of awareness program on university students' problematic use of technology and face to face communication reported that theoretical faculties' students are using Smartphone's social services more than practical faculties' students.

Concerning to relationship between gender and total hours of use electronic media, the current study showed that there is no significant gender difference in electronic media abuse.this result is consistent with the study of **Chern, Lan and Ning (2015)** who investigated the relationship between smartphone addiction and loneliness among male and female undergraduates reported that there is no significant gender differences in smartphone addiction.

Regarding to relationship of participation in students' activities and total hours of use electronic media, the current study reported that there is statistical significant relation between participation of activities and total hours of use in which $P=0.0001$. This could be related to the availability of time to use electronic media

especially smartphones' social services, which is less with spending time in students' activities.

The current study revealed that there was highly significant association between academic achievement and use of social media in which $p=0.0001$. This case might stem from the fact that students with the dependency on electronic media especially mobile phone waste their time on such activities as talking on the phone, sending SMS, connecting to internet, playing games, listening to music and that they do not have time to fulfill their responsibilities in their daily lives. Also, This could be related to excessive use of electronic media especially social media lead to lack of concentration, tension and sleep disturbance that effect on studying. This finding was in agreement with the study of **Ambad (2017)** proved that electronic media and technology has a negative relationship with the students' academic performance, An academic research was conducted by **Acheaw& Larson (2015)** through which he proposed that university results are harmfully affected by Facebook usage, **Aljomaa et al. (2016)** who revealed a strong connection between poor academic performance and excessive SNS use, **Hawi and Samaha (2016)** who studied Smartphone' adverse effects on academic performance revealed that overuse of smartphone among university students made it unlikely for them to achieve distinctive GPA or higher. Also, The study of **Longnecker (2017)** who investigated The relationship between smartphone use, symptoms of depression, symptoms of anxiety, and academic performance in college students reported that smartphone use affect negatively on academic performance.

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Conclusion:

University students spend too much time using electronic media such as smartphone, internet and social networking sites especially facebook for chatting with friends and entertainment. As result of electronic media abuse by university students, there are negative effects on physical, psychological, social health and academic achievement.

Recommendation:

- 1) Encourage students' knowledge regarding adverse electronic media effects on human body in the form of course training and in curriculum at college.
- 2) Engage students in-college students' activities rather than spending too much time using electronic media.
- 3) Awareness programs about the how to control the effects of electronic media abuse and how to use electronic media effectively.
- 4) Apply educational program for students of all ages about the negative physical, psychological and social effects that could result from using electronic media for educational purpose rather face-to-face communication.

Financial support:

- No funding was received.

Conflict of interest:

- No - Yes

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