The Influence of Social Media on Adolescent Sleeping Duration and Quality

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Abstract. This review will seek to investigate whether social media has an influence on sleeping duration and quality, and to what extent social media effect residents especially teenagers' sleeping. An increasing number of studies have found out that the time students spend in social media is rising dramatically due to the necessary use, the fear of missing out and the desire to talk and share something with others. Consequently, plenty of people use social media no matter it is necessary or not and they would probably check their social media account frequently at night since missing something can make them feel embarrassed, so the use of social media has already left a deep influence on certain group of teenagers and also some young adults. Nevertheless, if people take the advantages of social media, and use it in the right way under great self-discipline. it is profoundly convenient and practical for individuals and have no negative effect on sleeping duration and quality.

1 Introduction

With the development of technology, the role of social media is becoming more and more influential. It is true but ridiculous that almost no one can live without social media. This is a truth that you have to do some teamwork with social media and you perhaps also use social media just to talk to your friends to share your daily life. People not only use it during the day but also at night. The hour of using social media is growing dramatically due to the increasing number of different social media platforms, such as Wechat, Instagram and snapchat. There are over 2.5 billion users of social media sites and cellphones worldwide [1]. Moreover, there are increasing types of electronic devices providing more medias. For example, it is avaliable to chat on some smart watches, and this also increase the time of using social media. That is to say, almost no one can live in isolation by virtual of the development of social media and the high engagement of users. Due to the ease of use and portability of smartphones, an increasing number of these users participate in nighttime activities [1].

For most residents, social media is considered more potentially addictive than cigarettes on grounds of being popular among all ages [1].Recent studies indicate that "fear of missing out" (FoMO), which keeps people up late using social media, may cause sleep problems and affect the quality of their sleep [1] .Checking messages before going to sleep has already become a necessary habit. As a result, the compulsory use of social media influences people's sleeping time and sleeping quality significantly. Nocturnal social media use have a great possibility to contribute to incidents of disturbed or problematic sleep, which makes students feel profoundly exhausted the following day [1].For instance, it has been noted that 30% of respondents accessed social media in the 30 minutes prior to going to bed, which led to restless nights [1].Consequently, it is evident that the a lot of people's well-being have been already influenced by social media because of their reliance on social media, and adolescents are the group of people being influenced the most seriously.

2 Sleep quality measurement

The sleep quality usually represents how deep you sleep and how you help yourself being recovered from the whole day tiredness. If you feel energetic after a whole night sleep, that means this is asleep of high quality. Currently, the use of internet and social media grows dramatically and influenced by internet and social media is the sleep quality. Teenagers who spend more time on the internet had shorter sleep duration, later bedtimes and increased daytime weariness, earlier wake-up times, and longer sleep durations [2]. In one prior study involving 467 secondary school pupils aged 11-17, researchers examined the relationship between social media use and various aspects of adolescent well-being, including sleep quality, anxiety, depression, and self-esteem. The study employed a range of measures and questionnaires to assess these variables. The participants completed the assessments either in class or online, with ethical approval granted for the study. The Pittsburgh Sleep Quality Index (PSQI), which consists of 19 self-rated questions, was utilized by the researchers to gauge the quality of their sleep. A score higher than 5 on this indicator is seen as being symptomatic of poor sleep, whereas higher numbers indicate worse sleep. Anxiety

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and depression are measured using the Hospital Anxiety and Depression Scale (HADS), which has two subscales. To gauge both general and evening social media usage, two metrics were created.

The study discovered a connection between social media use and a number of positive features of wellness. Poorer sleep quality was linked to increased overall social media use, nighttime-specific social media use, and emotional investment in social media. Similar to this, more social media use—especially emotional investment—was linked to higher levels of anxiety, despair, and low self-esteem. Even after controlling for worry, despair, and self-esteem, further analysis showed that nighttime-specific social media use was a significant predictor of worse sleep quality, contributing to problems physically and mentally.

Almost every child during the fourth year of primary school in China have all already own a mobile phone. In all likelihood, many students mainly focus on social media like wechat and QQ which are applications to chat with each other instead of games on grounds that they owing the phone for the first time with curiosity. They can not only talk to their friends and ask their teacher some questions on social media but can also post photos and videos in their moments and review what their friends have posted and make some coments. Importantly, platforms richly give a variety of options for social contacts, enabling people to carefully promote themselves through public profiles, measure peer acceptance through the amount of likes, and minimize everyday face-to-face peer interactions [3]. Using social media is an extremely good choice for those who are nervous to communicate with others face to face, so some introverted individuals often spend their time on social media, no matter during the day or night. Poor sleep is known to contribute to anxiety, depression and low self-esteem during adolescence [2]. Consequently, adolescences are the generation who have the most significant effect of social media because their self-control is not being full developed, making them failed to manage their time properly. 97% of students utilized social media applications, according to a study's findings, however just 1% of students used social media for academic purposes. While 43% of them used these websites to pass the time by browsing, 35% of them used them to interact with others. Additionally, 57% of them reported having a social media addiction [4]. Obviously, the main aim for the majority of students is not to use social media academically but for their own purpose like chatting and browsing websites. Dislike adults, children do not have the ability to weight the importance of which should go first, so often failed to control themsleves from tallking and viewing social media frequently, especially during the night and their rest time. It is clear that the young generation have a greater possibility to experience a disturbed sleep during the night by virtual of using social media before going to bed for a long time frequently.

3 Negative impact of social media

It is understandable that social media actually provide tremendous communication and opportunities, but nowadays a large spectum of people spend too much time on social media that they even get addicted to be it. Social media stalking can now be recognized as a significant danger linked with sharing personal information and utilizing social media due to the desire to share and learn more about others [5]. Heaps of students cannot manage their time properly so they may experience a decline in their academic performance and can easily get short-sighted. They may also refuse to meet people face-to-face on grounds that they get used to the way they communicate on social media. Consequently, if users cannot take the advantage of social media in order to make good use of it, social media can be a hindrance in work and study.

3.1 The impact of social media on sleeping duration and quality

There are a large cohort of reasons why people spend so much time using social media, but the most important two reasons are considered as FoMo and CSMU. A great number of people using social nocturnally on grounds of the fear of missing out (FoMo) and compulsive social media use (CSMU). Since the cosistant relationship of FoMo and CSMU between sleep quality have been discussed, the following hypotheses are made:

H1:CSMU has a positive association with problematic sleep due to social media [1].

H2:FoMo shows a favorable correlation with sleep issues brought on by social media [2].

300 female students from Prince Sattam bin Abdul Aziz University in Wadi Ad-dawasir participated in this study. From September through December of this year, the researcher will utilize the questionnaire to gather data during a 4-month period [4]. The students who took part in the survey are willing to answer all the questions and can answer all the questions patiently and honestly. Some questions were asked in Abaric language, insofar as some non-English speakers can easily understand the meaning of the question and give a more reliable and practical response. Answers which seem inappropriate would not be included from the study. Age, the number of hours spent using social media on the internet, the most popular social networking site, sleep duration, the use of social media platforms for academic purposes, chatting, gaming, or watching movies, the start of college, the effect of social media use on relationships with family and friends, and social media preoccupation and distraction from other activities are all factors that are measured [4].

It is rather obvious that the frequency of social media use in a week and the average time of social media use per day are both of high scores. People use social media for many propose not only at during the daytime but also at night, to such an extent that the time they spent in social media is growing in contrast with the past.(see table 1)

Different sides of perceptions of the impact of social media use on bedtime are analyzed. The results reveal that the propotion of students having a positive perception of the impacts of social media use on bedtime is higher than the negative ones. As a result, heaps of students' sleeping quality have been influenced.

The findings indicates that a large cohort of students go to bed at 11-12 and 1-5, and most students choose to sleep at 11-12. Although a lot of people sleep after 12 o' clock, still the number of students who sleep before 12 o' clock gains a greater percentage.

Table 1. The average time of social media use before bedtime and daily and the frequency of social media use in the recent week [6].

Variables	OR,95%CI	(Mean ± SD/%)
The average time of social media use before bedtime		
Less than 0.5 hours	1(Reference)	657(33.20)
0.5 hours to 1 hour	1.486 (1.198,1.842)*	808(40.83)
1 hour to 2 hours	1.746 (1.322,2.306) *	357(18.04)
More than 2 hours	1.826 (1.244,2.681) *	157 (7.93)
The average time of social media use per day		
Less than 2 hours	1 (Reference)	852 (43.05)
2 hours to 4 hours	1.581(1.2951.932) *	869(43.91)
More than 4 hours	1.749(1.288,2.374) *	258(13.04)
The frequency of social media use in the recent week		
0 day	1(Reference)	41(2.07)
Almost every day	2.920 (1.553,5.492) *	1354 (68.42)
4 days to 5 days	2.899(1.484,5.664) *	278(14.05)
2 days to 3 days	2.493(1.269,4.898) *	238 (12.03)
1 day	2.279(1.033,5.024) *	68 (3.44)

The conclusions are given theoretically and practically. A majority of people especially students use social media contemporarily. Lack of sufficient sleep is the main problem according to the nocturnal use of social media, which has the possibility to contribute to the advent of some diseases. The present study's findings about late-night social media use have important implications for the genesis of disorders linked to metabolic syndrome since chronic sleep restriction can result from late-night social media use [4]. The results of this study thus demonstrate that social media use, particularly among young individuals, is associated with online self-disclosure and monitoring of others' profiles on social media [5]. Influenced by social media are only sleep duration but also sleep quality, with people affected mentally and physically.

3.2 Impact of social media on academic performance through sleeping:

Contemporarily, social media has influenced academic performance through sleeping, and this phenomenon of sleeping disturbance especially occurs among high school students. Students seem to get lower scores at school on grounds of not efficient sleep which causes them feel extremely exhausted and sleepy during daytime. It is profoundly easy for them to fall asleep during the class, missing some essential notes,and this will lead to their bad academic performance resulting a negative cycle. Although it is a great solution for students to go to bed early at night, it is actually impossible by virtual of fear of missing out and the desire to communicate on social media and also check some moments posted by others.

Survey data from eighth and ninth graders were gathered to look into the relationships over time between DSSM, school burnout, and academic success. The sample included 2462 middle school students (52.5% of whom were men) from 93 classes (8th graders made up 1263 of the sample, while ninth graders made up 1199 at T1) at seven middle schools in the Taipei area. 94% of people responded. The schools included both public and

private, small, large, and medium-sized schools in Taiwan [7].

If the students refuse to do the survey, the experimenters will not force them to answer and close the survey form for them. Anonymous data collection was undertaken to guarantee respondents' confidentiality [8].

The findings demonstrate a significant link between DSSM (caused by social media), academic success, and fatigue. The participants' increased use of social media as a coping strategy for their burnout can be used to explain why there is a reciprocal negative relationship between school burnout and academic achievement. This increased use of social media had a negative impact on the participants' sleep quality and quantity, which had a negative impact on their academic performance [7]. That is to say, the more time students spend in social media, the more tired they will experience, which makes them difficult to concentrate on their daily school work, leading to worse academic performances. A further contributing factor is that children usually cannot manage their time properly so that they may spend more time in social media more than doing their schoolwork without enough concentration.

4 Discussion

It has been shown in approximately all researchs and surveys that social media leaves a decisive influence in sleeping quality and duration. The time that residents especially teenagers spend in social media is increasing dramatically due to the fear of missing out mainly. There is also an rising trend of posting highlight moments on social media in order to show positive attitude of daily life and their well-rounded personality. This seems totally irrelevant to sleeping disturbance, but it is connected strongly with sleeping problems. Heaps of people choose to post their photos at night since they may have to study and work during the day and they do not have enough time to edit and modify their photos taken. As a result, others may wait for new moments by virtual of fearing missing out others highlight experience. This area should be discovered more according to sleeping duration and quality. Moreover, some further studies have already found out that social media not only influences teenagers but also effects adults, and younger adults have a higher possibility of being affected on sleeping quality. Adults frequently use social media at night, making the sleep outcomes that are impacted a pertinent research topic for the entire lifetime. While older social media users' sleep may be benefited by reduced social isolation, younger persons are more susceptible to the poor sleep associated with midnight social media use (Choi et al. 2015; Deters & Mehl, 2013)[9].Young adults can also be classified as teenagers since they have just step into the society and some of them maybe still learning in school preparing for their university entrance examinations, so they still have the problem of using social media, which contributes to their problematic sleeping. Nonetheless, it is not definitely that everyone including teenagers and adults will be effected by social media on sleeping quality. The occur of sleeping disturbance is more dependent on people's self-discipline, which means whether or not they have the ability to control themsleves from addicted and being too reliable to social media escially at night. Social media use before night among healthy young individuals has no detrimental consequences on sleep or emotional wellbeing. But it's likely that some people won't be able to sleep well after accessing social media straight before bed [10].

5 Conclusion

Social media has left an influential effect on residents especially students at school age, but also young adults. In a compact society at a high pace and rapid development, no one can live isolatedly. People have to work together and study together to increase working and learning effiency, and social media is a great agency related. Nevertheless, students who have low self-control use social media too frequently and even nocturnally, which have already disturbed their sleeping duration and sleeping quality. The fear of missing out leading them to stay up late to check what others may talking about and posting what kind of new moments. The frequency of using social media is growing dramatically according to many studies. Social media has already left a deep influence in a large spectrum of dimension, such as the later sleeping time and a lower quality of sleeping. It is also worthsaying that the effect of social media on sleeping duration and quality appears to be along time effect which is not easy to recover in a short period of time. Some other social media is evidently absolute a great useful tool bringing people a lot of convenience, but people should make good use of it. Otherwise, it may influence people metally and physically. Everyone should make good use of social media in order to prevent it from influencing sleeping and lifestyles.

References

1. A. Tandon, P. Kaur, A. Dhir, & M. Mäntymäki . Computers Hum Behav, 113, 106487.(2020)
2. H. C. Woods & H. Scott . J Adolesc, 51, 41-49.（2016）
3. H. Scott & H. C. Woods. Curr Sleep Med Rep, 5, 141-149.（2019）
4. M. Kolhar, R. N. A. Kazi, & A. Alameen . Saudi J Biol Sci, 28(4), 2216-2222.（2021）
5. A. Dhir, S. Talwar, P. Kaur, S. Budhiraja, & N. Islam . Int J Consumer Stud, 45(6), 1373-1391.（2021）
6. X. Long Xu, R. Z. Zhu, M. Sharma, & Y. Zhao. J Nurs Care, 4(253), 2167-1168.（2015）
7. K. Evers, S. Chen, S. Rothmann, A. Dhir, & S. Pallesen . J Adolesc, 84, 156-164.（2020）
8. R. Garett, S. Liu, & S. D. Young . Inf Commun Soc, 21(2), 163-173.（2018）

9. L. Exelmans & H. Scott PsyArXiv .（2019）
10. A. Das-Friebel, A. Lenneis, A. Realo, A. Sanborn, N. K. Tang, D. Wolke, ... & S. Lemola . J Child Psychol Psychiatry, 61(10), 1138-1149.（2020）